

**2017-18 LAKESHORE
TECHNICAL COLLEGE
CATALOG**



Accounting*	2	IT-Network Specialist	82
Accounting Assistant.	4	IT-Web and Software Developer	84
Administrative Professional.	6	Machine Tool Operation.	86
Advanced EMT	8	Machinist Apprentice	88
Agribusiness Science & Technology*	10	Maintenance Mechanic/Millwright Apprentice	90
Agriculture Technician	12	Maintenance Mechanic	92
Auto Collision Repair & Refinish Technician	14	Maintenance Technician Apprentice.	94
Automotive Maintenance Technician	16	Maintenance Technician	96
Broadcast Captioning	18	Manufacturing Management*	98
Business Management	20	Marketing.	100
Carpentry Apprentice	22	Mechanical Computer Aided Drafting.	102
Child Care Apprentice	24	Mechanical Design Technology	104
Child Care Services	26	Medical Assistant*	106
CNC Technician*	28	Medical Coding Specialist*	108
Court Reporting	30	Nuclear Technology*	110
Criminal Justice-Law Enforcement*	32	Nursing Assistant	112
Criminal Justice-Law Enforcement Embedded Academy.	34	Nursing-Associate Degree*	114
Culinary Arts.	36	Office Assistant	116
Culinary Technical Diploma	38	Ophthalmic Medical Assistant	118
Dairy Herd Management*	40	Paralegal	120
Dental Assistant	42	Paramedic Technician	122
Early Childhood Education*	44	Pharmacy Services Management.	124
Electro-Mechanical Technology*	46	Pharmacy Technician*.	126
Emergency Medical Technician	48	Plumbing Apprentice.	128
Emergency Medical Technician – Paramedic	50	Practical Nursing*.	130
Energy Management Technology	52	Quality Assurance Technician*.	132
Environmental Engineering-Waste & Water Technology.	54	Quality Process Improvement	134
Fire Medic	56	Radiation Safety/Health Physics*	136
Food Manufacturing and Processing	58	Radiography	138
Graphic & Web Design	60	Sales Representative	140
Health Care Technician	62	Security and Corrections	142
Health Information Management	64	Sheet Metal Apprentice	144
Health Unit Coordinator.	66	Supply Chain Assistant	146
Horticulture Technician	68	Supply Chain Management*	148
Hotel/Hospitality Management*	70	Sustainable Landscape Horticulture*	150
Human Resources Administration*.	72	Technical Studies JourneyWorker	152
Human Resources Assistant	74	Tool and Die Apprentice	154
Industrial Electrician Apprentice	76	Welding Fabrication Technician	156
Industrial Manufacturing Technician Apprentice	78	Welding-Industrial*.	158
IT-Computer Support Specialist.	80	Wind Energy Technician*.	160

* These programs also offer a part-time schedule. For more information visit gotoltc.edu.

Lakeshore Technical College does not discriminate on the basis of race; color; creed; national origin; ancestry; religion; age; sex; sexual orientation/gender; marital status; pregnancy; disability; arrest or conviction record; political affiliation; veteran status; genetic testing; or service in the armed forces in its services, employment programs, and /or its educational programs and activities.

It is the policy of Lakeshore Technical College not to discriminate on the basis of disability in admission or access to or treatment in its programs or activities. Lakeshore Technical College provides reasonable accommodations to assist persons with disabilities which affect their ability to access or participate in its programs or activities. Persons who wish to request assistance or reasonable accommodations should contact Student Services at 1.888.GO.TO.LTC (1.888.468.6582)

DISCLAIMER

Lakeshore Technical College reserves the right to modify, amend or delete all policies, procedures, or any other information presented in this catalog. The college also reserves the right to modify the schedules, fees and/or regulations affecting student programs and activities. Please review the information in this catalog carefully. You are responsible to acquire an active knowledge of the college's policies and procedures. Students who violate these procedures will be subject to disciplinary action.

STUDENT HANDBOOK

The most up-to-date student handbook is available
online at: [**gotoltc.edu/Student-Handbook**](http://gotoltc.edu/Student-Handbook).

MISSION

To enrich lives and strengthen the economy by preparing a work force that is skilled, diverse, and flexible.

VISION

To meet the needs of the future with innovation and excellence.

ACCREDITATION AND AFFILIATION

Lakeshore Technical College is fully accredited by the Higher Learning Commission (HLC), one of six regional accrediting bodies in the United States. College accreditation includes approval to offer distance education courses and programs. The commission can be reached at: The Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604. Phone: 800.621.7440.

HISTORY OF LTC

Lakeshore Technical College (LTC) is a public, nonprofit organization that was established in 1967 as the Lakeshore Vocational, Technical, and Adult Education School. The history of LTC dates back to 1911 when legislation was first enacted to create a state system of vocational schools. In 1912 the district's first vocational school was opened.

The main campus in Cleveland opened in July, 1974. LTC is one of sixteen comprehensive post-secondary technical colleges in Wisconsin operating under the administration of the Wisconsin Technical College System (WTCS) and a local district board. Lakeshore Technical College has been accredited by the Higher Learning Commission, a Commission of the North Central Association of Colleges and Schools, since 1977.

EQUAL OPPORTUNITY ACCESS EMPLOYER/EDUCATOR

Lakeshore Technical College is committed to its legal, social, and economic responsibilities in the areas of equal opportunity, equal education, and affirmative action. Furthermore, equal opportunity and equal education are for all persons, regardless of race, color, creed, national origin, ancestry, religion, age, sex, sexual orientation, marital status, pregnancy, disability, arrest or conviction record, political affiliation, veteran status, genetic testing, service in the armed forces, and the use or nonuse of lawful products off the employer's premises during nonworking hours.

Program Number 10-101-1 Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

Every business and industry, from movie-making to alternative energy, requires people-oriented, analytical, and creative thinkers to address accounting needs. As an accountant, you will have direct input regarding a company's financial health and profitability. A degree in accounting can be the key to rewarding and challenging opportunities in any field of interest.

PROGRAM OUTCOMES

- Process financial transactions throughout the accounting cycle.
- Analyze financial and business information to support planning and decision making.
- Perform payroll preparation, reporting, and analysis tasks.
- Perform cost accounting preparation, reporting, and analysis tasks.
- Perform organizational and/or individual tax accounting preparation, reporting, and analysis tasks.
- Identify internal controls to reduce risk.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

RELATED PROGRAMS

- Accounting Assistant Technical Diploma Program
- Tax Preparer Certificate

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10101111	Accounting 1	4
10101135	Payroll Accounting	3
10801195	Written Communication	3
10804123	Math with Business Applications	3
10809196	Introduction to Sociology OR 10809172 Introduction to Diversity Studies	3
		16
Term 2		
10101113	Accounting 2	4
10101180	Spreadsheet Data Management	2
10102160	Business Law 1	3
10801196	Oral/Interpersonal Communication OR 10801198 Speech	3
10809195	Economics	3
10101182	Accounting Software Applications	2
		17
Term 3		
10101115	Accounting 3	4
10101122	Income Tax	3
10101125	Accounting Cost 1	4
10809122	Introduction to American Government OR 10806112 Principles of Sustainability	3
		14
Term 4		
10101129	Applied Tax	1
10101128	Income Tax 2	2
10101118	Accounting 4	2
10101124	Auditing	2
10101126	Accounting Cost 2	2
10101199	Accounting Capstone	3
10809198	Introduction to Psychology	3
		15
		TOTAL 62

*Curriculum and Program Acceptance requirements are subject to change.
Program start dates vary; check with your advisor for details.*



ACCOUNTING 1...provides the learner with the skills to understand and apply accounting principles and procedures useful in any business. Includes the accounting cycle for a service enterprise and a merchandising enterprise, chart of accounts, special journals, ledgers, accruals and deferrals, inventories, and internal controls.

ACCOUNTING 2...provides the learner with the skills to transition to more advanced accounting courses with emphasis given to notes and interest, forms of legal entities, stock transactions, depreciation methods, payroll, valuation, and financial analysis. PREREQUISITE: 10101111 Accounting 1

ACCOUNTING 3...introduces the learner to intermediate accounting concepts, principles, and applications. Includes financial statements, temporary investments, receivables, equities, current liabilities, present value, and fixed assets. PREREQUISITE: 10101113 Accounting 2

ACCOUNTING 4...expands the learner's ability to understand intermediate accounting concepts, principles, and applications, including current liabilities, long-term investments, bonds, corporate taxes, leases, pensions, stockholders' equity, and error corrections. PREREQUISITE: 10101115 Accounting 3

ACCOUNTING CAPSTONE...requires the learner to synthesize the theory and practices learned in other accounting courses via capstone projects that apply those skills in developing recommendations for specific business situations. The learner will also assess their achievement of core abilities and program outcomes by completing their portfolio. This course is an exercise in professional analysis and decision making - re-emphasizing the need for effective communication and professional skills. PREREQUISITES: 10101115 Accounting 3, 10101125 Accounting Cost 1, 10101123 Income Tax

ACCOUNTING COST 1...provides the learner with the skills to understand cost behavior and analysis emphasizing manufacturing enterprises including cost reports, job-order costing, process costing, joint products costing, standard costing and variance analysis. PREREQUISITE: 10101111 Accounting I

ACCOUNTING COST 2...expands the learner's ability to understand accounting for manufacturing enterprises. Includes break-even analysis, differential costs, capital expenditures and budgeting. COREQUISITE: 10101125 Accounting Cost 1

ACCOUNTING SOFTWARE APPLICATIONS...prepares the learner to transfer manual accounting skills to computerized accounting software. It includes company setup, expenditure cycle transactions, revenue cycle transactions, general journal transactions, payroll, bank reconciliations, end-of-period procedures, and customization of financial statements. PREREQUISITE: 10101111 Accounting 1 or 10101150 Office Accounting

APPLIED TAX...provides the opportunity for the learner to expand tax preparation skills acquired in the Income Tax course and apply those skills to real-life situations in preparing taxes for the local community through the IRS Volunteer Income Tax Assistance(VITA) program. Learners will gain certification from the IRS through the course. PREREQUISITE: 1011123 Income Tax

AUDITING...introduces the learner to the fundamentals of auditing. This course involves the evaluation of internal controls including methods of examination and evaluation of accounting records. These evaluations are used to provide objective data to support opinions on the fairness and reliability of accounting records. The course will review the roles of both auditors and their respective clients. PREREQUISITE: 10101113 Accounting 2

BUSINESS LAW 1...provides the learner with the skills to summarize the American legal system; diagram the state/federal court systems; evaluate dispute resolution methods; sequence the civil litigation process; summarize the administrative agencies; differentiate civil and criminal law; apply theories of negligence, intentional tort, and product liability; summarize elements of a contract; assess the validity of a contract; assess third-party rights and available remedies; and summarize Article II of the UCC.

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610062 Agribusiness/Financial Basic program admissions met

INCOME TAX...introduces the learner to federal income tax laws and their underlying principles. Includes filing status, gross income (inclusions and exclusions), deductions and exceptions, tax forms and schedules, the computation of taxes, depreciation and completion of tax forms both manually and computerized.

INCOME TAX 2...expands the learner's ability to comprehend the principles of income tax law and calculate federal income tax for business using tax and practical problems. PREREQUISITE: 10101111 Accounting 1 and 10101123 Income Tax

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRODUCTION TO AMERICAN GOVERNMENT...introduces American political processes and institutions. It focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. It explores the role of the media, interest groups, political parties and public opinion in the political process. It also explores the role of state and national government in our federal system.

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/ Agronomy Basic program admissions requirements met

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PAYROLL ACCOUNTING...introduces the learner to federal and state payroll laws, calculating for gross and net pay, preparing payroll deductions, maintaining payroll records, and processing payroll in both a manual and computerized setting and preparing quarter-end and year-end reports. COREQUISITE: 10101111 Accounting 1

SPREADSHEET DATA MANAGEMENT...provides the learner with intermediate skills to use spreadsheet software to solve accounting and business problems. It focuses on advanced functions and relates skill acquisition to accounting analysis and reporting needs. COREQUISITE: 10101111 Accounting 1

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 31-101-1 Technical Diploma • Two Terms

ABOUT THE PROGRAM

The Accounting Assistant technical diploma will provide students with the skills and confidence necessary to perform entry-level bookkeeping and accounting work for local employers. Accounting Assistant majors may work in a small business and be responsible for various aspects of bookkeeping or work in a larger firm under the supervision of an accountant and specialize in a certain area.

PROGRAM OUTCOMES

- Process financial transactions throughout the accounting cycle.
- Analyze financial and business information to support planning and decision making.
- Perform payroll preparation, reporting, and analysis tasks.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

RELATED PROGRAMS

- Accounting Associate Degree

CONTACT

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Catalog No.	Class Title	Credit(s)
Term 1		
10101111	Accounting 1	4
10101135	Payroll Accounting	3
10801195	Written Communication	3
10804123	Math with Business Applications	3
		13
Term 2		
10101113	Accounting 2	4
10101180	Spreadsheet Data Management	2
10102160	Business Law 1	3
10101182	Accounting Software Applications	2
		11
		TOTAL 24

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ACCOUNTING 1...provides the learner with the skills to understand and apply accounting principles and procedures useful in any business. Includes the accounting cycle for a service enterprise and a merchandising enterprise, chart of accounts, special journals, ledgers, accruals and deferrals, inventories, and internal controls.

ACCOUNTING 2...provides the learner with the skills to transition to more advanced accounting courses with emphasis given to notes and interest, forms of legal entities, stock transactions, depreciation methods, payroll, valuation, and financial analysis. PREREQUISITE: 10101111 Accounting 1

ACCOUNTING SOFTWARE APPLICATIONS...prepares the learner to transfer manual accounting skills to computerized accounting software. It includes company setup, expenditure cycle transactions, revenue cycle transactions, general journal transactions, payroll, bank reconciliations, end-of-period procedures, and customization of financial statements. PREREQUISITE: 10101111 Accounting 1 or 10101150 Office Accounting

BUSINESS LAW 1...provides the learner with the skills to summarize the American legal system; diagram the state/federal court systems; evaluate dispute resolution methods; sequence the civil litigation process; summarize the administrative agencies; differentiate civil and criminal law; apply theories of negligence, intentional tort, and product liability; summarize elements of a contract; assess the validity of a contract; assess third-party rights and available remedies; and summarize Article II of the UCC.

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/ Agronomy Basic program admissions requirements met

PAYROLL ACCOUNTING...introduces the learner to federal and state payroll laws, calculating for gross and net pay, preparing payroll deductions, maintaining payroll records, and processing payroll in both a manual and computerized setting and preparing quarter-end and year-end reports. COREQUISITE: 10101111 Accounting 1

SPREADSHEET DATA MANAGEMENT...provides the learner with intermediate skills to use spreadsheet software to solve accounting and business problems. It focuses on advanced functions and relates skill acquisition to accounting analysis and reporting needs. COREQUISITE: 10101111 Accounting 1

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

ABOUT THE PROGRAM

Businesses depend on high-quality, accurate information. If you value organization, care about details, and understand the importance of clear communication and current technology skills, developing those talents as an administrative professional may be just what you need to succeed.

PROGRAM OUTCOMES

- Demonstrate effective workplace communications.
- Apply technology skills to business and administrative tasks.
- Perform routine administrative procedures.
- Manage administrative projects.
- Maintain internal and external relationships.
- Model professionalism in the workplace.
- Plan and conduct training sessions.
- Demonstrate time and stress management skills.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

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PROGRAM ADMISSIONS STEPS

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 - Submit application and \$30 fee.
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- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

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CONTACT

LTC Career Coach
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Catalog No.	Class Title	Credit(s)
Term 1		
10106132	Keyboard-Speedbuilding 1	1
10106102	Information Management	3
10106131	Document Formatting	2
10106164	Information Technology Essentials	3
10801195	Written Communication OR 10801136 English Composition 1	3
10804123	Math with Business Applications	3
		15
Term 2		
10106130	Office Professionalism	3
10101150	Office Accounting	3
10106138	Web Technologies	2
10106124	eCommunications	3
10106166	Microcomputer Business Applications 1	2
10106168	Microcomputer Business Applications 2	2
10801196	Oral/Interpersonal Communication OR 10801198 Speech	3
		18
Term 3		
10106172	MS Project	2
10106177	Career Development	1
10106167	Microcomputer Business Applications 3	3
10106174	Desktop Publishing	2
10106137	Small Business Applications	2
10809195	Economics	3
10809198	Introduction to Psychology	3
		16
Term 4		
10106169	Microcomputer Business Applications 4	4
10106160	Internship--Administrative Professional	1
10106192	Training Techniques	2
10106135	Event Planning & Coordination	2
10809196	Introduction to Sociology	3
10809122	Introduction to American Government OR 10806112 Principles of Sustainability	3
		15
		TOTAL 64

*Curriculum and Program Acceptance requirements are subject to change.
Program start dates vary; check with your advisor for details.*



CAREER DEVELOPMENT...teaches students to develop a job search plan; develop a career portfolio including complete application materials, professional resume, cover letter; practice interview skills, participate in mock interview, and learn the role of social media in career development. COREQUISITE: 10106130 Office Professionalism

DESKTOP PUBLISHING...prepares the learner with the basic skills to use page layout software to create professional publications with InDesign and Photoshop. PREREQUISITE: 10106166 Microcomputer Business Applications I

DOCUMENT FORMATTING...prepares the learner to keyboard and format business memorandums, business letters, business reports and tabbed columns. The learner will also create tables, create multicolumn documents, use SmartArt, create and modify styles and create ad use templates and building blocks. Emphasis will also be placed on proofreading and editing skills. COREQUISITE: 10106100 Keyboarding with a minimum grade of C or Keyboarding testout equivalent.

ECOMMUNICATIONS...prepares the learner to apply proofreading skills-punctuation, grammar, spelling, word usage, capitalization, number usage--to edit or compose error-free business documents; transcribe and correctly format business documents from dictation, dictate podcasts and other items; exposure to speech recognition functions; take and key meeting minutes; and facilitation of meetings. PREREQUISITE: 10106131 Document Formatting and 10106132 Keyboard - Speedbuilding 1

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

EVENT PLANNING & COORDINATION...prepares the learner to manage preplanning activities for an event, coordinate equipment and facility setup, communicate with outside vendors/suppliers, and conduct follow-up activities. Each student will be required to participate in planning areal-life event and/or assisting an organization through a service learning experience. PREREQUISITE: 10106167 Microcomputer Business Applications 3

INFORMATION MANAGEMENT...introduces the student to basic terms, concepts, filing rules, systems (alphabetic and numeric), noncorrespondence filing, new filing equipment, new methods of storing and recording records, and Microsoft Access including the principles and procedures for developing, managing, and maintaining a filing system in a modern office. COREQUISITE: 10106100 Keyboarding or Keyboarding testout equivalent

INFORMATION TECHNOLOGY ESSENTIALS...prepares the learner with the skills to use Web 2.0 tools for group collaboration and research emerging technologies. Emphasis in this class will be to develop a plan to implement a new technology in a business environment and train classmates in this new technology.

INTERNSHIP-ADMINISTRATIVE PROFESSIONAL...enhances the student's ability to apply technical skills, to work productively, to communicate effectively, and to demonstrate appropriate ethics and behavior in a professional workplace environment. PREREQUISITE: Verification of eligibility by the Internship Coordinator

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO AMERICAN GOVERNMENT...introduces American political processes and institutions. It focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. It explores the role of the media, interest groups, political parties and public opinion in the political process. It also explores the role of state and national government in our federal system.

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

KEYBOARD-SPEEDBUILDING 1...prepares the learner with the skills to keyboard text with speed and accuracy using the "touch" method.

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/ Agronomy Basic program admissions requirements met

MICROCOMPUTER BUSINESS APPLICATIONS 1...expands the learner's ability to use Microsoft Word by using advanced table functions; format multiple-page documents with headers, footers, footnotes and endnotes; perform merge operations for correspondence and labels; create customized forms; create a Table of Contents and Index in long documents and create and run Macros. PREREQUISITE: 10106131 Document Formatting

MICROCOMPUTER BUSINESS APPLICATIONS 2...prepares the learner to create worksheets, utilize formulas and functions, apply formatting functions, print spreadsheet files, edit and manipulate spreadsheets and workbooks, create and modify charts, analyze spreadsheet data, create templates, and apply database features to a spreadsheet. COREQUISITE: 10106100 Keyboarding or Keyboarding testout equiv

MICROCOMPUTER BUSINESS APPLICATIONS 3...will teach students the intermediate topics of Microsoft Office. Students will be presented with material covering the intermediate level of Microsoft Word, Microsoft Excel, Microsoft Access, and Microsoft PowerPoint. Emphasis will be on final projects using all of the software packages, especially Microsoft Access. PREREQUISITE: 10106166 Microcomputer Business Applications 1; 10106102 Info Management, 10106164 Info Technology Essentials, 10106168 Microcomputer Business Applications 2

MICROCOMPUTER BUSINESS APPLICATIONS 4...prepares students to work with the advanced features of the Microsoft Office suite, as well as act as an employee in an office simulation environment. Students will build teams, study conflict resolution concepts, develop leadership skills, perform employee reviews, manage budgets, and explore lean culture concepts. Decision-making, professionalism, and work ethic are emphasized throughout the course. PREREQUISITE: 10106167 Microcomputer Business Applications 3

MS PROJECT...will teach students how to use the software MS Project as a tool to assist in project management. Creating tasks and a work breakdown structure, scheduling, assigning resources, tracking cost and schedule, leveling of resources, and communicating project details will be covered. In addition, standard project management phases will be covered. PREREQ: 10106168 Microcomputer Bus Apps 2

OFFICE ACCOUNTING...introduces the learner to the principle of business and personal accounting, including journalizing, posting, year-end adjustments, report preparation and interpretation, payroll, and bank reconciliations. COREQUISITE: 10106168 Microcomputer Business Applications 2

OFFICE PROFESSIONALISM...prepares the learner to identify positive attitudes and personality development; develop self-awareness of elements affecting personal and work relationships. Prepares the learner to apply communication and conflict resolution skills; demonstrate effective/efficient work habits and self-management skills; apply business protocol in a culturally diverse international market. Areas of study will also include telephone and customer service techniques, ethics, etiquette and ergonomics.

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

SMALL BUSINESS APPLICATIONS...will explore upcoming software/hardware trends for small businesses. Applications that are easy access and affordable will be covered, as well as devices such as iPads, SmartPhones, and tablets. Emphasis will be placed on researching and learning the most efficient way to accomplish tasks for a small business.

TRAINING TECHNIQUES...develops the skills necessary to present and provide support for training sessions, including organization of materials, procedures, and techniques. PREREQUISITE: 10106167 Microcomputer Business Applications III

WEB TECHNOLOGIES...provides a basic understanding of the Web as well as the tools used to create Web pages, blogs, and other features. Reviews social and business Web tools and components.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 30-531-6 Technical Diploma • One Term

ABOUT THE PROGRAM

Injuries, trauma, sudden illness—medical emergencies can happen at any time, in any place. Survival often depends on the initial care the injured or severely ill person receives at the scene. If you are calm under pressure, compassionate, good at problem solving, and have the desire to help people in need, a career as an Emergency Medical Services may be your calling. The Advanced EMT program provides additional knowledge and skills to Wisconsin licensed EMTs. This program focuses on intravenous fluid and medication administration as well as advanced anatomy and physiology for a greater understanding of how the human body responds to injury or illness.

PROGRAM OUTCOMES

- Assess for and treat common medical conditions and emergencies.
- Identify and treat common injuries, wounds, and burns.
- Initiate IV therapy and administer various medications.
- Solve problems in assessing, stabilizing, and transporting patients with various illnesses and injuries.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete health requirements.
 - Submit Wisconsin Emergency Medical Technician License.
 - Complete Functional Abilities Statement of Understanding form.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
	Term 1	
30531303	Advanced EMT	4

TOTAL 4

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ADVANCED EMT...is intended as advanced emergency medical education with Wisconsin based EMS Providers that are licensed to the EMT Basic level to function at the Advanced EMT level. PREREQUISITE: 30531301 EMT-Basic or 10531102 EMT-Basic or 30531301 EMT Part 1 and CONDITION: 305316 Advanced EMT program admissions requirements met

Pending State Approval

Program Number 10-006-2
Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

Successful individuals employed in agribusiness occupations understand the importance of running efficient and profitable operations in the areas of records/business analysis, credit/marketing/purchasing, farm business transfers, goal setting, human relations, crop/soil management, and livestock nutrition/management. Maximize your opportunities for success by increasing your agricultural business and production management knowledge.

PROGRAM OUTCOMES

- Develop an agri-business management plan.
- Apply economic and marketing strategies to agribusiness industry.
- Apply relevant technologies.
- Create a crop management plan.
- Create a livestock management plan.
- Investigate opportunities in agribusiness.
- Interact as a professional in agribusiness.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTES

Students may alternately choose to earn the Agriculture Technician Technical Diploma after completing Term 1 and Term 2 coursework. In addition, for students who are not seeking a diploma, select courses in this program will provide focused certificates of learning in agribusiness agronomy, agribusiness financial, and agribusiness livestock. Graduates of the Dairy Herd Management program can earn the Advanced Dairy Herd Management Certificate by taking six additional courses in Terms 3 and 4.

MPTC CLASSES

This program is shared with Moraine Park Technical College. MPTC district students follow LTC's admissions process; however, they are able to attend classes at a MPTC campus classroom by receiving both in-person and video conference instruction. MPTC Agribusiness Science & Technology program students will be issued a laptop from LTC while learning and applying the program's software applications.

ONLINE STUDENTS

Out-of-district students and working adults are able to take Term 1 & 2 courses in the online format of both reviewing lectures and one-on-one activities with your instructor and employer. Instructor led field trips and off campus activities are not an included requirement or opportunity.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10-006-112	Farm Business Management	3
10-006-114	Intro to Animal Science	3
10-006-116	Intro to Soil Science	3
10-801-195	Written Communications	3
10-804-123	Math with Business Applications	3
		15
Term 2		
10-006-110	Agricultural Finance	3
10-006-122	Principles of Crop Production	3
10-006-124	Principles of Animal Breeding	3
10-006-126	Agribusiness Economics	3
10-809-195	Economics	3
		15
Term 3		
10-006-130	Agricultural Marketing & Sales	3
10-006-135	Agriculture Business Accounting	3
10-006-136	Principles of Agronomy	3
10-806-112	Principles of Sustainability	3
10-801-196	Oral/Interpersonal Communication	3
10-809-198	Introduction to Psychology	3
		18
Term 4		
10-006-140	Legal Aspects of Agribusiness	3
10-006-142	Advanced Dairy Management	3
10-006-144	Nutrition Principles	3
10-006-146	Precision Ag Technologies	3
10-006-134	Animal Records	1
10-809-196	Introduction to Sociology	3
		16
		TOTAL 64

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ADVANCED DAIRY MANAGEMENT...advances the study of dairy herd management systems including milking and feeding arrangements, herd health, herd replacements, use of computer systems, personnel issues, and financial impact of management decisions. PREREQUISITE: 10006134 or 10006134OL Animal Records OR CONDITION: 190066 Advanced Dairy Herd Management

AGRIBUSINESS ECONOMICS...introduces agricultural economic dimensions and impacts, economic principles, calculation of economic returns, and evaluation of economic alternatives. Other topics include capital use, cost appraisal, risk considerations under a variety of economic conditions, farm credit sources, and creditor relationships. COREQUISITE: 10006110 or 10006110OL Agricultural Finance

AGRICULTURAL FINANCE...introduces learner to major aspects of agribusiness financial management through extensive problem solving, financial analysis and planning. Students will describe and calculate sweet 16 ratios, business cash flows, inventory controls, budgeting and borrowing considerations of various types of agribusinesses. Software tools, such as QuickBooks and WebEquity, will be introduced. PREREQUISITE: 10006112 Farm Business Management or 10006112OL Farm Business Management – Online

AGRICULTURAL MARKETING AND SALES...provides the fundamental principles and methods of marketing agricultural products, marketing processes and agencies, pricing and merchandising of various products, and obtaining bargaining power. Other topics include futures market structure and function; futures commodity contract specifications; futures trading procedures; commodity futures trading strategies; and an introduction to commodity options. PREREQUISITE: 10006126 or 10006126OL Agribusiness Economics OR CONDITION: 190066 Advanced Dairy Herd Management

AGRICULTURE BUSINESS ACCOUNTING...provides the learner with a study of accounting systems and methods appropriate for farms and agricultural businesses including the application of basic information-recording skills to allow for the construction of financial statements and filing of income tax forms. Students will produce and analyze financial statements and apply managerial accounting concepts by utilizing the software QuickBooks and WebEquity. PREREQUISITES: 10006110 Agricultural Finance or 10006110OL Agricultural Finance- Online

ANIMAL RECORDS...introduces learner to records management through hands-on applications including the setup and use of computerized record-keeping software, completion of a sample farm record problem utilizing computerized records, a review of various recordkeeping systems, as well as the selection and implementation of various computerized record programs. Software tools, such as PCDART, CowManager, and DairyCOMP 305, will be utilized. PREREQUISITES: 10006124 or 10006124OL Principles of Animal Breeding OR CONDITION: 190066 Adv Dairy Herd Management

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

FARM BUSINESS MANAGEMENT...provides learner with basic business management practices including the development of a business plan, establishment of short and long range goals, identification and implementation alternatives for reaching goals, and development of strategies to monitor progress. The importance of designing a business mission statement based on goals is emphasized. Software tools, such as QuickBooks, FINPACK, PCDART and DairyCOMP 305, will be incorporated.

INTRO TO ANIMAL SCIENCE...provides animal science fundamentals including animal health, animal environments, anatomy and physiology, genetics and reproduction, animal feedstuffs, and animal-related safety.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRO TO SOIL SCIENCE...provides fundamentals of soil's physical properties, chemical properties, biological properties, soil formation, classification, essential nutrients and soil survey. There will be emphasis on soil and water conservation practices that can be used to reduce soil erosion.

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

LEGAL ASPECTS OF AGRIBUSINESS...provides students with pertinent information of the legal liabilities and regulations for both state and federal of an agribusiness. Course content includes legal descriptions, contractual agreements, employee and consumer rights, insurance, debt collection, as well as bankruptcy and employment protection issues as regulated by DOL, OSHA and DILHR. PREREQUISITE: 10006130 or 10006130OL Agricultural Marketing and Sales OR CONDITION: 190066 Advanced Dairy Herd Management

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent OR CONDITION: 610061 Agribusiness/ Agronomy Basic program admissions requirements met

NUTRITION PRINCIPLES...introduces learner to the principles of nutrition as presented on a comparative species basis including characteristics, physiological functions, interrelationships, and deficiency symptoms as they pertain to carbohydrates, fats, proteins, mineral elements, and vitamins. PREREQUISITE: 10006113 or 10006113OL Intro to Animal Science OR CONDITION: 190066 Advanced Dairy Herd Management

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PRECISION AG TECHNOLOGIES...provides the student the opportunity to experience studies in agricultural precision technologies including bio-technologies, application industries, livestock equipment, precision farming, financial resource management, plant protection, sustainable agriculture, environmental impacts of agriculture, agricultural workforce, and agricultural production. COREQUISITES: 10006140 or 10006140OL Legal Aspects of Agribusiness and 10006142 or 10006142OL Advanced Dairy Management OR CONDITION: 190066 Advanced Dairy Herd Management

PRINCIPLES OF AGRONOMY...examines agronomy principles for Midwest crops including basic components of plant growth, seed quality, plant parts, plant growth and development, plant classification, maturity systems, and seeding rates. PREREQUISITE: 10006122 Principles of Crop Production or 10006123OL Principles of Crop Production Online

PRINCIPLES OF ANIMAL BREEDING...applies genetic principles to livestock improvement including elementary population genetics, phenotypic and genotypic effects of selection, selection methods, and systems of mating. PREREQUISITE: 10006114 or 10006114OL Intro to Animal Science

PRINCIPLES OF CROP PRODUCTION...provides knowledge of crop and soil nutrient management, including use of both commercial fertilizers and manure. Course topics include purchase or lease options for land, agronomy consulting programs, tillage and conservation plans, soil nutrient plans, cropping plans, managing nutrient waste, crop harvest and storage and production records. PREREQUISITE: 10006116 Intro to Soil Science or 10006116OL Intro to Soil Science Online

PRINCIPLES OF SUSTAINABILITY...prepares students to develop sustainable literacy, analyze interconnections among physical and biological sciences and environmental systems, summarize effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal/recycling in the U.S., and analyze approaches used by your community. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Pending State Approval

Program Number 31-006-2
Technical Diploma • Two Terms

ABOUT THE PROGRAM

Successful individuals employed in agriculture occupations need a basic understanding of industry specific financial operations, goal-setting, human relations, crops and soil management, as well as livestock fundamentals.

PROGRAM OUTCOMES

- Apply relevant technologies.
- Investigate opportunities in agribusiness.
- Interact as a professional in agribusiness.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTES

This diploma is embedded within the Agribusiness Science & Technology Associate degree. This means that Agriculture Technician graduates have the opportunity to also complete their associate degree with one more year of college.

MPTC CLASSES

This program is shared with Moraine Park Technical College. MPTC district students follow LTC's admissions process; however, they are able to attend classes at a MPTC campus classroom by receiving both in-person and video conference instruction. MPTC Agriculture Technician program students will be issued a laptop from LTC while learning and applying the program's software applications.

ONLINE STUDENTS

Out-of-district students and working adults, as well as high school students are able to take courses in the online format of both reviewing lectures and one-on-one activities with your instructor and employer. Instructor led field trips and off campus activities are not an included requirement or opportunity.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10-006-112	Farm Business Management	3
10-006-114	Intro to Animal Science	3
10-006-116	Intro to Soil Science	3
10-801-195	Written Communications	3
10-804-123	Math with Business Applications	3
		15
Term 2		
10-006-110	Agricultural Finance	3
10-006-122	Principles of Crop Production	3
10-006-124	Principles of Animal Breeding	3
10-006-126	Agribusiness Economics	3
10-809-195	Economics	3
		15
		TOTAL 30

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



AGRIBUSINESS ECONOMICS...introduces agricultural economic dimensions and impacts, economic principles, calculation of economic returns, and evaluation of economic alternatives. Other topics include capital use, cost appraisal, risk considerations under a variety of economic conditions, farm credit sources, and creditor relationships. COREQUISITE: 10006110 or 10006110OL Agricultural Finance

AGRICULTURAL FINANCE...introduces learner to major aspects of agribusiness financial management through extensive problem solving, financial analysis and planning. Students will describe and calculate sweet 16 ratios, business cash flows, inventory controls, budgeting and borrowing considerations of various types of agribusinesses. Software tools, such as QuickBooks and WebEquity, will be introduced. PREREQUISITE: 10006112 Farm Business Management or 10006112OL Farm Business Management – Online

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

FARM BUSINESS MANAGEMENT...provides learner with basic business management practices including the development of a business plan, establishment of short and long range goals, identification and implementation alternatives for reaching goals, and development of strategies to monitor progress. The importance of designing a business mission statement based on goals is emphasized. Software tools, such as QuickBooks, FINPACK, PCDART and DairyCOMP 305, will be incorporated.

INTRO TO ANIMAL SCIENCE...provides animal science fundamentals including animal health, animal environments, anatomy and physiology, genetics and reproduction, animal feedstuffs, and animal-related safety.

INTRO TO SOIL SCIENCE...provides fundamentals of soil's physical properties, chemical properties, biological properties, soil formation, classification, essential nutrients and soil survey. There will be emphasis on soil and water conservation practices that can be used to reduce soil erosion.

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/ Agronomy Basic program admissions requirements met

PRINCIPLES OF ANIMAL BREEDING...applies genetic principles to livestock improvement including elementary population genetics, phenotypic and genotypic effects of selection, selection methods, and systems of mating. PREREQUISITE: 10006114 or 10006114OL Intro to Animal Science

PRINCIPLES OF CROP PRODUCTION...provides knowledge of crop and soil nutrient management, including use of both commercial fertilizers and manure. Course topics include purchase or lease options for land, agronomy consulting programs, tillage and conservation plans, soil nutrient plans, cropping plans, managing nutrient waste, crop harvest and storage and production records. PREREQUISITE: 10006116 Intro to Soil Science or 10006116OL Intro to Soil Science Online

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 32-405-1 Technical Diploma • Four Terms

ABOUT THE PROGRAM

Whether you own a classic car in need of restoration or have the misfortune of owning a new car crumpled in an accident, having a highly skilled auto collision technician work on your car is your top priority. This program prepares learners to enter the competitive collision repair industry. The Auto Collision Repair & Refinishing Technician program is for driven, highly motivated individuals who like hands-on type work and who enjoy seeing the results of their labors.

PROGRAM OUTCOMES

- Straighten collision damaged sheet metal.
- Refinish automobile body parts.
- Replace non-structural panels and parts.
- Perform auto collision welding procedures.
- Repair plastic and composite body parts.
- Repair and replace moveable automotive glass.
- Repair collision damaged light truck frames and unibody structural components.
- Replace restraint systems.
- Perform automotive electrical and electronic systems diagnosis and repair.
- Perform automotive HVAC, steering, suspension, and mechanical systems diagnosis and repair.
- Estimate collision damage repair costs.
- Qualify for Automotive Service Excellence Collision Repair Exam.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete the OSHA Medical Evaluation questionnaire.
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

- The program is certified by NATEF (National Automotive Technicians Education Foundation). Students are eligible for I-CAR Welding Certification Testing. Students are well prepared to take the ASE (Automotive Service Excellence) Exam.
- Students are required to purchase Snap-On tools. Tool cost averages \$3,200 as you progress through the program.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
31405320	Auto Collision Orientation and Safety	1
31405322	Auto Collision Panel Repair	3
31405304	Auto Collision Electrical Mechanical	3
31405342	Auto Refinishing Masking/Preparation	2
31405324	Auto Collision Plastic and Composite Panel Repair	2
31801359	Communication Skills for the Workplace	2
		13
Term 2		
31405332	Auto Collision Wire Welding	2
31405340	Auto Refinishing Orientation/Safety	1
31405348	Auto Refinishing Water Borne Systems	3
31405346	Auto Refinishing Color Matching/Blending	3
31405326	Auto Collision Panel Replacement and Alignment	3
31405344	Auto Refinishing Multiple Panel	3
31809362	Psychology for Life	1
		16
Summer Term		
31405328	Auto Collision Structural Analysis	2
		2
Term 3		
32405301	Aluminum Repair Methods	3
32405305	Vehicle Anchoring and Structural Repair	4
32405309	Structural Steel Sectioning	3
32405313	Collision Repair for Hybrid and Electric Vehicles	1
32405317	Internship 1 - Auto Collision	1
		12
Term 4		
31405308	Damage Appraisal/Estimating	2
32405333	Collision Repair Customer Service	1
32405321	Metal Shaping	3
32405341	Collision Repair Custom Painting	2
32405325	Cycle Time and Shop Production 1	4
32405329	Cycle Time and Shop Production 2	4
32405337	Internship 2 - Auto Collision	1
		17
		TOTAL 60

Please note that Spring semester classes end mid-June.

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ALUMINUM REPAIR METHODS...provides the learner with skills to complete repair procedures unique to vehicles with aluminum structures using specialty tools and methods. OEM repair methods from major automotive manufactures are taught and assessed in this course. Learners have the opportunity to earn the I-Car WCA03 Aluminum Weld Test Certification. **PRECOREQUISITES:** 31405344 Auto Refinishing Multiple Panel and 31405304 Auto Collision Electrical Mechanical

AUTO COLLISION CUSTOMER SERVICE...provides learners with the knowledge and skills needed to provide excellent customer service. Learn skills to identify and resolve concerns in a professional manner. Build positive customer relationships for collision repair businesses. **PREREQUISITE:** 32405313 Collision Repair for Hybrid and Electric Vehicles

AUTO COLLISION ELECTRICAL MECHANICAL...prepares the learner to troubleshoot auto collision electrical circuits; examine basic electrical circuits; interpret electrical circuit diagrams; service an automotive battery, lighting system, and passive restraint systems; and perform soldering and splicing of electrical components. Students will learn how to diagnose and service air conditioning systems and become EPA certified. This course is designed to save time and effort in auto collision repair. **COREQUISITE:** 31405324 Auto Collision Plastic Composite Panel Repair

AUTO COLLISION ORIENTATION AND SAFETY...introduces the learner to the auto collision course procedures, practices, and grading policy and develops safe work habits and attitudes. Many of the hand and power tools are identified. **CONDITION:** 324051 Auto Collision Repair & Refinish Technician or 314051 Auto Collision Repair Admission Requirements Met

AUTO COLLISION PANEL REPAIR...provides the learner with hands-on activities to gain the skills necessary for metal finishing, panel straightening, application of body fillers, and use of hydraulics to straighten panels and make body panel adjustments. **COREQUISITE:** 31405320 Auto Collision Orientation & Safety; and **CONDITION:** 324051 Auto Collision Repair & Finish Technician or 314051 Auto Collision Repair Admission Requirements Met

AUTO COLLISION PANEL REPLACEMENT AND ALIGNMENT...prepares the student to apply straightening, welding, restoring, corrosion protection, alignment, and panel replacement skills. **COREQUISITE:** 31405346 Auto Refinishing Color Matching/Blending

AUTO COLLISION PLASTIC AND COMPOSITE PANEL REPAIR...prepares the learner to work on repairing damaged plastic panels using adhesives and airless welding techniques. The repair of SMC, FRP, ABS, TPO, and other popular plastics are taught. **COREQUISITE:** 31405342 Auto Refinishing Masking/Preparation

AUTO COLLISION STRUCTURAL ANALYSIS...provides the learner with knowledge and hands-on experiences in measuring and analyzing frames, body panels, and alignments using tape measures, tram and self-centering gauges, and computerized measuring system. **PREREQUISITES:** 31405320 Auto Collision Orientation & Safety and 31405340 Auto Refinishing Orientation/Safety

AUTO COLLISION WIRE WELDING...introduces the learner to information and skills necessary to safely operate gas metal arc welding, aluminum welding, and oxyacetylene cutting as it applies to auto collision. Upon completion, the student is prepared to take the I-CAR steel weld qualification test. **COREQUISITE:** 31405344 Auto Refinishing Multiple Panel

AUTO REFINISHING COLOR MATCHING/BLENDING...prepares the student with an understanding of color movement using the color wheel and the differences in spray gun technique as it applies to blending and how to solve paint color matching problems. **COREQUISITE:** 31405348 Auto Refinishing WaterBorne Systems

AUTO REFINISHING MASKING/PREPARATION...enhances the learner's ability to understand automotive finishes and the equipment, paint area, and refinish area and to develop a thorough understanding of surface preparation as it relates to vehicle refinishing. **COREQUISITE:** 31405322 Auto Collision Panel Repair

AUTO REFINISHING MULTIPLE PANEL...provides the learner with the skills to spray complete panels and vehicles using the latest spray technology and equipment, troubleshoot paint problems, and detail the finish to a preaccident condition. **COREQUISITE:** 31405326 Auto Collision Panel Replacement & Alignment

AUTO REFINISHING ORIENTATION/SAFETY...introduces the learner to auto collision and refinishing course procedures, practices, and grading policy and develops safer work habits and attitudes. **CONDITION:** 324051 Auto Collision Repair & Refinish Technician or 314051 Auto Collision Repair Admission Requirements Met

AUTO REFINISHING WATER BORNE SYSTEMS...provides the learner with specific knowledge and skills necessary to work with water borne products. Learners will be introduced to application methods, mixing and other considerations unique to water borne refinishing systems. **COREQUISITES:** 31405340 Auto Refinishing Orientation/Safety and **CONDITION:** 324051 Auto Collision Repair & Refinish Technician or 314051 Auto Collision Repair Admission Requirements Met

COLLISION REPAIR CUSTOM PAINTING...introduces the learner to many popular custom painting techniques. Students will have an overview of hand painted pinstripe application, multi-stage candy coat finishes, using an airbrush, masking methods, and equipment cleaning and maintenance. **COREQUISITE:** 32405321 Metal Shaping

COLLISION REPAIR FOR HYBRID AND ELECTRIC VEHICLES...provides the learner with the knowledge and skills necessary in order to properly and safely repair vehicles equipped with high voltage systems. Learners will shut down and initiate high voltage vehicle systems, assess damaged components unique to hybrid and electric vehicles and learn the fundamentals of how hybrid and electric vehicle systems operate. **COREQUISITE:** 32405309 Structural Steel Sectioning

COMMUNICATION SKILLS FOR THE WORKPLACE...prepares the student to develop paper job-search tools and job-related writing skills to increase job stability; introduces the students to team-building skills to resolve organizational problems; introduces the student to the skills of effective listening; prepares the student to respond to workplace criticism and praise; and introduces the student to interpersonal relationship skills, including effective interviewing skills, customer relations, and management/employee relations.

CYCLE TIME AND SHOP PRODUCTION 1...prepares learners to enter the workforce by applying their practical skills and performing live customer work. This course reinforces the team approach as it applies to shop production and repair work performed by students and will be assessed using real-world criteria. **COREQUISITE:** 32405321 Metal Shaping

CYCLE TIME AND SHOP PRODUCTION 2...learners prepare to enter the workforce by applying their practical skills and performing live customer work. This course reinforces cycle time and shop production by performing vehicle repairs using specialized cells and the assembly line method. Repair work performed by students will be assessed using real-world criteria. **COREQUISITE:** 32405325 Cycle Time and Shop Production 1

DAMAGE APPRAISAL/ESTIMATING...introduces the learner to various damage appraisal methods and provides the skills necessary to create computerized estimates and work orders with an emphasis on customer service. **COREQUISITE:** 32405333 Collision Repair Customer Service

INTERNSHIP 1 - AUTO COLLISION...requires students to complete 72 hours (1 credit) of work in an automotive collision repair facility. Students are responsible for seeking and obtaining the internship position. Course requirements include maintaining a log of work activities, identifying and receiving approval from the job supervisor and instructor, and completing a work-related project. Students may meet periodically at LTC. **COREQUISITE:** 32405313 Collision Repair for Hybrid and Electric Vehicles

INTERNSHIP 2 - AUTO COLLISION...requires students to complete 72 hours (1 credit) of performing work in an automotive collision repair facility. In addition, students will develop an academic portfolio which reflect upon the program outcomes, core abilities, career goal, educational goal, and course summary of learning. Students will meet with their program instructor to explain their portfolio and complete the technical skills attainment documentation. **COREQUISITE:** 32405329 Collision Repair Customer Service

METAL SHAPING...prepares learners to develop metal-working skills to the next level in this advanced auto-body course. Students will learn to shape steel vehicle panels using the English wheel, power hammer, and bead roller as well as other metal shaping tools. Learners have the opportunity to create their own unique parts and designs. **PREREQUISITES:** 31405304 Auto Collision Electrical Mechanical and 31405328 Auto Collision Structural Analysis and **COREQUISITE:** 32405329 Cycle Time and Shop Production 2

PSYCHOLOGY FOR LIFE...prepares the learner to select behavior modification techniques, demonstrate techniques for enhancing memory, analyze expressions of emotion, use conflict for common good, employ techniques to reduce conflict/frustration, use several methods to reduce stress, interpret personality types, ascertain contributors to perception, and apply methods of problem-solving.

STRUCTURAL STEEL SECTIONING...prepares the student to apply steel mig welding skills combined with steel sectioning methods to perform proper steel sectioning procedures. Learners will perform sectioning procedures approved by OEM manufacturers and prepare to earn the I-Car SPS05 Steel Sectioning Certification. **COREQUISITE:** 32405305 Vehicle Anchoring and Structural Repair

VEHICLE ANCHORING AND STRUCTURAL REPAIR...provides the learner with skills to use state of the art Car-O-liner equipment such as the Evolution jig type anchoring systems and the B73 truck clamp system to properly anchor vehicles for structural repairs. Learners will gain valuable experience using the Car-O-liner vision electromechanical measuring system. Structural repairs will be made to vehicles according to OEM guidelines. **COREQUISITE:** 32405301 Aluminum Repair Methods

Program Number 31-404-3 Technical Diploma • Four Terms

ABOUT THE PROGRAM

Most of us place great value on owning and operating our own vehicles. Our independence stems from our ability to jump in our cars and trucks and go wherever we want, whenever we want. When our independence is threatened because our vehicles aren't working properly, the first person we seek is a qualified automotive maintenance technician. If you're mechanically talented, like to solve problems, and enjoy working with people, success in the automotive maintenance field may be just down the road for you.

PROGRAM OUTCOMES

- Practice safe techniques when servicing automobiles
- Estimate automotive repair and order replacement parts
- Communicate and respond to customers' needs
- Use tools and equipment to diagnose and service automobile systems including:
 - Automotive internal combustion engines
 - Automotive transmission/transaxle systems
 - Automotive manual drive train and axle systems
 - Automotive steering and suspension steering systems
 - Automotive brake systems
 - Automotive electrical/electronic systems
 - Automotive heating and air conditioning systems
 - Engine performance systems

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTES

Students are required to purchase specific Snap-On tools. Tool cost average \$5,000 as you progress through the program. You'll need to drive manual transmissions and have a valid driver's license. This program is certified by NATEF (National Automotive Technicians Education Foundation).

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
31404301	Auto Orientation & Safety	1
31442345	Auto Servicing Welding	1
31404370	Auto Brakes	3
31404372	Auto Suspension and Steering	3
31404376	Auto Engine Repair	4
		12
Term 2		
31404348	Automotive Air Conditioning and Certification	3
31404315	Automatic Transmissions	4
31404316	Differential & Manual Transmissions	3
31809362	Psychology for Life	1
31809363	Challenging Issues	1
		12
Term 3		
31404317	Auto Electricity 1	2
31404318	Auto Electricity 2	2
31404319	Auto Electricity 3	2
31404320	Auto Electricity 4	3
31801359	Communication Skills for the Workplace	2
		11
Term 4		
31404382	Auto Engine Performance 1	5
31404384	Auto Engine Performance 2	5
		10
		TOTAL 45

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



AUTO BRAKES...prepares the student with the theory of mechanical and hydraulic components of domestic and many imported automotive braking systems, including antilock braking systems and traction controls; servicing techniques of new systems and procedures; and basic braking systems with hands on application. COREQUISITE: 31404301 Auto Orientation & Safety

AUTO ELECTRICITY 1...introduces the learner to the properties, characteristics, and behaviors of electricity and electromagnetism. Learners will learn how to quantify electricity using a digital volt ohm meter. COREQUISITE: 31404301 Auto Orientation & Safety

AUTO ELECTRICITY 2...prepares the learner to interpret automotive wiring diagrams and troubleshoot electrical circuits. Learners will identify and describe components and functions of automotive circuits and troubleshoot them using a 7-step process. COREQUISITE: 31404317 Auto Electricity 1

AUTO ELECTRICITY 3...prepares the learner to diagnose and repair automotive starting and charging systems, lighting systems, conductors, connectors, and motors. Learners will test starters, alternators, solenoids and cables. COREQUISITE: 31404318 Auto Electricity 2

AUTO ELECTRICITY 4...prepares the learner to diagnose and repair microprocessor controlled circuits in different automotive systems including safety, security and convenience systems. COREQUISITE: 31404319 Auto Electricity 3

AUTO ENGINE PERFORMANCE 1...prepares the student to diagnose and repair ignition systems, fuel delivery systems, and engines that crank but do not start using specialized test equipment. PREREQUISITE: 31404320 Auto Electrical Systems and 31404319 Auto Basic Electrical

AUTO ENGINE PERFORMANCE 2...prepares the student to diagnose and repair driveability concerns, emission test failures, and check engine lights using engine diagnostic equipment. COREQUISITE: 31404382 Auto Engine Performance 1

AUTO ENGINE REPAIR...prepares the student for engine reconditioning and related component repair procedures, engine rebuilding and cooling and lubrication systems, and service procedures. COREQUISITE: 31404301 Auto Orientation & Safety

AUTO ORIENTATION AND SAFETY...prepares the learner to work effectively and efficiently in the automotive lab. Shop safety and proper procedures are emphasized. CONDITION: Automotive Maintenance Technician and Accuplacer Math minimum score of 79 or Equivalent

AUTO SERVICING WELDING...prepares the student to make repairs commonly practiced in the auto industry, including safe techniques of brazing, cutting, SMAW, and GMAW. COREQUISITE: 31404301 Auto Orientation & Safety

AUTO SUSPENSION AND STEERING...prepares the student to perform testing and replacement procedures of suspension components; front and four-wheel alignment procedures for automotive and light trucks; and service procedures, including power steering diagnosis and repair. COREQUISITE: 31404301 Auto Orientation & Safety

AUTOMATIC TRANSMISSION...prepares the learner to develop skills in the operation and servicing of automatic transmissions. The learner will disassemble, inspect, repair and reassemble various automatic transmissions and learn proper procedures for diagnosis of these assemblies. COREQUISITE: 31404301 Auto Orientation & Safety

AUTOMOTIVE AIR CONDITIONING AND CERTIFICATION...provides the student with a thorough knowledge of the operation, diagnosis, and repair procedures of the heating and air-conditioning systems used by domestic and import automotive manufacturers, including service procedures and testing, repair, or replacement of air-conditioning components. Wisconsin Ag 136 Refrigerant Recycling certification is included. COREQUISITE: 31404301 Auto Orientation & Safety

CHALLENGING ISSUES...prepares the learner to understand the challenging occupational and social issues and problems that shape the direction of today's work world and become aware of what those contemporary issues are, how the issues impact the student, and how the student can make changes when necessary.

COMMUNICATION SKILLS FOR THE WORKPLACE...prepares the student to develop paper job-search tools and job-related writing skills to increase job stability; introduces the students to team-building skills to resolve organizational problems; introduces the student to the skills of effective listening; prepares the student to respond to workplace criticism and praise; and introduces the student to interpersonal relationship skills, including effective interviewing skills, customer relations, and management/employee relations.

DIFFERENTIALS AND MANUAL TRANSMISSIONS...prepares the learner with a thorough knowledge of the operation, diagnosis, and repair procedures of differential assemblies and manual transmissions. The learner will disassemble, inspect and reassemble differentials and various manual transmissions. COREQUISITE: 31404301 Auto Orientation & Safety

PSYCHOLOGY FOR LIFE...prepares the learner to select behavior modification techniques, demonstrate techniques for enhancing memory, analyze expressions of emotion, use conflict for common good, employ techniques to reduce conflict/frustration, use several methods to reduce stress, interpret personality types, ascertain contributors to perception, and apply methods of problem-solving.

Program Number 10-170-1

Associate Degree in Applied Science • Two Years Plus Summer School

ABOUT THE PROGRAM

You've read the scrolling captions for the hearing-impaired on your TV screen. The person providing instantaneous text of programs is trained in realtime transcription techniques and technology. These skills can also be used to provide CART (Communication Access Realtime Translation) for hearing-impaired students in educational as well as public settings. If you're an excellent listener, have strong language and communication skills, are committed to accuracy and able to work on deadline, a career in broadcast captioning may be a perfect fit for your talents.

PROGRAM OUTCOMES

- Develop proficiency in machine shorthand using realtime theory.
- Develop a personal dictionary, read, translate, and edit transcripts using CAT (computer-aided transcription) software.
- Demonstrate knowledge of proper captioning procedures and responsibilities for captioning and CART reporting.
- Demonstrate knowledge of the professional reporting organizations and methods of gaining certification as a Certified Broadcast Captioner.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete Notification of Laptop/Steno Rental Equipment form.
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

Students are required to rent a stenograph machine and laptop computer through the rental program available at LTC. LTC's Broadcast Captioning program follows the National Court Reporters Association (NCRA) standards. Upon completion of this curriculum, the student will have dual degrees in Court Reporting and Broadcast Captioning.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10170106	Realtime Reporting 1	5
10170804	Realtime Reporting 1 Lab	1
10170144	Realtime Reporting Orientation	1
10170160	Legal Terminology	1
10801195	Written Communication OR 10801136 English Composition 1	3
10809198	Introduction to Psychology	3
		14
Term 2		
10170105	Realtime Reporting 2	5
10170805	Realtime Reporting 2 Lab	1
10170159	Realtime Reporting Technology	2
10170184	English for Realtime Reporters	1
10801196	Oral/Interpersonal Communication OR 10801198 Speech	3
		12
Term 3 (Summer)		
10170108	Realtime Reporting Speed Development	2
10170104	Broadcast Captioning Research Methods	1
10809122	Introduction to American Government OR 10809172 Race, Ethnic & Diversity Studies	3
10809196	Introduction to Sociology Skillbuilding 1, 2, or 3 (optional)	3
		9
Term 4		
10170109	Literary 1 - Advanced	2
10170128	Jury Charge 1 - Advanced	2
10170156	Testimony 1 - Advanced	3
10170171	Medical Reporting & Terminology	2
10804123	Math with Business Applications OR 10804107 Intro to College Math OR 10809112 Principles of Sustainability	3
10809195	Economics OR 10809144 Macroeconomics	3
		15
Term 5		
10170145	Court Reporting Internship	1
10170111	Literary 2 - Advanced	2
10170129	Jury Charge 2 - Advanced	2
10170157	Testimony 2 - Advanced	3
10170146	Four Voice	1
10170141	Court Reporting Procedures	2
10170101	Captioning/CART	3
		14
Term 6		
10170143	Internship in Broadcast Captioning/CART	1
		TOTAL 65
OPTIONAL CREDITS		
10170140	Realtime Reporting Speed Maintenance	2
10170161	Realtime Reporting Technology Adv (Fall)	2

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



BROADCAST CAPTIONING RESEARCH METHODS...prepares the learner to prepare (research) prior to broadcast, conduct research in preparation for broadcasting international news, national news, local news, weather reports, sporting events, writing geographical terms, utilize culturally diverse terminology, and create job dictionaries.

CAPTIONING/CART...prepares the student to utilize realtime terminology and technology, follow guidelines in the CART providers manual, follow ADA regulations, describe CART provider and captioning requirements, write new punctuation and symbols, write a 30-minute news broadcast nonstop, finger-spell words, manage dictionaries, control caption spacing and placement, speaker ID's, write environmental sounds and descriptors, and write technical terms in various subjects. PREREQUISITE: 10170156 Testimony 1 - Advanced and 10170109 Literary 1 - Advanced

COURT REPORTING INTERNSHIP...prepares the student to write machine shorthand verbatim for a minimum of 40 hours of actual writing time in the courtroom, classroom, and deposition environment under the supervision of a working reporter; prepare a 40-page transcript, and summarize the internship experience in a narrative report. PREREQ: 10106108or10170108 Realtime Rptg Speed Dev, 10106128or10170128 Jury Chrg 1-Adv, 10106109or10170109 Lit 1-Adv, 10106156or10170156 Test 1-Adv & COREQ: 10106129or10170129 Jury Chrg 2-Adv, 10106111or10170111 Lit 2-Adv & 10106157or10170157 Test 2-Adv

COURT REPORTING PROCEDURES...introduces the student to reporting procedures for which reporters are responsible in the courtroom, deposition, and real-time reporting environments, including preparing salable transcripts, researching legal citations, and developing professional development plans.

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

ENGLISH FOR REALTIME REPORTERS...enhances the student's ability to use proper English grammar, spelling, punctuation, capitalization, and vocabulary techniques in the transcription of the spoken word.

FOUR VOICE...prepares the student to write four-voice testimony from material dictated at a minimum speed of 160 wpm for 5 minutes with a minimum of 95 percent accuracy. PREREQUISITE: 10170154 Testimony 2 - Beginner

INTERNSHIP IN BROADCAST CAPTIONING/CART...prepares the learner to caption live broadcast, use television broadcast terminology, describe television broadcast operations, and provide CART services to a hearing-impaired person. Students must be writing at 180 words per minute literary prior to enrolling in this course. PREREQ: 10106108or10170108 Realtime Rptg Speed Dev, 10106128or10170128 Jury Chrg 1-Adv, 10106109or10170109 Lit 1-Adv, 10106156or10170156 Test 1-Adv & COREQ: 10106129or10170129 Jury Chrg 2-Adv, 10106111or10170111 Lit 2-Adv & 10106157or10170157 Test 2-Adv

INTRODUCTION TO PSYCHOLOGY...introduces a survey of the multiple aspects of human behavior. Involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO AMERICAN GOVERNMENT...introduces American political processes and institutions. It focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. It explores the role of the media, interest groups, political parties and public opinion in the political process. It also explores the role of state and national government in our federal system.

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

JURY CHARGE 1 - ADVANCED...prepares the student to write jury charge material at 160 words per minute for 3 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy and prepare salable transcripts. PREREQUISITE: 10170121 Jury Charge 1-Beginner or 10106121 Jury Charge 1-Beginner or CONDITION: Minimum of 130 WPM met

JURY CHARGE 2 - ADVANCED...prepares the learner to write jury charge material at 200 words per minute for 5 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy and prepare salable transcripts. PREREQUISITE: 10170122 Jury Charge 2-Beginner or 10106122 Jury Charge 2-Beginner or CONDITION: Minimum of 180 WPM met

LEGAL TERMINOLOGY...provides the student with the ability to spell, pronounce, and define legal terms.

LITERARY 1 - ADVANCED...prepares the learner to write literary material at 150 words per minute for 3 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy, write and read back current events dictation, and prepare salable transcripts. PREREQUISITE: 10170113 Literary 1 - Beginner or 10106113 Literary 1 - Beginner or CONDITION: Minimum of 130 WPM met

LITERARY 2 - ADVANCED...prepares the learner to write literary material at 180 words per minute for 5 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy, write and read back current events dictation, and prepare salable transcripts. PREREQUISITE: 10170114 Literary 2 - Beginner or 10106114 Literary 2 - Beginner or CONDITION: minimum of 160 words per minute met

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agrribusiness/ Agronomy Basic program admissions requirements met

MEDICAL REPORTING/TERMINOLOGY...prepares the student to write medical terminology in machine shorthand using appropriate medical terminology from material dictated at a minimum speed of 150 wpm for 5 minutes with a minimum of 95 percent accuracy. Student will research medical information, prepare salable transcripts, and submit timings. PREREQUISITE: 10170156 Testimony 1 - Adv or 10106156 Testimony 1 - Adv

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

REALTIME REPORTING 1...prepares the learners to use machine shorthand to write consonants, vowels, numbers, multi-syllabic words, multi-consonant words, punctuation and special symbols, short forms and phrases, words in their singular and plural forms, and prefixes and suffixes. Concurrent registration in Realtime Reporting 1 Lab is required. CONDITION: 101701 Broadcast Captioning or 101702 Court Reporting or 101061 Judicial Reporting program requirements met

REALTIME REPORTING 1 LAB...prepares the learner to use machine shorthand to write consonants, vowels, numbers, multi-syllabic words, multi-consonant words, punctuation and special symbols, short forms and phrases, words in their singular and plural forms, and prefixes and suffixes. Concurrent registration in Realtime Reporting 1 is required. COREQUISITE: 10170106 Realtime Reporting 1 or 10106104 Realtime Reporting 1 and CONDITION: 101701 Broadcast Captioning or 101702 Court Reporting or 101061 Judicial Reporting program requirement met

REALTIME REPORTING 2...prepares the learner to write multi-syllabic words; punctuation and special symbols, short forms and phrases, prefixes and suffixes; numbers, frequently used words and phrases, contractions using the Z-rule, the "Flagged Alphabet," apply realtime conflict elimination principles, apply realtime theory and write dictation using a realtime theory at a minimum speed of 100 wpm. Concurrent registration in Realtime Reporting 2 Lab is required.

REALTIME REPORTING 2 LAB...expands the learner's ability to write multi-syllabic words; punctuation and special symbols, short forms and phrases, prefixes and suffixes; numbers, frequently used words and phrases, contractions using the Z-rule, the "Flagged Alphabet," apply realtime conflict elimination principles, apply realtime theory and write dictation using a realtime theory. Concurrent registration in Realtime Reporting 2 is required. COREQUISITES: 10170105 Realtime Reporting 2 or 10106105 Realtime Reporting 2

REALTIME REPORTING ORIENTATION...prepares student to use computer-assisted, real-time transcription software, Windows, email, steno machine, and a laptop in writing machine shorthand in court reporting and to complete & submit required coursework. CONDITION: 101701 Broadcast Captioning or 101702 Court Reporting program req met

REALTIME REPORTING SPEED DEVELOPMENT...further develops skills acquired in Realtime Reporting 2 on literary and testimony material beginning at 100 wpm. Scheduled during the summer term, students must pass two, 3-minute timings at a minimum speed of 110 words per minute. PREREQ: 10170105 Realtime Rep 2 or 10106105 Realtime Rep 2

REALTIME REPORTING TECHNOLOGY...prepares the student to use CAT (Computer-Assisted Transcription) and real-time software; build personal dictionaries; and read, translate, and edit transcripts. Students are introduced to real-time translation procedures in court, depositions, captioning, and educational environments.

TESTIMONY 1 - ADVANCED...prepares the learner to write 2-voice testimony material at 160 words per minute for 3 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy and prepare salable transcripts. Concurrent registration in Testimony 1 Lab - Advanced is required. PREREQUISITE: 10170153 Testimony 1 - Beginner or 10106153 Testimony 1 - Beginner or CONDITION: or Minimum of 130 WPM met

TESTIMONY 2 - ADVANCED...prepares the learner to write 2-voice testimony material at 225 words per minute for 5 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy and prepare salable transcripts. Concurrent registration in Testimony 2 Lab - Advanced is required. PREREQUISITE: 10170154 Testimony 2 - Beginner or 10106154 Testimony 2 - Beginner or CONDITION: Minimum of 180 WPM

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 10-102-3 Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

Business managers are found in every sector of the economy in nearly all work settings from manufacturing to health care. The Business Management program provides graduates with the knowledge and skills for positions such as an entry-level manager, office manager, shift coordinator, or team leader, or graduates may start their own business. The successful business manager oversees day-to-day activities and leads the team or organization to the next level of performance. Managers plan, organize, staff, and control the tasks that carry out the work of the business or nonprofit organization. If you set goals for yourself and strive to accomplish them, prefer working with others rather than alone, enjoy serving as a leader even if it means more work, and want to improve your skills and promotion potential, then a career in business management may be a good choice for you.

PROGRAM OUTCOMES

- Plan the operation of a business across functional areas.
- Organize resources to achieve the goals of the organization.
- Direct individuals and/or processes to meet organizational goals.
- Control business processes.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10103131	Excel 2013-Level I	1
10103181	Word 2013-Level I	1
10196189	Team Building and Problem Solving	3
10102110	Introduction to Business	3
10801195	Written Communication OR 10801136 English Composition 1	3
10804123	Math with Business Applications	3
		14
Term 2		
10101131	Business Accounting	4
10105128	Personal Branding	2
10196193	Human Resource Management	3
10104102	Marketing, Principles of	3
10801198	Speech OR 10801196 Oral/Interpersonal Communication	3
		15
Term 3		
10101127	Managerial Accounting	3
10182102	Service Operations Management	3
10182108	Purchasing	3
10809195	Economics	3
10809198	Introduction to Psychology	3
		15
Term 4		
10102107	Internship - Business Management OR 10138101 Introduction to Global Business OR 10104104 Selling Strategies	3
10102123	Business Management-Capstone	3
10102127	Portfolio Assessment-Business Management	1
10102160	Business Law	3
10809122	Introduction to American Government	3
10806112	Principles of Sustainability OR 10809166 Intro to Ethics	3
		16
		TOTAL 60

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



BUSINESS ACCOUNTING...introduces Business Management students to the core concepts of accounting and how a manager uses accounting in running a business. The student will also learn how to use financial statements to manage a business. PREREQUISITE: 10804123 Math with Business Applications

BUSINESS LAW 1...provides the learner with the skills to summarize the American legal system; diagram the state/federal court systems; evaluate dispute resolution methods; sequence the civil litigation process; summarize the administrative agencies; differentiate civil and criminal law; apply theories of negligence, intentional tort, and product liability; summarize elements of a contract; assess the validity of a contract; assess third-party rights and available remedies; and summarize Article II of the UCC.

BUSINESS MANAGEMENT-CAPSTONE...assess the role of business, its internal structure and its relationship to the external environment. Each learner analyzes the functions of business planning, information systems, operations management, information technology, marketing and how they interact and drive business activities. CONDITION: Students must have earned 45 credits or more in the Business Management program or 10 credits in the Entrepreneurship Certificate prior to taking this course

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

EXCEL 2013 - LEVEL 1...introduces the student to creating, modifying and formatting worksheets; entering formulas and functions; working with charts; and developing multiple-sheet workbooks. This course is offered in a self-paced format.

HUMAN RESOURCE MANAGEMENT...applies the skills/tools necessary to effectively value and apply employees' abilities and needs to organization goals. Learners will demonstrate the application of the supervisor's role in contemporary human resources management, impacts of EEOC, writing job descriptions, recruitment, selection, conducting job interviews, orientation, developing policies/procedures, training, performance management, employee counseling/development, and effective use of compensation and benefit strategies.

INTERNSHIP-BUSINESS MANAGEMENT...requires students to complete 216 hours of performing work in a business/industrial service setting related to their Business Management program objectives. Students are responsible for seeking and obtaining the internship position. Course requirements include maintaining a log of work activities, identifying and receiving approval from the job supervisor and instructor, and completing a work-related project. Students may meet periodically at LTC. PREREQUISITE: 10105128 Personal Branding or 10105126 Career Assessment & CONDITION: Student must have earned 45 credits or more in the Business Management program

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO AMERICAN GOVERNMENT...introduces American political processes and institutions. It focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. It explores the role of the media, interest groups, political parties and public opinion in the political process. It also explores the role of state and national government in our federal system.

INTRODUCTION TO BUSINESS...provides an introduction to the world of business from both the organizational and managerial viewpoint. It examines areas of business including the business environment, business formation, planning, operations, accounting, marketing, human resource management, and building effective teams.

MANAGERIAL ACCOUNTING...prepares the learner to analyze financial performance; prepare and evaluate budgets; and compare and manage capital. (Accounting students will require the Accounting 1 prerequisite requirement for this course.) PREREQUISITE: 10101131 Business Accounting or 10101111 Accounting 1

MARKETING, PRINCIPLES OF...introduces the student to the consumer decision process model, the bases used to segment a market, basic concepts about goods, services, and ideas, the nature of supply chain and distribution, integrated marketing communications, and the stages of the product life cycle and their impact on the marketing mix.

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/Agronomy Basic program admissions requirements met

PERSONAL BRANDING...focuses on the importance of developing a strong brand identity for yourself as a professional. As a prospective employee, you are constantly selling yourself from how you talk, walk, dress, your facial expressions, and your body language; people are always forming impressions of you. In this course, you will develop a professional resume, cover letter, practice interview skills, and learn the role of social media in career development.

PORTFOLIO ASSESSMENT-BUSINESS MANAGEMENT...prepares the student to identify what they have learned throughout the business management program, write career goals, re-examine their resume, research and collect project samples of their achievements, and analyze their achievements within the college core abilities. PREREQUISITES: 10105126 Career Assessment or 10105128 Personal Branding and CONDITION: Students must have earned 45 credits or more in the Business Management program

PRINCIPLES OF SUSTAINABILITY...prepares students to develop sustainable literacy, analyze interconnections among physical and biological sciences and environmental systems, summarize effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal/recycling in the U.S., and analyze approaches used by your community. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PURCHASING...introduces the participant to basic purchasing, quality specifications, inventory control, supplier selection, price aspects, research and measurement, negotiation, and global purchasing. This course is exciting for anyone interested in working in a challenging and rewarding purchasing and supply chain management career.

SERVICE OPERATIONS MANAGEMENT...introduces the student to the basic coverage of the concepts and current issues in service operation management. Topics include the value equation in operations management; understanding services; building the service system; operating the service system; enterprise resource management (ERP) and supply chain management concepts in the service sector.

SPEECH...explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of the course. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

TEAMBUILDING AND PROBLEM SOLVING...applies the skills and tools necessary to facilitate problem solving in a team environment. Each learner will demonstrate the application of the benefits and challenges of group work, necessary roles in a team, stages of team development, different approaches to problem solving, consensus, a systematic process of problem definition, data acquisition, analysis, developing alternative solutions, solution implementation, and evaluation.

WORD 2013 - LEVEL 1...introduces the student to word processing features such as creating, saving, editing, formatting, and printing documents, creating basic diagrams, and applying these concepts to produce usable documents. This course is offered in a self-paced format.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Pending State Approval

Program Number 50-410-1
4-Year Contract

Work Hours (including related instruction): 6240
Related Instruction Hours: 400 • Night School Hours: 120

ABOUT THE APPRENTICESHIP

Apprenticeships are employer-sponsored training programs. You must have a contract before being invited to school. A special application process is used for these programs. Please contact the Apprenticeship Office for the proper forms. Apprenticeship means you earn while you learn. If you want a career in a skilled trade, apprenticeship is the best way to get there. You'll combine on-the-job training with on-campus learning—you'll have the best of both worlds when it comes to learning the skills you need to get ahead. And even better, you'll earn a paycheck while you learn those skills.

ABOUT THE CAREER

Architects create ideas and develop plans for buildings—carpenters turn ideas and plans into homes, offices, stores—all the structures in which we live, work and play. The Carpentry Apprenticeship program is an employer-sponsored, hands-on training program under the supervision of a joint apprenticeship committee. If you're detail-oriented; good at following directions; and enjoy working with your mind, hands, and tools to build things, becoming a journey-level carpenter could be a very rewarding career choice for you.

CAREERS

Graduates of LTC's Carpentry Apprenticeship program work as journey-level carpenters in the areas of construction, maintenance, and repair of structures, both commercial and residential.

CONSTRUCTION APPRENTICE APPLICATION REQUIREMENTS

- Apprentice Application
- Proof of Age
- Carpentry Entrance Assessment
- High School Transcripts or Equivalent
- Advisory Committee Interview

PROGRAM OUTCOMES

- Build forms and rough frame.
- Read construction prints.
- Install exterior finishing.
- Install interior finishing and hardware.
- Install interior system including: drywall, insulation, acoustical ceilings, movable partitions, and access panel systems.
- Fit hardware to exterior and interior applications.

APPROXIMATE COSTS

Contact the LTC Apprenticeship Office or visit www.gotoltc.edu/apprenticeship for detailed information.

PLACEMENT SCORES

Seventy (70) percent or better on Carpenter Entrance Assessment.

SPECIAL NOTE

Upon completion of the apprentice requirements, you'll be issued a Letter of Introduction, which states your requirements have been met. You'll use this Letter of Introduction to apply for work in the trade. You must have a sponsoring employer before receiving a contract and being invited to school.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

Catalog No.	Class Title	Credit(s)
Term 1		
50410715	Construction Carpentry Safety	1
50410719	Site Development for Carpentry Apprentices	1
		2
Term 2		
50410720	Concrete Forms for Carpentry Apprentices	1
50410721	Shoring & Floor Construction for Carpentry Apprentices	1
		2
Term 3		
50410722	Wall Construction for Carpentry Apprentices	1
50410724	Interior Finishing for Carpentry Apprentices	1
		2
Term 4		
50410716	Scaffold Erector and Tool Safety for Carpentry Apprentices	1
50410726	Roof Framing for Carpentry Apprentices	1
		2
Term 5		
50410727	Stair Design and Building for Carpentry Apprentices	1
50410725	Exterior Finishing and Doors for Carpentry Apprentices	1
		2
Term 6		
50410723	Metal Framing for Carpentry Apprentices	1
50410717	Basic Welding for Carpentry Apprentices	1
		2
		TOTAL 12

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



BASIC WELDING FOR CARPENTRY...will include arc and wire welding. Welding principles will be discussed and basic processes examined. Safety, set-up, and welding techniques commonly used by the trade will be addressed. Skill development will include basic arc and wire welding as well as burning, torching, and plasma cutting. Blueprint reading, safety and applicable commercial building codes will be reviewed. CONDITION: 504101 Carpentry Apprentice Requirements Met

CONCRETE FORMS FOR CARPENTRY APPRENTICES...will explore trade practices related to concrete forms. Course topics include Symons handset forms, MEVA gang forming, hardware and rebar requirements, reinforcement techniques and concrete science. Key principles involved in slump testing and preparing concrete will be discussed. Blueprint reading, safety, commercial codes, and related requirements will be addressed in this course. CONDITION: 504101 Carpentry Apprentice Requirements Met

CONSTRUCTION CARPENTRY SAFETY...will introduce safe work practices, safety requirements, and personal protective equipment. Instruction includes forklift, rough terrain vehicle and aerial lift safety and operation. Construction trade safety best practices will be discussed. Trenching and rigging and signaling safety requirements and operation will also be covered. CONDITION: 504101 Carpentry Apprentice Requirements Met

EXTERIOR FINISHING AND DOORS FOR CARPENTRY...will examine exterior finishing and doors systems in this course. Exterior finishing topics include installation of windows and siding following specifications provided on blueprints. Door systems include hollow metal door frames; doors; door hardware, hangers and closures; and other related components. Blueprint reading, commercial building codes, and other requirements for doors and exteriors will be covered. CONDITION: 504101 Carpentry Apprentice Requirements Met

INTERIOR FINISHING FOR CARPENTRY APPRENTICES...will explore interior finishing techniques related to the trade. Trim and paneling will examine baseboard, casing, sills, jams, trims, and paneling installations. Cabinets and backing installation and blueprints are included in the course. Laminate and solid surface installation and manufacturing will be discussed. Acoustical ceiling basics, layouts, mains, and math are addressed. CONDITION: 504101 Carpentry Apprentice Requirements Met

METAL FRAMING FOR CARPENTRY APPRENTICES...will cover metal framing requirements related to commercial building codes. Blueprint reading and safety related to metal stud work are included. Course topics include structural studs, walls and shafts, soffits, joists, firestops, and other related concepts. Hands-on skill development in cutting studs for various job requirements is included. CONDITION: 504101 Carpentry Apprentice Requirements Met

ROOF FRAMING FOR CARPENTRY APPRENTICES...will apply blueprint reading skills to roofing systems and framing requirements. Rafters, gables, hips, intersecting, valleys, cornices and trusses will be covered. Course includes the installations of pre-engineered components as well as the awareness of how to make trusses and related components. Applicable commercial building codes, safety requirements, and related concepts will be addressed. CONDITION: 504101 Carpentry Apprentice Requirements Met

SCAFFOLD ERECTOR AND TOOL SAFETY...will cover scaffold systems, safety, and assembly in this course. Additional topics include tool safety, and basic blueprint reading. Tube and clamp, welding frame, and mobile towers will be compared. Common scaffold systems and set-ups for various job site situations will be discussed. Beginning tool safety for protecting workers, equipment and property will be examined. Blueprint reading skills will be introduced. CONDITION: 504101 Carpentry Apprentice Requirements Met

SHORING AND FLOOR CONSTRUCTION FOR CARPENTRY...will cover trade practices involving concrete shoring and floor construction. Course topics include elevated slabs and beams, EFCO systems, decks and Ellis clamps, plywood and concrete systems, precast and tilt-up slabs, and slab-on-grade with slopes. Hands-on learning opportunities related to the course topics are included. Codes, safety, blueprint reading and other related requirements are included. CONDITION: 504101 Carpentry Apprentice Requirements Met

SITE DEVELOPMENT FOR CARPENTRY APPRENTICES...will expose apprentices to trade practices related to site development. Use of a transit and level will be covered and skills developed related to working with building layouts. Elevation specifications and symbols will be examined. Total station fundamentals will be applied to various job sites. Blueprint reading, commercial building codes, safety, and related concepts when working on a job site will be covered. CONDITION: 504101 Carpentry Apprentice Requirements Met

STAIR DESIGN AND BUILDING CARPENTRY...will examine stair design, layout, and building in this course. Interpreting blueprints and building codes related to stairs and ADA accessibility will be addressed along with layout and frame wood and metal and concrete stairs based on codes and standards. Stairs will be built in team or class projects. Applying use of concrete forms to stairways will be covered. Reviewing and applying commercial codes to stairway construction for public buildings will also be covered. CONDITION: 504101 Carpentry Apprentice Requirements Met

WALL CONSTRUCTION FOR CARPENTRY APPRENTICE...will teach wall construction techniques involved with wood framing. Course topics include stick framing walls and headers, wood framing practices, drywall and insulation, drywall taping, and wall finishing. Blueprint reading, safety, and tool use are included. Commercial building codes related to wall construction will be reviewed. CONDITION: 504101 Carpentry Apprentice Requirements Met

Program Number 50-307-1

2-Year Contract

Work Hours (including related instruction): 4000

Related Instruction Hours: 288 • Night School Hours: 8

ABOUT THE APPRENTICESHIP

The Child Care Development Specialist Apprenticeship requires 4,000 work hours. Of this, 3,712 are on the job, documented in the job book provided by the LTC Early Childhood program, and 288 are in paid-related instruction. In addition, 8 hours of unpaid-related night school are required. Upon successful completion of this apprenticeship, you will receive:

- A Certificate of Completion of Paid-Related Instruction from LTC.
- A Certificate of Completion of the Apprenticeship from the Bureau of Apprenticeship Standards.
- A Journeyworker Card from the Bureau of Apprenticeship Standards.
- Eligibility to transfer 30 credits into the Early Childhood Education associate degree.

To begin the apprenticeship process:

- You must have a sponsoring employer before receiving an apprentice contract and being invited to school. Discuss with your employer the desire to enter the apprenticeship for this trade. Your employer should contact the local Bureau of Apprenticeship Standards, Apprenticeship Training Representative (ATR) and discuss next steps and procedures.
- Specifics of the apprenticeship contract are worked out between you, your employer, and the ATR.
- Once everything is in order, a Wisconsin Apprentice Contract is issued, and you will then be invited to school.

ABOUT THE CAREER

This apprenticeship program prepares individuals for employment as child care specialists in child care agencies. The child care apprentice will gain skills and knowledge while working with a seasoned veteran within the early childhood setting. The theory and classroom content offered in the paid-related instruction include courses addressing the foundations of early childhood, health, safety, nutrition, art, music, language arts, child development, guiding behavior, and the development of infants and toddlers. Practical skills are both learned and practiced on the job in the areas of safety, health, first aid, abuse and neglect, administrative duties, nutrition and hygiene, child development, supervision, and consultation techniques. Wage increases over the period of the apprenticeship compensate the gradual gain in skills and knowledge. Apprentices may be eligible to transfer 30 credits into the Early Childhood Education associate degree.

CAREERS

Companies in the Manitowoc/Sheboygan area that have employed Child Care Development Specialists include: Precious Memories Child Care, Head Start Manitowoc, Lakeshore Day Care Center, Head Start Sheboygan, and Montessori Children's House of Sheboygan.

APPRENTICE APPLICATION STEPS

- Employer Application
- Apprentice Application
- Entrance Assessment Scores
- High School Transcript

APPROXIMATE COSTS

Contact the LTC Apprenticeship Office or visit www.gotoltc.edu/apprenticeship for detailed information.

RECOMMENDED PLACEMENT SCORES

Accuplacer: Arithmetic-50, Reading-55, Sentence Skills-70
 ACT: Mathematics-16, Reading-16, English-16

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

Catalog No.	Class Title	Credit(s)
Term 1		
10307148	ECE: Foundations of Early Childhood Education	3
10307151	ECE: Infant and Toddler Development	3
10307167	ECE: Health, Safety and Nutrition	3
10307178	ECE: Art, Music and Language Arts	3
		12
Term 2		
10307179	ECE: Child Development	3
10307188	ECE: Guiding Children's Behavior	3
		6
		TOTAL 18

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ECE: ART, MUSIC AND LANGUAGE ARTS...prepares the student to examine the critical role of play; establish a developmentally appropriate environment for art, music, and language arts; develop activity plans that promote child development and learning; analyze care giving routines as curriculum; create developmentally appropriate art activities; create developmentally appropriate music and movement activities; and create developmentally appropriate language, literature, and literacy activities.

ECE: CHILD DEVELOPMENT...prepares the student to analyze social, cultural, and economic influences on child development; summarize child development theories; analyze development of children age three through age eight; summarize the methods and designs of child development research; analyze the role of heredity and the environment; examine the role of brain development in early learning (ages 3-8); and integrate strategies that support diversity and anti-bias perspectives.

ECE: FOUNDATIONS OF EARLY CHILDHOOD EDUCATION...prepares the student to investigate the history of early childhood education; summarize types of early childhood education settings; identify the components of a quality early childhood education program; summarize responsibilities of early childhood education professionals; explore early childhood curriculum models; integrate strategies that support diversity and anti-bias perspectives; and analyze the principles of the WI Model Early Learning Standards.

ECE: GUIDING CHILDREN'S BEHAVIOR...prepares the student to integrate strategies that support diversity and anti-bias perspectives; summarize early childhood guidance principles; analyze factors that affect the behavior of children; practice positive guidance strategies; develop guidance strategies to meet individual needs; create a guidance philosophy; and integrate strategies that support diversity and anti-bias perspectives.

ECE: HEALTH, SAFETY AND NUTRITION...prepares the student to follow governmental regulations and professional standards as they apply to health, safety, and nutrition; provide a safe, healthy and nutritionally sound early childhood program; adhere to child abuse and neglect mandates; apply Sudden Infant Death Syndrome (SIDS) risk reduction strategies; incorporate health, safety, and nutrition concepts into the children's curriculum; and integrate strategies that support diversity and anti-bias perspectives.

ECE: INFANT AND TODDLER DEVELOPMENT...prepares the student to analyze development of infants and toddlers (conception to three years); correlate prenatal conditions with development; summarize child development theories; analyze the role of heredity and the environment; examine research-based models; examine culturally and developmentally appropriate environments for infants and toddlers; examine the role of brain development in early learning (conception through age three); and examine caregiving routines as curriculum.

Program Number 31-307-1 Technical Diploma • Two Terms

ABOUT THE PROGRAM

Children are our future. Nurturing and caring for them takes place in homes, in schools, and in various child care facilities. Parents and guardians put their trust in qualified child care providers to ensure the safety, well-being, and development of their children—our future. If you love being with young children and want to be a part of their positive growth and development, a career in early childhood education may be a rewarding choice for you.

PROGRAM OUTCOMES

- Apply and practice theories and concepts of child development from birth to 12 years.
- Comprehend professional terminology used in the early childhood field.
- Develop daily activities designed to foster the social, emotional, physical, intellectual, and creative growth of children.
- Develop an awareness of children with special needs and modify environments to meet specific individual needs.
- Gain awareness of proper nutrition, licensing rules and regulations, and health and safety standards essential to the education and welfare of young children.
- Become familiar with and be able to utilize community resources as they apply to children and/or their families.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Complete health requirements.
 - Submit Infant/Child CPR/AED certification to program staff.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

Practicum 1, and 2 students are required to attend all course reflections to receive required trainings. (36 hours of lecture + 72 hours of field experience for Practicum 1 and 2).

RELATED PROGRAMS

- Early Childhood Education Associate Degree

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10307148	ECE: Foundations of Early Childhood Education	3
10307151	ECE: Infant & Toddler Development	3
10307167	ECE: Health, Safety, and Nutrition	3
10307174	ECE: Practicum 1	3
10307178	ECE: Art, Music, & Language Arts	3
31801359	Communication in the Workplace OR 10801195 Written Communications OR 10801136 English Composition 1	2
		17
Term 2		
10307179	ECE: Child Development	3
10307188	ECE: Guiding Children's Behavior	3
10307192	ECE: Practicum 2	3
10307194	ECE: Math, Science, & Social Studies	3
10801198	Speech	3
10809172	Introduction to Diversity Studies	3
		18
		TOTAL 35

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



COMMUNICATION SKILLS FOR THE WORKPLACE...prepares the student to develop paper job-search tools and job-related writing skills to increase job stability; introduces the students to team-building skills to resolve organizational problems; introduces the student to the skills of effective listening; prepares the student to respond to workplace criticism and praise; and introduces the student to interpersonal relationship skills, including effective interviewing skills, customer relations, and management/employee relations.

ECE: ART, MUSIC AND LANGUAGE ARTS...prepares the student to examine the critical role of play; establish a developmentally appropriate environment for art, music, and language arts; develop activity plans that promote child development and learning; analyze care giving routines as curriculum; create developmentally appropriate art activities; create developmentally appropriate music and movement activities; and create developmentally appropriate language, literature, and literacy activities.

ECE: CHILD DEVELOPMENT...prepares the student to analyze social, cultural, and economic influences on child development; summarize child development theories; analyze development of children age three through age eight; summarize the methods and designs of child development research; analyze the role of heredity and the environment; examine the role of brain development in early learning (ages 3-8); and integrate strategies that support diversity and anti-bias perspectives.

ECE: FOUNDATIONS OF EARLY CHILDHOOD EDUCATION...prepares the student to investigate the history of early childhood education; summarize types of early childhood education settings; identify the components of a quality early childhood education program; summarize responsibilities of early childhood education professionals; explore early childhood curriculum models; integrate strategies that support diversity and anti-bias perspectives; and analyze the principles of the WI Model Early Learning Standards.

ECE: GUIDING CHILDREN'S BEHAVIOR...prepares the student to integrate strategies that support diversity and anti-bias perspectives; summarize early childhood guidance principles; analyze factors that affect the behavior of children; practice positive guidance strategies; develop guidance strategies to meet individual needs; create a guidance philosophy; and integrate strategies that support diversity and anti-bias perspectives.

ECE: HEALTH, SAFETY AND NUTRITION...prepares the student to follow governmental regulations and professional standards as they apply to health, safety, and nutrition; provide a safe, healthy and nutritionally sound early childhood program; adhere to child abuse and neglect mandates; apply Sudden Infant Death Syndrome (SIDS) risk reduction strategies; incorporate health, safety, and nutrition concepts into the children's curriculum; and integrate strategies that support diversity and anti-bias perspectives.

ECE: INFANT AND TODDLER DEVELOPMENT...prepares the student to analyze development of infants and toddlers (conception to three years); correlate prenatal conditions with development; summarize child development theories; analyze the role of heredity and the environment; examine research-based models; examine culturally and developmentally appropriate environments for infants and toddlers; examine the role of brain development in early learning (conception through age three); and examine caregiving routines as curriculum.

ECE: MATH, SCIENCE AND SOCIAL STUDIES...prepares the student to examine the critical role of play; establish a developmentally appropriate environment for math, science, and social studies; develop activity plans that promote child development and learning; create developmentally appropriate science activities; create developmentally appropriate math activities; create developmentally appropriate social studies activities; and integrate strategies that support diversity and anti-bias perspectives.

ECE: PRACTICUM 1...prepares the student to document children's behavior; explore the standards for quality ECE; implement activities developed by the co-op teacher/instructor; demonstrate professional behaviors; practice care giving routines as curriculum; practice positive interpersonal skills with children and adults; analyze the guiding principles and the developmental domains related to the WMELS; integrate the WMELS into program's teaching cycle; and evaluate learning and assessment activities using WMELS. **CONDITION:** 103071 Early Childhood Education Admission Requirements Met or 313071 Child Care Services Admission Requirements Met

ECE: PRACTICUM 2...prepares the student to identify children's growth and development; implement student teacher-developed activity plans; identify the elements of a developmentally appropriate environment; implement positive guidance strategies; demonstrate professional behaviors; utilize caregiving routines as curriculum; utilize positive interpersonal skills with children and adults; and integrate strategies that support diversity and anti-bias perspectives. **PREREQUISITE:** 10307174 ECE: Practicum 1 or 10307109 Practicum 1 and **CONDITION:** 103071 Early Childhood Education Admission Requirements Met or 313071 Child Care Services Admission Requirements Met

INTRODUCTION TO DIVERSITY STUDIES...introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, religion are explored. **COREQUISITE:** 10838105 Intro Reading and Study Skills or equivalent

SPEECH...explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of the course. **COREQUISITE:** 10838105 Intro Reading and Study Skills or equivalent

Pending State Approval

Program Number 32-444-1
Technical Diploma • Four Terms

ABOUT THE PROGRAM

Computer numerical control (CNC) machining is used to perform a wide range of manufacturing tasks including milling, drilling, and turning. Technicians work with CNC equipment from setup through operation, producing parts and tools from metal, plastic, or other materials. CNC technicians program the equipment to control speed, feed, and path of the cut. They inspect the finished product to ensure it is a quality part and ready for the next step in production. If you like to create things with your hands, are fascinated with technology, and want above-average earning power, the CNC Technician program is for you.

PROGRAM OUTCOMES

- Apply basic safety practices in the machine shop.
- Interpret industrial/engineering drawings.
- Apply precision measuring methods to part inspection.
- Perform basic machine tool equipment setup and operation.
- Perform programming, setup, and operation of CNC machine tools.
- Perform advanced CNC Machinist operations.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

After you are admitted to your program you will meet with your Advisor to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements. Enrollment requirements for this program's courses include:

- Complete Functional Abilities Statement of Understanding form.
- Meet to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

RELATED PROGRAMS

- Machinist Apprenticeship
- Tool and Die Apprenticeship

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
31420310	Machine Tool Hand Tools	1
31420330	Machine Tool Measuring	1
31420336	Machine Tool Drills	1
31420334	Machine Tool Saws/Material Selection	1
31420340	Machine Tool Lathes 1A	1
31420341	Machine Tool Lathes 1B	1
31420350	Machine Tool Mills 1A	1
31420351	Machine Tool Mills 1B	1
31420311	Machine Tool Programming Basic	1
31420325	Machine Tool Math Basic	1
31420326	Machine Tool Math Intermediate	1
31420385	Machine Tool Print Reading 1	1
31420386	Machine Tool Print Reading 2	1
31809362	Psychology for Life	1
		14
Term 2		
31420313	Machine Tool Programming	1
31420315	CAM for Milling Machines	1
31420342	Machine Tool Lathes 2	1
31420352	Machine Tool Mills 2	2
31420308	Intro to CNC Turning Center	1
31420307	Intro to CNC Machining Center	1
31420380	Machine Tool CNC Turning Center	2
31420382	Machine Tool CNC Machining Center	2
31420398	Machine Tool Technical Skills Portfolio	1
31801359	Communication Skills for the Workplace	2
		14
Term 3		
32444372	Metallurgy	1
32444301	Machine Tool Math Advanced	1
32444389	Print Reading Advanced	1
32444305	Advanced Measuring GD&T	2
32444304	Advanced Mills (Proto Traks)	2
32444360	Grinders 1	1
32444302	Advanced Machining Centers 1A	2
32444307	Advanced Turning Centers 1A	2
32444311	CNC Programming Advanced	1
32444310	CAM for Turning Machines	1
		14
Term 4		
32444303	Advanced Machining Centers 1B	2
32444308	Advanced Turning Centers 1B	2
32444306	Advanced Technical Skills Portfolio	1
32444343	CNC Technician Program Internship OR	2
	32444342 EDM Wire (2cr) OR	
	32444340 EDM Sinker (2cr)	
32444341	Advanced Machining Centers 1C	2
32444344	Advanced Turning Centers 1C	2
32444345	HSM for SolidWorks	1
32444309	Grinders 2	1
		13
		TOTAL 55

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



Please see *Machine Tool Operation for Term 1 and 2* course descriptions.

ADVANCED MACHINING CENTERS 1A...prepares the learner to set up and operate a CNC machining center, perform probing on the CNC machining center, set up and operate using various workholding techniques, editing a program on the CNC control. PREREQUISITE: 31420382 Machine Tool CNC Machining Centers

ADVANCED MACHINING CENTERS 1B...addresses how it is very important to create and edit G&M code for CNC machining centers. Advanced Machining Centers 1B prepares the learner to create G&M code programs, load program into control, set up and prove out program, and operate your program on CNC machining center. You will be creating programs for face milling, end milling, and hole producing. PREREQUISITE: 32444302 Advanced Machining Centers 1A

ADVANCED MACHINING CENTERS 1C...covers how the ability to create G&M code programs to create complex parts is made possible using CAM software. Mastercam is a CAM software that is often used in industry. Advanced Machining Centers 1C prepares the learner to create G&M code programs using Mastercam software, post process, and down load into control; set up and prove out; and operate on the CNC machining center. You will be creating programs for face milling, end milling, hole producing, and thread milling. COREQUISITE: 32444308 Advanced Machining Centers 1B

ADVANCED MEASURING GD&T...prepares the learner to inspect using the following: precision measuring tools, surface plate measuring tools, GD&T form tolerances, GD&T orientation tolerances, GD&T profile and runout tolerances, and GD&T location tolerances, and examine basic CMM programming principles. PREREQUISITE: 31420330 Machine Tool Measuring

ADVANCED MILLS (PROTO TRAKS)...prepares the learner to: setup and operate vertical mills, create and use soft jaws, use advanced subroutine functions, create programs using the A.G.E. function, create programs using the DXF converter. PREREQUISITE: 31420352 Machine Tool Mills 2

ADVANCED TECHNICAL SKILLS PORTFOLIO...prepares the learner to complete a final project using multiple machines, processes, and the advanced skills and techniques acquired throughout the Machine Tool program. Learners will also create a portfolio for this final project that will include a work process plan, and photographs of their project. COREQUISITE: 32444303 Advanced Machining Centers 1B and 32444308 Advanced Turning Centers 1B

ADVANCED TURNING CENTERS 1A...prepares the learner to set up and operate a CNC turning center, create programs for the turning center, execute programs, edit existing G&M code programs on the control, create G&M code programs using conversational programming. PREREQUISITE: 31420380 Machine Tool CNC Turning Centers and 10420184 Machine Tool Programming and 10420120 Machine Tool CAM and 31420315 CAM for Milling Machines

ADVANCED TURNING CENTERS 1B...prepares the learner to set up and operate a Computer Numerical Control (CNC) turning center, create programs for the turning center, execute programs, edit existing G&M code programs on the control, create G&M code programs using conversational programming, and create programs using MasterCam software. PREREQUISITE: 32444307 Advanced Turning Centers 1A

ADVANCED TURNING CENTERS 1C...prepares the learner in advanced set up and operation of a Computer Numerical Control (CNC) turning center, create G&M code programs for student designed parts, execute programs, edit G&M code programs on the control. The learner will create G&M code programs by writing them longhand, by using conversational programming, or by using MasterCam software. COREQUISITE: 32444308 Advanced Machining Centers 1B

CAM FOR TURNING MACHINES...covers how creating G&M code programs quickly is how companies compete in the competitive environment of machine shops. Mastercam is a CAM software that is common in industry. In this course you will explore Mastercam computer software environment; construct 2-D turning geometry; and create rough turning operations, finish turning operations, rough and finish boring operations, threading operations, grooving and cutoff operations, and hole-producing operations for CNC turning machines.

CNC PROGRAMMING ADVANCED...covers how the ability to write CNC programs with advanced features can speed up cutting processes and create operations to better hold size and quality of work pieces. In this course you will be learning how to create G&M code programs to create helical and ramping cutting tool entry, and the use of roughing and finishing tool paths for CNC machining centers. You will also create additional CNC turning center G&M code program options to further enhance process speed and quality. PREREQUISITES: 31420315 CAM for Milling Machines and 10420120 Machine Tool CAM

CNC TECHNICIAN PROGRAM INTERNSHIP...provides a broad variety of specific occupational experiences in the manufacturing machine tool/CNC machining industry. Students work with faculty to develop an internship plan and identify, coordinate, and evaluate learning experiences appropriate to the field of study and major career focus of the student. COREQUISITES: 32444303 Advanced Machining Centers 1B and 32444308 Advanced Turning Centers 1B and 32444306 Advanced Technician Skills Portfolio and CONDITION: 324441 CNC Technician program requirements met

GRINDERS 1...prepares the learner to follow grinding machine tool safety rules, identify grinding machine tool components, grinding wheels, and operate horizontal spindle reciprocating table surface grinders. PREREQUISITES: 31420310 MT Hand Tools, 31420330 MT Measuring and 31420352 MT Mills 2

GRINDERS 2...prepares the learner to identify grinding-wheel characteristics suitable for various applications, perform the basic process of mounting and dressing contour surface grinding wheels, demonstrate the use of common workholding devices, and apply methods for side grinding and grinding angles. PREREQUISITE: 31420360 Machine Tool Grinders 1 and 32444360 Grinders 1 and COREQUISITE: 32444304 Advanced Mills (Proto Traks)

HSM FOR SOLIDWORKS...is a CAD software that is often used for mechanical design. HSM for Solidworks is an add-on to Solidworks for CAM processes, creating G&M code programs from the solid model. In this course you will explore the Solidworks interface and create face milling, end milling, and hole-producing tool paths for CNC machining centers. You will also be creating turning, boring, threading, and hole-producing tool paths for CNC turning centers.

MACHINE TOOL MATH ADVANCED...prepares the learner to solve spur gear dimensions using formulas, solve for chord, circumference, and radius by using geometric principles, solve complex practical machine application problems, and solve oblique triangles. PREREQUISITE: 31420320 Machine Tool Math and 31420320MI Machine Tool Math Intermediate

METALLURGY...prepares the learner to interpret the properties of ferrous materials, heat treat ferrous material, test the hardness of ferrous materials, and interpret the properties of non-ferrous materials

PRINT READING ADVANCED...enhances the learner's ability to interpret complex part drawings answering questions specifically related to: projection type and violations of true projection, positional dimensioning, geometric dimensioning and tolerancing, screw thread types and threaded fasteners, workpiece material types and structural shapes, pin fasteners, springs, and worm gears. The course is self-paced and designed for individualized student needs. PREREQUISITES: 31420385 Machine Tool Print Reading 1 and 31420386 Machine Tool Print Reading 2

Program Number 10-170-2 Associate Degree in Applied Science • Two Years Plus Summer School

ABOUT THE PROGRAM

You've seen high-profile trials with a person keying the testimony into a stenograph machine or read the scrolling captions for the hearing-impaired on your TV screen. The person recording the spoken words at speeds ranging from 180 to 225 words a minute is a court reporter. If you're an excellent listener, have strong language and communications skills, and are committed to accuracy and confidentiality, a career in court reporting may be a perfect fit for you.

PROGRAM OUTCOMES

- Develop proficiency in machine shorthand using realtime theory.
- Develop a personal dictionary, read, translate, and edit transcripts using CAT (computer-aided transcription) software.
- Produce salable transcripts on a realtime translation system.
- Demonstrate knowledge of proper reporting procedures and responsibilities for freelance and official reporting.
- Demonstrate knowledge of legal and medical concepts and terminology.
- Demonstrate knowledge of the professional reporting organizations and methods of gaining certification as a Registered Professional Reporter.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Complete Notification of Laptop/Steno Rental Equipment form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

- Students are required to rent a stenograph machine and laptop computer through the rental program available at LTC. LTC's Court Reporting program is certified by the National Court Reporters Association (NCRA).
- LTC shares its Court Reporting program with Fox Valley Technical College (FVTC)-Appleton, Northeast Wisconsin Technical College (NWTC)-Green Bay, Mid-State Technical College (MSTC)-Stevens Point, and Moraine Park Technical College (MPTC)-Fond du Lac. LTC also offers an opportunity for students to complete the program at the Lakeland College-Milwaukee campus.

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Catalog No.	Class Title	Credit(s)
Term 1		
10170106	Realtime Reporting 1	5
10170804	Realtime Reporting 1 Lab	1
10170144	Realtime Reporting Orientation	1
10170160	Legal Terminology	1
10801195	Written Communication OR 10801136 English Composition 1	3
10809198	Introduction to Psychology	3
		14
Term 2		
10170105	Realtime Reporting 2	5
10170805	Realtime Reporting 2 Lab	1
10170159	Realtime Reporting Technology	2
10170184	English for Realtime Reporters	1
10801196	Oral/Interpersonal Communication OR 10801198 Speech	3
		12
Term 3 (Summer)		
10170108	Realtime Reporting Speed Development	2
10170104	Broadcast Captioning Research Methods	1
10809122	Introduction to American Government OR 10809172 Race, Ethnic & Diversity Studies	3
10809196	Introduction to Sociology Skillbuilding 1, 2, or 3 (optional)	3
		9
Term 4		
10170109	Literary 1 - Advanced	2
10170128	Jury Charge 1 - Advanced	2
10170156	Testimony 1 - Advanced	3
10170171	Medical Reporting & Terminology	2
10809195	Economics OR 10809144 Macroeconomics	3
10804123	Math with Business Applications OR 10804106 Intro to College Math OR 10806112 Principles of Sustainability	3
		15
Term 5		
10170145	Court Reporting Internship	1
10170111	Literary 2 - Advanced	2
10170129	Jury Charge 2 - Advanced	2
10170157	Testimony 2 - Advanced	3
10170146	Four Voice	1
10170141	Court Reporting Procedures	2
10170101	Captioning/CART	3
		14
		TOTAL 64
OPTIONAL CREDITS		
10170140	Realtime Reporting Speed Maintenance	2
10170161	Realtime Reporting Technology Adv (Fall)	2

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



BROADCAST CAPTIONING RESEARCH METHODS...prepares the learner to prepare (research) prior to broadcast, conduct research in preparation for broadcasting international news, national news, local news, weather reports, sporting events, writing geographical terms, utilize culturally diverse terminology, and create job dictionaries.

CAPTIONING/CART...prepares the student to utilize realtime terminology and technology, follow guidelines in the CART providers manual, follow ADA regulations, describe CART provider and captioning requirements, write new punctuation and symbols, write a 30-minute news broadcast nonstop, finger-spell words, manage dictionaries, control caption spacing and placement, speaker ID's, write environmental sounds and descriptors, and write technical terms in various subjects. PREREQUISITE: 10170156 Testimony 1 - Advanced and 10170109 Literary 1 - Advanced

COURT REPORTING INTERNSHIP...prepares the student to write machine shorthand verbatim for a minimum of 40 hours of actual writing time in the courtroom, classroom, and deposition environment under the supervision of a working reporter; prepare a 40-page transcript, and summarize the internship experience in a narrative report. PREREQ: 10106108or10170108 Realtime Rptg Speed Dev, 10106128or10170128 Jury Chrg 1-Adv, 10106109or10170109 Lit 1-Adv, 10106156or10170156 Test 1-Adv & COREQ: 10106129or10170129 Jury Chrg 2-Adv, 10106111or10170111 Lit 2-Adv & 10106157or10170157 Test 2-Adv

COURT REPORTING PROCEDURES...introduces the student to reporting procedures for which reporters are responsible in the courtroom, deposition, and real-time reporting environments, including preparing salable transcripts, researching legal citations, and developing professional development plans.

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

ENGLISH FOR REALTIME REPORTERS...enhances the student's ability to use proper English grammar, spelling, punctuation, capitalization, and vocabulary techniques in the transcription of the spoken word.

FOUR VOICE...prepares the student to write four-voice testimony from material dictated at a minimum speed of 160 wpm for 5 minutes with a minimum of 95 percent accuracy. PREREQUISITE: 10170154 Testimony 2 - Beginner

INTRODUCTION TO PSYCHOLOGY...introduces a survey of the multiple aspects of human behavior. Involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO AMERICAN GOVERNMENT...introduces American political processes and institutions. It focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. It explores the role of the media, interest groups, political parties and public opinion in the political process. It also explores the role of state and national government in our federal system.

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

JURY CHARGE 1 - ADVANCED...prepares the student to write jury charge material at 160 words per minute for 3 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy and prepare salable transcripts. PREREQUISITE: 10170121 Jury Charge 1 - Beginner or 10106121 Jury Charge 1 - Beginner or CONDITION: Min of 130 WPM met

JURY CHARGE 2 - ADVANCED...prepares the learner to write jury charge material at 200 words per minute for 5 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy and prepare salable transcripts. PREREQUISITE: 10170122 Jury Charge 2 - Beginner or 10106122 Jury Charge 2 - Beginner or CONDITION: Min of 180 WPM met

LEGAL TERMINOLOGY...provides the student with the ability to spell, pronounce, and define legal terms.

LITERARY 1 - ADVANCED...prepares the learner to write literary material at 150 words per minute for 3 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy, write and read back current events dictation, and prepare salable transcripts. PREREQUISITE: 10170113 Literary 1 - Beginner or 10106113 Literary 1 - Beginner or CONDITION: Minimum of 130 WPM met

LITERARY 2 - ADVANCED...prepares the learner to write literary material at 180 words per minute for 5 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy, write and read back current events dictation, and prepare salable transcripts. PREREQUISITE: 10170114 Literary 2 - Beginner or 10106114 Literary 2 - Beginner or CONDITION: minimum of 160 words per minute met

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/ Agronomy Basic program admissions requirements met

MEDICAL REPORTING/TERMINOLOGY...prepares the student to write medical terminology in machine shorthand using appropriate medical terminology from material dictated at a minimum speed of 150 wpm for 5 minutes with a minimum of 95 percent accuracy. Student will research medical information, prepare salable transcripts, and submit timings. PREREQUISITE: 10170156 Testimony 1-Advanced or 10106156 Testimony 1-Adv

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

REALTIME REPORTING 1...prepares the learners to use machine shorthand to write consonants, vowels, numbers, multi-syllabic words, multi-consonant words, punctuation and special symbols, short forms and phrases, words in their singular and plural forms, and prefixes and suffixes. Concurrent registration in Realtime Reporting 1 Lab is required. CONDITION: 101701 Broadcast Captioning or 101702 Court Reporting or 101061 Judicial Reporting program requirements met

REALTIME REPORTING 1 LAB...prepares the learner to use machine shorthand to write consonants, vowels, numbers, multi-syllabic words, multi-consonant words, punctuation and special symbols, short forms and phrases, words in their singular and plural forms, and prefixes and suffixes. Concurrent registration in Realtime Reporting 1 is required. COREQUISITE: 10170106 Realtime Reporting 1 or 10106104 Realtime Reporting 1 and CONDITION: 101701 Broadcast Captioning or 101702 Court Reporting or 101061 Judicial Reporting program requirement met

REALTIME REPORTING 2...prepares the learner to write multi-syllabic words; punctuation and special symbols, short forms and phrases, prefixes and suffixes; numbers, frequently used words and phrases, contractions using the Z-rule, the "Flagged Alphabet," apply realtime conflict elimination principles, apply realtime theory and write dictation using a realtime theory at a minimum speed of 100 wpm. Concurrent registration in Realtime Reporting 2 Lab is required.

REALTIME REPORTING 2 LAB...expands the learner's ability to write multi-syllabic words; punctuation and special symbols, short forms and phrases, prefixes and suffixes; numbers, frequently used words and phrases, contractions using the Z-rule, the "Flagged Alphabet," apply realtime conflict elimination principles, apply realtime theory and write dictation using a realtime theory. Concurrent registration in Realtime Reporting 2 is required. COREQUISITES: 10170105 Realtime Reporting 2 or 10106105 Realtime Reporting 2

REALTIME REPORTING ORIENTATION...prepares the student to use computer-assisted, real-time transcription software, Windows, e-mail, a steno machine, and a laptop in writing machine shorthand in court reporting and to complete and submit required coursework. CONDITION: 101701 Broadcast Captioning or 101702 Court Reporting program requirements met

REALTIME REPORTING SPEED DEVELOPMENT...further develops skills acquired in Realtime Reporting 2 on literary and testimony material beginning at 100 wpm. Scheduled during the summer term, students must pass two, 3-minute timings at a minimum speed of 110 words per minute. PREREQUISITE: 10170105 Realtime Reporting 2 or 10106105 Realtime Reporting 2

REALTIME REPORTING TECHNOLOGY...prepares the student to use CAT (Computer-Assisted Transcription) and real-time software; build personal dictionaries; and read, translate, and edit transcripts. Students are introduced to real-time translation procedures in court, depositions, captioning, and educational environments.

TESTIMONY 1 - ADVANCED...prepares the learner to write 2-voice testimony material at 160 words per minute for 3 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy and prepare salable transcripts. Concurrent registration in Testimony 1 Lab - Advanced is required. PREREQUISITE: 10170153 Testimony 1 - Beginner or 10106153 Testimony 1 - Beginner or CONDITION: Minimum of 130 wpm met

TESTIMONY 2 - ADVANCED...prepares the learner to write 2-voice testimony material at 225 words per minute for 5 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy and prepare salable transcripts. Concurrent registration in Testimony 2 Lab - Advanced is required. PREREQUISITE: 10170154 Testimony 2 - Beginner or 10106154 Testimony 2 - Beginner or CONDITION: Minimum of 180 WPM

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

ABOUT THE PROGRAM

To serve and protect. These words define the commitment of law enforcement personnel. If you're a law-abiding individual who values honesty, order, detail, and you possess the desire and ability to work with and assist people in a variety of situations, you may want to consider dedicating yourself to an ever-changing career in law enforcement.

PROGRAM OUTCOMES

- Think critically.
- Manage emergencies.
- Communicate effectively.
- Demonstrate professionalism.
- Interact with others.
- Demonstrate tactical skills.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee. (No felony arrest or domestic violence convictions)

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Verify a valid Wisconsin driver's license.
 - Complete Firearms User Background Disclosure form.
 - Submit US citizenship status.
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

LTC's Criminal Justice—Law Enforcement program is approved by the Wisconsin Department of Justice, Training and Standards Bureau. The Wisconsin Department of Justice reserves the right to make changes to the Recruit Academy embedded within this program, which may necessitate curriculum changes.

CONTACT

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Catalog No.	Class Title	Credit(s)
Term 1		
10540131	Emergency Management	2
10504170	Public Safety Fitness	1
10809198	Introduction to Psychology	3
10801195	Written Communication	3
10504910	Law Enforcement Career Development	2
10804107	College Mathematics	3
		14
Term 2		
10801196	Oral/Interpersonal Communication	3
10504700	Introduction to Criminal Justice	3
10504701	Basic Patrol Response	3
10504702	Basic Tactics	3
10504703	Basic Investigations	3
10809159	Abnormal Psychology	3
		18
Term 3		
10504704	Intermediate Patrol Procedures	3
10504705	Advanced Tactics	4
10504706	Emergency Vehicle Response	2
10504707	Intermediate Investigation	3
10504911	Pursuit Intervention Technique Basic Training	1
10809196	Introduction to Sociology	3
		16
Term 4		
10504171	Field Services	1
10504708	Physical Fitness	1
10504709	Traffic Response	3
10504710	Advanced Investigations	3
10504970	Spanish for Law Enforcement	1
10504195	Law Enforcement Capstone	2
10801198	Speech	3
		14
		TOTAL 62

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ABNORMAL PSYCHOLOGY...surveys the essential features, possible causes, and assessment and treatment of the various systems of abnormal behavior from the viewpoint of the major theoretical perspectives in the field of abnormal psychology. Students will be introduced to the diagnosis system of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). In addition, the history of the psychology of abnormality will be traced. Cultural and social perspectives in understanding and responding to abnormal behavior will be explored as well as current topics and issues within abnormal psychology. PREREQ: 10809198 or 10809198OL Psychology-Intro

ADVANCED INVESTIGATIONS...teaches and applies the skills from the Phase 3 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Moral Reasoning and Professional Responsibility, Fair and Impartial Policing, Victims, Sexual Assault, Child Maltreatment, Interrogations, Physical Evidence Collection, and Testifying in Court. Student learning will occur through lecture, on campus lab activities, and Wisconsin Department of Justice 720 Academy Integration Exercises. COREQUISITE: 10504707 Intermediate Investigation

ADVANCED TACTICS...teaches and applies the skills from the Phase 2 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Physical fitness, Defense and Arrest Tactics (DAAT), and Firearms 2. Student learning will occur through lecture, on campus lab activities, and independent physical exercise. PREREQUISITE: 10504702 Basic Tactics

BASIC INVESTIGATIONS...teaches and applies the skills from the Phase 1 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Constitutional Law, Crimes, Juvenile Law, Interviews, and Report Writing. Student learning will occur through lecture, on campus lab activities, and the Department of Justice 720 Academy Integration Exercises. CONDITION: 105046 Criminal Justice Law Enforcement 2 or 315047 Criminal Justice 720 Embedded Academy program requirements met

BASIC PATROL RESPONSE...addresses the following Department of Justice 720 Academy Phase 1 topics, through classroom lecture, on campus lab, and Wisconsin Department of Justice Integration activities: Critical Thinking and Decision Making, Basic Response (RESPOND), RadioProcedures, TraCS, Traffic Law Enforcement, and First Aid/CPR/AED. CONDITION: 105046 Criminal Justice Law Enforcement 2 or 315047 Criminal Justice 720 Embedded Academy program requirements met

BASIC TACTICS...teaches and applies the skills from Phase 1 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Fundamentals of Firearms, Vehicle Contacts, Officer Wellness, Physical Fitness and pre-test. Student learning will occur through lecture, on campus lab activities, independent physical fitness activities, and the Department of Justice 720 Academy Integration Exercises. CONDITION: 105046 Criminal Justice Law Enforcement 2 or 315047 Criminal Justice 720 Embedded Academy program requirements met

COLLEGE MATHEMATICS...is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. PREREQUISITE: 10834109 Pre-Algebra or equivalent

EMERGENCY MANAGEMENT...gives the student a working knowledge of Emergency Management, Public Safety Occupations, and the Incident Command System.

EMERGENCY VEHICLE RESPONSE...teaches and applies the skills from the Phase 2 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Emergency Vehicle Operations and Control (EVOC) and Vehicle Contacts 2. Student learning will occur through lecture, on campus lab activities, and Wisconsin Department of Justice 720 Academy Integration Exercises. PREREQUISITE: 10504702 Basic Tactics

FIELD SERVICES...teaches a variety of skills needed for handling difficult situations such as ground defense and review of previous Phase 1 and 2 topics. COREQUISITE: 10504705 Advanced Tactics

INTERMEDIATE INVESTIGATION...teaches and applies the skills from the Phase 2 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Constitutional Law 2, Crimes 2, and Domestic. Student learning will occur through lecture and the Wisconsin Department of Justice 720 Academy Integration Exercises. PREREQUISITE: 10504703 Basic Investigations

INTERMEDIATE PATROL RESPONSE...teaches and applies the skills from the Phase 2 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Communication Skills, Incident Command System and NIMS, Hazardous Materials and Weapons of Mass Destruction (WMD), Tactical Response, Crisis Management, and TEMS/Self Buddy Aid. Student learning will occur through lecture, on campus lab activities, and Wisconsin Department of Justice 720 Academy Integration Exercises. PREREQUISITE: 10504701 Basic Patrol Response

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRODUCTION TO CRIMINAL JUSTICE...focuses on the following phase 1 topics as addressed in the Wisconsin Department of Justice Academy 720 curriculum framework: Academy Orientation, Fundamentals of Criminal Justice, Ethics, Cultural Competency, Agency Policy, and Professional Communications or 315047 Criminal Justice 720 Embedded Academy

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

LAW ENFORCEMENT CAPSTONE...instructs students how to complete practice scenarios for Phase III Wisconsin Department of Justice 720 Academy testing. Additionally, the Phase III practical testing will occur.

LAW ENFORCEMENT CAREER DEVELOPMENT...provides an in-depth study of the hiring process commonly used by law enforcement agencies. It also focuses on the skills that are essential to obtain and maintain employment as a police officer and prepares the student for future interviews. In addition, the course provides meaningful information about career options in the Criminal Justice field as well as options within the law enforcement field itself. CONDITION: 105046 Criminal Justice-Law Enforcement 2 or 315047 Criminal Justice 720 Embedded Academy program requirements met

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PHYSICAL FITNESS...applies the physical fitness skills required by the Wisconsin Department of Justice 720 Academy in this Phase 3 course. Students will apply learning in independent lab activities and an on campus physical fitness test/assessment. COREQUISITE: 10504705 Advanced Tactics

PUBLIC SAFETY FITNESS...gives the student a basic understanding of fitness for a career in Public Safety occupations.

PURSUIT INTERVENTION TECHNIQUE BASIC TRAINING...provides the learner with the special knowledge and skills necessary to successfully perform the Pursuit Intervention Technique (PIT) and conduct modified high risk contacts to tactically handle the different vehicle alignments created by the PIT maneuver. COREQUISITE: 10504706 Emergency Vehicle Response

SIMPLE SPANISH FOR LAW ENFORCEMENT OFFICERS...prepares the learner to communicate with Spanish speaking individuals during a police contact while maintaining safety. Prepares the learner to perform police duties using limited Spanish such as traffic stops, gaining verbal control when needed, and assess medical emergencies. It includes arrest commands, the ability to recognize danger words commonly used by Spanish speaking attackers, the Spanish translation for the Miranda Warnings and Standardized Field Sobriety Testing. CONDITION: 105046 Criminal Justice Law Enforcement 2 or 315047 Criminal Justice 720 Embedded Academy program requirements met

SPEECH...explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of the course. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

TRAFFIC RESPONSE...teaches and applies the skills from the Phase 3 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Traffic Law Enforcement - Core and Radar, Traffic Crash Investigations and Incident Management, and Operating While Intoxicated (OWI) and Standard Field Sobriety Testing (SFST). Student learning will occur through lecture and on campus lab activities. COREQUISITE: 10504706 Emergency Vehicle Response

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 31-504-7 Technical Diploma • Three Terms

ABOUT THE PROGRAM

This program incorporates the Wisconsin Department of Justice Recruit Academy portion of LTC's Criminal Justice Associate Degree. This offers those individuals that have already completed necessary college coursework to complete a Department of Justice Recruit Academy at Lakeshore Technical College.

PROGRAM OUTCOMES

- Think critically.
- Manage emergencies.
- Communicate effectively.
- Demonstrate professionalism.
- Interact with others.
- Demonstrate tactical skills.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee. (No felony arrest or domestic violence convictions)

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Verify a valid Wisconsin driver's license.
 - Complete Firearms User Background Disclosure form.
 - Submit US citizenship status.
 - Complete District mutual insurance driver's license abstract review.
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

This unique program permits individuals that already have 23 accredited college credits to complete a Department of Justice Recruit Academy and gain the necessary credentials to become a certifiable candidate for law enforcement job opportunities.

Individuals seeking Department of Justice Academy completion will need to complete a mandatory physical fitness test for admission to the academy component of this program.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10504700	Intro to Criminal Justice	3
10504701	Basic Patrol Response	3
10501702	Basic Tactics	3
10504703	Basic Investigations	3
10801196	Oral/Interpersonal Communication	3
		15
Term 2		
10504704	Intermediate Patrol Procedures	3
10504705	Advanced Tactics	4
10504706	Emergency Vehicle Responses	2
10504707	Intermediate Investigation	3
		12
Term 3		
10504708	Physical Fitness	1
10504709	Traffic Response	3
10504710	Advanced Investigations	3
10504194	Law Enforcement Capstone	2
		9
		TOTAL 36

Students seeking Department of Justice certification must complete the courses in the program in the sequence required by the Department of Justice Recruit Academy phases.

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ADVANCED INVESTIGATIONS...teaches and applies the skills from the Phase 3 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Moral Reasoning and Professional Responsibility, Fair and Impartial Policing, Victims, Sexual Assault, Child Maltreatment, Interrogations, Physical Evidence Collection, and Testifying in Court. Student learning will occur through lecture, on campus lab activities, and Wisconsin Department of Justice 720 Academy Integration Exercises. COREQUISITE: 10504707 Intermediate Investigation

ADVANCED TACTICS...teaches and applies the skills from the Phase 2 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Physical fitness, Defense and Arrest Tactics (DAAT), and Firearms 2. Student learning will occur through lecture, on campus lab activities, and independent physical exercise. PREREQUISITE: 10504702 Basic Tactics

BASIC INVESTIGATIONS...teaches and applies the skills from the Phase 1 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Constitutional Law, Crimes, Juvenile Law, Interviews, and Report Writing. Student learning will occur through lecture, on campus lab activities, and the Department of Justice 720 Academy Integration Exercises. CONDITION: 105046 Criminal Justice Law Enforcement 2 or 315047 Criminal Justice 720 Embedded Academy program requirements met

BASIC PATROL RESPONSE...addresses the following Department of Justice 720 Academy Phase 1 topics, through classroom lecture, on campus lab, and Wisconsin Department of Justice Integration activities: Critical Thinking and Decision Making, Basic Response (RESPOND), RadioProcedures, TraCS, Traffic Law Enforcement, and First Aid/CPR/AED. CONDITION: 105046 Criminal Justice Law Enforcement 2 or 315047 Criminal Justice 720 Embedded Academy program requirements met

BASIC TACTICS...teaches and applies the skills from Phase 1 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Fundamentals of Firearms, Vehicle Contacts, Officer Wellness, Physical Fitness and pre-test. Student learning will occur through lecture, on campus lab activities, independent physical fitness activities, and the Department of Justice 720 Academy Integration Exercises. CONDITION: 105046 Criminal Justice Law Enforcement 2 or 315047 Criminal Justice 720 Embedded Academy program requirements met

EMERGENCY VEHICLE RESPONSE...teaches and applies the skills from the Phase 2 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Emergency Vehicle Operations and Control (EVOC) and Vehicle Contacts 2. Student learning will occur through lecture, on campus lab activities, and Wisconsin Department of Justice 720 Academy Integration Exercises. PREREQUISITE: 10504702 Basic Tactics

INTERMEDIATE INVESTIGATION...teaches and applies the skills from the Phase 2 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Constitutional Law 2, Crimes 2, and Domestics. Student learning will occur through lecture and the Wisconsin Department of Justice 720 Academy Integration Exercises. PREREQUISITE: 10504703 Basic Investigations

INTERMEDIATE PATROL RESPONSE...teaches and applies the skills from the Phase 2 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Communication Skills, Incident Command System and NIMS, Hazardous Materials and Weapons of Mass Destruction (WMD), Tactical Response, Crisis Management, and TEMS/Self Buddy Aid. Student learning will occur through lecture, on campus lab activities, and Wisconsin Department of Justice 720 Academy Integration Exercises. PREREQUISITE: 10504701 Basic Patrol Response

INTRODUCTION TO CRIMINAL JUSTICE...focuses on the following phase 1 topics as addressed in the Wisconsin Department of Justice Academy 720 curriculum framework: Academy Orientation, Fundamentals of Criminal Justice, Ethics, Cultural Competency, Agency Policy, and Professional Communications. or 315047 Criminal Justice 720 Embedded Academy

LAW ENFORCEMENT CAPSTONE...provides practice scenarios for Phase 3 Wisconsin Department of Justice 720 Academy testing. The Phase 3 practical testing will occur in this course. COREQUISITE: 10504709 Traffic Response and 10504710 Advanced Investigation

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PHYSICAL FITNESS...applies the physical fitness skills required by the Wisconsin Department of Justice 720 Academy in this Phase 3 course. Students will apply learning in independent lab activities and an on campus physical fitness test/assessment. COREQUISITE: 10504705 Advanced Tactics

TRAFFIC RESPONSE...teaches and applies the skills from the Phase 3 topics outlined in the Wisconsin Department of Justice 720 Academy. Topics include: Traffic Law Enforcement - Core and Radar, Traffic Crash Investigations and Incident Management, and Operating While Intoxicated (OWI) and Standard Field Sobriety Testing (SFST). Student learning will occur through lecture and on campus lab activities. COREQUISITE: 10504706 Emergency Vehicle Response

Program Number 10-316-1 Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

If you are creative, enjoy the constantly evolving food service industry, work well with people, and have a love of food, the Lakeshore Culinary Institute may be the best place to launch your career. Graduates of the program become chefs, independent restaurateurs, bakers or pastry chefs, sales staff for the food industry, food service managers, and corporate chefs. The program is offered at Bistro 712 on Sheboygan's Riverfront in a working restaurant setting. Students enjoy class sizes of 12 and rapid progression to graduation through four consecutive 15-week semesters. The program is rich with practical experience in American regional and international cuisines. Courses are offered in traditional and blended delivery. The program requires day, evening, and some Saturday hours.

PROGRAM OUTCOMES

- Apply principles of safety and sanitation in food service operations.
- Apply principles of nutrition.
- Demonstrate culinary skills.
- Manage food service operations.
- Plan menus.
- Analyze food service financial information.
- Relate food service operations to sustainability.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10316101	Product Identification and Purchasing	2
10316102	Skills Development	3
10316104	Introduction to Baking and Pastry	3
10316105	Culinary Practicum 1	2
10109112	Sanitation	1
10109108	Dining Room and Beverage Service	2
10801196	Oral/Interpersonal Communication OR 10801198 Speech	3
		16
Term 2		
10316133	Advanced Patisserie and Desserts	2
10316110	Cooking Methods	3
10316111	Garde Manger	2
10316114	Culinary Practicum 2	2
10809172	Introduction to Diversity Studies OR 10809196 Introduction to Sociology	3
10809103	Thinking Critically	3
		15
Term 3		
10316122	Classic and Contemporary French Cuisine	3
10316123	Menu Planning and Cost Controls	3
10316125	Culinary Practicum 3	2
10316132	Culinary Leadership	2
10806112	Principles of Sustainability OR 10804123 Math with Business Applications	3
10809198	Introduction to Psychology	3
		16
Term 4		
10316121	Advanced Garde Manger and Catering	3
10316135	European and Fusion Cooking	3
10316136	Nutrition	1
10316134	Culinary Internship	2
10801195	Written Communications OR 10801136 English Composition 1	3
10809128	Marriage and Family OR 10809166 Introduction to Ethics	3
		15
		TOTAL 62

*Curriculum and Program Acceptance requirements are subject to change.
Program start dates vary; check with your advisor for details.*



ADVANCED GARDE MANGER AND CATERING... covers executing finer techniques in smaller quantities, to allow learners to explore Charcuterie items including sausages, cured and smoked meats. Compound salads, terrines, pates, canapés, and vegetable and fruit displays are covered. Presentation techniques are emphasized including ice sculpting. Safety, sanitation and cost control concepts are applied. PREREQUISITES: 10316114 Culinary Practicum 2

ADVANCED PATISSERIE AND DESSERTS... advanced styles of pastries & desserts, per assignment and in group projects-for our restaurant menu and for a variety of assigned events. Content includes artisan bread production, along with the preparation, plating, garnishing and display of a variety of frozen desserts, ice creams, gelatos, crepes, patisserie, tarts, flans, cakes, tortes, custards, truffles & classic dessert sauces.

CLASSIC AND CONTEMPORARY FRENCH CUISINE... is a more advanced course, including technique, cooking methods, French sauces, line cooking, plating, and how the practice of those skills finds relevance in the professional restaurant kitchen. Students explore the history, culture, and techniques of specific regions in France and many countries influenced by French cooking. Bistro recipes are developed, field tested and applied. PREREQUISITES: 10316114 Culinary Practicum 2

COOKING METHODS... explores the advanced professional kitchen, covering soups, sauces and cooking methods. Content includes stock preparation, reduction techniques and a wide variety of classic soups, in addition to contemporary sauce preparation, the 5 Mother Sauces and their many derivatives. Adv. cooking methods are applied to batch and single entree preparation. Styles of plating are explored. PREREQUISITES: 10109112 Sanitation for Food Service and 10109105 Culinary Practicum 1

CULINARY INTERNSHIP... applies program objectives and competencies under supervision in culinary settings, preparing foods that are cooked to order. Activities may include day, evening, and weekend requirements. Students enhance the learning experience through journal writing and other written assignments. A final program portfolio is required per rubric. COREQUISITES: 10316121 Advanced Garde Manager and Catering and 10316135 European and Fusion Cooking

CULINARY LEADERSHIP... includes review and application of industry-specific skills needed to master the effective management of a profitable and efficient culinary operation. Includes recipe and product development, menu scripting, time management, principles of leadership, staff motivation, developing a community of excellence, staff scheduling, writing a business plan, developing standard operating procedures, resume and portfolio development, professional development planning, interviewing and public speaking skills. COREQUISITE: 10316123 Menu Planning and Cost Control

CULINARY PRACTICUM 1... incorporates fundamental theories & techniques learned during the first semester in a restaurant setting. Safety, sanitation & cost control concepts are applied. Activities may include day, evening, & weekend requirements. CONDITION: 103161 Culinary Arts or 313161 or Culinary Technical Diploma program req met.

CULINARY PRACTICUM 2... will incorporate fundamental theories and techniques learned during the first and second semesters in a restaurant setting. Activities may include day, evening, and weekend requirements. PREREQUISITE: 10109112 Sanitation for Food Service and COREQUISITES: 10316110 Cooking Methods and 10316111 Garde Manager and 10316133 Advanced Patisserie and Desserts

CULINARY PRACTICUM 3... incorporates fundamental theories and techniques learned during the first, second and third semesters in a restaurant setting. Activities may include day, evening, and weekend requirements. COREQUISITES: 10316122 Classic and Contemporary French Cuisine

DINING ROOM AND BEVERAGE SERVICE... introduces learners to dining room and beverage service including wine, spirits, beer, mixology, and non-alcoholic drinks. Helps learners refine their customer service and meal delivery skills through the study and application of proper, customer-oriented dining room service environments including etiquette, dining room safety, set-up, American and French table service, and menu knowledge skills. Concepts include histories of table service, psychology of the customer, and service sequence.

EUROPEAN AND FUSION COOKING... builds on previous semesters and applies skills and methods to production, seasoning, cooking techniques, plate presentation and speed while exploring Central and Eastern Europe, Mediterranean, and Italian cuisine's, along with cuisine's of the Orient, the Pacific Rim, Latin America, Mexico, India, Caribbean Islands, and Sub-Saharan Africa. Student creativity is emphasized along with all ACF standards of professionalism. Safety, sanitation, and cost control concepts are applied. PREREQUISITE: 10316125 Culinary Practicum 3

GARDE MANGER... includes basic concepts of timing, seasoning and fine garnishing. Focus is placed upon the preparation and plating of appetizers and hors d'oeuvre, salads, vegetables, fruits, dressings, garnishing and displays. The learner will participate in a variety of class projects and catering assignments. Teamwork, communication skills, sanitation, safety, cost control, professionalism are emphasized. PREREQUISITE: 10109105 Culinary Practicum 1

INTRODUCTION TO PSYCHOLOGY... introduces a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. Directs student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO BAKING AND PASTRY... introduces learners to the principles and techniques used in the preparation of high-quality baked goods and pastries. Students develop skills in breads, muffins, biscuits, custards, pies, cakes, pastries and specialized desserts. Skills include creaming, blending, meringues, straight dough, custards and frozen desserts. Safety, sanitation and cost control concepts are applied. CONDITION: 103161 Culinary Arts or 313161 Culinary Technical Diploma program requirements met

INTRODUCTION TO DIVERSITY STUDIES... introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, religion are explored. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MARRIAGE AND FAMILY... introduces the sociological aspects of marriage and family life in contemporary American society. Emphasis is on the study of cognitive, emotional, and behavioral patterns associated with courtship, love, mate selection, sexuality, and marriage; life span development in the family life cycle, balancing work and family, and parenting; and how knowledge and skills in the roles of spouse and parent can be applied to daily life. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MENU PLANNING AND COST CONTROLS... includes review and application of essential kitchen cost and quality management skills with an emphasis on menu development, mathematics, and profitable production. Examines culinary mathematics, HACCP, standardized recipe development, recipe and menu costing, inventory, principles of cost efficient purchasing and receiving, along with a variety of approaches used in mastering the overall cost of kitchen operations. PREREQUISITE: 10316114 Culinary Practicum 2

NUTRITION... examines basic principles of nutrition and explores the nutritional needs for various populations including children, teens, the aging, vegetarians, sports enthusiasts, and those with conditions such as obesity, heart disease, diabetes, gastrointestinal disorders, hypertension and food allergies. Recipe modification, food quality and menu planning for these populations is a focus. Safety, sanitation and cost control concepts are applied. This course includes a service learning component.

ORAL/INTERPERSONAL COMMUNICATION... provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PRINCIPLES OF SUSTAINABILITY... prepares students to develop sustainable literacy, analyze interconnections among physical & biological sciences and environmental systems, summarize effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal/recycling in the U.S., and analyze approaches used by your community. COREQUISITE: 10838105 Intro Reading & Study Skills or equivalent

PRODUCT IDENTIFICATION AND PURCHASING... through identification, the study of origins and seasonality, discussion of quality, use, safe handling and fabrication, learners will explore vegetables, seafood, meats, fruits, herbs, spices, oils, vinegar and the nature of taste and flavor. The USDA grading system and butchery concepts are included. Safety, sanitation and cost control concepts are applied.

SANITATION FOR FOOD SERVICE... develops skills to follow sanitation and hygiene provisions in state codes. The NRA certification test is included.

SKILL DEVELOPMENT... introduces the professional kitchen in a real restaurant setting. Fundamental theories of cooking and duties are explored. Knife skills and safety are applied including classic cuts, boning, filet and fabrication techniques. Content includes mise en place for events and menu production, preparing stocks, basic bread baking, timing, multi-tasking, and terminology. Students will practice the use of tools, utensils and equipment emphasizing safety and sanitation. CONDITION: 103161 Culinary Arts or 313161 Culinary Technical Diploma program requirements met

THINKING CRITICALLY & CREATIVELY... introduces the student to vital, realistic, and practical methods of thinking which are in high demand in all occupations of substance today. Decision making, problem solving, detailed analysis of ideas, troubleshooting, argumentation, persuasion, creativity, setting goals and objectives, and more are considered in depth as the student applies specific thinking strategies and tools to situations in a wide variety of workplace, personal, academic, and cultural situations. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

WRITTEN COMMUNICATION... teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 31-316-1 Technical Diploma • Four Terms

ABOUT THE PROGRAM

If you are creative, enjoy the constantly evolving food service industry, work well with people, and have a love of food, the Lakeshore Culinary Institute may be the best place to launch your career. Graduates of the program become chefs, independent restaurateurs, bakers or pastry chefs, sales staff for the food industry, food service managers, and corporate chefs. The program is offered at Bistro 712, on Sheboygan's Riverfront in a working restaurant setting. Students enjoy class sizes of 12 and rapid progression to graduation through four consecutive 15-week semesters. The program is rich with practical experience in American regional and international cuisines. Courses are offered in traditional and blended delivery. The program requires day, evening, and some Saturday hours.

PROGRAM OUTCOMES

- Apply principles of safety and sanitation in food service operations.
- Apply principles of nutrition.
- Demonstrate culinary skills.
- Manage food service operations.
- Plan menus.
- Analyze food service financial information.
- Relate food service operations to sustainability.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

RELATED PROGRAMS

- Culinary Arts Associate Degree

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10316101	Product Identification and Purchasing	2
10316102	Skill Development	3
10316104	Introduction to Baking and Pastry	3
10109112	Sanitation	1
10316105	Culinary Practicum 1	2
10109108	Dining Room and Beverage Service	2
		13
Term 2		
10316133	Advanced Patisserie and Desserts	2
10316110	Cooking Methods	3
10316111	Garde Manger	2
10316114	Culinary Practicum 2	2
10801196	Oral/Interpersonal Communication OR	3
10801198	Speech	
		12
Term 3		
10316122	Classic and Contemporary French Cuisine	3
10316123	Menu Planning and Cost Controls	3
10316125	Culinary Practicum 3	2
10316132	Culinary Leadership	2
		10
Term 4		
10316121	Advanced Garde Manger and Catering	3
10316135	European and Fusion Cooking	3
10316136	Nutrition	1
10316134	Culinary Internship	2
		9
		TOTAL 44

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ADVANCED GARDE MANGER AND CATERING...covers executing finer techniques in smaller quantities, to allow learners to explore Charcuterie items including sausages, cured and smoked meats. Compound salads, terrines, pates, canapés, and vegetable and fruit displays are covered. Presentation techniques are emphasized including ice sculpting. Safety, sanitation and cost control concepts are applied. PREREQUISITES: 10316114 Culinary Practicum 2

ADVANCED PATISSERIE AND DESSERTS...includes advanced styles of pastries and desserts, per assignment and in group projects - for our restaurant menu and for a variety of assigned events. Content will include artisan bread production, along with the preparation, plating, garnishing and display of a variety of frozen desserts, ice creams, gelatos, crepes, patisserie, tarts, flans, cakes, tortes, custards, truffles and classic dessert sauces.

CLASSIC AND CONTEMPORARY FRENCH CUISINE...is a more advanced course, including technique, cooking methods, French sauces, line cooking, plating, and how the practice of those skills finds relevance in the professional restaurant kitchen. Students explore the history, culture, and techniques of specific regions in France and many countries influenced by French cooking. Bistro recipes are developed, field tested and applied. PREREQUISITES: 10316114 Culinary Practicum 2

COOKING METHODS...explores the advanced professional kitchen, covering soups, sauces and cooking methods. Content includes stock preparation, reduction techniques and a wide variety of classic soups, in addition to contemporary sauce preparation, the 5 Mother Sauces and their many derivatives. Adv. cooking methods are applied to batch and single entree preparation. Styles of plating are explored. PREREQUISITES: 10109112 Sanitation for Food Service and 10109105 Culinary Practicum 1

CULINARY INTERNSHIP...applies program objectives and competencies under supervision in culinary settings, preparing foods that are cooked to order. Activities may include day, evening, and weekend requirements. Students enhance the learning experience through journal writing and other written assignments. A final program portfolio is required per rubric. COREQUISITES: 10316121 Advanced Garde Manager and Catering and 10316135 European and Fusion Cooking

CULINARY LEADERSHIP...includes review and application of industry-specific skills needed to master the effective management of a profitable and efficient culinary operation. Includes recipe and product development, menu scripting, time management, principles of leadership, staff motivation, developing a community of excellence, staff scheduling, writing a business plan, developing standard operating procedures, resume and portfolio development, professional development planning, interviewing and public speaking skills. COREQUISITE: 10316123 Menu Planning and Cost Control

CULINARY PRACTICUM 1...will incorporate fundamental theories and techniques learned during the first semester in a restaurant setting. Safety, sanitation and cost control concepts are applied. Activities may include day, evening, and weekend requirements. CONDITION: 103161 Culinary Arts or 313161 Culinary Technical Diploma program requirements met

CULINARY PRACTICUM 2...will incorporate fundamental theories and techniques learned during the first and second semesters in a restaurant setting. Activities may include day, evening, and weekend requirements. PREREQUISITE: 10109112 Sanitation for Food Service and COREQUISITES: 10316110 Cooking Methods and 10316111 Garde Manager and 10316133 Advanced Patisserie and Desserts

CULINARY PRACTICUM 3...incorporates fundamental theories and techniques learned during the first, second and third semesters in a restaurant setting. Activities may include day, evening, and weekend requirements. COREQUISITES: 10316122 Classic and Contemporary French Cuisine

DINING ROOM AND BEVERAGE SERVICE...introduces learners to dining room and beverage service including wine, spirits, beer, mixology, and non-alcoholic drinks. Helps learners refine their customer service and meal delivery skills through the study and application of proper, customer-oriented dining room service environments including etiquette, dining room safety, set-up, American and French table service, and menu knowledge skills. Concepts include histories of table service, psychology of the customer, and service sequence.

EUROPEAN AND FUSION COOKING...builds on previous semesters and applies skills and methods to production, seasoning, cooking techniques, plate presentation and speed while exploring Central and Eastern Europe, Mediterranean, and Italian cuisine's, along with cuisine's of the Orient, the Pacific Rim, Latin America, Mexico, India, Caribbean Islands, and Sub-Saharan Africa. Student creativity is emphasized along with all ACF standards of professionalism. Safety, sanitation, and cost control concepts are applied. PREREQUISITE: 10316125 Culinary Practicum 3

GARDE MANAGER...includes basic concepts of timing, seasoning and fine garnishing. Focus is placed upon the preparation and plating of appetizers and hors d'oeuvre, salads, vegetables, fruits, dressings, garnishing and displays. The learner will participate in a variety of class projects and catering assignments. Teamwork, communication skills, sanitation, safety, cost control, professionalism are emphasized. PREREQUISITE: 10109105 Culinary Practicum 1

INTRODUCTION TO BAKING AND PASTRY...introduces learners to the principles and techniques used in the preparation of high-quality baked goods and pastries. Students develop skills in breads, muffins, biscuits, custards, pies, cakes, pastries and specialized desserts. Skills include creaming, blending, meringues, straight dough, custards and frozen desserts. Safety, sanitation and cost control concepts are applied. CONDITION: 103161 Culinary Arts or 313161 Culinary Technical Diploma program requirements met and

MENU PLANNING AND COST CONTROLS...includes review and application of essential kitchen cost and quality management skills with an emphasis on menu development, mathematics, and profitable production. Examines culinary mathematics, HACCP, standardized recipe development, recipe and menu costing, inventory, principles of cost efficient purchasing and receiving, along with a variety of approaches used in mastering the overall cost of kitchen operations. PREREQUISITE: 10316114 Culinary Practicum 2

NUTRITION...examines basic principles of nutrition and explores the nutritional needs for various populations including children, teens, the aging, vegetarians, sports enthusiasts, and those with conditions such as obesity, heart disease, diabetes, gastrointestinal disorders, hypertension and food allergies. Recipe modification, food quality and menu planning for these populations is a focus. Safety, sanitation and cost control concepts are applied. This course includes a service learning component.

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PRODUCT IDENTIFICATION AND PURCHASING...through identification, the study of origins and seasonality, discussion of quality, use, safe handling and fabrication, learners will explore vegetables, seafood, meats, fruits, herbs, spices, oils, vinegar and the nature of taste and flavor. The USDA grading system and butchery concepts are included. Safety, sanitation and cost control concepts are applied.

SANITATION FOR FOOD SERVICE...develops skills to follow sanitation and hygiene provisions in state codes. The NRA certification test is included.

SKILL DEVELOPMENT...introduces the professional kitchen in a real restaurant setting. Fundamental theories of cooking and duties are explored. Knife skills and safety are applied including classic cuts, boning, filet and fabrication techniques. Content includes mise en place for events and menu production, preparing stocks, basic bread baking, timing, multi-tasking, and terminology. Students will practice the use of tools, utensils and equipment emphasizing safety and sanitation. CONDITION: 103161 Culinary Arts or 313161 Culinary Technical Diploma program requirements met

Program Number 31-091-1 Technical Diploma • Two Terms

ABOUT THE PROGRAM

Operating a profitable and progressive dairy farm in today's agricultural climate involves learning to work smarter, not just harder. Successful operations are built on solid herdsman skills, effective management skills, and use of technology. If dairy farming is your career dream, completing LTC's Dairy Herd Management program is the way to turn your dream into reality.

PROGRAM OUTCOMES

- Manage herd nutrition.
- Manage herd reproduction.
- Manage herd health.
- Manage herd/farm business.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete Functional Abilities Statement of Understanding form.
 - Complete On-Farm Placement and Release form.
 - Meet to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

Each student will be assigned to a farm for supervised, on-the-job training. An internship agreement will be completed and signed by both the student and farm representative. Graduates of LTC's Dairy Herd Management program receive national AI certification. Completion of this program will earn 27 agriculture credits towards a bachelor's degree at UW-Platteville. Graduates meet the pre-requisite to enroll in the advanced LTC certificate Advanced Dairy Herd Management.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10091145	Agriculture Financial Applications	1
31091301	Dairy Herd Management Skills	1
31091348	Dairy Cattle Management OR 31091348C1 Dairy Cattle Mgmt (1cr) AND 10006114 Intro to Animal Science (1cr)	2
10091160	Dairy Management Internship 1	3
31091312	Dairy Feeding OR 31091312C1 Dairy Feeding (2 cr) AND 10006114 Intro to Animal Science (1cr)	3
31091318	Dairy Lab 1	2
31091324	Milk Production	2
31091335	Dairy Cattle Genetics and Reproduction	3
31804356	Math for Agriculture Management	2
		19
Term 2		
31801359	Communication Skills for the Workplace	2
31091344	Dairy Business Management	2
10091161	Dairy Management Internship 2	3
31091314	Dairy Feeding Management	3
31091320	Dairy Lab 2	2
31091332	Dairy Cattle Industry and Applications	3
31091340	Dairy Housing and Farmstead Design	2
		17
		TOTAL 36

*Curriculum and Program Acceptance requirements are subject to change.
Program start dates vary; check with your advisor for details.*



AGRICULTURE FINANCIAL APPLICATIONS...prepares students to make decisions about the profitability of a total farm business, enterprises within the business and proposed changes in the business. Topics include financial strategies, determining payback on investments, analyzing purchasing decisions, managing accounts payable, determining cash flow, and comparison pricing. CONDITION: 310911 Dairy Herd Management Program admission requirements met

COMMUNICATION SKILLS FOR THE WORKPLACE...prepares the student to develop paper job-search tools and job-related writing skills to increase job stability; introduces the students to team-building skills to resolve organizational problems; introduces the student to the skills of effective listening; prepares the student to respond to workplace criticism and praise; and introduces the student to interpersonal relationship skills, including effective interviewing skills, customer relations, and management/employee relations.

DAIRY BUSINESS MANAGEMENT...prepares the student to efficiently manage the business aspects of a dairy farm by analyzing financial records, tax management, farm analysis, loan applications, and credit as well as understand farm business arrangements and estate planning.

DAIRY CATTLE GENETICS AND REPRODUCTION...prepares participants for the mating and breeding of the dairy herd. Topics include linear appraisal, selection indexes, anatomy, hormonal cycles, artificial insemination, estrus detection, and dairy software management systems, including DairyComp 305, are introduced. Live cattle for artificial insemination practice are featured. CONDITION: 310911 Dairy Herd Management Program admission requirements met

DAIRY CATTLE INDUSTRY AND APPLICATIONS...provides the student with knowledge of basic dairy trends, agricultural policy, milk pricing, production testing, and breed history to make informed choices in the industry. It includes application of industry skills in a one-on-one rotation to selected site farms allowing troubleshooting and problem solving skill development. PREREQUISITE: 31091160 Dairy Management Internship 1

DAIRY CATTLE MANAGEMENT...introduces the student to herd health and preventative medicine through understanding cow behavior, signs of illness, metabolic disorders, infectious disease, vaccination programs, and herd records to develop and implement a herd-health protocol.

DAIRY FEEDING...provides the student with knowledge of rumen anatomy and physiology to make fundamental feed choices in order to balance dairy rations. Main topics are nutrient digestion, uptake, transport, and testing and evaluation of feed for dairy cattle.

DAIRY FEEDING MANAGEMENT...prepares the student to formulate rations for maximum profitability, develop feed inventories, and maximize resource allocation. PREREQUISITE: 31091312 Dairy Feeding

DAIRY HERD MANAGEMENT SKILLS...provides the student with basic agronomy applications, vet skills, basic herd protocol, and communicate basic Spanish for farm operations. CONDITION: 310911 Dairy Herd Management Program admission requirements met

DAIRY HOUSING AND FARMSTEAD DESIGN...expands the student's ability to make the necessary choices for efficient farmstead operation utilizing principles of ventilation, housing facilities, manure systems, 590 Plan completion, and farm safety .

DAIRY LAB 1...provides the student with the opportunity to observe first-hand the management practices on dairy farms to include farm visits, freeze branding, clipping cattle, judging, and linear evaluating. COREQUISITES: 31091324 Milk Production and 31091348 Dairy Cattle Management

DAIRY LAB 2...provides the student with additional opportunities to observe first-hand the management practices on dairy farms to include farm visits, seminars, and conferences. COREQUISITES: 31091344 Dairy Business Management and 31091340 Dairy Housing and Farmstead Design

DAIRY MANAGEMENT INTERNSHIP 1...provides the student with the ability to perform industry expectations as a dairy herds person, including milking, feeding, calf care, scheduling, employer/employee communications, and general farm duties. Students work with their internship farm to complete the internship skills checklist. COREQUISITES: 31091312 Dairy Feeding and 31091335 Dairy Cattle Genetics

DAIRY MANAGEMENT INTERNSHIP 2...provides the student with the ability to perform industry expectations as a dairy herds person, including milking, feeding, calf care, scheduling, employer/employee communications, and general farm duties. Students work with their internship farm to complete the internship skills checklist. COREQUISITES: 31091314 Dairy Feeding Management and 31091332 Dairy Cattle Industry and Applications

MATH FOR AGRICULTURE MANAGEMENT...is an introductory course in mathematics covering the math topics needed in the agricultural area. The principle areas of study are a review of basic mathematics, including fractions, decimals, ratio-proportion, percentage, measurement, plane figures, triangles, and circles and solids. Course material is learned through the use of agriculture-related problems.

MILK PRODUCTION...introduces the student to the process of how milk is made and how to harvest it for a maximum profit to the farmer, including the major principles of milk secretion, the anatomy and physiology of the udder, milk letdown, proper milking practices, mastitis, efficient milking systems, and how to properly milk cows as well as treat and prevent udder infections.

Program Number 30-508-2 Technical Diploma • One Term

ABOUT THE PROGRAM

Think about your last dental visit. Your dentist likely worked closely with a dental assistant to perform your exam or procedures. Dental assistants are vital to the safe and efficient operation of the dental office—they assist the dentist in the treatment room, in the lab, and with business administration. If you're interested in a career that focuses on helping people and offers plenty of variety in the workday, dental assisting is a great choice for you.

PROGRAM OUTCOMES

- Perform a variety of entry-level supportive dental procedures.
- Manage infection and hazard control.
- Produce diagnostic radiographs.
- Perform basic laboratory procedures.
- Demonstrate professional behaviors, ethics, and appearance.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete health requirements.
 - Submit Healthcare Provider CPR or Professional Rescuer certification.
 - Complete Functional Abilities Statement of Understanding form.
 - Dental Exam form.
 - Meet to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

Graduates are eligible to apply for Radiography and Infection Control, two sections of the Dental Assistant National Board Exam. The Chairside section of the exam requires two years of chairside experience. Hepatitis B vaccination is strongly recommended.

CONTACT

LTC Career Coach
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Catalog No.	Class Title	Credit(s)
Term 1		
31508302	Dental Chairside	5
31508304	Dental and General Anatomy	2
31508305	Applied Dental Radiography	2
31508306	Dental Assistant Clinical	3
31508307	Dental Assistant Professionalism	1
10508101	Dental Health Safety	1
10508113	Dental Materials	2
		16
		TOTAL 16

Term 1

31508302	Dental Chairside	5
31508304	Dental and General Anatomy	2
31508305	Applied Dental Radiography	2
31508306	Dental Assistant Clinical	3
31508307	Dental Assistant Professionalism	1
10508101	Dental Health Safety	1
10508113	Dental Materials	2

16

TOTAL 16

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



APPLIED DENTAL RADIOGRAPHY...prepares students to operate x-ray units and expose bitewing, periapical, extra oral, and occlusal radiographs. Emphasis is placed on protection against x-ray hazards. Students also process, mount, and evaluate radiographs for diagnostic value. In this course students demonstrate competency on a manikin. In addition, students expose bitewing radiographs on a peer and role-play as a patient. COREQUISITES: 31508304 Dental & General Anatomy, 31508307 Dental Professionalism and CONDITION:305082 Dental Assistant admission requirements met

DENTAL & GENERAL ANATOMY...prepares dental assistant students to apply fundamentals of general and dental anatomy to informed decision-making and to professional communication with colleagues and patients. COREQUISITES: 31508305 Applied Dental Radiography and 31508307 Dental Assistant Professionalism and CONDITION: 305082 Dental Assistant admission requirements met

DENTAL ASSISTANT CLINICAL...allows students to apply the skills developed in Dental Health Safety, Dental Chairside, Dental Materials, Dental Radiography, and Professionalism in a clinical setting with patients. It emphasizes the integration of core abilities and basic communication skills. COREQUISITE: 10508113 Dental Mtls, 31508302 Dental Chairside, 31508304 Dent/Gen Anat, 31508305 Appl Dental Radio, 31508307 Dental Prof, 10508101 Dent Hlth Sfty, and CONDITION> 305082 Dental Asst admission requirements met

DENTAL ASSISTANT PROFESSIONAL...prepares dental assistant students for professional success in a dental practice or another dental health care environment. Students develop professional appearance and image. More importantly, they learn to work within the ethical guidelines and legal framework. In preparation for entering the work force, dental assistants customize or develop their portfolios and lay out an on-going professional development plan. COREQUISITES: 31508304 Dental & General Anatomy, 31508305 Applied Dental Radiography and CONDITION: 305082 Dental Assistant admission requirements met

DENTAL CHAIRSIDE...prepares dental assistant students to chart oral cavity structures, dental pathology, and restorations; assist dentist with basic dental procedures including examinations, pain control, amalgam restoration, and cosmetic restoration. Students will also develop the ability to educate patients about preventative dentistry, brushing/flossing techniques, and dental procedures using lay terminology. Students will apply decoding strategies to the correct use and interpretation of dental terminology. COREQUISITE: 31508306 Dental Asst Clin, 31508304 DentGen Anat, 31508305 Appl Dent Radio, 31508307 Dental Prof, 10508101 Dental Hlth Sfty, 10508113 Dental Mtls and CONDITION: 305082 Dental Asst admissions requirements met

DENTAL HEALTH SAFETY...prepares dental auxiliary students to respond proactively to dental emergencies, control infection, prevent disease, adhere to OSHA Standards, and safely manage hazardous materials. Students also take patient vital signs and collect patient medical/dental histories. CPR certification is a prerequisite; students will be required to show proof of certification before beginning the course. CONDITION: 305082 Dental Asst admission requirements met

DENTAL MATERIALS...prepares dental auxiliary students to handle and prepare dental materials such as liners, bases, cements, amalgam, resin restorative materials, gypsum products, and impression materials. They also learn to take alginate impressions on manikins and clean removable appliances. COREQUISITE: 10508101 Dental Health Safety and CONDITION: 305082 Dental Assistant admission requirements met

Program Number 10-307-1

Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

Children are our future. Nurturing and caring for them takes place in homes, in schools, and in various child care facilities. Parents and guardians put their trust in qualified early childhood educators to ensure the safety, well-being, and healthy development of their children—our future. If you love being with young children and want to be a part of their positive growth and development, a career in early childhood education may be a rewarding choice for you.

PROGRAM OUTCOMES

- Apply and practice theories and concepts of child development from birth to 12 years.
- Comprehend professional terminology used in the early childhood field.
- Develop daily activities designed to foster the social, emotional, physical, intellectual, and creative growth of children.
- Develop an awareness of children with special needs and modify environments to meet specific individual needs.
- Gain awareness of proper nutrition, licensing rules and regulations, and health and safety standards essential to the education and welfare of young children.
- Become familiar with and be able to utilize community resources as they apply to children and/or their families.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Complete health requirements.
 - Submit Infant/Child CPR/AED certification to program staff.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

Practicum 1, 2, 3, and 4 students are required to attend all course reflections to receive required trainings. (36 hours of lecture + 72 hours of field experience for Practicum 1, 2, 3, 4). Students successfully completing year one of the associate degree program are able to graduate with a Child Care Services technical diploma. See advisor for details.

CONTACT

LTC Career Coach
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Catalog No.	Class Title	Credit(s)
Term 1		
10307148	ECE: Foundations of Early Childhood Education	3
10307151	ECE: Infant & Toddler Development	3
10307167	ECE: Health, Safety, and Nutrition	3
10307174	ECE: Practicum 1	3
10307178	ECE: Art, Music, & Language Arts	3
10801195	Written Communications OR 10801136 English Composition 1	3
		18
Term 2		
10307179	ECE: Child Development	3
10307188	ECE: Guiding Children's Behavior	3
10307192	ECE: Practicum 2	3
10307194	ECE: Math, Science, & Social Studies	3
10801198	Speech	3
10809172	Introduction to Diversity Studies	3
		18
Term 3		
10307166	ECE: Curriculum Planning	3
10307187	ECE: Children with Differing Abilities	3
10307195	ECE: Family and Community Relationships	3
10307197	ECE: Practicum 3	3
10804107	College Mathematics	3
10809196	Introduction to Sociology	3
		18
Term 4		
10307198	ECE: Administering an Early Childhood Education Program	3
10307199	ECE: Practicum 4	3
10809195	Economics	3
10809198	Introduction to Psychology	3
		12
		TOTAL 66

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



COLLEGE MATHEMATICS...is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. PREREQUISITE: 10834109 Pre-Algebra or equivalent

ECE: ADMINISTERING AN EARLY CHILDHOOD EDUCATION PROGRAM...prepares the student to analyze the components of an ECE facility; design an ECE program; analyze the aspects of personnel supervision; outline financial components of an ECE program; apply laws and regulations related to an ECE facility; advocate for the early childhood profession; and integrate strategies that support diversity and anti-bias perspectives.

ECE: ART, MUSIC AND LANGUAGE ARTS...prepares the student to examine the critical role of play; establish a developmentally appropriate environment for art, music, and language arts; develop activity plans that promote child development and learning; analyze care giving routines as curriculum; create developmentally appropriate art activities; create developmentally appropriate music and movement activities; and create developmentally appropriate language, literature, and literacy activities.

ECE: CHILD DEVELOPMENT...prepares the student to analyze social, cultural, and economic influences on child development; summarize child development theories; analyze development of children age three through age eight; summarize the methods and designs of child development research; analyze the role of heredity and the environment; examine the role of brain development in early learning (ages 3-8); and integrate strategies that support diversity and anti-bias perspectives.

ECE: CHILDREN WITH DIFFERING ABILITIES...prepares student to provide inclusive programs; apply legal and ethical requirements; differentiate between typical and exceptional development; analyze differing abilities of children with physical, cognitive, health/medical, communication, and/or behavioral/emotional disorders; work collaboratively with community/professional resources; utilize an IEP/IFSP; collaborative through consultation process to embed intervention in natural based settings; and cultivate partnerships with families

ECE: CURRICULUM PLANNING...prepares the student to examine the critical role of play; establish a developmentally appropriate environment; examine care giving routines as curriculum; develop activity plans that promote child development and learning; develop unit plans that promote child development and learning all content areas; analyze early childhood curriculum models; integrate Developmentally Appropriate Practice (DAP) into curriculum; and integrate strategies that support diversity and anti-bias perspectives.

ECE: FAMILY AND COMMUNITY RELATIONSHIPS...prepares the student to analyze contemporary family patterns, trends, and relationships; utilize effective communication strategies; establish ongoing relationships with families; advocate for children and families; work collaboratively with community resources; and implement strategies that support diversity and anti-bias perspectives when working with families and community.

ECE: FOUNDATIONS OF EARLY CHILDHOOD EDUCATION...prepares the student to investigate the history of early childhood education; summarize types of early childhood education settings; identify the components of a quality early childhood education program; summarize responsibilities of early childhood education professionals; explore early childhood curriculum models; integrate strategies that support diversity and anti-bias perspectives; and analyze the principles of the WI Model Early Learning Standards.

ECE: GUIDING CHILDREN'S BEHAVIOR...prepares the student to integrate strategies that support diversity and anti-bias perspectives; summarize early childhood guidance principles; analyze factors that affect the behavior of children; practice positive guidance strategies; develop guidance strategies to meet individual needs; create a guidance philosophy; and integrate strategies that support diversity and anti-bias perspectives.

ECE: HEALTH, SAFETY AND NUTRITION...prepares the student to follow governmental regulations and professional standards as they apply to health, safety, and nutrition; provide a safe, healthy and nutritionally sound early childhood program; adhere to child abuse and neglect mandates; apply Sudden Infant Death Syndrome (SIDS) risk reduction strategies; incorporate health, safety, and nutrition concepts into the children's curriculum; and integrate strategies that support diversity and anti-bias perspectives.

ECE: INFANT AND TODDLER DEVELOPMENT...prepares the student to analyze development of infants and toddlers (conception to three years); correlate prenatal conditions with development; summarize child development theories; analyze the role of heredity and the environment; examine research-based models; examine culturally and developmentally appropriate environments for infants and toddlers; examine the role of brain development in early learning (conception through age three); and examine caregiving routines as curriculum.

ECE: MATH, SCIENCE AND SOCIAL STUDIES...prepares the student to examine the critical role of play; establish a developmentally appropriate environment for math, science, and social studies; develop activity plans that promote child development and learning; create developmentally appropriate science activities; create developmentally appropriate math activities; create developmentally appropriate social studies activities; and integrate strategies that support diversity and anti-bias perspectives.

ECE: PRACTICUM 1...prepares the student to document children's behavior; explore the standards for quality ECE; implement activities developed by the co-op teacher/instructor; demonstrate professional behaviors; practice care giving routines as curriculum; practice positive interpersonal skills with children and adults; analyze the guiding principles and the developmental domains related to the WMELS; integrate the WMELS into program's teaching cycle; and evaluate learning and assessment activities using WMELS. CONDITION: 103071 Early Childhood Education Admission Requirements Met or 313071 Child Care Services Admission Requirements Met

ECE: PRACTICUM 2...prepares the student to identify children's growth and development; implement student teacher-developed activity plans; identify the elements of a developmentally appropriate environment; implement positive guidance strategies; demonstrate professional behaviors; utilize caregiving routines as curriculum; utilize positive interpersonal skills with children and adults; and integrate strategies that support diversity and anti-bias perspectives. PREREQUISITE: 1030714 ECE: Practicum 1 or 10307109 Practicum 1 and CONDITION: 103071 Early Childhood Education Admission Requirements Met or 313071 Child Care Services Admission Requirements Met

ECE: PRACTICUM 3...prepares the student to assess children's growth and development; implement the standards for quality early childhood education; build meaningful curriculum; provide a developmentally appropriate environment; facilitate positive guidance strategies; evaluate one's own professional behaviors and practices; lead caregiving routines as curriculum; utilize positive interpersonal skills with children and adults; and integrate strategies that support diversity and anti-bias perspectives. PREREQUISITE: 10307192 ECE: Practicum 2 or 10307110 Practicum 2 and CONDITION: 103071 Early Childhood Education Admission Requirements Met

ECE: PRACTICUM 4...prepares the student to analyze children's growth and development based on assessment; promote professional behaviors and practices; implement meaningful curriculum; create respectful, reciprocal relationships; evaluate early childhood education programs for quality; explore professional options in early childhood education; and integrate strategies that support diversity and anti-bias perspectives. PREREQUISITE: 10307197 ECE: Practicum 3 and CONDITION: 103071 Early Childhood Education Admission Requirements Met

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues. Elective/Elective - Course Lists

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO DIVERSITY STUDIES...introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, religion are explored. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRODUCTION TO SOCIOLOGY...introduces the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, & workplace issues. COREQ: 10838105 Intro Reading & Study Skills or equiv

SPEECH...explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of the course. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 10-620-1 Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

Change is constant. Change is rapid. In the world of manufacturing technology change brings more complex systems of assembly, control measurement, and material processing of manufactured products. If you're good at problem solving, like working with automated manufacturing equipment, and you're looking forward to work that continuously challenges you to keep growing your knowledge and skills—consider an always-evolving career in electro-mechanical technology.

PROGRAM OUTCOMES

- Perform work safely.
- Troubleshoot electrical and mechanical systems and devices.
- Repair electrical and mechanical systems.
- Communicate technical information.
- Integrate electrical and mechanical systems and devices.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10620122	Industrial Wiring	2
10620103	Fluid Power 1	2
10620169	Robotic Maintenance	1
10660105	DC Fundamentals	2
10804115	College Technical Mathematics 1	5
10801195	Written Communication OR 10801197 Technical Reporting	3
		15
Term 2		
10620104	Fluid Power 2	3
10620138	Programmable Controllers - Allen Bradley	3
10620141	Industrial Controls and Motors	3
10660110	AC Fundamentals	2
10801196	Oral/Interpersonal Communication	3
10806154	General Physics 1	4
		18
Term 3		
10620130	Mechanisms Mechanics Introduction to	3
10620140	Programmable Controllers - Allen Bradley Advanced	2
10620147	Electronic Devices/Transducers	2
10620164	Electromechanical Systems	2
10620168	Robotics Introduction	2
10620193	NEC Codes	1
10620194	Touch Screen Applications	2
10620198	Industrial Networks	2
		16
Term 4		
10620171	Robotics Advanced	2
10620192	Frequency Drives	1
10620195	Industrial Troubleshooting	1
10620196	Industrial Applications	4
10620197	Analog Controls	2
10620199	Integration of Manufacturing	2
10809196	Introduction to Sociology OR 10809195 Economics (3cr)	3
10809198	Introduction to Psychology	3
		18
		TOTAL 67

*Curriculum and Program Acceptance requirements are subject to change.
Program start dates vary; check with your advisor for details.*



AC FUNDAMENTALS...prepares the student to analyze electrical circuits using AC math, analyze AC waveforms, measure and analyze AC power, analyze capacitors and inductors in DC and AC circuits, analyze AC circuits containing reactance and calculate resonance, apply the elements and properties of basic measuring circuits, and describe transformer characteristics. PREREQUISITES: 10660105 DC Fundamentals

ANALOG CONTROLS...introduces instrumentation used for process control. The student will test, calibrate, install, and commission transmitters in varied processes. PREREQUISITE: 10620110 AC Fundamentals, 10620141 Ind Cntrl and Motors, 10620140 PCLs Adv, 10620194 Touch Screen Apps, 10620147 Elec Devices/Transducers

COLLEGE TECHNICAL MATHEMATICS 1...prepares the student to solve linear, quadratic, and rational equations; graphing; formula rearrangement; solve systems of equations; percent; proportions; measurement systems; computational geometry; right and oblique triangle trigonometry; trigonometric functions on the unit circle; and operations on polynomials. Emphasis will be on the application of skills to technical problems. This course is the equivalent of successful completion of College Tech Math 1a and 1b. PREREQUISITES: 10834110 Elementary Algebra w Apps or 31457318 Ind Mtnc Trades Math or 31420320 Machine Tool Math or equivalent.

DC FUNDAMENTALS...prepares the student to convert values to scientific and engineering notations; calculate math quantities; describe basic atomic theory; identify basic electrical terms; use established symbols standards; describe DC voltage characteristics and current sources and electrical resistance; measure and analyze electrical quantities in series and parallel circuits; and desolder/solder single lead components. COREQUISITES: 10804115 College Technical Math 1 or 10804113 College Tech Math 1A and 10804114 College Tech Math 1B or 10804118 Intermediate Algebra w Applications and 10624105 or 10624105HS Health Physics Calculations and Statistics

ELECTROMECHANICAL SYSTEMS...prepares the student to communicate with, tune, run, and troubleshoot Allen-Bradley servos; utilize electrical control of hydraulic systems, explore PID control of motor speed; and investigate open and closed loop control systems. PREREQUISITES: Fluid Power 2 and 10660110 AC Fundamentals

ELECTRONIC DEVICES/TRANSDUCERS...prepares the student to relate numbering systems with their functions in Electrical Ladder Diagrams and Data Transmission; gain an understanding of temperature and temperature sensing devices, weighing systems, ultrasonic and radar level detection, measuring flow, and pressure. The student will develop the ability to explain the operation of transducers that measure process variables and the transmitters that interface to industrial control systems. Transmitters will be analyzed, configured and calibrated to properly indicate the physical characteristic being measured and provide the information to control systems. PREREQUISITES: 10660110 AC Fund

FLUID POWER 1...prepares the learner to identify hydraulic and pneumatic component symbols; adjust a pressure relief valve; analyze the operation of a pilot operated relief valve; analyze Pascal's law; evaluate flow, velocity, work and power in industrial hydraulic and pneumatic circuits; analyze meter-in, meter-out, and bypass flow control circuits; identify basic hydraulic and pneumatic control valves; and assemble hydraulic circuits. COREQUISITES: 10804115 College Technical Math 1 or 10804113 College Tech Math 1A and 10804114 College Tech Math 1B

FLUID POWER 2...enhances the learner's ability to read schematics containing fluid power component symbols; assemble systems using schematics; analyze system's operation using a schematic; evaluate the general characteristics and terms of fluids under pressure, fluid conditioning, conductors, reservoirs, accumulators, pressure control; and troubleshoot malfunctioning pressurized systems. PREREQUISITE: 10620103 Fluid Power 1 or 10620155 Industrial Maintenance Hydraulics and Pneumatics

FREQUENCY DRIVES...prepares learner to explain the function, construction and troubleshoot frequency drives as well as select and change parameters to meet operational characteristics for the drive application. PREREQ: 10620141 Ind Controls and Motors

GENERAL PHYSICS 1...presents the applications and theory of basic physics principles. This course emphasizes problem-solving, laboratory investigation, and applications. Topics include unit conversions and analysis, vectors, translational and rotational kinematics, translational and rotational dynamics, heat and temperature, and harmonic motion and waves. COREQUISITE: 10804197 College Tech Math 1B or 10804114 College Tech Math 1B or 10804114M1 College Tech Math 1B Mod 1 & 10804114M2 College Tech Math 1B Mod 2 or 10804115 College Tech Math 1 or 10624105 Hlth Phys Calc & Stats and 10804118 Intern Algebra

INDUSTRIAL APPLICATIONS...prepares the learner to configure, install, troubleshoot and maintain automation equipment in a "real world" setting. This course will include writing and configuring automation equipment, wiring and configuring industrial networks, wiring, programming and troubleshooting PLCs and touchscreens. These practices will be applied to create and maintain a manufacturing process. This course is highly computer based. PREREQUISITE: 10620140 Prog Cntrl AB Adv, 10620104 Fluid Power 2, 10620194 Touch Screen Appl, 10620168 Robotics Intro, 10620193 NEC Codes, 10620198 Indust Networks and COREQUISITE: 10620192 Freq Drives and 10620195 Indust Troubleshooting

INDUSTRIAL CONTROLS AND MOTORS...prepares the learner to select control devices by function and operation; illustrate electrical circuits using symbols, diagrams, and abbreviations; explain the operation of magnetic solenoids and apply motor control techniques and introduces the student to three-phase power motor circuits for industrial applications. COREQUISITES: 10660110 AC Fundamentals

INDUSTRIAL NETWORKS...prepares the learner to configure, install and troubleshoot industrial communication networks. This course is highly computer based. COREQUISITES: 10620140 Programmable Controls AB Advanced

INDUSTRIAL TROUBLESHOOTING...prepares the learner to conduct effective machine control troubleshooting techniques with an understanding of preventive maintenance methods designed to minimize motor and controls issues between preventive maintenance measures. PREREQUISITE: 10620141 Industrial Controls and Motors

INDUSTRIAL WIRING...prepares the learner to follow safety procedures; maintain a safe and healthy work environment; construct electrical circuits; measure electrical quantities using a VOM and/or DVM; analyze measured values using electrical circuit laws; construct typical industrial control circuits; and analyze typical industrial control circuits.

INTEGRATION OF MANUFACTURING...provides the student with a detailed examination of automated processes and devices that are integrated together in a manufacturing environment. PREREQUISITE: 10620140 PCLs Advanced, 10620194 Touch Screen Apps, 10620147 Elec Devices/Transducers, 10620141 Ind Cntrl and Motors, 10620168 Robotics Intro and COREQUISITE: 10620192 Frequency Drives, 10620198 Ind Networks

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MECHANISMS MECHANICS INTRODUCTION TO...prepares the learner to use tools and fasteners safely; identify belt and chain drive components; install and adjust belt and chain drives; apply bearing and lubrication information; perform coupling alignment using straight edge, feeler gauge, and dial indicator and laser methods; identify various gear drives; calculate gear ratios; and analyze first-, second-, and third-class levers.

NEC CODES...introduces the student to National Electric Codes NFPA 70. Prepares the learner to apply NFPA 70 to motor and control installations and repairs. PREREQUISITE: 10620141 Industrial Controls and Motors

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PROGRAMMABLE CONTROLLERS - ALLEN BRADLEY...prepares the student to understand basic PLC structure and terminology; learn to create and troubleshoot basic PLC programs using the RSLOGIX 500 software and the RSLINX communication software; become familiar with communicating with programming SLC-500 PLCs. This course is highly computer based.

PROGRAMMABLE CONTROLLERS - ALLEN BRADLEY ADVANCED...prepares the student to develop applications utilizing subroutine instructions, analog modules; gain a basic understanding of creating and troubleshooting programs using the ControlLogix, RSLOGIX5000 software. This course is highly computer based. PREREQUISITE: 10620138 Prog Cntrl AB

ROBOTIC MAINTENANCE...introduces the students to the robot teach pendant and robot jogging. Students will be taught to replace servo motors, recalibrate the robot and back up robot software and programs.

ROBOTICS ADVANCED...introduces students to advanced robot programming commands to include use of Fanuc vision on the Fanuc Robots. PREREQUISITE: 10620168 Robotics Introduction

ROBOTICS INTRODUCTION...introduces the student to robotic axes, movement control, navigating the teach pendant, robotic frames, basic programming commands such as conditional branching, wait and call instructions.

TOUCH SCREEN APPLICATIONS...prepares the student to create, edit, and troubleshoot screens, objects and I/O related to the FactoryTalkME application. Students will create, edit and communicate with Allen-Bradley PLC programs for real-time control utilizing the touchscreen applications. This course is highly computer based. COREQUISITES: 10620140 Programmable Controls AB Advanced

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

ABOUT THE PROGRAM

Injuries, trauma, sudden illness—medical emergencies can happen at any time, in any place. Survival often depends on the initial care the injured or severely ill person receives at the scene. If you are calm under pressure, compassionate, good at problem solving, and have the desire to help people in need, a career as an Emergency Medical Technician (EMT) may be an excellent choice for you.

PROGRAM OUTCOMES

- Use essential ambulance and other emergency equipment.
- Identify and treat common medical conditions and emergencies.
- Identify and treat common injuries, wounds, and burns.
- Utilize stretchers, long boards, and other devices used for moving patients.
- Solve problems in assessing, stabilizing, and transporting patients with various illnesses and injuries.
- Identify medical/legal problems an EMT may face.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete health requirements.
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

CONTACT

LTC Career Coach
 920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
30531301	Emergency Medical Technician Part 1	2
30531302	Emergency Medical Technician Part 2	3
		5

TOTAL 5

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



EMERGENCY MEDICAL TECHNICIAN PART 1...provides the student with the skills to perform patient assessment, stabilize/immobilize injuries and provide basic treatment of medical emergencies. CONDITION: 305313 Emergency Medical Technician Requirements Met

EMERGENCY MEDICAL TECHNICIAN PART 2...provides the student with the skills to perform patient assessment, stabilize/immobilize injuries and provide basic treatment of medical emergencies. CONDITION: 305313 Emergency Medical Technician Requirements Met

Program Number 31-531-1 Technical Diploma • Four Terms

ABOUT THE PROGRAM

Life can bring about unfortunate events of medical or traumatic emergency; a Paramedic is a highly trained and skilled medical professional ready to assist those in need. Paramedics integrate Advanced Life Support treatment measures into the challenging pre-hospital environment. The Technical Diploma EMT-Paramedic is an entry level educated Paramedic meeting the minimum national educational standards.

PROGRAM OUTCOMES

- Prepare for incident response and EMS operations.
- Integrate pathophysiological principles and assessment findings for a variety of patient encounters.
- Demonstrate paramedic skills associated with established standards and procedures for a variety of patient encounters.
- Communicate effectively with others.
- Demonstrate professional behavior.
- Meet state and national competency requirements for paramedic credentialing.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete health requirements.
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

The Lakeshore Technical College Paramedic Program is accredited by the Commission on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP). 1361 Park St, Clearwater, FL 33756. Phone: 727-210-2350. Web: www.caahep.org.

RELATED PROGRAMS

- Paramedic Technician Associate Degree

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
30531301	EMT Part 1	2
30531302	EMT Part 2	3
		5
Term 2		
10531911	EMS Fundamentals	2
10531912	Paramedic Medical Principles	4
10531913	Advanced Patient Assessment Principles	3
10531914	Advanced Prehospital Pharmacology	3
10531915	Paramedic Respiratory Management	2
10531916	Paramedic Cardiology	4
10531926	Paramedic HPS Lab 1	1
10531928	Paramedic Clinical	2
		21
Term 3		
10531918	Advanced Emergency Resuscitation	1
10531919	Paramedic Medical Emergencies	4
		5
Term 4		
10531920	Paramedic Trauma	3
10531921	Special Patient Populations	3
10531922	EMS Operations	1
10531923	Paramedic Capstone	1
10531927	Paramedic HPS Lab 2	1
10531929	Paramedic Field	3
		12
		TOTAL 43

Recommended Support/Elective Courses:

10801195	Written Communication	3
10804107	College Mathematics	3
10806189	Basic Anatomy	3

To contact CoAEMSP:
8301 Lakeview Parkway, Suite 111-312
Rowlett, TX 75088
214-703-8445 Fax 214-703-8992
www.coaemsp.org

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ADVANCED EMERGENCY RESUSCITATION...provides ACLS and PALS knowledge and skills preparing the student in the integration of comprehensive knowledge of causes and pathophysiology into the management of shock, respiratory failure, respiratory arrest, cardiac arrest, and peri-arrest with intervention to prevent respiratory and/or cardiac arrest if possible. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531916 Paramedic Cardiology

ADVANCED PATIENT ASSESSMENT PRINCIPLES...provides knowledge of scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531912 Paramedic Medical Principles

ADVANCED PREHOSPITAL PHARMACOLOGY...provides student with comprehensive knowledge of pharmacology required to formulate and administer a pharmacological treatment plan intended to mitigate emergencies and improve the health of the patient. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531913 Advanced Patient Assessment Principles

EMERGENCY MEDICAL TECHNICIAN PART 1...provides the student with the skills to perform patient assessment, stabilize/immobilize injuries and provide basic treatment of medical emergencies. CONDITION: 305313 Emergency Medical Technician Requirements Met

EMERGENCY MEDICAL TECHNICIAN PART 2...provides the student with the skills to perform patient assessment, stabilize/immobilize injuries and provide basic treatment of medical emergencies. CONDITION: 305313 Emergency Medical Technician Requirements Met

EMS FUNDAMENTALS...provides comprehensive knowledge of EMS systems, safety, well-being, legal issues and ethical issues with intended outcome of improving EMS personnel, patients and the community. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITES: 10531102 EMT Basic or 30531301 EMT Part 1

EMS OPERATIONS...provides the knowledge of operational roles and responsibilities to ensure patient, public and EMS personnel safety. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531921 Special Patient Populations

MEDICAL EMERGENCIES...provides the student the skills to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a treatment plan for an acutely injured patient. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531918 Advanced Emergency Resuscitation

PARAMEDIC CAPSTONE...provides the final opportunity to incorporate knowledge and skills through labs and scenario-based practice and evaluations prior to taking the NREMT written and practical exams. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531922 EMS Operations

PARAMEDIC CARDIOLOGY...provides the principles of cardiovascular anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and a plan for a patient with a cardiovascular complaint. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531915 Paramedic Respiratory Management

PARAMEDIC CLINICAL...provides student with the opportunity to enhance their learning through the skills practice in a health care environment experience with actual patients under the supervision of approved preceptors or high-fidelity human patient simulator. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic Program Requirements Met and COREQUISITE: 10531911 EMS Fundamentals

PARAMEDIC FIELD...provides student with the opportunity to enhance their learning through the practice in the field and health care environment experience with actual patients under the supervision of approved preceptors or high-fidelity human patient simulator. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic Program Requirements Met and COREQUISITE: 10531918 Advanced Emergency Resuscitation

PARAMEDIC HUMAN PATIENT SIMULATION LAB 1...reinforces student learning through the practice of paramedicine in a controlled environment utilizing high-fidelity human patient simulators and realistic emergency response scenarios with support and guidance of instructors. The student will apply assessment knowledge and demonstrate paramedic level skills in a variety of emergency response scenarios and environments.

PARAMEDIC HUMAN PATIENT SIMULATION LAB 2...reinforces student learning through the practice of paramedicine in a controlled environment utilizing high-fidelity human patient simulators and realistic emergency response scenarios with support and guidance of instructors. The student will evaluate patient presentations, formulate treatment plans, reassess interventions, and implement corrective actions by integrating pathophysiological principles and assessment findings.

PARAMEDIC MEDICAL PRINCIPLES...provides the knowledge of anatomy, physiology and pathophysiology of major human systems while also introducing the students to shock, immunology and bleeding. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531911 EMS Fundamentals

PARAMEDIC RESPIRATORY MANAGEMENT...provides specific knowledge pertaining to the respiratory system and to ensure the student is prepared to formulate a field impression and implement a comprehensive treatment plan for a respiratory complaint. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531914 Advanced Prehospital Pharmacology

PARAMEDIC TRAUMA...provides the student the skills to integrate assessment findings with principles of anatomy, physiology, epidemiology and pathophysiology to formulate a field impression and implement a treatment plan for an acutely injured patient. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531919 Paramedic Medical Emergencies

SPECIAL PATIENT POPULATIONS...provides the student the skills to integrate assessment findings with principles of anatomy, physiology, epidemiology and pathophysiology to formulate a field impression and implement a treatment plan for patient with special needs. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531920 Paramedic Trauma

ABOUT THE PROGRAM

Energy expenses make up a part of every business' bottom line. Employers are seeking those skilled in monitoring energy consumption with the ability to detect and evaluate energy efficiency opportunities. Graduates of the Energy Management Technology associate degree program are equipped to lead business' energy management initiatives. Energy managers work within a variety of business sectors: utility companies; energy equipment companies; government agencies; and heating, ventilating, air conditioning and refrigeration contractors. Graduates may also find careers as energy auditors, energy management consultants, or energy program coordinators.

PROGRAM OUTCOMES

- Evaluate the energy use patterns for commercial buildings and recommend energy efficiency and alternative energy solutions for high-energy consuming buildings.
- Troubleshoot, upgrade and maintain the Energy Management Systems (EMS); perform data recovery and backup duties.
- Monitor the efficiency of energy management operations, detecting, where possible, equipment failures.
- Construct energy evaluation technical reports and make presentations for potential project implementation.
- Upload and download information from remote and local networks to aid in the efficiency of energy management.
- Enhance energy management software and prepare program documentation and flow charts.
- Read and comprehend mechanical blueprints and control drawings.
- Respond to calls for heating, ventilating, air conditioning, and exterior lighting service independently; and determine whether to dispatch appropriate staff or to resolve problems remotely via the energy management system.
- Assist in the writing of specifications for additional energy management systems.
- Write technical proposals for energy projects.
- Provide training to campus users and facilities operations staff.

PROGRAM ADMISSIONS STEPS

- Work with NWTC Admissions Specialist to:
 - Submit application and \$30 fee to NWTC.
 - Complete an assessment for placement (Accuplacer or ACT).
- Meet with NWTC program advisor to discuss program details.
- Meet with LTC program advisor to discuss program details.

APPROXIMATE COSTS

- \$142 per credit (resident)
- \$205 per credit (out-of-state resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health-related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

SPECIAL NOTE

This program is shared with Northeast Wisconsin Technical College (NWTC) in Green Bay. LTC students follow NWTC's admission process; however, they are able to attend 52 credits at the LTC Cleveland campus. This includes 37 credits in Terms 1 and 2, and 15 credits in Terms 3 and 4. The remainder of the courses noted with ** are held at NWTC's Green Bay campus.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

CONTACT

NWTC:
Cindy Kothbauer, Program Advisor
920.498.6311 • cynthia.kothbauer@nwtc.edu

LTC:
Don Geiger, Program Advisor
920.693.1378 • donald.geiger@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10480101	Energy-Intro Renew & Sustain <i>(Video-stream instruction)</i>	4
10481114	Intro to Energy Management <i>(Video-stream instruction)</i>	3
10660105	DC Fundamentals	2
10804115	College Tech Math 1	5
10620103	Fluid Power 1	2
10801195	Written Communication	3
		19
Term 2		
10103131	Excel 2013—Level 1	1
10103124	Intro to MS Project—Level 1	1
10620104	Fluid Power 2	3
10481106	Intro to Water Resources <i>(Video-stream instruction)</i>	2
10620141	Industrial Controls and Motors	3
10660110	AC Fundamentals	2
10620138	Programmable Controllers - Allen Bradley	3
10804196	Trigonometry with Applications <i>(Video-stream instruction)</i>	3
		18
Term 3		
10403100	Blueprint Reading Intro <i>(Held at NWTC)</i>	1
10481109	Commercial HVACR Analysis <i>(Held at NWTC)</i>	3
10481111	Energy Control Strategies <i>(Held at NWTC)</i>	3
10481115	Lighting Fundamentals <i>(Held at NWTC)</i>	3
10620164	Electromechanical Systems	2
10809172	Introduction to Diversity Studies	3
10806154	General Physics 1	4
		19
Term 4		
10481107	Building Energy Simulation <i>(Held at NWTC)</i>	3
10481108	Commercial Energy Analysis <i>(Held at NWTC)</i>	3
10481110	Energy Accounting <i>(Held at NWTC)</i>	2
10481113	Energy Investment Analysis <i>(Held at NWTC)</i>	3
10801197	Technical Reporting	3
10809198	Introduction to Psychology	3
		17
		TOTAL 73

Classes meet at LTC, unless noted to be held at NWTC.

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



AC FUNDAMENTALS...prepares the student to analyze electrical circuits using AC math, analyze AC waveforms, measure and analyze AC power, analyze capacitors and inductors in DC and AC circuits, analyze AC circuits containing reactance and calculate resonance, apply the elements and properties of basic measuring circuits, and describe transformer characteristics. PREREQUISITES: 10660105 DC Fundamentals

BLUE PRINT READING INTRO...develop the knowledge skills process and understanding of site plans, footings and foundations, floor plans, elevations, below-grade piping, above-grade piping, isometric piping diagrams, schedules and details, electrical floor plans, lighting, ventilating, and air conditioning. Course typically offered: Fall

BUILDING ENERGY SIMULATION...develop the knowledge skills process and understanding of site plans, footings and foundations, floor plans, elevations, below-grade piping, above-grade piping, isometric piping diagrams, schedules and details, electrical floor plans, lighting, ventilating, and air conditioning. Course typically offered: Fall

COLLEGE TECHNICAL MATH 1...prepares student to solve linear, quadratic, and rational equations; graphing; formula rearrangement; solve systems of equations; percent; proportions; measurement systems; computational geometry; right & oblique triangle trigonometry; trigonometric functions on the unit circle; and operations on polynomials. Emphasis will be on the application of skills to technical problems. Course is equivalent of successful completion of College Tech Math 1A & 1B. PREREQUISITES: 10834110 Elem Algebra w Apps or 31457318 Ind MtnC Trades Math or 31420320 Machine Tool Math or equiv.

COMMERCIAL ENERGY ANALYSIS...emphasis is on the analysis of energy use in commercial buildings including utility bill analysis, audit data, identifying energy efficiency measures, energy savings and investment calculations, audit report writing. PREREQUISITES: 10481109 Commercial HVACR Systems Analysis; 10481111 Energy Control Strategies, 10481115 Lighting Fundamentals - See more at: <https://classcart.nwtc.edu/Classes/Details?courseId=637#sthash.CM5sAh93.dpuf>

COMMERCIAL HVACR ANALYSIS...identify commercial HVAC system types and the general energy use impact of each type. Calculations of system equipment efficiencies will be used to determine EER, SEER, AFUE, COP, combination and seasonal efficiency in boilers, balance point partial efficiency, BIN analysis. PREREQUISITES: 10481114 Intro to Energy Management

DC FUNDAMENTALS...prepares the student to convert values to scientific and engineering notations; calculate math quantities; describe basic atomic theory; identify basic electrical terms; use established symbols standards; describe DC voltage characteristics and current sources and electrical resistance; measure and analyze electrical quantities in series and parallel circuits; and desolder/solder single lead components. COREQUISITES: 10804115 College Technical Math 1 or 10804113 College Tech Math 1A and 10804114 College Tech Math 1B or 10804118 Intermediate Algebra w Applications and 10624105 or 10624105HS Health Physics Calculations and Statistics

ELECTROMECHANICAL SYSTEMS...prepares the student to communicate with, tune, run, and troubleshoot Allen-Bradley servos; utilize electrical control of hydraulic systems, explore PID control of motor speed; and investigate open and closed loop control systems. PREREQUISITES: Fluid Power 2 and 10660110 AC Fundamentals

ENERGY ACCOUNTING...review of energy units, data gathering for energy accounting utility rates and schedules, energy data organization, adjusted baselines, cost avoidance, load factor, data analysis, data presentation, use of utility energy accounting software. PREREQUISITES: 10481109 Commercial HVACR Systems Analysis; 10481111 Energy Control Strategies, 10481115 Lighting Fundamentals - See more at: <https://classcart.nwtc.edu/Classes/Details?courseId=638#sthash.yHO1uCiF.dpuf>

ENERGY CONTROL STRATEGIES...topics include building system control concepts and devices; including electric, pneumatic and digital controls, emphasis is placed on identifying and understanding control strategies related to energy using systems and methods to estimate energy savings. PREREQUISITES: 10481114 Intro to Energy Management. Course typically offered: Fall

ENERGY-INTRO RENEW & SUSTAIN...an overview of various renewable energy technologies and sustainable design practices and their current applications. Emphasis will be placed on policies, renewable energy production, green products and jobs. Course typically offered: Fall/Spring

ENERGY INVESTMENT ANALYSIS...emphasis on simple payback and life-cycle cost analysis, time value of money, cash flow equivalence, cost-benefit analysis, tax credits, depreciation, inflation and/or escalating fuel costs on energy investments and cost estimating. PREREQUISITES: 10481109 Commercial HVACR Systems Analysis; 10481111 Energy Control Strategies, 10481115 Lighting Fundamentals - See more at: <https://classcart.nwtc.edu/Classes/Details?courseId=737#sthash.2K0NFtq0.dpuf>

EXCEL 2013 - LEVEL 1...introduces the student to creating, modifying and formatting worksheets; entering formulas and functions; working with charts; and developing multiple-sheet workbooks. This course is offered in a self-paced format.

FLUID POWER 1...prepares the learner to identify hydraulic and pneumatic component symbols; adjust a pressure relief valve; analyze the operation of a pilot operated relief valve; analyze Pascal's law; evaluate flow, velocity, work and power in industrial hydraulic and pneumatic circuits; analyze meter-in, meter-out, and bypass flow control circuits; identify basic hydraulic and pneumatic control valves; and assemble hydraulic circuits. COREQUISITES: 10804115 College Technical Math 1 or 10804113 College Tech Math 1A and 10804114 College Tech Math 1B

FLUID POWER 2...enhances the learner's ability to read schematics containing fluid power component symbols; assemble systems using schematics; analyze system's operation using a schematic; evaluate the general characteristics and terms of fluids under pressure, fluid conditioning, conductors, reservoirs, accumulators, pressure control; and troubleshoot malfunctioning pressurized systems. PREREQUISITE: 10620103 Fluid Power 1 or 10620155 Industrial Maintenance Hydraulics and Pneumatics

GENERAL PHYSICS 1...presents the applications and theory of basic physics principles. This course emphasizes problem-solving, laboratory investigation, and applications. Topics include unit conversions and analysis, vectors, translational and rotational kinematics, translational and rotational dynamics, heat and temperature, and harmonic motion and waves. COREQUISITE: 10804197 College Tech Math 1B or 10804114 College Tech Math 1B or 10804114M1 College Tech Math 1B Mod 1 & 10804114M2 College Tech Math 1B Mod 2 or 10804115 College Tech Math 1 or 10624105 Hlth Phys Calc & Stats and 10804118 Intern Algebra

INDUSTRIAL CONTROLS AND MOTORS...prepares the learner to select control devices by function and operation; illustrate electrical circuits using symbols, diagrams, and abbreviations; explain the operation of magnetic solenoids and apply motor control techniques and introduces the student to three-phase power motor circuits for industrial applications. COREQUISITES: 10660110 AC Fundamentals

INTRODUCTION TO DIVERSITY STUDIES...introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, religion are explored. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRO TO ENERGY MANAGEMENT...introduces the basic concepts of energy, utility systems and utility rate structures; defines the need for energy management as an integral part of society at all levels. The course will present the various opportunities available to energy management students. Course typically offered: Fall

INTRO TO MS PROJECT-LEVEL 1...is a software tool used to enter, analyze, track, and summarize information about a project. This course prepares the learner to enter and edit tasks, durations, task dependencies, and lag and lead times. The learner will use the project time scale and calendar, review project statistics, work with a network diagram, create and assign resources, and track the progress of a project. This class is offered in a self-paced format.

INTRODUCTION TO PSYCHOLOGY...introduces a survey of the multiple aspects of human behavior. Involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. Directs student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. COREQUISITE: 10838105 Intro Reading & Study Skills or equiv

INTRO TO WATER RESOURCES...properties of water, basic hydrology, water quality; water consumption standards related to energy; stormwater, wastewater and drinking water; water supply and demand management as well as emerging issues. PREREQUISITES: 10481114 Intro to Energy Management. Course typically offered: Spring

LIGHTING FUNDAMENTALS...light sources, luminaries, lighting controls, manufacturer lamp and ballast specifications, lighting power density, lighting-HVAC interactions, retrofit opportunities, cost savings analysis and lighting codes/regulations. Students will critically evaluate lighting systems, luminaries and associated components. Understand and perform various types of lighting calculations. PREREQUISITE: 10481114 Intro to Energy Management. Course typically offered: Fall

PROGRAMMABLE CONTROLLERS - ALLEN BRADLEY...prepares the student to understand basic PLC structure and terminology; learn to create and troubleshoot basic PLC programs using the RSLOGIX 500 software and the RSLINX communication software; become familiar with communicating with programming SLC-500 and Micrologix PLCs. This course is highly computer based.

TECHNICAL REPORTING...provides students with the skills to prepare and present oral and written technical reports. Types of reports may include lab and field reports, proposals, technical letters and memos, technical research reports, and case studies. PREREQUISITE: 10831103 Intro to College Wrtg or equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

TRIGONOMETRY WITH APPLICATIONS...topics include circular functions, graphing of trigonometry functions, identities, equations, trigonometric functions of angles, inverse functions, solutions of triangles complex numbers, DeMoivre's Theorem, polar coordinates, and vectors. PREREQ: Accuplacer College Level Math=63 or ACT-Math=24 or 10804118 Intermediate Alg w/ Apps with "C" or better AND Accuplacer Reading=55 or ACT-Reading=15 or 10831107 College Reading & Writing 1 or Intro to College Writing with "B" or better OR equiv 3cr. Course typically offered: Summer/Fall/Spring

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

ABOUT THE PROGRAM

This associate degree program is designed to meet the need for environmental engineering technicians in Northeast Wisconsin. As a program grad, you're equipped with skills to analyze and test water, wastewater, air, and solid waste to ensure environmental protection and compliance while maintaining community health and safety. Typical careers include environmental engineering technician, water and waste water treatment plant and system operator, water resource specialist, environmental lab technician, environment compliance officer, water quality sampler, quality control inspector, and recycling coordinator. Program students have the option to be certified in 40 hour HAZWOPER WDNR Wastewater, Water, and/or Landfill Operator with completion of coursework and independent testing. With additional education, you may become an environmental engineer.

PROGRAM OUTCOMES

- Identify, monitor, and evaluate environmental hazards.
- Examine the effects of pollution.
- Determine strategies to minimize or prevent waste in order to reduce impact on the environment.
- Create and maintain environmental reports in accordance with applicable standards.
- Utilize applied science and mathematical skills to modify, test, and operate equipment used in the prevention, control, and remediation of environmental issues, including waste and water treatment.
- Perform periodic inspections in compliance with applicable standards.
- Use effective oral and written communication skills.
- Utilize problem solving skills.
- Perform safe work practices.

PROGRAM ADMISSIONS STEPS

- Work with NWTC Admissions Specialist to:
 - Submit application and \$30 fee to NWTC.
 - Complete an assessment for placement (Accuplacer or ACT).
- Meet with NWTC program advisor to discuss program details.
- Meet with LTC program advisor to discuss program details.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health-related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

SPECIAL NOTE

This program is shared with Northeast Wisconsin Technical College (NWTC) in Green Bay. LTC students follow NWTC's admission process; however, they are able to attend 29 credits at the LTC Cleveland campus and the remainder of the credits (40) at NWTC Green Bay.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

CONTACT

NWTC:

Alana Eder, Academic Advisor
920.498.5616 • alana.eder@nwtc.edu

LTC:

Don Geiger, Academic Advisor
920.693.1378 • donald.geiger@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10506146	Intro to Environmental Science <i>(Held at NWTC)</i>	3
10506147	Environmental Biology <i>(Held at NWTC)</i>	4
10506165	Intro to GIS <i>(Held at NWTC)</i>	1
10804118	Interm Algebra w Apps	4
10806134	General Chemistry	4
		16
Term 2		
10506148	Environmental Chem Analysis <i>(Held at NWTC)</i>	4
10506149	Intro to Environ. Compliance <i>(Held at NWTC)</i>	3
10607119	Intro to Civil Engineering Technology <i>(Held at NWTC)</i>	2
10620155	Industrial Mntc Hydraulics/Pneumatics	3
10801195	Written Communications	3
10804196	Trigonometry with Applications <i>(Video Conference from NWTC)</i>	3
		18
Term 3		
10506150	Environmental Microbiology <i>(Held at NWTC)</i>	3
10506151	Wastewater Treatment & Analysis <i>(Held at NWTC)</i>	4
10506152	Ind. Safety & Emerg. Response <i>(Held at NWTC)</i>	3
10620220	Pumps: Fluid Moving Devices <i>(Held at NWTC)</i>	1
10606113	CAD <i>(Held at NWTC)</i>	2
10620138	Programmable Contrlr's-Allen Bradley	3
10801197	Technical Reporting	3
		19
Term 4		
10506163	Solid & Hazardous Waste <i>(Held at NWTC)</i>	2
10506164	Air Pollution Control Systems <i>(Held at NWTC)</i>	2
10506166	Ground Water & Distribution <i>(Held at NWTC)</i>	3
10506167	Surface Water & Distribution <i>(Held at NWTC)</i>	3
10809172	Introduction to Diversity Studies	3
10809198	Introduction to Psychology	3
		16

TOTAL 69

Term 1 & 2: NWTC classes are held on Tuesdays & Thursdays
Term 3 & 4: NWTC classes are held on Mondays & Wednesdays

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



AIR POLLUTION CONTROL SYSTEMS...air quality problems, federal and state regulatory mechanisms, and the types of emission control technology currently available. Monitoring emissions and ambient air quality are addressed. Course typically offered: Spring

CAD (COMPUTER AIDED DRAFTING) ...computer aided drafting using AutoCAD software focusing on template settings; creating and manipulating layers; basic drawing, editing, and inquiry commands; blocks and attributes; and plotting. COREQUISITES: 10607119 Intro to Civil Engineering Technology OR 10606119 Technical Sketching OR 10614113 2D Essentials. Course typically offered: Fall/Spring

ENVIRONMENTAL BIOLOGY...environmental problems are examined from scientific, ethical, economic and sociological perspectives. Emphasis is placed on protection of the human environment with discussion of environmental issues and environmentally related public health concerns. PREREQUISITE: accepted into Environmental Engineering program or preprogram. Course typically offered: Fall

ENVIRONMENTAL CHEMICAL ANALYSIS...laboratory techniques are performed to determine the suitability of supply sources and purification processes in the water and wastewater industries. PREREQUISITES: 10806134 General Chemistry with a "C" or better; 10804118 Intern Algebra w/Apps with a "C" or better. Course typically offered: Spring

ENVIRONMENTAL MICROBIOLOGY...a study of the background and role of bacterial analysis. Sampling and analytic methods including quality control procedures and environmental parameters are studied and related to applicable standards. PREREQUISITE: 10506147 Environmental Biology. Course typically offered: Fall

GENERAL CHEMISTRY...covers chemistry fundamentals. Topics: metric system, problem-solving, periodic relationships, chemical reactions, chemical equilibrium, properties of water; acids, bases, and salts; and gas laws. PREREQUISITES: Accuplacer Elem Algebra=61 or ACT-Math score=21 or 10834110 Elementary Algebra w/Apps with "C" or better AND Accuplacer Reading=80 or ACT-Reading=17 or 10831103 Intro to College Writing or 10831107 College Reading and Writing 1 with "B" or better OR equiv

GROUND WATER & DISTRIBUTION...physical, chemical, and biological principles of operation of groundwater and distribution systems. The basic unit processes, control parameters, and mathematical problem-solving related to groundwater facilities and distribution systems are introduced. Laboratory procedures and practices involved with operation of water analysis and treatment. PREREQUISITES: 10506148 Environmental Chem Analysis; 10804118 Intern Algebra w/Apps. Course typically offered: Spring

INDUSTRIAL MAINTENANCE HYDRAULICS/PNEUMATICS...prepares the learner to identify hydraulic and pneumatic component symbols and terms, adjust a pressure relief valve, analyze the operation of a pilot operated relief valve; analyze Pascal's law; evaluate flow, velocity, work and power in industrial hydraulic and pneumatic circuits; analyze meter-in, meter-out, and bypass flow control circuits; identify basic hydraulic and pneumatic control valves; and assemble hydraulic circuits. PREREQUISITE: 31457318 Trades Math IM or 10804118 Intermed College Algebra or 10804115 College Tech Math

INDUSTRIAL SAFETY & EMERGENCY RESPONSE...state and federal regulations related to worker safety, industrial hygiene, and response to emergency situations. Emphasis is placed on response to releases of hazardous materials. Course typically offered: Fall

INTERMEDIATE ALGEBRA WITH APPLICATIONS...algebra content with applications. Topics include properties of real numbers, order of operations, algebraic solution for linear equations and inequalities, operations with polynomial and rational expressions, operations with rational exponents and radicals, algebra of inverse, logarithmic and exponential functions. PREREQUISITES: Accuplacer Elementary Algebra=61 or ACT-Math =21 or 10834109 Pre Algebra AND Accuplacer Reading=55 or ACT-Reading=15 or 10831107 College Reading and Writing 1 or Intro to College Writing with "B" or better OR equivalent

INTRO TO CIVIL ENGINEERING TECHNOLOGY...portfolio preparation, lettering and printing, chart plotting, resume creation, library research methods, measurement and scaling, drawing techniques, sheet format and layout, dimensioning, line work, orthographic projection, isometric drawings, and construction print reading. Course typically offered: Fall/Spring

INTRO TO ENVIRONMENTAL COMPLIANCE...an introduction to regulatory concepts and requirements for compliance with environmental regulations by governmental and non-governmental entities. Course typically offered: Spring

INTRO TO ENVIRONMENTAL SCIENCE...an introduction to the basic principles of environmental science including ecology, energy, resources, waste management, air, water, and soil pollution. Course typically offered: Fall

INTRO TO GIS...terminology, software operation and interface, creation and analysis of digital maps, and exploring the data behind the maps in Geographic Information Systems. GIS is used to visualize real-world features, obtain information, and communicate the information to others. Course typically offered: Fall

INTRODUCTION TO DIVERSITY STUDIES...basic American values of justice and equality by teaching vocabulary, history of immigration/conquest, transcultural communication, legal liability, multicultural majority/minority relations, ageism, sexism, gender, sexual orientation, the disabled/ADA. PREREQUISITES: Accuplacer Sentence Skills=60 AND Accuplacer Reading=55 OR ACT-English=16 AND ACT Reading=15 OR 10831103 Intro to College Writing or 10831107 College Reading and Writing 1 with "B" or better OR equivalent

INTRODUCTION TO PSYCHOLOGY...survey of theoretical foundations of human behavior such as sensation and perception, motivation, emotions, learning, personality, psychological disorders, therapy, stress, and human diversity in personal, social and vocational settings. PREREQUISITES: Accuplacer Sentence Skills=60 AND Accuplacer Reading=55 OR ACT-English=16 AND ACT Reading=15 OR 10831103 Intro to College Writing or 10831107 College Reading and Writing 1 with "B" or better OR equivalent. Course typically offered: Summer/Fall/J-Session/Spring

PROGRAMMABLE CONTROLLERS-ALLEN BRADLEY...prepares the student to understand basic PLC structure and terminology; learn to create and troubleshoot basic PLC programs using the RSLOGIX 500 software and the RSLINX communication software; become familiar with communicating with programming SLC-500 and Micrologix PLCs. This course is highly computer based. CONDITION: 196202 Industrial Technician Industry Automation Certificate entrance requirements met

PUMPS: INTRO TO FLUID MOVING DEVICES...this course provides the opportunity for the learner to develop the knowledge, skills, and understanding of pumps, the different classifications of pumps, the inner workings, general maintenance and pumping theory. Course typically offered: Fall

SOLID & HAZARDOUS WASTE...identify the hierarchy of and regulations related to solid and hazardous waste, the waste stream, pollution prevention and disposal strategies. Learn detection techniques and proper transporting and handling methods. Course typically offered: Spring

SURFACE WATER & DISTRIBUTION...physical, chemical, and biological principles of operation of surface water treatment and distribution systems. The basic unit processes, control parameters, and mathematical problem-solving related to surface water treatment facilities and distribution systems are introduced. Laboratory procedures and practices involved with operation of water analysis and treatment. PREREQUISITES: 10506148 Environmental Chem Analysis; 10804118 Intern Algebra w/Apps. Course typically offered: Spring

TECHNICAL REPORTING...principles of report writing and correspondence, proposals, feasibility reports, progress reports, investigation reports, evaluation reports, meeting reports, memos, and correspondence. PREREQUISITE: 10801136 English Composition I OR 10801195 Written Communication with "C" or better 3cr. Course typically offered: Summer/Fall/Spring

TRIGONOMETRY WITH APPLICATIONS...topics include circular functions, graphing of trigonometry functions, identities, equations, trigonometric functions of angles, inverse functions, solutions of triangles complex numbers, DeMoivre's Theorem, polar coordinates, and vectors. PREREQUISITES: Accuplacer College Level Math=63 or ACT-Math=24 or 10804118 Intermediate Alg w/ Apps with "C" or better AND Accuplacer Reading=55 or ACT-Reading=15 or 10831107 College Reading and Writing 1 or Intro to College Writing with "B" or better OR equivalent 3cr. Course typically offered: Summer/Fall/Spring

WASTEWATER TREATMENT & ANALYSIS...physical, chemical, and biological principles of operation of wastewater treatment systems. The basic unit processes, control parameters, and mathematical problem-solving related to collection systems and treatment facilities are introduced. Laboratory procedures and practices involved with operation of wastewater analysis and treatment including industrial waste treatment technologies. PREREQUISITE: 10506148 Environmental Chem Analysis. Course typically offered: Fall

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 10-531-2 Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

A Firefighter Paramedic (Fire Medic) protects life and property through fire suppression, rescue, prevention, and Emergency Medical Treatment capabilities. Graduates are highly trained in the modern firefighting techniques and Paramedic skills necessary to make them successful in the dynamic emergency services environment.

PROGRAM OUTCOMES

- Perform essential firefighting and paramedic skills for life safety, incident stabilization, and property conservation.
- Create and execute the objectives of an incident action plan for the diverse emergency incident to be encountered.
- Use effective interpersonal communication skills in emergency and nonemergency environments.
- Apply the critical skills of fire prevention, fire investigation, fire inspection, and public education to minimize the loss of life and property.
- Operate fire service equipment and apparatus effectively and efficiently.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete health requirements.
 - Discuss EMT license requirements.
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

- The Lakeshore Technical College Paramedic Program is accredited by the Commission on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP). 1361 Park St, Clearwater, FL 33756. Phone: 727-210-2350. Web: www.caahep.org.
- Students will be required to acquire a Wisconsin Commercial Driver's Instructional Permit during the Fire Apparatus Engineer course.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1 (Spring Start)		
10503142	Firefighting Principles	4
10801195	Written Communication OR 10801136 English Composition 1	3
10804107	College Mathematics	3
10503911	Company Level Inspection	2
10809198	Introduction to Psychology	3
		15
Summer		
10503107	Fire Apparatus Engineer	3
		3
Term 2		
10503144	Advanced Firefighting Concepts	2
10801196	Oral/Interpersonal Communication	3
10806189	Basic Anatomy	3
10809159	Abnormal Psychology OR 10809122 Introduction to American Government (3 cr)	3
10809166	Introduction to Ethics	3
		14
Term 3		
10531911	EMS Fundamentals	2
10531912	Paramedic Medical Principles	4
10531913	Advanced Patient Assessment Principles	3
10531914	Advanced Prehospital Pharmacology	3
10531915	Paramedic Respiratory Management	2
10531916	Paramedic Cardiology	4
10531926	Paramedic HPS Lab 1	1
10531928	Paramedic Clinical	2
		21
Summer		
10531918	Advanced Emergency Resuscitation	1
10531919	Paramedic Medical Emergencies	4
		5
Term 4		
10531920	Paramedic Trauma	3
10531921	Special Patient Populations	3
10531922	EMS Operations	1
10531923	Paramedic Capstone	1
10531929	Paramedic Field OR 10531930 Fire Medic Field 2 (3 cr)	3
10531927	Paramedic HPS Lab 2	1
		12
		TOTAL 70
RECOMMENDED SUPPORT/ELECTIVE CLASS		
10503912	Fire Internship 1	1

To contact CoAEMSP:
8301 Lakeview Parkway, Suite 111-312
Rowlett, TX 75088
214-703-8445 Fax 214-703-8992
www.coaemsp.org

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ABNORMAL PSYCHOLOGY...surveys the essential features, possible causes, and assessment and treatment of the various systems of abnormal behavior from the viewpoint of the major theoretical perspectives in the field of abnormal psychology. Students will be introduced to the diagnosis system of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). In addition, the history of the psychology of abnormality will be traced. Cultural and social perspectives in understanding and responding to abnormal behavior will be explored as well as current topics and issues within abnormal psychology. PREREQUISITE: 10809198 or 10809198OL Psychology-Introduction

ADVANCED EMERGENCY RESUSCITATION...provides ACLS and PALS knowledge and skills preparing the student in the integration of comprehensive knowledge of causes and pathophysiology into the management of shock, respiratory failure, respiratory arrest, cardiac arrest, and peri-arrest with intervention to prevent respiratory and/or cardiac arrest if possible. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531916 Paramedic Cardiology

ADVANCED FIREFIGHTING CONCEPTS...advances previously learned concepts to build a stronger foundation while exposing the learner to new concepts such as vehicle extrication, technical rescue, flammable liquids fire suppression, and team leadership/management. This course meets the requirements of NFPA 1001 for the Firefighter II level. PREREQUISITE: 10503142 Firefighting Principles

ADVANCED PATIENT ASSESSMENT PRINCIPLES...provides knowledge of scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531912 Paramedic Medical Principles

ADVANCED PREHOSPITAL PHARMACOLOGY...provides student with comprehensive knowledge of pharmacology required to formulate and administer a pharmacological treatment plan intended to mitigate emergencies and improve the health of the patient. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531913 Advanced Patient Assessment Principles

BASIC ANATOMY...examines concepts of anatomy and physiology as they relate to health careers. Learners correlate anatomical and physiological terminology to all body systems. COREQUISITE: 10838105 Intro Reading and Study Skills or Equivalent or Accuplacer Reading score of 74 or equivalent

COLLEGE MATHEMATICS...is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. PREREQUISITE: 10834109 Pre-Algebra or equivalent

COMPANY LEVEL INSPECTIONS...familiarizes the students with state and local regulations and national codes relating to fire prevention. The course requires the completion of actual inspections and fire safety presentations. Presents the necessary information for performing company level fire inspections. CONDITION: 105312 Fire Medic program requirements met and COREQUISITE: 10503142 Firefighting Principles

EMS FUNDAMENTALS...provides comprehensive knowledge of EMS systems, safety, well-being, legal issues and ethical issues with intended outcome of improving EMS personnel, patients and the community. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITES: 10531102 EMT Basic or 30531301 EMT Part 1

EMS OPERATIONS...provides the knowledge of operational roles and responsibilities to ensure patient, public and EMS personnel safety. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531921 Special Patient Populations

FIRE APPARATUS ENGINEER...prepares firefighters to drive and operate fire department emergency apparatus. The course presents theories of hydraulics applied to the fire service, with emphasis on mathematics, and formulas used in operating fire apparatus pumps. Students receive lecture and practical training on maintenance, driving, operating on-board pumps and equipment, and apparatus testing. The course content meets the NFPA 1002 requirement for fire department pumper driver/operator. THIS COURSE REQUIRES STUDENTS TO HAVE A CDL INSTRUCTIONAL PERMIT BY THE 3RD WEEK OF CLASS. PREREQUISITE: 10503142 Firefighting Principles

FIRE FIGHTING PRINCIPLES...describes for the learner the basic fire behavior, techniques used to control structural and related fire emergencies, and life safety practices. Students perform all practical evolutions necessary to control and extinguish fire or otherwise meet fire training requirements for Firefighter I certification with the state of Wisconsin. COREQUISITE: 10503911 Company Level Inspection

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO ETHICS: THEORY AND APPLICATION...provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social and/or professional standards of behavior, and apply a systematic decision-making process to these situations. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MEDICAL EMERGENCIES...provides the skills to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a treatment plan for an acutely injured patient. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531918 Adv Emergency Resuscitation

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PARAMEDIC CAPSTONE...provides the final opportunity to incorporate knowledge and skills through labs and scenario-based practice and evaluations prior to taking the NREMT written and practical exams. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531922 EMS Operations

PARAMEDIC CARDIOLOGY...provides the principles of cardiovascular anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and a plan for a patient with a cardiovascular complaint. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531915 Paramedic Respiratory Management

PARAMEDIC CLINICAL...provides the opportunity to enhance their learning through the skills practice in a health care environment experience with actual patients under the supervision of approved preceptors or high-fidelity human patient simulator. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic Program Requirements Met and COREQUISITE: 10531911 EMS Fundamentals

PARAMEDIC FIELD...provides the opportunity to enhance their learning through the practice in the field and health care environment experience with actual patients under the supervision of approved preceptors or high-fidelity human patient simulator. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic Program Requirements Met and COREQUISITE: 10531918 Advanced Emergency Resuscitation

PARAMEDIC HUMAN PATIENT SIMULATION LAB 1...reinforces student learning through the practice of paramedicine in a controlled environment utilizing high-fidelity human patient simulators and realistic emergency response scenarios with support and guidance of instructors. The student will apply assessment knowledge and demonstrate paramedic level skills in a variety of emergency response scenarios and environments.

PARAMEDIC HUMAN PATIENT SIMULATION LAB 2...reinforces student learning through the practice of paramedicine in a controlled environment utilizing high-fidelity human patient simulators and realistic emergency response scenarios with support and guidance of instructors. The student will evaluate patient presentations, formulate treatment plans, reassess interventions, and implement corrective actions by integrating pathophysiological principles and assessment findings.

PARAMEDIC MEDICAL PRINCIPLES...provides the knowledge of anatomy, physiology and pathophysiology of major human systems while also introducing the students to shock, immunology and bleeding. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531911 EMS Fundamentals

PARAMEDIC RESPIRATORY MANAGEMENT...provides specific knowledge pertaining to the respiratory system and to ensure the student is prepared to formulate a field impression and implement a comprehensive treatment plan for a respiratory complaint. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program req met and COREQ: 10531914 Adv Prehospital Pharmacology

PARAMEDIC TRAUMA...provides the skills to integrate assessment findings with principles of anatomy, physiology, epidemiology and pathophysiology to formulate a field impression and implement a treatment plan for an acutely injured patient. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531919 Paramedic Medical Emergencies

SPECIAL PATIENT POPULATIONS...provides the skills to integrate assessment findings with principles of anatomy, physiology, epidemiology and pathophysiology to formulate a field impression and implement a treatment plan for patient with special needs. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531920 Paramedic Trauma

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. Also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Writing equiv and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

Program Number 31-623-1 Technical Diploma • Two Terms

ABOUT THE PROGRAM

Food Manufacturing and Processing is a unique technical diploma program designed with the help of local food industry partners to meet the needs of the workplace by providing the knowledge, skills, and abilities essential to food production. Employment in food manufacturing continues to remain strong, even with changes in the economy. This program is a combination of sanitation, hazard analysis and critical control points, lean manufacturing principles, quality concepts, and high speed packaging. Graduates of this program are prepared for entry level leadership roles in the food manufacturing industry.

PROGRAM OUTCOMES

- Develop critical thinking and problem-solving skills
- Apply appropriate regulations and guidelines
- Identify, monitor, evaluate and report health and sanitation hazards
- Demonstrate ability to set up, operate and monitor production processes
- Apply good manufacturing processes
- Apply tactics and strategies in utilization of quality improvement processes

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10623101	Quality Concepts	3
10109161	Sanitation Sterilization in Food Production	2
10804123	Math with Business Applications	3
10623161	Hazard Analysis in Food Production (HACCP)	2
31462340	Industrial Technology Packaging	1
31462342	Safety in Manufacturing	1
10623103	Introduction to Manufacturing Lab Practices	3
		15
Term 2		
10623118	Lean Manufacturing Overview	3
10623106	Food Processing Regulations	2
10801196	Oral/Interpersonal Communication	3
10623104	Food Management Safety Systems	2
10196189	Teambuilding and Problem Solving	3
10623105	Applied Food Microbiology	3
		16

TOTAL 31

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



APPLIED FOOD MICROBIOLOGY...provides an overview of the relationship of microorganisms to foodborne illness and intoxications. Requires no previous knowledge or experience with biology. Includes discussion of the organisms commonly identified in foodborne illness while exploring how microorganisms can affect food quality, spoilage, and safety. Explores the growing use of probiotics with the food industry. Lab activities include techniques and procedures used in the identification and qualification of pathogens.

FOOD MANAGEMENT SAFETY SYSTEMS...will examine all aspects of an effective plant food safety system. Includes development, examining requirements (state and federal), roles and responsibilities to ensure a comprehensive program of practices and policies for a manufacturing facility. Topics such as internal auditing, management systems, food defense and others will be covered in this class.

FOOD PROCESSING REGULATIONS...prepares the learner to identify, locate, understand, and apply the federal and state regulations governing the food industry to the manufacturing site and processing operations. Review USDA product recall regulations and third party audits.

HAZARD ANALYSIS IN FOOD PRODUCTION...develops the ability to identify the critical safety issues involved in the handling, processing, packaging, and sanitation control for safe food production. Students will analyze hazards and critical control points in food production methods and develop record keeping and verification skills needed for the implementation and maintenance of a HACCP plan. Case studies in poultry, dairy processing, cheese, meat, and thermal vegetable processing will be examined.

INDUSTRIAL TECHNOLOGY - PACKAGING...introduces participants to the types of packaging machinery and processes. Topics will include safety, packaging materials, package sealing, machine operations, changeovers and food safety. Participants will operate a packaging machine, metal detector, print coder, check weigher and perform basic maintenance and troubleshooting of a packaging machine.

INTRODUCTION TO MANUFACTURING LAB PRACTICES...introduces the learner to beginning laboratory concepts and procedures. Emphasis will be placed on general laboratory safety, basic equipment utilization, and calibration techniques. An introduction to scientific inquiry will be addressed. Proper techniques in documentation as it relates to quality control in verification of a quality system will be introduced. Concepts in data analysis will be reviewed as it relates to creation of a laboratory notebook.

LEAN MANUFACTURING OVERVIEW...expands the learner's ability to develop skills to prioritize and sequence work, execute work plans, implement controls, and create and analyze performance evaluations. It allows the student to explore the execution of quality initiatives and continuous improvement plans in addition to the control and handling of inventories.

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/ Agronomy Basic program admissions requirements met

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

QUALITY CONCEPTS...provides an overview of quality systems, methods and analysis using Minitab software. Basic quality philosophies such as Deming's principles, continuous improvement, quality costs, supplier relations and inspection theory will be presented. The components of a basic quality system compatible with ISO9000 and Six Sigma will be explored. Minitab software will be taught and utilized to collect and analyze data. Techniques such as pareto, trend analysis, histograms, cause and effect diagrams and corrective/preventive action techniques will be applied to the data in order to address problems and improve processes.

SAFETY IN MANUFACTURING...will provide instruction on a variety of general industry safety standards (1910) including lock-out-tag-out, PPE equipment, and hazard communication. Participants will receive the Department of Labor 10-hour OSHA card. Participants will also complete First Aid/CPR training dealing with scene safety, universal precautions, patient assessment, trauma emergencies, and medical emergencies. Adult CPR is included. Upon completion, the student receives and LTC First Aid Certification.

SANITATION STERILIZATION IN FOOD PRODUCTION...covers how every food production operation needs to have a food safety system in place that is designed specifically to guarantee that the food being processed and packaged will be safe to eat. In this course learners will examine the microbiology behind the sanitation and sterilization practices in place in the food processing and production industry. Learners will gain a keen perspective on the importance of sanitation and sterilization and will practice sanitation and sterilization techniques.

TEAMBUILDING AND PROBLEM SOLVING...applies the skills and tools necessary to facilitate problem solving in a team environment. Each learner will demonstrate the application of the benefits and challenges of group work, necessary roles in a team, stages of team development, different approaches to problem solving, consensus, a systematic process of problem definition, data acquisition, analysis, developing alternative solutions, solution implementation, and evaluation.

Pending State Approval

Program Number 10-201-2
Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

Have you been told you have creative and visualization skills? Do you enjoy analyzing design decisions and often think it could have been done better? If you are attracted to the design elements of color, type, shape, illustration, and layout, then creating web sites and print-ready design solutions can be a very satisfying career choice. Graphic and web designers often thrive on competition and creative license; however, they must constantly adapt to the best solutions for the client. This field can draw out your creative talents and expand your business and marketing expertise. A minimum keyboarding skill of 25 wpm is recommended.

PROGRAM OUTCOMES

- Apply the principles of design to develop strategic marketing and communication products and services.
- Demonstrate proficiency in the use of design software, tools, and technology.
- Implement creative solutions from concept through completion using a formal process.
- Apply effective legal and ethical business practices and project management skills.
- Communicate artwork rationale in formal and informal settings.
- Demonstrate creative abilities and software knowledge when developing websites and press-ready electronic files.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10106162	Computer Platform Essentials	1
10201101	Design Fundamentals	3
10201108	Photoshop	3
10201109	Illustration	3
10801195	Written Communication OR 10801136 English Composition 1	3
10809198	Introduction to Psychology	3
		16
Term 2		
10103181	Word 2013-Level 1	1
10103131	Excel 2013-Level 1	1
10201114	Typography	2
10201115	Digital Photography	2
10201110	InDesign	3
10152196	Web Development 1	3
10804123	Math with Business Applications OR 10806112 Principles of Sustainability	3
		15
Term 3		
10201117	Career Essentials	2
10201119	Website Development Advanced	2
10152106	Integrated Web Concepts	4
10201118	Advancements in Web Design and Development	2
10809196	Introduction to Sociology	3
10801196	Oral/Interpersonal Communication	3
		16
Term 4		
10201103	Advanced Computer Graphics	3
10152122	Multimedia Concepts	3
10201113	Publication Design	3
10201105	Internship for Graphic and Web Design	1
10809195	Economics	3
10809122	Introduction to American Government	3
		16
		TOTAL 63

Curriculum and Program Acceptance requirements are subject to change.
Program start dates vary; check with your advisor for details.



ADVANCED COMPUTER GRAPHICS...provides the learner with enhanced knowledge and skill in the use of design, illustration and page layout software through the creation of a variety of design projects. Emphasis is on original, strong images and type integration, as well as preparing files for press. PREREQUISITE: 10201101 Design Fundamentals and 10152106 Integrated Web Concepts and 10201110 InDesign and COREQUISITE: 10201113 Publication Design and CONDITION: 102012 Graphic and Web Design Admission Requirements Met

ADVANCEMENTS IN WEB AND DEVELOPMENT...will explore the latest trends in Web design and development. Students will apply advanced techniques to create progressive and contemporary websites. PREREQUISITE: 10152196 Web Development 1

CAREER ESSENTIALS...will teach students how to create effective career documents for a job search such as Graphic and Web Designer including resume, business card, and cover letter. Students will also learn how to set up a freelance business, how to find jobs as a freelancer, and the basics of owning their own business. Students will analyze their design strengths and gather portfolio artifacts that showcase their skills in the Graphic and Web Design field.

COMPUTER PLATFORM ESSENTIALS...will teach essential functions of using both a PC and a Mac platform. Saving files, copying files, moving files, making folders, searching for files, renaming files, and recognizing file extensions will be covered.

DESIGN FUNDAMENTALS...introduces the learner to the elements of art (line, texture, color, shape and value.) Students will investigate how these elements can be manipulated using various principles of design to achieve different effects. Basic color theory, historic eras, and emerging trends will be covered.

DIGITAL PHOTOGRAPHY...will help the individual understand photographic principles and file manipulation. Through in-class discussions, audio visuals, camera demonstrations, and in-the-field shooting sessions, the individual will learn shooting and lighting techniques designed to capture a better image. Printing, cropping, retouching and file management will also be covered.

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

EXCEL 2013 - LEVEL 1...introduces the student to creating, modifying and formatting worksheets; entering formulas and functions; working with charts; and developing multiple-sheet workbooks. This course is offered in a self-paced format.

ILLUSTRATION...prepares the learner to use Adobe's standard vector graphics software to create digital art. The course will cover the basics of computer illustration and its use in print and web media. Students will work with objects, the pen, brushes, text, color, special effects, symbols, and gradients as they create portfolio-quality art.

INDESIGN...prepares the learner to use a professional page layout program. Learners will develop brochures, mailers, business documents and newsletters by implementing text layout techniques, using multiple master pages, managing styles, using text adjustment tools, working with libraries, and managing long documents for print production. Projects developed will be used to build the students' portfolio. PREREQUISITE: 10201101 Design Fundamentals

INTEGRATED WEB CONCEPTS...introduces the student to the three major components of the Web -- design, development, and marketing. A common course among Graphic and Web Design, Web and Software Developer, and Marketing, students from each program will be responsible for working in teams and to coordinate projects and present their industry to students from the other programs. PREREQUISITE: 10104102 Prin of Mktg and 101043 Mktg prog req met or 10152187 Web Dev 3 or COREQUISITE: 10201106 CSS for Adv Web Design and CONDITION: 101527 Web & Software Developer or 102012 Graphic & Web Design

INTERNSHIP FOR GRAPHIC AND WEB DESIGN...requires students to complete 72 hours of performing work in a business/industrial service setting related to their program objectives. Students are responsible for seeking and obtaining the internship workstation position. Course requirements include maintaining a log of work activities, identifying and receiving approval from the job supervisor and instructor, and completing a work-related project. The field study may be substituted based on instruction decision. Students meet periodically at LTC. COREQUISITE: 10201113 or 10201104 Publication Design and 10152117 Introduction to Flash and 10201111 Production Essentials and CONDITION: 102012 Graphic and Web Design program requirements met

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO AMERICAN GOVERNMENT...introduces American political processes and institutions. It focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. It explores the role of the media, interest groups, political parties and public opinion in the political process. It also explores the role of state and national government in our federal system.

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agrribusiness/ Agronomy Basic program admissions requirements met

MULTIMEDIA CONCEPTS...will teach students how to create various multimedia elements including video, audio, and basic animation and learn how to incorporate these elements into web pages. PREREQUISITE: 10152196 Web Development 1

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PHOTOSHOP...introduces the learner to using Adobe Photoshop to edit, enhance, and combine digital images which are prepared for print and web media. Topics will include photo correction, masks, channels, page backgrounds, brushes and optimizes images for web use.

PUBLICATION DESIGN...will focus on creating and designing print material using desktop publishing software. A variety of documents, including brochures, annual reports, flyers, magazine articles, and multipage documents are created. Integrating Microsoft Office products with Adobe products are explored. The emphasis is on design and preparing files for print. PREREQUISITE: 10201110 InDesign, 10201108 Photoshop, 10201108 Illustration

TYPOGRAPHY...introduces the learner to the fundamentals of Typography. Emphasis is on the structure and form of type and how it is used in contemporary graphic design. Projects explore the history of type, and the creation of design using type elements.

WEB DEVELOPMENT 1...introduces the students to web page design principles and proceeds to teach students how to create their own visually appealing designs for the web. Students will have hands-on experience using current versions of Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) to code and format accessible, valid, and optimized web sites. Websites will be published live on the web using FTP.

WEBSITE DEVELOPMENT ADVANCED...builds on student knowledge of XHTML and web design software. Student knowledge is extended beyond basic page design to include web page interaction and dynamic page building. Students will have hands-on experience developing complex web pages. PREREQUISITE: 10152196 Web Development 1

WORD 2013 - LEVEL 1...introduces the student to word processing features such as creating, saving, editing, formatting, and printing documents, creating basic diagrams, and applying these concepts to produce usable documents. This course is offered in a self-paced format.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 31-510-3 Technical Diploma • Two Terms

ABOUT THE PROGRAM

The Health Care Technician program prepares graduates for work in one or multiple roles, making them highly flexible in today's health care workforce. Health care organizations value multi-skilled professionals in combination roles, including nursing assistant, health unit coordinator, EKG/phlebotomy technician, and dietary aide. LTC's Health Care Technician program uses a planned, sequenced course progression leading to an excellent career path. If you are interested in working in different roles in a health care setting, this is an excellent option for you.

PROGRAM OUTCOMES

- Communicate professionally with clients, families, and coworkers.
- Maintain and protect client rights.
- Report and record observations.
- Perform basic clinical and supportive skills.
- Work under stress of time and job demands.
- Maintain emotional control.
- Coordinate health care and personal services.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete health requirements.
 - Admission to Nursing Assistant program or completion of Nursing Assistant course.
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

RELATED PROGRAMS

- Health Unit Coordinator Technical Diploma
- Medical Assistant Technical Diploma
- Medical Coding Specialist Technical Diploma
- Pharmacy Technician Technical Diploma

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10510108	Health Care and Health Behavior	3
10501104	Healthcare Customer Service	2
10501107	Intro to Healthcare Computing	2
30501301	Dietary Aide OR 10510109 EKG/Phlebotomy (4 cr)	4
10103191	Word 2016-Level 1	1
30543300	Nursing Assistant	3
		14
Term 2		
30510301	Health Unit Coordinator Procedures 1	3
30510302	Health Unit Coordinator Procedures 2	3
30510303	Health Unit Coordinator Clinical	3
10501101	Medical Terminology	3
		12
		TOTAL 26

*Curriculum and Program Acceptance requirements are subject to change.
Program start dates vary; check with your advisor for details.*



DIETARY AIDE...prepares learners for work in dietary services including hospitals, long-term care, assisted living and educational institutions. Introduces learners to principles of sanitation and hygiene, infection control, preparation and service of meals, meeting unique nutritional needs, reporting appropriately and safety practices related to food service. Preparation for the National Restaurant Association certification is included.

HEALTH CARE AND HEALTH BEHAVIOR...introduces learners to the U.S. health care delivery system including the role of hospitals, public health services, various health care professionals, and alternative providers and services. Learners will explore contemporary legal, ethical and societal issues impacting health care in America. Various behaviors of the ill patient, the relationship between social influences and illness, and theories of disease prevention through healthy lifestyles will be explored.

HEALTH UNIT COORDINATOR CLINICAL...provides opportunities for learners to apply the concepts and skills of a Health Unit Coordinator in a clinical setting. COREQUISITE: 30510301 Health Unit Coordinator Procedures 1 and 30510302 Health Unit Coordinator Procedures 2

HEALTH UNIT COORDINATOR PROCEDURES 1...is an introductory course to the HUC profession. The course will introduce the student to the environment, communication, and managing client information in healthcare. CONDITION: 305102 Health Unit Coordinator requirements met or 315103 HealthCare Technician requirements met

HEALTH UNIT COORDINATOR PROCEDURES 2...is a more advanced course that introduces the student to the order process, transcription of medication and infusion orders, laboratory and diagnostic orders, interdisciplinary treatment orders, and specialty unit orders. COREQUISITE: 30510301 Health Unit Coord Procedure 1

HEALTHCARE CUSTOMER SERVICE...is designed as an introduction to customer service for learners interested in working in various health care settings. The learner investigates health care systems and the health care workforce. The learner examines professionalism, interpersonal and written communication skills, and confidentiality as they relate to customer service.

INTRO TO HEALTHCARE COMPUTING...provides an introduction to basic computer functions and applications utilized in contemporary healthcare settings. Students are introduced to the hardware and software components of modern computer systems and the application of computers in the workplace. Emphasis is placed on the use of common software packages, operating systems, file management word processing, spreadsheet, database, Internet, electronic mail, and electronic health records (EHR).

MEDICAL TERMINOLOGY...focuses on the component parts of medical terms, including prefixes, suffixes, and word roots. Spelling, definition, and pronunciation will enhance student learning as students practice formation, analysis, and reconstruction of medical terms. Medical terminology will come "alive" through an introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology. Students will explore the Greek and Latin origins of medical terms and commonly used abbreviations.

NURSING ASSISTANT...is designed to prepare learners for employment in home care agencies, nursing homes, and hospitals. Learners are supervised by qualified RNs in classroom, lab, and clinical areas. Classes are presented by means of online and face-to-face instruction. Lab and clinical activities are scheduled at designated locations in Manitowoc and Sheboygan Counties. Upon successful completion, the graduate will be eligible to sit for the State of Wisconsin Nursing Assistant Competency Examination. CONDITION: 305431 Nursing Assistant Admission Requirements Met

WORD 2016 - LEVEL 1...introduces the student to word processing features such as creating, saving, editing, formatting, and printing documents, creating basic diagrams, and applying these concepts to produce usable documents. This course is offered in a self-paced format.

ABOUT THE PROGRAM

This field is where healthcare meets the cutting edge of technology! Health Information Technicians are specialists in great demand! The HIM professionals can expect to be in high demand as the health sector expands into the century. In fact, the Bureau of Labor Statistics cites health information technology as one of the fastest growing occupations in the U.S. Health Information Technicians contribute to the quality of care by collecting, analyzing, and reporting health care data. This requires knowledge of disease, treatments, computer systems, and organizational skills.

PROGRAM OUTCOMES

- Manage health data.
- Apply coding and reimbursement systems.
- Model professional behaviors and ethics.
- Maintain electronic applications to manage health information.
- Apply organizational management techniques.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete health requirements.
 - Complete Functional Ability Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

CONTACT

LTC Career Coach
 920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10501101	Medical Terminology	3
10501102	Health Insurance and Reimbursement	3
10501107	Intro to Healthcare Computing	2
10801196	Oral/Interpersonal Communication	3
10809172	Introduction to Diversity Studies	3
10806189	Basic Anatomy OR 108061889OL Basic Anatomy (3 cr) OR 10806103 Body Structure and Function (3 cr) OR 10806177 General Anatomy & Physiology (4 cr)	3
		17
Term 2		
10530178	Healthcare Law & Ethics	2
10530182	Human Diseases for Health Professions	3
10530184	CPT Coding	3
10530197	ICD Diagnosis Coding	3
10103121	Excel 2016 - Level 1	1
10801195	Written Communication	3
		15
Term 3		
10154121	Database Concepts	2
10154152	Database Application	1
10530187	Clinical Information Management	4
10530195	Applied Coding	2
10530199	ICD Procedure Coding	2
10809198	Introduction to Psychology	3
10530191	HIM/Coding Practicum 1	2
		16
Term 4		
10530177	Healthcare Stats & Research	2
10530193	Healthcare Quality Management	2
10809196	Introduction to Sociology	3
10809166	Introduction to Ethics: Theory and Application	3
10530192	HIM Practicum 2	2
10530194	HIM Organizational Resources	2
		14
		TOTAL 62

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



APPLIED CODING...prepares students to assign ICD and CPT/HCPCS codes supported by medical documentation with intermediate level of proficiency. Students will prepare appropriate physician queries in accordance with compliance guidelines and will assign codes to optimize compliance with federal regulations and reimbursement. PREREQUISITE: 10501101 Medical Terminology and COREQUISITES: 10530197 ICD Diagnosis Coding and 10530199 ICD Procedure Coding and 10530184 CPT Coding and 10501102 Health Insurance and Reimbursement

BASIC ANATOMY...examines concepts of anatomy and physiology as they relate to health careers. Learners correlate anatomical and physiological terminology to all body systems. COREQUISITE: 10838105 Intro Reading and Study Skills or Equivalent or Accuplacer Reading score of 74 or equivalent

CLINICAL INFORMATION MANAGEMENT...prepares learners for work with health information in various health care delivery systems and within a health information department. It prepares learners to retrieve data from health credits. Professional ethics, confidentiality and security of information are emphasized. It introduces learners to the use and structure of health care data elements, data sets, data standards, their relationships to primary and secondary record systems and health information processing. PREREQUISITE: 10501107 Intro to Healthcare Computing

CPT CODING...prepares learners to assign CPT codes, supported by medical documentation, with entry-level proficiency. Learners apply CPT instructional notations, conventions, rules, and official coding guidelines when assigning CPT codes to case studies and actual medical record documentation. COREQ: 10530182 Human Dis for Hlth Prof or 31509302 Human Body in Hlth & Disease and 10501102 Hlth Ins & Reimb and PREREQUISITE: 10501101 Med Term and CONDITION: 315302 Medical Coding Spec or 105304 Health Information Mgmt program requirements met

DATABASE APPLICATIONS...is a project-based course in which learners will build and implement a relational database application utilizing the principles of sound database design acquired in the Database Concepts course. Learners will define the functionalities, implement, build and populate the database, document the database project, and demo their project. COREQUISITE: 10154121 Database Concepts

DATABASE CONCEPTS...prepares the learner to differentiate among the primary DBMS components; determine the difference in data models; use Query By Example and relational algebra; develop SQL statements; apply principles of database integrity, security and normalization; reconstruct poorly designed table structures; develop a relational database design using data requirement analysis and specification methods; and examine additional DBMS functions.

EXCEL 2016 - LEVEL 1...introduces the student to creating, modifying and formatting worksheets; entering formulas and functions; working with charts; and developing multiple-sheet workbooks. This course is offered in a self-paced format.

HEALTH INSURANCE AND REIMBURSEMENT...introduces the learner to Federal, state, and private health insurance plans and managed care systems; and surveys the coding, submission and processing cycle of claims, as well as reimbursement methods used by payers. It provides application of information to ambulatory settings, pharmacies, hospitals, and long term care.

HEALTHCARE LAW & ETHICS...examines regulations for the content, use, confidentiality, disclosure, and retention of health information. An overview of the legal system and ethical issues are addressed.

HEALTHCARE QUALITY MANAGEMENT...explores the programs and processes used to manage and improve healthcare quality. Addresses regulatory requirements as related to performance measurement, assessment, and improvement, required monitoring activities, risk management and patient safety, utilization management, and medical staff credentialing. Emphasizes the use of critical thinking and data analysis skills in the management and reporting of data.

HEALTHCARE STATS & RESEARCH...explores the management of medical data for statistical purposes. Focuses on descriptive statistics, including definitions, collection, calculation, compilation, and display of numerical data. Vital statistics, registries, and research are examined. PREREQUISITE: 10103121 Excel 2016 - Lev 1

HIM ORGANIZATIONAL RESOURCES...examines the principles of management to include planning, organizing, human resource management, directing, and controlling as related to the health information department.

HIM PRACTICUM 2...applies previously acquired skills and knowledge and discussion of clinical situations. Prepares for the certification examination and pre-graduation activities. This is the second of a two-semester sequence of supervised technical and managerial clinical experiences in health care facilities. PREREQUISITE: 10530191 HIM/Coding Practicum 1 and CONDITION: 105304 Health Information Management program requirements met

HIM/CODING PRACTICUM 1...applies previously acquired skills and knowledge by means of clinical experiences in the technical procedures of health record systems and discussion of clinical situations. COREQUISITES: 10530195 Appl Coding, 10530197 ICD Diagnosis Coding, 10530199 ICD Procedure Coding, 10530184 CPT Coding, CONDITION: 315302 Medical Coding Spec or 105304 Health Info Mng program reqs met

HUMAN DISEASE FOR HEALTH PROFESSIONS...focuses on the common diseases of each body system as encountered in all types of health care settings by health professionals. Emphasis is placed on understanding the etiology (cause), signs and symptoms, diagnostic tests, and treatment (including pharmacological) of each disease. COREQUISITES: 10501101 Med Term or CONDITION: 101064 Med Trans Spec program requirements met and 10806103 Body Struc & Func or CONDITION: 311067 Medical Transcription program reqs met & 10806103 Body Structure & Function

ICD DIAGNOSIS CODING...prepares students to assign ICD diagnosis codes supported by medical documentation with entry level proficiency. Students apply instructional notations, conventions, rules, and official coding guidelines when assigning ICD diagnosis codes to case studies and actual medical record documentation. PREREQUISITE: 10501101 Medical Terminology and COREQUISITES: 10530182 Human Diseases for the Health Professions and 10501102 Health Insurance and Reimbursement

ICD PROCEDURE CODING...prepares students to assign ICD procedure codes supported by medical documentation with entry level proficiency. Students apply instructional notations, conventions, rules, and official coding guidelines when assigning ICD procedure codes to case studies and actual medical record documentation. PREREQUISITE: 10501101 Medical Terminology and COREQUISITES: 10530182 Human Diseases for the Health Professions and 10501102 Health Insurance & Reimbursement

INTRO TO HEALTHCARE COMPUTING...provides an introduction to basic computer functions and applications utilized in contemporary healthcare settings. Students are introduced to the hardware and software components of modern computer systems and the application of computers in the workplace. Emphasis is placed on the use of common software packages, operating systems, file management word processing, spreadsheet, database, Internet, electronic mail, and electronic health records (EHR).

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRODUCTION TO DIVERSITY STUDIES...introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, religion are explored. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRODUCTION TO ETHICS: THEORY AND APPLICATION...provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social and/or professional standards of behavior, and apply a systematic decision-making process to these situations. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MEDICAL TERMINOLOGY...focuses on the component parts of medical terms, including prefixes, suffixes, and word roots. Spelling, definition, and pronunciation will enhance student learning as students practice formation, analysis, and reconstruction of medical terms. Medical terminology will come "alive" through an introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology. Students will explore the Greek and Latin origins of medical terms and commonly used abbreviations.

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

**Program Number 30-510-2
Technical Diploma • One Term**

ABOUT THE PROGRAM

Today's healthcare environment is overflowing with opportunity for those interested in helping others. Health Unit Coordinators are valued members of the healthcare team who professionally coordinate health unit operations, transcribe medical orders, communicate effectively within the healthcare setting, and manage client information. If you want to help people in a healthcare career that is fast-paced, requiring excellent communication, organizational, technological and customer service skills, check into becoming a Health Unit Coordinator.

PROGRAM OUTCOMES

- Communicate professionally in the health care environment.
- Coordinate health unit operations.
- Integrate the role of the health unit coordinator in the health care system.
- Manage client information.
- Transcribe medical orders.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete health requirements.
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
30510301	Health Unit Coordinator Procedures 1	3
30510302	Health Unit Coordinator Procedures 2	3
30510303	Health Unit Coordinator Clinical	3
10501101	Medical Terminology	3
10501104	Healthcare Customer Service	2
10501107	Intro to Healthcare Computing	2

TOTAL 16

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



HEALTH UNIT COORDINATOR CLINICAL...provides opportunities for learners to apply the concepts and skills of a Health Unit Coordinator in a clinical setting. COREQUISITE: 30510301 Health Unit Coordinator Procedures 1 and 30510302 Health Unit Coordinator Procedures 2

HEALTH UNIT COORDINATOR PROCEDURES 1...is an introductory course to the HUC profession. The course will introduce the student to the environment, communication, and managing client information in healthcare. CONDITION: 305102 Health Unit Coordinator requirements met or 315103 HealthCare Technician requirements met

HEALTH UNIT COORDINATOR PROCEDURES 2...is a more advanced course that introduces the student to the order process, transcription of medication and infusion orders, laboratory and diagnostic orders, interdisciplinary treatment orders, and specialty unit orders. COREQUISITE: 30510301 Health Unit Coord Procedure 1

HEALTHCARE CUSTOMER SERVICE...is designed as an introduction to customer service for learners interested in working in various health care settings. The learner investigates health care systems and the health care workforce. The learner examines professionalism, interpersonal and written communication skills, and confidentiality as they relate to customer service.

INTRO TO HEALTHCARE COMPUTING...provides an introduction to basic computer functions and applications utilized in contemporary healthcare settings. Students are introduced to the hardware and software components of modern computer systems and the application of computers in the workplace. Emphasis is placed on the use of common software packages, operating systems, file management word processing, spreadsheet, database, Internet, electronic mail, and electronic health records (EHR).

MEDICAL TERMINOLOGY...focuses on the component parts of medical terms, including prefixes, suffixes, and word roots. Spelling, definition, and pronunciation will enhance student learning as students practice formation, analysis, and reconstruction of medical terms. Medical terminology will come "alive" through an introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology. Students will explore the Greek and Latin origins of medical terms and commonly used abbreviations.

Program Number 31-001-1 Technical Diploma • Two Terms

ABOUT THE PROGRAM

Horticulture technicians can make a living in a wide variety of ways. You may work in the disciplines of plant propagation and production for a greenhouse or tree nursery - nurturing plants to be used in landscaping, food production, or sold in retail garden centers. You may also work on landscape maintenance or landscape construction crews for landscape contractors, lawn care service companies, botanical gardens, municipal park departments, golf courses, and natural resource management agencies. Work duties are typically out of doors and very hands-on. The work of a horticulture technician is truly a “green” career.

PROGRAM OUTCOMES

- Analyze growing media.
- Diagnose plant health.
- Communicate as a horticulture professional.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

To parallel the work cycle of this profession and to provide a potent curriculum including full life cycles of plants and seasonal application of knowledge and skills, this program's instruction meets throughout the summer months and completes within 10 months (August through June).

To avoid multi-term overlap conflicts, students are asked to enroll in the specific courses as planned in your schedule.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1 - Fall		
10001110	Horticulture Introduction	3
10001114	Computer Applications for Technicians	1
10001127	Landscape Design Studio Introduction	1
10001153	Botany and Soil Science	3
10001159	Plants 1	2
10001180	Landscape Installation 1	2
10001109	Landscape Installation 2	2
		14
Term 2 - Winter/Spring		
10001128	Computer Aided Design for Sustainability	2
10001130	Greenhouse & Nursery Production	2
10801196	Oral/Interpersonal Communications	3
10806112	Principles of Sustainability	3
10804123	Math with Business Applications	3
		13
Term 3 - Late Spring/Summer		
10001158	Plants 2	2
10001170	Facilities Maintenance/Installation	1
10001172	Landscape Maintenance	3
		6

TOTAL 33

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



BOTANY AND SOIL SCIENCE...introduces the language and nature of botany and biology and makes them relevant to horticulture and landscaping. It also addresses the interactions of healthy plants and soils and examines the physical, chemical, biological, and management characteristics of soils. COREQUISITE: 10001110 Horticulture-Introduction

COMPUTER AIDED DESIGN FOR SUSTAINABILITY...will use computer and computer aided design software as tools for design communication; learners will be introduced to the fundamental components of CAD in landscape design. Property lines, topography, site planning, hardscapes, planting plans, and section view graphics will be covered. PREREQUISITES: 10001114 Computer Applications for Technicians and 10001127 Landscape Design Studio Intro

COMPUTER APPLICATIONS FOR TECHNICIANS...provides the learner with basics of the current Windows operating system, terminology, file management, Microsoft Word, Microsoft Excel, and horticulture engineering applications utilizing appropriate computer drafting software.

FACILITIES MAINTENANCE/INSTALLATION...prepares the learner to use hand tools and power tools in basic applications of carpentry, plumbing, and basic electricity. CONDITION: 310011 Horticulture Technician or 100014 Sustainable Landscape Horticulture program requirements met

GREENHOUSE AND NURSERY PRODUCTION...provides the student with the skills to analyze and implement efficient, cost-effective, and sustainable methods of horticultural production in a variety of structures as well as field scenarios. PREREQUISITES: 10001153 Botany and Soil Science and 10001110 Horticulture-Introduction

HORTICULTURE INTRODUCTION...explores plant growth, development, and ecology; plant classification; plant health care; horticultural crops and production; the horticulture industry and related careers; and principles of design and design implementation.

LANDSCAPE DESIGN STUDIO INTRODUCTION...provides the learner with strategies to develop a structured approach to designing space. Fundamental components of the landscape design process are covered including basic site analysis, plan development and detailing, landscape graphic conventions, and client interactions.

LANDSCAPE INSTALLATION 1...investigates techniques used in landscape construction practices. These include the use of specific landscape tools, plan implementation methods, preliminary site survey methods, proper planting, equipment operations & installations of basic landscape features.

LANDSCAPE INSTALLATION 2...builds upon landscape construction methods learned in Introduction to Landscape Installation. Possible projects include mixed material patios, retaining walls, water features, sustainable landscape elements, rain gardens, roof gardens, wooden structures, etc. COREQUISITE: 10001180 Landscape Installation 1

LANDSCAPE MAINTENANCE...assists learner in identifying appropriate cultural practices and dealing with challenges in the landscape, including pruning techniques, insect/disease/abiotic problems; pesticides; turf issues; and resolving situations in the field. Course will also include production, installation, maintenance, and harvest of edible and ornamental plants. PREREQUISITES: 10001110 Horticulture Introduction and 10001153 Botany and Soil Science

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/ Agronomy Basic program admissions requirements met

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PLANTS 1...introduces ornamental and weedy woody and herbaceous plant identification and culture/management, focusing on plants encountered in landscaping and production in eastern Wisconsin and the Midwest. This is the first course of a two-course series that continues as Plants 2.

PLANTS 2...building upon Plants 1, the learner conducts and presents research on ornamental woody and herbaceous plants as well as on edible fruits, vegetables, and herbs. As outdoor conditions improve, emphasis returns to plant identification and culture/management as undertaken in Plants 1. PREREQUISITE: 10001159 Plants 1

PRINCIPLES OF SUSTAINABILITY...prepares students to develop sustainable literacy, analyze interconnections among physical and biological sciences and environmental systems, summarize effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal/recycling in the U.S., and analyze approaches used by your community. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

Program Number 10-109-1
Associate Degree in Applied Science • Five Terms

ABOUT THE PROGRAM

The associate degree in Hotel/Hospitality Management prepares individuals for a management career in the hotel/hospitality industry. Coursework emphasizes theory and application of skills needed for mid-management and supervisory level of employment in food and lodging facilities. Hotel/hospitality management skills are also applicable to a variety of other hospitality operations which include conference centers, sports and entertainment facilities, front office managers, food and beverage operations, and other careers.

PROGRAM OUTCOMES

- Plan the operations within a hospitality organization.
- Organize hospitality resources to achieve the goals of the organization.
- Direct individuals and/or processes to meet organizational goals.
- Control hospitality processes/procedures.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

CONTACT

LTC Career Coach
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Catalog No.	Class Title	Credit(s)
Term 1		
10104109	Customer Service Techniques	2
10103181	Word 2013- Level 1	1
10103131	Excel 2013 - Level 1	1
10103161	Powerpoint 2016 - Level 1	1
10109112	Sanitation for Food Service	1
10109121	Introduction to Hotel/Hospitality Management	3
10801195	Written Communication OR 10801136 English Composition 1	3
10804123	Math with Business Applications	3
		15
Term 2		
10196191	Supervision	3
10109110	Front Office Procedures and Management	2
10109108	Dining Room and Beverage Service	2
10316105	Culinary Practicum 1	2
10104128	Leadership and Professionalism	3
10801198	Speech OR 10801196 Oral/Interpersonal Communication	3
		15
Summer		
10109144	*Hospitality Internship	3
		3
Term 3		
10109111	Housekeeping Management	2
10109113	Food and Beverage Operations	2
10101158	Hotel/Hospitality Cost Control	2
10104170	Marketing Tourism and Hospitality	3
10809122	Introduction to American Government OR 10806112 Principles of Sustainability	3
10809172	Introduction to Diversity Studies OR 10809196 Introduction to Sociology	3
		15
Term 4		
10101102	Hospitality Accounting	3
10109115	Hospitality Law	3
10809195	Economics	3
10809198	Introduction to Psychology	3
		12
		TOTAL 60

* Verification of current First Aide/CPR card or proof of having taken 42531416CA class

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



CULINARY PRACTICUM 1...will incorporate fundamental theories and techniques learned during the first semester in a restaurant setting. Safety, sanitation and cost control concepts are applied. Activities may include day, evening, and weekend requirements.

CUSTOMER SERVICE TECHNIQUES...assess participants' skills in customer relations, judgment and business development and provides training in connecting with customers, healing customer relationships, and dealing with customer needs.

DINING ROOM AND BEVERAGE SERVICE...introduces learners to dining room and beverage service including wine, spirits, beer, mixology, and non-alcoholic drinks. Helps learners refine their customer service and meal delivery skills through the study and application of proper, customer-oriented dining room service environments including etiquette, dining room safety, set-up, American and French table service, and menu knowledge skills. Concepts include histories of table service, psychology of the customer, and service sequence.

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

EXCEL 2013 - LEVEL 1...introduces the student to creating, modifying and formatting worksheets; entering formulas and functions; working with charts; and developing multiple-sheet workbooks. This course is offered in a self-paced format.

FOOD AND BEVERAGE OPERATIONS...introduces and applies principles of menu planning, food preparation, laws and sale of alcoholic beverages. Emphasis is on operation of a professional food and beverage facility.

FRONT OFFICE PROCEDURES AND MANAGEMENT...emphasizes front office techniques and management principles for the organization and operation of the lodging facility. The human and public relations responsibilities of the front office as well as routine procedures are an integral part of the course.

HOSPITALITY ACCOUNTING...provides students with an understanding of the basic structure of accounting in the hospitality area and how to interpret and understand financial statements to learn some internal controls. Students will learn some bottom-up cost control and some budgeting. The student will recognize the differences in hotel/hospitality accounting and emphasis is placed on analysis and interpretation as well as recording, classifying, and summarizing processes. PREREQUISITE: 10101158 Hospitality Cost Control

HOSPITALITY INTERNSHIP...affords students on-the-job experience while providing instructor and workplace supervision. Students are responsible for seeking and obtaining the internship position with instructor approval. Course requirements include maintaining a log of work activities, identifying and receiving approval from the job supervisor and instructor, and completing a work-related project. Students meet periodically at LTC. CONDITION: Verification of eligibility by the Instructor

HOSPITALITY LAW...will apply legal practices in hospitality environments including analysis of the impact of U.S. employment laws, the global economy, vendor/supplier contract negotiations, reacting to legal charges, documenting the hiring/firing process, dealing with harassment issues, privacy issues, and summarizing legal issues facing hospitality/culinary employees. COREQUISITE: 10109121 Introduction to Hotel/Hospitality Management

HOTEL/HOSPITALITY COST CONTROLS...applies concepts of controlling costs with emphasis on cost-to-sales relationship. Students calculate the costs of goods, selling price and relative percentages, forecast sales, conduct yield analysis and calculate break-even periods. PREREQUISITE: Microsoft Excel or equivalent

HOUSEKEEPING MANAGEMENT...investigates the functions of the housekeeping department and the role of managers in operating the department. Students are introduced to requirements for guest satisfaction including room and facility appeal, order, and cleanliness.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO AMERICAN GOVERNMENT...introduces American political processes and institutions. It focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. It explores the role of the media, interest groups, political parties and public opinion in the political process. It also explores the role of state and national government in our federal system.

INTRODUCTION TO DIVERSITY STUDIES...introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, religion are explored. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRODUCTION TO HOTEL/HOSPITALITY MANAGEMENT...will trace the development of the hotel/motel industry from early inns to modern high-rise and commercial hotels and highway motels. The organization of the hotel, including food and beverage operations, is discussed.

LEADERSHIP AND PROFESSIONALISM...prepares the student to accept a leadership role in their chosen occupation and provides opportunities to demonstrate business etiquette and professionalism in a variety of settings.

MARKETING TOURISM AND HOSPITALITY...introduces the student to various aspects of tourism, the development and classification of hotel businesses, the hotel and rooms division operation, the duties and responsibilities of the key food and beverage executives, the history and development of the restaurant business, noncommercial food service segments, beverage management and liquor liability, recreation and leisure, the history of gaming entertainment, and the different types of meetings, conventions, and expositions.

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/Agronomy Basic program admissions requirements met

POWERPOINT 2016-LEVEL 1...introduces the student to slide presentation features, working with master slides, setting up and running slide shows, inserting graphics, adding footers, and applying animations and transitions. This course is offered in a self-paced format.

SANITATION FOR FOOD SERVICE...develops skills to follow sanitation and hygiene provisions in state codes. The NRA certification test is included.

SPEECH...explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of the course. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

SUPERVISION...allows the learner to apply the skills and tools necessary to perform the functions of a frontline leader. Students learn the application of strategies and transition to a contemporary supervisory role including day-to-day operations, controlling, staffing, leadership, problem-solving, team skills, motivation, and training.

WORD 2013 - LEVEL 1...introduces the student to word processing features such as creating, saving, editing, formatting, and printing documents, creating basic diagrams, and applying these concepts to produce usable documents. This course is offered in a self-paced format.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Pending State Approval

Program Number 10-116-1
Associate Degree in Applied Science • Varies

ABOUT THE PROGRAM

If you enjoy structuring and administering programs and policies designed to help employees be productive and safe in the workplace, then human resource administration is a good career for you. Knowing the laws, regulations, and internal policies of an organization and administering them humanely and fairly is the human resource administrator's responsibility. This growing and dynamic field has excellent future career growth potential.

PROGRAM OUTCOMES

- Create an organizational workforce plan.
- Develop training programs.
- Examine organizational total rewards programs.
- Incorporate employment law into business practices.
- Facilitate effective employee relations.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

This program is also offered in an online delivery format. Contact an advisor for details.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10103181	Word 2013-Level 1	1
10103131	Excel 2013-Level 1	1
10196193	Human Resource Management	3
10116105	Recruitment and Retention of Employees	3
10116127	HR Technology	2
10196136	Safety in the Workplace	3
10801195	Written Communication OR 10801136 English Composition 1	3
		16
Term 2		
10101106	Payroll Applications	2
10196191	Supervision	3
10116125	Human Resource Employment Law	3
10116103	Training for Organizations	3
10809198	Introduction to Psychology	3
		14
Term 3		
10804123	Math with Business Applications	3
10116129	Professional Career Search Techniques	1
10116102	Compensation & Benefits Administration	3
10809195	Economics	3
10809172	Introduction to Diversity Studies	3
10801196	Oral/Interpersonal Communication OR 10801198 Speech (3cr)	3
		16
Term 4		
10116124	Strategic Performance Management	3
10116107	Labor Relations and Negotiations	2
10101155	Accounting for Professionals	3
10806112	Principles of Sustainability	3
10116106	Internship--Human Resources OR 10138101 Intro to Global Business OR 10116128 HR Studies	3
		14
		TOTAL 60

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ACCOUNTING FOR PROFESSIONALS...is the study of the information that can be interpreted from financial statements. Students analyze financial statements and apply managerial accounting concepts in an accelerated format. PREREQUISITE: 10804123 Math w Business Apps or CONDITION: 101101 Paralegal program requirements met

COMPENSATION AND BENEFITS ADMINISTRATION...applies the skills and tools necessary to design, implement and manage a compensation and benefits program as a tool for recruitment, retention and performance management of employees.

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

EXCEL 2013 - LEVEL 1...introduces the student to creating, modifying and formatting worksheets; entering formulas and functions; working with charts; and developing multiple-sheet workbooks. This course is offered in a self-paced format.

HR TECHNOLOGY...introduces the learner to the ever-increasing use of technology in the human resource function with special attention paid to mobile computing, social media, human resource information and management systems, cloud computing, and surveying mechanisms.

HUMAN RESOURCE MANAGEMENT...applies the skills/tools necessary to effectively value and apply employees' abilities and needs to organization goals. Learners will demonstrate the application of the supervisor's role in contemporary human resources management, impacts of EEOC, writing job descriptions, recruitment, selection, conducting job interviews, orientation, developing policies/procedures, training, performance management, employee counseling/development, and effective use of compensation and benefit strategies.

HUMAN RESOURCES EMPLOYMENT LAW...applies the skills/tools necessary to effectively value and apply employees' abilities and needs to organization goals. Learners will demonstrate the legal application of the HR role as it impacts EEOC, writing job descriptions, recruitment, selection, conducting job interviews, orientation, developing policies/procedures, training, performance management, employee counseling/development, and effective use of compensation and benefit strategies.

INTERNSHIP-HUMAN RESOURCES...requires students to complete 72 to 216 hours (1 to 3 credits) of performing work in a business/industrial service setting related to their Human Resource program objectives. Students are responsible for seeking and obtaining the internship workstation position. Course requirements include maintaining a log of work activities, identifying and receiving approval from the job supervisor and instructor, and completing a work-related project. Students meet periodically at LTC. PREREQUISITE: 10105124 Port Intro & 10105126 Career Assess or 10105128 Pers Branding & CONDITION: Verification of eligibility by instructor coord of Hum Res prog (student must have at least 45 credits of Hum Res prog courses)

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO DIVERSITY STUDIES...introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, religion are explored. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

LABOR RELATIONS AND NEGOTIATIONS...introduces the participant to the history of the labor movement and includes the legal collective bargaining processes while applying the learned skills with case studies, a mock negotiation of a realistic collective bargaining contract, and the simulation of a grievance arbitration.

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/ Agronomy Basic program admissions requirements met

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PAYROLL APPLICATIONS...introduces students to federal and state payroll laws; calculations for gross and net income; prepare payroll deductions; and maintain payroll records.

PRINCIPLES OF SUSTAINABILITY...prepares students to develop sustainable literacy, analyze interconnections among physical and biological sciences and environmental systems, summarize effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal/recycling in the U.S., and analyze approaches used by your community. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PROFESSIONAL CAREER SEARCH TECHNIQUES...focuses on the process of researching and pursuing professional Human Resource Management career opportunities. Students will develop resume and cover letter documentation to accurately reflect personal, academic, and professional accomplishments and the connection that these elements have to various positions with employers. Interviewing skills will be a significant aspect of this experience with a focus on interviews for potential internship opportunities.

RECRUITMENT & RETENTION OF EMPLOYEES...applies and skills and tools necessary to hire and retain qualified employees. Legal issues, testing, screening, interviewing, selecting and negotiating techniques will be demonstrated and assessed for each learner.

SAFETY IN THE WORKPLACE...applies the skills and tools necessary to provide a safe and secure work environment. Each learner will demonstrate the application of safety awareness, federal/state/local compliance, incident investigation and documentation, human relations techniques, safety orientation, inspections, and risk analysis, issues of workplace violence, substance abuse, and health hazards, first aid and CPR, fire and electrical safety, emergency preparedness, and liaison with external agencies.

STRATEGIC PERFORMANCE MANAGEMENT...prepares the student to consolidate, analyze, and display data at varying levels of detail in order to make human capital decisions in the workplace. Provides students information they need to enhance employee competencies, establish development plans, evaluate performance, and identify succession scenarios. PREREQUISITE: 10196193 Human Resource Mng

SUPERVISION...allows the learner to apply the skills and tools necessary to perform the functions of a frontline leader. Students learn the application of strategies and transition to a contemporary supervisory role including day-to-day operations, controlling, staffing, leadership, problem-solving, team skills, motivation, and training.

TRAINING FOR ORGANIZATIONS...applies the skills and tools necessary to implement the training cycle of assessment, design, implementation and evaluation. Each learner will develop and present a complete training project based upon adult learning theory and instructional design techniques.

WORD 2013 - LEVEL 1...introduces the student to word processing features such as creating, saving, editing, formatting, and printing documents, creating basic diagrams, and applying these concepts to produce usable documents. This course is offered in a self-paced format.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 31-116-1 Technical Diploma • Two Terms

ABOUT THE PROGRAM

This technical diploma, Human Resources Assistant, provides you with a range of entry level and intermediate skills that are needed to perform basic human resources job functions. The credential 'ladders' up to the full two-year Associate Degree, Human Resource Administration. If you enjoy assisting in structuring and administering programs and policies designed to help employees be productive and safe in the workplace, then human resources assistant is a good career for you. The technical degree holder will assist in recruitment, apply basic workplace safety and legal principles to a variety of employment situations, conduct basic payroll functions, assist in and facilitate employee training and development programs, and serve as a customer service representative for a human resources department. This growing and dynamic field has excellent future career growth potential.

PROGRAM OUTCOMES

- Create an organizational workforce plan.
- Develop training programs.
- Examine organizational total rewards programs.
- Incorporate employment law into business practices.
- Facilitate effective employee relations.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

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PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
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ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

This program is also offered in an online delivery format. Contact your program advisor for details.

CONTACT

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Catalog No.	Class Title	Credit(s)
Term 1		
10103181	Word 2013-Level 1	1
10103131	Excel 2013-Level 1	1
10196193	Human Resource Management	3
10116105	Recruitment and Retention of Employees	3
10116127	HR Technology	2
10196136	Safety in the Workplace	3
10801195	Written Communication OR 10801136 English Composition 1	3
		16
Term 2		
10101106	Payroll Applications	2
10196191	Supervision	3
10116125	Human Resource Employment Law	3
10116103	Training for Organizations	3
10809198	Introduction to Psychology	3
		14
		TOTAL 30

*Curriculum and Program Acceptance requirements are subject to change.
Program start dates vary; check with your advisor for details.*



EXCEL 2013 - LEVEL 1...introduces the student to creating, modifying and formatting worksheets; entering formulas and functions; working with charts; and developing multiple-sheet workbooks. This course is offered in a self-paced format.

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HUMAN RESOURCE MANAGEMENT...applies the skills/tools necessary to effectively value and apply employees' abilities and needs to organization goals. Learners will demonstrate the application of the supervisor's role in contemporary human resources management, impacts of EEOC, writing job descriptions, recruitment, selection, conducting job interviews, orientation, developing policies/procedures, training, performance management, employee counseling/development, and effective use of compensation and benefit strategies.

HUMAN RESOURCES EMPLOYMENT LAW...applies the skills/tools necessary to effectively value and apply employees' abilities and needs to organization goals. Learners will demonstrate the legal application of the HR role as it impacts EEOC, writing job descriptions, recruitment, selection, conducting job interviews, orientation, developing policies/procedures, training, performance management, employee counseling/development, and effective use of compensation and benefit strategies.

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RECRUITMENT & RETENTION OF EMPLOYEES...applies and skills and tools necessary to hire and retain qualified employees. Legal issues, testing, screening, interviewing, selecting and negotiating techniques will be demonstrated and assessed for each learner.

SAFETY IN THE WORKPLACE...applies the skills and tools necessary to provide a safe and secure work environment. Each learner will demonstrate the application of safety awareness, federal/state/local compliance, incident investigation and documentation, human relations techniques, safety orientation, inspections, and risk analysis, issues of workplace violence, substance abuse, and health hazards, first aid and CPR, fire and electrical safety, emergency preparedness, and liaison with external agencies.

SUPERVISION...allows the learner to apply the skills and tools necessary to perform the functions of a frontline leader. Students learn the application of strategies and transition to a contemporary supervisory role including day-to-day operations, controlling, staffing, leadership, problem-solving, team skills, motivation, and training.

TRAINING FOR ORGANIZATIONS...applies the skills and tools necessary to implement the training cycle of assessment, design, implementation and evaluation. Each learner will develop and present a complete training project based upon adult learning theory and instructional design techniques.

WORD 2013 - LEVEL 1...introduces the student to word processing features such as creating, saving, editing, formatting, and printing documents, creating basic diagrams, and applying these concepts to produce usable documents. This course is offered in a self-paced format.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 50-413-1
4-Year Contract

Work Hours (including related instruction): 8320
Related Instruction Hours: 720 • Night School Hours: 8

ABOUT THE APPRENTICESHIP

Apprenticeships are employer-sponsored training programs. You must have a contract before being invited to school. A special application process is used for these programs. Please contact the Apprenticeship Office for the proper forms. Apprenticeship means you earn while you learn. If you want a career in a skilled trade, apprenticeship is the best way to get there. You'll combine on-the-job training with on campus learning—you'll have the best of both worlds when it comes to learning the skills you need to get ahead. And even better, you'll earn a paycheck while you learn those skills.

ABOUT THE CAREER

Industrial electricians maintain and repair many different types of electrical equipment. In addition, they modify and install electrical equipment such as motors, transformers, generators, controls, instruments, lighting systems, and power distribution. Typical duties of this trade include performing preventative maintenance; replacing units or parts such as wiring, fuses, circuit breakers, coils or switches; measuring, cutting, bending, threading and installing conduits; using such devices as test lamps, volt-ohm meters and oscilloscopes; working from blueprints, drawings, and diagrams; making mathematical computations to determine the current carrying capacities of electrical wire and equipment; and troubleshooting AC and DC drives and programmable logic controllers.

CAREERS

Graduates of LTC's Industrial Electrician Apprenticeship program work as journey-level industrial electricians in commercial, industrial, and public establishments.

INDUSTRIAL APPRENTICE APPLICATION REQUIREMENTS

- Determined by employer
- Wisconsin Apprentice Contract

PROGRAM OUTCOMES

- Apply AC and DC theory to an industrial setting.
- Apply the National Electric Code requirements to industrial equipment and facilities.
- Apply operational and troubleshooting principles to a transformer installation.
- Maintain electric motors and motor controls.
- Test solid-state electronic system components.
- Apply operational and troubleshooting principles to power systems and variable speed drives.
- Apply operational and troubleshooting principles to programmable logic controllers and automation equipment.
- Apply operational and troubleshooting principles to fluid power systems.
- Interpret industrial equipment drawings and electrical prints.
- Communicate trade and occupational-related information effectively.

APPROXIMATE COSTS

Contact the LTC Apprenticeship Office or visit www.gotoltc.edu/apprenticeship for detailed information.

SPECIAL NOTE

You must have a sponsoring employer and contract before attending school.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

Catalog No.	Class Title	Credit(s)
Term 1		
50413501	Electrical Apprentice 1	3 3
Term 2		
50413502	Electrical Apprentice 2	3 3
Term 3		
50413503	Electrical Apprentice 3	3 3
Term 4		
50413504	Electrical Apprentice 4	3 3
Term 5		
50413505	Electrical Apprentice 5	3 3
Term 6		
50413506	Electrical Apprentice 6	3 3
Term 7		
50413507	Electrical Apprentice 7	3 3
Term 8		
50413508	Electrical Apprentice 8	3 3
		TOTAL 24

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ELECTRICAL APPRENTICE 1...introduces the apprentice to the basic electrical concepts of structure of matter, electron theory, Ohm's law for series, parallel and series-parallel circuits; volt and current measurements; conductors and resistors; electrical power and energy; and the national electrical code. Also prepares the learner to select control devices by function and operation; illustrate electrical circuits using symbols, diagrams, and abbreviations; explain the operation of magnetic devices. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 2...introduces the apprentice to magnetism, electricity generation, electromagnetism, application of electromagnetic devices, with continued study of the National Electrical Code. Also expands the learner's experience selecting electromagnetic control devices by function and operation; illustrate electrical circuits using symbols, diagrams, and abbreviations; explain the operation of magnetic devices. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 3...introduces the apprentice to AC circuits, including mathematics for the circuits, vectors and vector analysis, sine wave characteristics, resistive AC current, inductance and inductive reactance, and RL circuits with continued study of the National Electrical Code. Also continues expanding the learner's experience selecting electromagnetic control devices by function and operation; illustrate electrical circuits using symbols, diagrams, and abbreviations; explain the operation of magnetic devices. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 4...expands the apprentice's ability to work with complex AC circuits including capacitor types, capacitance, capacitive reactance, series RC circuits, impedance, parallel RL and RC circuits, series and parallel LCR circuit resonance, power in relative circuits, and basic power correction. Continued study of the national electric code is included. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 5...introduces the apprentice to transformers, DC and AC motor operation; split-phase motors, capacitor motors, shaped pole motors, wound rotor motors, universal motors, three-phase transformer systems and connections and three-phase motor operation. Continued study of the national electric code is included. Also prepares the student to understand basic PLC structure and terminology; learn to create and troubleshoot basic PLC programs using the RSLOGIX 500 software and the RSLINX communication software; become familiar with communicating with programming SLC-500 and Micrologix programmable logic controllers. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 6...enhances the apprentice's ability to work with electrical symbols, line diagrams, manual AC contactors and motor starters, solenoid characteristics, magnetic starters and contactors, time delay and complex control circuits, reversing starters, solid state relays, and ladder logic. Also expands the learner's ability with programmable logic controllers. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 7...introduces the apprentice to solid state fundamentals and the requirements for ground electrical systems in accordance with the national electrical code. Also expands the learner's ability upon programmable logic controllers with CompactLogix, RSLOGIX Studio 5000 software. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 8...expands the apprentice's ability to work with programmable logic controllers with Compact Logix, RSLogix Studio 5000 software for programming these devices as well as hands-on training into their operation. Also prepares the learner to explain the function, construction and troubleshoot frequency drives as well as select and change parameters to meet operational characteristics for the drive application. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

**Program Number 50-420-9
18 Month Contract**

**Work Hours (including related instruction): 3000
Related Instruction Hours: 256 • Night School Hours: 8**

ABOUT THE APPRENTICESHIP

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ABOUT THE CAREER

Entry-level industrial manufacturing technicians operate industrial production-related equipment, work with manufacturing-related tools, and perform work processes related to a wide variety of manufacturing settings. Industrial manufacturing technician apprentices will learn to set up, operate, monitor, and control production equipment. They will also help improve manufacturing processes and schedules to meet customer requirements. This apprenticeship training program combines on-the-job learning with related instruction in a classroom to prepare apprentices for journey level work after they complete the program.

CAREERS

Graduates of LTC's Industrial Manufacturing Technician Apprenticeship program work as journey-level industrial manufacturing technicians in commercial, industrial, and public settings.

INDUSTRIAL APPRENTICE APPLICATION REQUIREMENTS

- Determined by employer
- Wisconsin Apprentice Contract

PROGRAM OUTCOMES

- Protect self and other workers from accidents and injuries.
- Interpret technical information.
- Measure work.
- Inspect work.
- Use mechanical tools and testing equipment.
- Set up production equipment.
- Operate production equipment.
- Produce quality work.
- Be aware of inventory and material processes.
- Be aware of trends and the current state of the business.
- Apply soft skills to production and manufacturing work processes.
- Demonstrate continuous improvement.

APPROXIMATE COSTS

Contact the LTC Apprenticeship Office or visit www.gotoltc.edu/apprenticeship for detailed information.

SPECIAL NOTE

You must have a sponsoring employer and contract before attending school.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

Catalog No.	Class Title	Credit(s)
Term 1		
50420510	Industrial Manufacturing Technician Apprentice 1	3
50420711	Mathematics for Machine Trades	1
4		
Term 2		
50420512	Industrial Manufacturing Technician Apprentice 2	3
50420712	Communications for Apprentices	1
4		
		TOTAL 8

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



COMMUNICATIONS FOR APPRENTICES...introduces the apprentice to basic communication concepts relating to the workplace. It is designed specifically for the apprentice to acquire the necessary skills of giving instructions, writing a technical memo, and explaining a technical process. Throughout the course the apprentice will brainstorm, write, edit, revise, and use one-on-one communication delivery in a small group. The course combines lecture and hands-on activities.

INDUSTRIAL MANUFACTURING TECHNICIAN APPRENTICE 1...includes an orientation to the trade and manufacturing, followed by the MSSC safety module, MSSC quality module, OSHA 10 certification, blueprint reading, visual inspection, measurement, and first aid & CPR training. Manufacturing concepts will be introduced and applied in a variety of manufacturing settings. MSSC modules 1 and 2 are aligned with the learning plans for this course along with Machine Trades Math.

INDUSTRIAL MANUFACTURING TECHNICIAN APPRENTICE 2...includes the MSSC manufacturing processes and production and maintenance awareness modules, along with communication, lean manufacturing, problem solving, and frontline leadership. Manufacturing-related concepts will be applied to a variety of industrial settings. The course wraps up with an examination of emerging trends and technologies and future directions for manufacturing. MSSC learning objectives in modules 3 and 4 are aligned with curriculum.

MATHEMATICS FOR MACHINE TRADES...provides applied mathematics instruction from a review of basic arithmetic; basic algebra; applications based on geometry; right triangle trigonometry and oblique angle trigonometry; and compound angles. **CONDITION:** 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

Pending State Approval

Program Number 10-154-3
Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

Computers—can you imagine life without them? So much of what we do, whether at work, at home, or somewhere in between, depends on the use of computer information systems. If you enjoy using various operating systems, learning all kinds of software applications, doing some programming, troubleshooting hardware and software, and helping others learn to use technology and information systems, a career as a computer support specialist may be the perfect fit for your high-tech talents.

PROGRAM OUTCOMES

- Manage information technology hardware.
- Manage software.
- Support computer networks.
- Provide end user support.
- Solve information technology problems.
- Demonstrate customer service skills as an IT professional.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

Students are required to have one USB 80 gig hard drive or greater.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10154104	Intro to IT	3
10154122	PC Support	3
10150114	Networking I	3
10801195	Written Communication OR 10801136 English Composition 1	3
10804107	College Mathematics	3
		15
Term 2		
10154124	Information Security Principles	3
10150176	Networking 2	3
10150173	Server Administration 1	3
10809172	Introduction to Diversity Studies OR 10806112 Principles of Sustainability	3
10801196	Oral/Interpersonal Communication OR 10801198 Speech	3
		15
Term 3		
10154128	Service Desk 1	3
10154130	MS Windows 1	3
10154102	Business Apps Fundamentals	3
10154103	Training and Documentation	2
10154131	Apple Support	3
10809196	Introduction to Sociology OR 10809122 Introduction to American Government OR 10809166 Introduction to Ethics	3
		17
Term 4		
10154129	Service Desk 2	3
10154132	MS Windows 2	3
10154105	IT-Career and Professional Development	2
10154159	IT Computer Capstone	2
10809195	Economics	3
10809198	Introduction to Psychology OR 10809188 Developmental Psychology	3
		16
		TOTAL 63

*Curriculum and Program Acceptance requirements are subject to change.
Program start dates vary; check with your advisor for details.*



APPLE SUPPORT...prepares the student to support the Apple OS X operating system. The course covers installation and configuration, user account management, file and data management, application support, network configuration and services as well as other system management functions.

BUSINESS APPS FUNDAMENTALS...prepares the learner to evaluate, use, and support common information system applications that an end-user would use in a typical business environment. Both individual productivity tools as well as enterprise tools are examined. The competencies in the course will articulate to other courses in the information technology programs. Applications used will include Open Source Business Suites, Google Apps suite and Market Place applications, Gmail, calendars, surveys, video portals, and more.

COLLEGE MATHEMATICS...is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. PREREQUISITE: 10834109 Pre-Algebra or equivalent

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

INFORMATION SECURITY PRINCIPLES...introduces the learner to Information Systems Security. Students will review and analyze the control and security concerns in the information systems environment; the security challenges created from the emergence of new technology and the changing internal and external environments; and the effect of legal, regulatory, and current security technology on policy development.

INTRO TO IT...introduces student to IT field to basic concepts and terminology of a computer system hardware and software, Operating Systems (including Mac OS), and Networks; applied skills include: managing computer data files; protecting against computer viruses; creating simple web pages; producing electronic word documents, spreadsheets and presentations; examining techniques of systems analysis and design, programming languages and database systems. Students introduced to the beginning concepts of creating a portfolio.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO DIVERSITY STUDIES...introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, religion are explored. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

IT COMPUTER CAPSTONE...will allow the student to demonstrate the skills learned while in the Computer Support Specialist program. The student will demonstrate the ability to manage information technology hardware and software, support computer networks, provide end users support, solve information technology problems and demonstrate customer service skills as an IT professional, through the completion of a comprehensive project. PREREQUISITES: 10154129 Service Desk 2 and 10154132 MS Windows 2

IT-CAREER AND PROFESSIONAL DEVELOPMENT...introduces students to job seeking skills and work environment communications skills. Written and oral communication skills needed in the work place will be emphasized. Students will build a resume, create a cover letter and follow up letters. Participate in job-seeking skills, which include research of a particular job and company and participating in a mock interview. Preparing a portfolio that proves competency in all program outcomes will be required. Course should be taken in last semester of course work.

MS WINDOWS 1...covers how to configure hardware and manage applications, configure network connectivity, perform upgrades, manage remote access and security for mobile devices. The course will also cover how to monitor and maintain Windows clients, create virtualized Windows clients, and configure system and data recovery options.

MS WINDOWS 2...is a course designed to give the student the skills to support, and troubleshoot problems with, the Microsoft Windows operating system in an enterprise environment. Issues with remote access, networking, security, group policy, Internet Explorer, and mobile devices are covered. PREREQUISITE: 10154130 MS Windows 1

NETWORKING 1...is a lecture/hands-on course designed to introduce students to network fundamentals. Topics covered include: OSI Reference Model; LAN and WAN topologies; cabling systems; access methods; protocols; Internet working devices (e.g. hubs, bridges, routers, switches, etc.); and basic network design.

NETWORKING 2...provides the students with networking terminology, protocols, network standards, LAN's, WAN's, TCP/IP addressing, and routing. PREREQUISITE: 10150114 Networking 1

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PC SUPPORT...is the first course of the two-course A+ series that helps those seeking to become entry-level IT professionals by providing skills and knowledge necessary to perform the following tasks on personal computer hardware and operating systems: installation, PC building, system upgrades, repair, system configuration, troubleshooting, problem diagnosis, and preventative maintenance. The course covers the objectives of the CompTIA A+ exams but is not designed nor intended to be a "test prep" course. Additional resources as well as work experience are required in order to pass the exams.

SERVER ADMINISTRATION 1...is a hands-on course designed to introduce the learner to the installation and configuration of Windows Server servers. The student will learn how to install and configure servers, configure server roles and features, configure Hyper-V, deploy and configure core network services, install and administer Active Directory (AD), and create and manage Group Policy. PREREQUISITE: 10154104 Intro to IT

SERVICE DESK 1...provides the learner with the knowledge required to become a Help Desk Support technician. Students will learn fundamental Help Desk concepts such as: Help Desk operations, roles and responsibilities, processes and procedures, tools and technologies, individual and team performance measures, and how to provide support as a Help Desk professional.

SERVICE DESK 2...expands the learners' ability to troubleshoot all information technology issues utilizing Service Desk and Asset Management applications. Learners will expand their knowledge of ITIL practices and procedures used to manage an IT operation and its associated infrastructure. Communication, documentation, and teamwork skills are enforced. PREREQUISITE: 10154128 Service Desk 1

TRAINING AND DOCUMENTATION...provides the learner with the skills to develop various types of user documentation in hard copy and on-line formats. In addition, the learner will develop oral and written training skills necessary to provide individual and group end-user training.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Pending State Approval

Program Number 10-150-2
Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

Computers networked together sharing data and resources are powerfully amazing! Today, businesses of all sizes are networking their computers to maximize efficiency and productivity. If creating an overall computer network strategy, having the ability to analyze ideas/processes, installing hardware/software, and troubleshooting problems are skills you would like to put to use in a career, becoming a network specialist is your ticket to success.

PROGRAM OUTCOMES

- Implement computer networks.
- Implement client systems.
- Implement server operating systems.
- Implement network security components.
- Develop technical documentation.
- Troubleshoot network systems.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

Students are required to have one USB 80 gig hard drive or greater.

CONTACT

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10154104	Intro to IT	3
10150114	Networking I	3
10154122	PC Support	3
10801195	Written Communication OR 10801136 English Composition 1	3
10804107	College Mathematics	3
		15
Term 2		
10150173	Server Administration 1	3
10150176	Networking 2	3
10154124	Information Security Principles	3
10801196	Oral/Interpersonal Communication OR 10801198 Speech	3
10809172	Introduction to Diversity Studies OR 10806112 Principles of Sustainability	3
		15
Term 3		
10150125	Linux	2
10150163	Networking 3	3
10150174	Server Administration 2	3
10150129	Virtualization	2
10809196	Introduction to Sociology OR 10809122 Introduction to American Government OR 10809166 Introduction to Ethics	3
10809195	Economics	3
		16
Term 4		
10150165	Networking 4	3
10150169	Network Design & Documentation	2
10150175	Server Administration 3	3
10150179	Network Security	3
10150181	IT Networking Capstone	3
10809198	Introduction to Psychology OR 10809188 Developmental Psychology	3
		17
		TOTAL 63

Curriculum and Program Acceptance requirements are subject to change.
Program start dates vary; check with your advisor for details.



COLLEGE MATHEMATICS...is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. PREREQUISITE: 10834109 Pre-Algebra or equivalent

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

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INTRODUCTION TO DIVERSITY STUDIES...introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, religion are explored. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

IT NETWORKING CAPSTONE...will integrate many of the technologies and concepts that the students have learned throughout the Network Specialist program. The integration projects will include such areas as network client and server administration, general networking concepts, IP addressing, network security, and switch and router configuration. PREREQUISITES: 10150165 Networking 4 and 10150175 Server Administration 3

LINUX...is a hands-on course designed to provide the learner with the skills to install the Linux operating system, use its command-line and graphical user interfaces, manage system resources, and create scripts. The course will also introduce the learner to Linux system administration including the installation and administration of users, files, software, networking, and Internet and Intranet services.

NETWORK DESIGN AND DOCUMENTATION...is a lecture/hands-on course designed to introduce students to network design and documentation fundamentals. Topics include: needs analysis, hardware needs and analysis, network layout and design, and documenting a network. PREREQUISITE: 10150176 Networking 2

NETWORK SECURITY...introduces the student to the various methodologies for defending a network. Learners will develop an in-depth theoretical understanding of network security principles as well as the tools and configurations available. The learner will emphasize on the practical application of skills needed to design, implement, and support a secure Cisco network. PREREQUISITE: 10150163 Networking 3

NETWORKING 1...is a lecture/hands-on course designed to introduce students to network fundamentals. Topics covered include: OSI Reference Model; LAN and WAN topologies; cabling systems; access methods; protocols; Internet working devices (e.g. hubs, bridges, routers, switches, etc.); and basic network design.

NETWORKING 2...provides the students with networking terminology, protocols, network standards, LAN's, WAN's, TCP/IP addressing, and routing. PREREQUISITE: 10150114 Networking 1

NETWORKING 3...introduces the student to switching technology, hardware and software firewalls, and virtual private networks (VPN). PREREQUISITE: 10150176 Networking 2

NETWORKING 4...is a hands-on course designed to introduce IT students to the terms and definitions of Analog phone systems and Voice over IP (VoIP) networks. The student will be configuring and maintaining an IP Telephony system, provisioning phones, configuring call features, and establishing voicemail. Cisco Call Manager, Call Manager Express, and Cisco VoIP phones are used to configure and build a converged IP telephony infrastructure. PREREQUISITE: 10150136 Networking 3

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PC SUPPORT...is the first course of the two-course A+ series that helps those seeking to become entry-level IT professionals by providing skills and knowledge necessary to perform the following tasks on personal computer hardware and operating systems: installation, PC building, system upgrades, repair, system configuration, troubleshooting, problem diagnosis, and preventative maintenance. The course covers the objectives of the CompTIA A+ exams but is not designed nor intended to be a "test prep" course. Additional resources as well as work experience are required in order to pass the exams.

SERVER ADMINISTRATION 1...is a hands-on course designed to introduce the learner to the installation and configuration of Windows Server servers. The student will learn how to install and configure servers, configure server roles and features, configure Hyper-V, deploy and configure core network services, install and administer Active Directory (AD), and create and manage Group Policy. PREREQUISITE: 10154104 Intro to IT

SERVER ADMINISTRATION 2...is a hands-on course designed to introduce the learner to administration of Windows Server servers. The student will learn how to deploy, manage, and maintain servers; configure file and print services; configure network services and access; configure a network policy server infrastructure; configure and manage Active Directory; and configure and manage Group Policy. PREREQUISITE: 10150173 Server Administration 1

SERVER ADMINISTRATION 3...will teach the student to implement, configure, and manage advanced Window Server 2012 services including high availability, file and storage solutions, business continuity and disaster recovery, network services, active directory infrastructure, and identify and access solutions. The course will align with Microsoft's 70-412 certification exam objectives but should not be considered a test-prep course. PREREQUISITE: 10150174 Server Administration 2

VIRTUALIZATION...is a hands-on course designed to introduce the learner to the skills needed to install, configure, and manage a highly available and scalable virtual infrastructure. Objectives include: create, configure, migrate, manage, and monitor virtual machines and virtual appliances; manage user access to the virtual infrastructure; and configure and manage virtual network and storage systems. PREREQUISITE: 10154104 Introduction to IT

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Pending State Approval

Program Number 10-152-7
Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

The program curriculum focuses on programming principles, including web application development, mobile device development, database administration, and integration of web marketing and website design.

PROGRAM OUTCOMES

- Design software systems.
- Integrate database technologies.
- Develop software applications.
- Develop technical documentation.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

It is recommended that students have a home laptop. Students are strongly encouraged to take Written Communications during the summer before program start, General Education courses during summer break allowing concentrated time during semesters for core program courses, and Math with Business Applications in the first semester.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10152196	Web Development 1	3
10152120	Programming 1	1
10152121	Programming 2	3
10152124	Intro to Database Design & Development	2
10804123	Math with Business Applications	3
		12
Term 2		
10152199	Web Development 2	4
10152187	Web Development 3	4
10201118	Advancements in Web Design and Development	2
10801195	Written Communication OR 10801136 English Composition 1	3
		13
Term 3 (Summer)		
10809195	Economics OR 10809166 Introduction to Ethics	3
10801196	Oral/Interpersonal Communication OR 10801198 Speech	3
		6
Term 4		
10152123	Mobile Device Development 1	3
10152106	Integrated Web Concepts	4
10152109	Object-Oriented Programming 1	4
10809112	Principles of Sustainability OR 10809122 Introduction to American Government	3
10809196	Introduction to Sociology OR 10809172 Introduction to Diversity Studies	3
		17
Term 5		
10152112	Object-Oriented Programming 2	4
10152114	Mobile Device Development 2	3
10152192	Web and Software Developer-Capstone Project	3
10152115	Internship - Web and Software Developer	1
10152119	Portfolio Assessment-Web & Software Dev	1
10809198	Introduction to Psychology OR 10809188 Developmental Psychology	3
		15
		TOTAL 63

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ADVANCEMENTS IN WEB AND DEVELOPMENT...will explore the latest trends in Web design and development. Students will apply advanced techniques to create progressive and contemporary websites. PREREQUISITE: 10152196 Web Development 1

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

INTEGRATED WEB CONCEPTS...introduces the student to the three major components of the Web -- design, development, and marketing. A common course among Graphic and Web Design, Web and Software Developer, and Marketing, students from each program will be responsible for working in teams and to coordinate projects and present their industry to students from the other programs. PREREQUISITE: 10104102 Prin of Mktg and 101043 Mktg prog req met or 10152187 Web Dev 3 or COREQUISITE: 10201106 CSS for Adv Web Design and CONDITION: 101527 Web & Software Developer or 102012 Graphic & Web Design

INTERNSHIP-WEB AND SOFTWARE DEVELOPER...requires students to complete 72 hours of performing work in a business/industrial service setting related to their program objectives. Students are responsible for seeking and obtaining the internship workstation position. Course requirements including maintaining a log of work activities, identifying and receiving approval from the job supervisor and instructor, completing a work-related project, and an assessment of the student's portfolio. Students meet periodically at LTC. PREREQUISITE: 10152109 Programming 1 and 10152123 Mobile Device Development 1 and 10152106 Integrated Web Concepts and CONDITION: 101527 Web and Software Developer program requirements met

INTRO TO DATABASE DESIGN AND DEVELOPMENT...introduces the student to DBMS components, the design and development of databases, table relationships, SQL, database best practices and database integration with web applications.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/ Agronomy Basic program admissions requirements met

MOBILE DEVICE DEVELOPMENT 1...introduces students to building hybrid mobile applications using HTML, CSS, and JavaScript, specifically the jQTouch and JQuery mobile frameworks. Students will create applications for Google Play and the Apple Store using the PhoneGap framework. PREREQUISITES: 10152199 Web Development 2 and 10201118 Advancements in Web Design & Development and 10152187 Web Development 3

MOBILE DEVICE DEVELOPMENT 2...will build upon the skills learned in Mobile Device Development 1 by building advanced hybrid mobile applications. PREREQUISITE: 10152123 Mobile Device Development 1

OBJECT-ORIENTED PROGRAMMING 1...introduces students to the Java programming language and object-oriented programming (OOP) concepts. Students will use the Java programming language and OOP to create desktop applications and server-side applications and services. PREREQUISITE: 10152187 Web Dev 3

OBJECT-ORIENTED PROGRAMMING 2...introduces learner to Microsoft's .NET platform, .NET frameworks, content-managed Web sites, and Web server architecture. Students will develop interactive and dynamic web applications using the Microsoft ASP.NET, MVC architecture, and ADO.NET components to access data and data services through the creation of data-driven ASP.NET web pages, configuration of an ASP.NET application, the deployment of an ASP.NET application and the creation of XML web services. Microsoft SQL Server is used. PREREQUISITE: 10152109 Programming 1

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PORTFOLIO ASSESSMENT - WEB AND SOFTWARE DEVELOPER...assesses what the student has learned through the Web and Software Developer degree. The course will focus on the continued development of their electronic career portfolio, the freelance/contract software development market, the analysis of the achievement of their core abilities and program outcomes, and job search topics such as resumes, cover letters, and interview skills. PREREQUISITES: 10152123 Mobile Device Dev 1 and 10152106 Integrated Web Concepts and 10152109 Object-Oriented Programming 1 and CONDITION: 101527 Web and Software Dev admissions requirements met

PRINCIPLES OF SUSTAINABILITY...prepares the student to develop sustainable literacy, analyze interconnections among physical and biological sciences and environmental systems, summarize effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal/recycling in the U.S., and analyze approaches used by your community.

PROGRAMMING 1...introduces students to the concepts of programming with no coding. Using flowcharts, students will learn about the concepts of variables, data types, decision, loops, and arrays.

PROGRAMMING 2...builds on the concepts mastered in Programming 1 by introducing coding techniques using the JavaScript scripting language. Students will learn how to write code using variables, data types, decisions, loops, and arrays. COREQUISITE: 10152120 Programming 1

WEB AND SOFTWARE DEVELOPER-CAPSTONE PROJECT...reinforces all program content by requiring students to plan, design, analyze, and develop a piece of software of their choice. Students will learn about concepts related to systems analysis and design and investigate and apply emerging development trends. PREREQUISITE: 10152199 Web Dev 2, 10152187 Web Dev 3, 10152123 Mobile Device Dev 1, and 10152106 Integrated Web Concepts and 10152109 Object Oriented Programming 1

WEB DEVELOPMENT 1...introduces the students to web page design principles and proceeds to teach students how to create their own visually appealing designs for the web. Students will have hands-on experience using current versions of Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) to code and format accessible, valid, and optimized web sites. Websites will be published live on the web using FTP.

WEB DEVELOPMENT 2...introduces the student to the JQuery JavaScript framework for developing dynamic client-side Web pages. PREREQUISITE: 10152196 Web Development 1 and 10152121 Programming 2

WEB DEVELOPMENT 3...introduces the learner to PHP, MySQL, PHP frameworks, content-managed Web sites, and Web server architecture. Topics covered include an introduction to the Apache Web server, server-side scripting, PHP control logic and functions, controlling state using sessions and cookies, querying database content and population to an HTML Web page, MySQL relational database administration, and processing form information and populating it to a MySQL database. PREREQUISITES: 10152121 Programming 2 and 10152196 Web Development 1 and 10152124 Intro to Database Design and Development

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Pending State Approval

ABOUT THE PROGRAM

Just about every product that you use in your daily activities is the result of a machine tool manufacturing process. If you like hands-on work, are detail-oriented, have good math skills, and are able to develop and follow through on work instructions, a career in machine tool operation offers you lifelong opportunities.

PROGRAM OUTCOMES

- Apply basic safety practices in the machine shop.
- Interpret industrial/engineering drawings.
- Apply precision measuring methods to part inspection.
- Perform basic machine tool equipment setup and operation
- Perform programming, setup, and operation of CNC machine tools.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

RELATED PROGRAMS

- CNC Technician Technical Diploma
- Machinist Apprenticeship
- Tool & Die Apprenticeship

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
31420310	Machine Tool Hand Tools	1
31420330	Machine Tool Measuring	1
31420336	Machine Tool Drills	1
31420334	Machine Tool Saws/Material Selection	1
31420340	Machine Tool Lathes 1A	1
31420341	Machine Tool Lathes 1B	1
31420350	Machine Tool Mills 1A	1
31420351	Machine Tool Mills 1B	1
31420311	Machine Tool Programming Basic	1
31420325	Machine Tool Math Basic	1
31420326	Machine Tool Math Intermediate	1
31420385	Machine Tool Print Reading 1	1
31420386	Machine Tool Print Reading 2	1
31809362	Psychology for Life	1
		14
Term 2		
31420313	Machine Tool Programming	1
31420315	CAM for Milling Machines	1
31420342	Machine Tool Lathes 2	1
31420352	Machine Tool Mills 2	2
31420308	Intro to CNC Turning Center	1
31420307	Intro to CNC Machining Center	1
31420380	Machine Tool CNC Turning Center	2
31420382	Machine Tool CNC Machining Center	2
31420398	Machine Tool Technical Skills Portfolio	1
31801359	Communication Skills for the Workplace	2
		14
		TOTAL 28

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



CAM FOR MILLING MACHINES...provides the learner with skills to: explore "Mastercam" computer software environment, construct 2-D geometry, modify existing geometry, create 2-D toolpaths for hole producing, profiling and pocketing, modify toolpaths using operations manager, transform existing toolpaths and create CNC Machine Operator documents.

COMMUNICATION SKILLS FOR THE WORKPLACE...prepares the student to develop paper job-search tools and job-related writing skills to increase job stability; introduces the students to team-building skills to resolve organizational problems; introduces the student to the skills of effective listening; prepares the student to respond to workplace criticism and praise; and introduces the student to interpersonal relationship skills, including effective interviewing skills, customer relations, and management/employee relations.

INTRO TO CNC MACHINING CENTER...prepares the learner to follow Computer Numerical Control (CNC) machining center machine tool safety rules, identify components, apply coordinate systems, load programs into the machining center, load cutting tools, enter offsets for tools and workpiece, and operate a CNC machining center. COREQUISITE: 31420340 Machine Tool Mills 1A

INTRO TO CNC TURNING CENTER...prepares the learner to follow Computer Numerical Control (CNC) turning center safety rules, apply coordinate systems, identify CNC turning center components and tooling; load programs into the CNC turning center, load cutting tools, enter offsets for tools and workpiece, and operate a CNC turning center. COREQUISITE: 31420340 Machine Tool Lathes 1A

MACHINE TOOL CNC MACHINING CENTER...prepares the learner to follow Computer Numerical Control (CNC) machining center safety rules, apply coordinate systems, identify components and tooling, and set up and operate a CNC machining center with Haas controls. COREQUISITE: 31420307 Intro to CNC Machining Center and 31420352 Machine Tool Mills 2

MACHINE TOOL CNC TURNING CENTER...prepares the learner to follow Computer Numerical Control (CNC) turning center safety rules, apply coordinate systems, identify CNC turning center components and tooling, and set up and operate a CNC turning center with Haas controls. COREQUISITE: 31420308 Intro to CNC Turning Center and 31420342 Machine Tool Lathes 2

MACHINE TOOL DRILLS...prepares the learner to interpret the attributes of hole-producing tools, follow drilling machine tool safety rules, identify drilling machine tool components, and operate sensitive drilling machine tools. COREQUISITE: 31420310 Machine Tool Hand Tools and 31420330 Machine Tool Measuring

MACHINE TOOL HAND TOOLS...prepares the learner to identify and use tools required during the machining and assembly process including precision, semi-precision measuring tools, layout, surface finish, and mechanical hand tools, power hand tools, and a variety of fastener types. COREQUISITES: 31420330 Machine Tool Measuring

MACHINE TOOL LATHES 1A...introduces the student to the characteristics and attributes of turning tools: follow engine lathe safety rules, identify engine lathe components, perform facing and center drilling operations, perform turning operations. COREQUISITE: 31420310 Machine Hand Tools and 31420330 Machine Tool Measuring

MACHINE TOOL LATHES 1B...prepares the learner to perform turning operations using various workholding devices, includes universal jaw chuck and spring collet chuck. Perform turning operations using radius cutting tools, chamfering tools, and grooving tools. COREQUISITE: 31420340 Machine Tool Lathes 1A

MACHINE TOOL LATHES 2...prepares the learner to perform hole producing, cutoff, and threading operations on a manual lathe. COREQUISITE: 31420340 Machine Tool Lathes 1 or PREREQUISITE: 31420341 Machine Tool Lathes 1B

MACHINE TOOL MATH-BASIC...prepares the learner with the necessary skills to use scientific calculators for the application of pre-algebra, algebra, geometry, and trigonometry. This course is self-paced, open-entry/exit, and designed for individualized student needs.

MACHINE TOOL MATH-INTERMEDIATE...prepares the learner with the necessary skills to use scientific calculators for the application of pre-algebra, algebra, geometry, and trigonometry. This advanced course is self-paced, open-entry/exit, and designed for individualized student needs. COREQUISITE: 31420325 Machine Tool Math-Basic

MACHINE TOOL MEASURING...prepares the learner to use semi-precision measuring instruments and measurement techniques, use precision measuring instruments and measurement techniques, and use a surface plate as a basis for precision measurements. COREQUISITE: 31420310 Machine Tool Hand Tools

MACHINE TOOL MILLS 1A...prepares the learner to identify vertical milling machine components, select cutting tools and workholding device(s), apply safety rules, set up the vertical milling machine, and mill square surfaces. COREQUISITE: 31420310 Machine Tool Hand Tools and 31420330 Machine Tool Measuring

MACHINE TOOL MILLS 1B...prepares the learner to mill precision steps and slots, mill keyseats on a shaft, and machine holes in rectangular workpieces. COREQUISITE: 31420350 Machine Tool Mills 1A

MACHINE TOOL MILLS 2...prepares the learner to select cutting tools, set up, program and operate Proto-Trak vertical mills. Operations to include: face mill, mill slots, pockets, angles and position drill and program. COREQUISITE: 31420350 Machine Tool Mills 1 or PREREQUISITE: 31420351 Machine Tool Mills 1B

MACHINE TOOL PRINT READING 1...prepares the learner to read prints; make isometric sketches; interpret orthographic projection drawings to include sections, auxiliary views, threads, fasteners, surface finishes, geometric dimensions, tolerancing, and assembly prints. The course is self-paced, open-entry/exit, and designed for individualized student needs.

MACHINE TOOL PRINT READING 2...prepares the learner to read prints; make isometric sketches; interpret orthographic projection drawings to include sections, auxiliary views, threads, fasteners, surface finishes, geometric dimensions, tolerancing, and assembly prints. The course is self-paced, open-entry/exit, and designed for individualized student needs. COREQUISITE: 31420385 Machine Tool Print Reading 1

MACHINE TOOL PROGRAMMING...prepares the learner to interpret positions in coordinate systems, prepare a sequence of machining operations, use G&M programming codes, and prepare G&M part programs for machining centers and turning centers. PREREQUISITE: 31420311 Machine Tool Programming Basic

MACHINE TOOL PROGRAMMING BASIC...will have the learner demonstrate an understanding of Computer Numerical Control (CNC) systems used on machine tools, prepares the learner to interpret positions in the coordinate system, prepare a cutting tool list; prepare a machining process list, identify and use common G&M codes, and prepare G&M part programs for machining centers.

MACHINE TOOL SAWS AND MATERIAL SELECTION...prepares the learner to identify metal composition and classification, follow cutoff machine tool safety rules, operate horizontal cutoff machine tools, and operate vertical cut off machine tools. COREQUISITE: 31420310 Machine Tool Hand Tools and 31420330 Machine Tool Measuring

MEASURING MACHINE TOOL TECHNICAL SKILLS PORTFOLIO...prepares the learner to create a capstone project using multiple machines and setups, create a portfolio showing skills attained throughout Machine Tool courses, resume, and grade sheet for all Machine Tool courses. COREQUISITES: 31420342 Machine Tool Lathes 2 and 31420352 Machine Tool Mills 2

PSYCHOLOGY FOR LIFE...prepares the learner to select behavior modification techniques, demonstrate techniques for enhancing memory, analyze expressions of emotion, use conflict for common good, employ techniques to reduce conflict/frustration, use several methods to reduce stress, interpret personality types, ascertain contributors to perception, and apply methods of problem-solving.

Pending State Approval

Program Number 50-420-2

4-Year Contract

Work Hours (including related instruction): 8000

Related Instruction Hours: 432 • Night School Hours: 8

ABOUT APPRENTICESHIP

Apprenticeships are employer-sponsored training programs. You must have a contract before being invited to school. A special application process is used for these programs. Please contact the Apprenticeship Office for the proper forms. Apprenticeship means you earn while you learn. If you want a career in a skilled trade, apprenticeship is the best way to get there. You'll combine on-the-job training with on-campus learning—you'll have the best of both worlds when it comes to learning the skills you need to get ahead. And even better, you'll earn a paycheck while you learn those skills.

ABOUT THE CAREER

Machines allow industry to produce large quantities of materials quickly, precisely, and cost-effectively. But without high-skilled operators, the machines are useless. That's where you come in. The Machinist Apprenticeship program is an employer-sponsored, hands-on training program in which you'll learn all phases of the machinist occupation. If you're interested in working with mechanical equipment and following precise plans to produce materials of the highest quality, becoming a journey-level machinist may be the perfect career for you.

CAREERS

Graduates of LTC's Machinist Apprenticeship program work as journey-level machinists in a variety of industrial settings.

INDUSTRIAL APPRENTICE APPLICATION REQUIREMENTS

- Determined by employer
- Wisconsin Apprentice Contract

PROGRAM OUTCOMES

- Apply basic safety practices in the machine shop.
- Interpret industrial/engineering drawings.
- Apply precision measuring methods to part inspection.
- Perform basic machine tool equipment setup and operation.
- Perform programming, setup, and operation of CNC machine tools.

APPROXIMATE COSTS

Contact the LTC Apprenticeship Office or visit www.gotoltc.edu/apprenticeship for detailed information.

SPECIAL NOTE

You must have a sponsoring employer and contract before attending school.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

Catalog No.	Class Title	Credit(s)
Term 1		
50420714	Engineering Drawings for Machine Trades Apprentices 1	1
50420713	Precision Measurement for Machine Tool Trades Apprentices	1
2		
Term 2		
50420711	Mathematics for Machine Trades 1	1
50420715	Mechanical Hardware and Hand Tools for Machine Trades Apprentices	0.5
50420720	Materials and Cut-Off Machines for Machine Trades Apprentices	0.5
2		
Term 3		
50420721	Mathematics for Machine Trades 2	0.5
50420722	Engineering Drawings for Machine Trades Apprentices 2	0.5
50420718	Drilling Machines for Machine Trades Apprentices	0.5
50420717	Milling Machines for Machine Trades Apprentices	0.5
2		
Term 4		
50420724	CNC Programming and Planning for Machine Trades Apprentices	1
50420716	Turning Machines for Machine Trades Apprentices	0.5
50420723	Intro to CAM for Machine Trades Apprentices	0.5
2		
Term 5		
50420725	Basic CAD/CAM for Machine Trades Apprentices	1
50420726	Jig and Fixture Design for Machine Trades Apprentices	0.5
50420719	Grinding Machines for Machine Trades Apprentices	0.5
2		
Term 6		
50420733	CNC Operations for Machine Tool Trades Apprentices	1
50420727	Geometric Design and Tolerancing for Machine Trades Apprentices	0.5
50420731	Metallurgy for Machine Trades Apprentices	0.5
2		
TOTAL		12

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



BASIC CAD/CAM FOR MACHINE TRADES APPRENTICE...is designed to provide concepts and techniques used in computer-aided design (CAD) and computer-aided manufacturing (CAM) as part of their related instruction. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

CNC OPERATIONS FOR MACHINE TOOL TRADES APPRENTICE...will examine CNC related operations and safety. Course competencies include classifying types of equipment, comparing CNC tooling, setup, and work holding operations. Additional CNC programming skill development is included in the course. CNC controls and communications are explored as well. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

CNC PROGRAMMING AND PLANNING FOR MACHINE TRADES...is a classroom introduction to CNC programming for apprentices, with a focus on CNC turning and milling centers. Apprentices will create set up sheets, develop tool lists, calculate speeds and feeds, assign tool offsets and write CNC program. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

DRILLING MACHINES FOR MACHINE TRADES APPRENTICE...focuses on the safety, terminology, construction and operations of drilling machines in the metal-working industry. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

ENGINEERING DRAWINGS FOR MACHINE TOOL APPRENTICE...will acquaint the apprentice with the interpretation of engineering prints and other technical and manufacturing documentation. The primary focus of the course will be on that part of manufacturing most closely related to machining and tooling. Background information is provided relative to the process used to create and finish the product or piece part on the prints being studied. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

ENGINEERING DRAWINGS FOR MACHINE TRADES 2...prepares the learner to interpret manufacturing prints to extract detailed information about threads, sections, auxiliary views, fasteners, surface finishes, welding symbols, assembly, geometric location, and tolerances. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

GEOMETRIC DESIGN AND TOLERANCING FOR MACHINE TRADES...will acquaint the apprentice with the skills to interpret the geometric dimensions and tolerances found on engineering drawings and in other industrial documents. Instruction concentrates on interpreting the symbols, identifying tolerance zones and determining ways to check parts for conformity to the specified geometric controls. Reference is made to ASME Y14.5M - 1994. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

GRINDING MACHINES FOR MACHINE TRADES APPRENTICE...focuses on the safety, terminology, construction, and operation of grinding machines in the metal working industry. It instructs apprentices in the use of traditional grinding machines and the attachments and accessories frequently encountered in manufacturing operations that use the common grinding processes. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

INTRO TO CAM FOR MACHINE TOOLS TRADES APPRENTICE...is widely used in industry for creating G&M code programs for CNC machines. In this course the learner will explore the Mastercam interface. You will be determining the proper post processors for the work being done. Create and edit basic geometry. Create and edit tool paths for basic operations. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

JIG AND FIXTURE DESIGN FOR MACHINE TRADE APPRENTICE...introduces the apprentice to the concepts of jig and fixture design as part of their apprentice related instruction. Topics include the basic elements of tool design, jig and fixture application, and the actual design of tooling. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

MATERIALS AND CUTOFF MACHINES FOR MACHINE TRADES...prepares the learner to identify metal composition and classification, follow cutoff machine tool safety rules, operate horizontal cutoff machine tools, and operate vertical machine tools. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

MATH FOR MACHINE TRADES 2...prepares the learner to interpret symbols used in algebraic expressions, solve equations by the rearrangement of formulas, use formulas, solve unknown angles using angular principles, and solve for the angles and length of sides in a right triangles. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

MATHEMATICS FOR MACHINE TRADES...provides applied mathematics instruction from a review of basic arithmetic; basic algebra; applications based on geometry; right triangle trigonometry and oblique angle trigonometry; and compound angles. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

MECHANICAL HARDWARE & HAND TOOLS FOR MACHINE TRADES APPRENTICE... provides instruction for the apprentice in the recognition, selection, and operation of mechanical hardware and hand tools. Apprentices are taught to use outside sources to select correct component or tool sizes, characteristics, and operating parameters. Apprentices will sharpen drills and single point cutting tools. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

METALLURGY FOR MACHINE TRADES APPRENTICES...prepares the learner to interpret the properties of ferrous and non-ferrous materials as well as how to heat treat and test the hardness of ferrous materials. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

MILLING MACHINES FOR MACHINE TRADES APPRENTICE...will instruct apprentices on the basic principles of vertical and horizontal milling machines for the machine tool trade. Instruction includes safety, basic parts and functions of the machines, work holding devices, tooling requirements, and feeds and speeds. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

PRECISION MEASUREMENT FOR MACHINE TOOL TRADES...is designed to acquaint the apprentice with the measurement systems and tools most frequently used in layout and machining processes. Learning outcomes relate to semi-precision through super-precision measuring tools and equipment combined with opportunities to investigate new technologies. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

TURNING MACHINES FOR MACHINE TRADES APPRENTICE...will acquaint the apprentice with the terminology, methods, and operations for turning machines used in the metal-working industry. Apprentices will learn to perform calculations needed to operate turning machines including speed and feed calculations. Apprentices will make calculations necessary to setup a turning machine for screw threads and taper operations. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

Pending State Approval

**Program Number 50-423-1
4-Year Contract**

**Work Hours (including related instruction): 8320
Related Instruction Hours: 576 • Night School Hours: 8**

ABOUT APPRENTICESHIP

Apprenticeships are employer-sponsored training programs. You must have a contract before being invited to school. A special application process is used for these programs. Please contact the Apprenticeship Office for the proper forms. Apprenticeship means you earn while you learn. If you want a career in a skilled trade, apprenticeship is the best way to get there. You'll combine on-the-job training with on-campus learning—you'll have the best of both worlds when it comes to learning the skills you need to get ahead. And even better, you'll earn a paycheck while you learn those skills.

ABOUT THE CAREER

Maintenance mechanics and millwrights install, dismantle, or move machinery and heavy equipment according to layout plans, blueprints, or other drawings. They keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs. This program provides the related instruction portion for this trade's apprenticeship.

CAREERS

Graduates of LTC's Maintenance Mechanic/Millwright Apprenticeship program work as journey-level maintenance mechanics/millwrights in a variety of industrial and organizational settings.

INDUSTRIAL APPRENTICE APPLICATION REQUIREMENTS

- Determined by employer
- Wisconsin Apprentice Contract

PROGRAM OUTCOMES

- Demonstrate proper rigging techniques.
- Select an appropriate power transmission system for a given application.
- Identify suitable pumps for given applications.
- Recommend bearings for given applications.
- Plan for fabricating parts and assemblies according to specifications.
- Apply operational and troubleshooting principles to fluid power systems.
- Lay out an equipment installation plan.
- Plan maintenance schedules for a given system.

APPROXIMATE COSTS

Contact the LTC Apprenticeship Office or visit www.gotoltc.edu/apprenticeship for detailed information.

SPECIAL NOTE

You must have a sponsoring employer and contract before attending school.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

Catalog No.	Class Title	Credit(s)
Term 1		
50423710	Math for the MMMP Trades	1
50423713	Precision Measurements for the MMMP Trades	0.5
50423717	Electricity for the MMMP Trades	0.5
2		
Term 2		
50423711	Print Reading for the MMMP Trades	1
50423726	Safety/Tools/Torque for the MMMP Trades	0.25
50423712	Fasteners for the MMMP Trades	0.5
50423723	Adhesives and Sealants for the MMMP Trades	0.25
2		
Term 3		
50423737	Equipment Installation for the MMP Trades	0.75
50423727	Concrete for the MMP Trades	0.25
50423714	Rigging for the MMP Trades	1
2		
Term 4		
50423738	Sheet Metal and Structural Steel for the MMMP Trades	0.75
50423716	Metallurgy for the MMMP Trades	0.5
50423715	Welding for the MMMP Trades	0.75
2		
Term 5		
50423735	Mechanical Power Transmission for the MMMP Trades	0.75
50423733	Belts, Sheaves, Pulleys, and Drives for the MMMP Trades	0.5
50423736	Conveyors for the MMMP Trades	0.25
50423734	Gears, Gearboxes, and Gear Assemblies for the MMMP Trades	0.5
2		
Term 6		
50423731	Couplings and Alignment for the MMMP Trades	0.5
50423730	Bearings for the MMMP Trades	0.75
50423725	Machine Lubrication for the MMMP Trades	0.25
50423724	Preventative and Predictive Maintenance for the MMMP Trades	0.5
2		
Term 7		
50423720	Pipefitting and Valves for the MMMP Trades	0.75
50423722	Packings, Seals, and Gaskets for the MMP Trades	0.5
50423732	Pumps for the MMMP Trades	0.75
2		
Term 8		
50423721	Hydraulics for the MMMP Trades	1
50423718	Pneumatics and Compressed Air for the MMMP Trades	0.75
50423719	Vacuum Systems for the MMMP Trades	0.25
2		
TOTAL		16

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ADHESIVES AND SEALANTS FOR MMMP TRADES...compares adhesives and sealant types and applications. The apprentice skills will be developed related to applying adhesives and sealants to repair applications, interpreting SDS information, and handling hazardous materials. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

BEARINGS FOR THE MMMP TRADES...will examine bearing types and applications, and compare equipment bearings. Then learners will develop skills related to bearing inspection, selection, removal, mounting, lubrication and diagnosing bearing failures. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

BELTS, SHEAVES, PULLEYS AND DRIVES FOR MMMP...compares different belt types and drive components. Apprentices will develop skills related to inspecting, troubleshooting, removing, selecting, and installing belt drive systems. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

CONCRETE FOR THE MMMP TRADES...examines the principles of concrete as well as anchoring. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

CONVEYORS FOR THE MMMP TRADES...examines chain, belt, and other types of conveyors and related components. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

COUPLINGS AND ALIGNMENT FOR MMMP TRADES...compares different coupling types and examines common misalignment problems. Apprentices will develop skills related to inspecting, troubleshooting, lubricating, and preparing couplings for removal and installation by using dial indicators and laser aligners. This course will also discuss types and principles of clutches and brakes. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICITY FOR THE MMMP TRADES...examines basic electrical terms and theory. Apprentices will learn motor wiring, multimeter use as well as lockout tagout as it applies to electricity. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

EQUIPMENT INSTALLATION FOR THE MMMP TRADES...will layout equipment installations, plan for moving equipment, and set and level equipment. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

FASTENERS FOR MMMP TRADES...provides apprentices with a chance to compare fasteners and their uses, analyze fastener failures, and install mechanical fasteners. This course also covers drilling and tapping application. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

GEARS, GEARBOXES, GEAR ASSEMBLIES FOR MMMP...compares gear types and applications. Apprentices will develop skills inspecting gear assemblies, troubleshooting gear problems, removing gears and components, and reassembling gear drive systems. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

HYDRAULICS FOR MMMP TRADES...provides instruction to apprentices concerning many aspects of inspecting, servicing, and troubleshooting hydraulic systems and components. Apprentices will learn safety related issues and be taught proper safety procedures for working with hydraulic systems and components. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

MACHINE LUBRICATION FOR THE MMMP TRADES...examines the types, principles and applications of machine lubricants and lubricating systems. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

MATH FOR MMMP TRADES...examines math concepts as they relate to millwrights and machine maintenance. Apprentices will develop skills related to converting fractions to decimals; using both standard and metric systems; applying basic algebra to solving problems; computing area, volume, mass, and torque; using trigonometry; and using math charts, tables and references in support of common work processes. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

MECHANICAL POWER TRANSMISSION FOR MMMP TRADES...examines drive transmission systems and their applications, including roller chains. Apprentices will develop skills inspecting power transmission systems and troubleshooting mechanical drive systems. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

METALLURGY FOR MMMP TRADES...develops apprentice skills regarding metallurgical concepts. Apprentices will compare various metals and their applications, apply metallurgical techniques to work processes, test metals for hardness, and examine heat treating applications. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

PACKING, SEALS, GASKETS FOR MMMP TRADES...will examine packing, seals, and gaskets and compare materials and applications. The skills in layout, cutting, inspecting, removing, and installing these components will be developed. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

PIPEFITTING AND VALVES FOR MMMP TRADES...introduces apprentices to principles, application and types of pipe, materials, fittings, tubing, and valves, and develops skills related to layout, installation, and maintenance. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

PNEUMATICS AND COMPRESSED AIR FOR MMMP TRADES...provides instruction to apprentices concerning many aspects of inspecting, servicing, and troubleshooting pneumatic systems and components. Apprentices will learn safety related issues and be taught proper safety procedures for working with pneumatic systems and components. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

PRECISION MEASUREMENTS FOR MMMP TRADES...develops apprentice skills in precision measurement. Types of measuring instruments will be compared and then measuring skills using tapes, steel rules, micrometers, calipers, indicators, and gauges will be developed. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

PREVENTIVE AND PREDICTIVE MAINTENANCE FOR MMMP TRADES...examines both preventive and predictive maintenance concepts as they apply to millwright work processes and machine maintenance including vibration and lubrication analysis. Apprentices will develop skills related to assessing machine conditions and faults based on both preventative and predictive maintenance. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

PRINT READING FOR MMMP TRADES...explores reading prints commonly used by millwrights and machine maintenance workers. Course competencies include comparing types of prints, interpreting structural drawings, identifying parts from prints, and developing apprentice sketching drawing skills. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

PUMPS FOR THE MMMP TRADES...compares different pump types including centrifugal, diaphragm, gear, vane and their applications. Apprentices will complete a field inspection of pumps and learn how to troubleshoot, remove, overhaul, and install and perform preventative maintenance on pumps. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

RIGGING FOR MMMP TRADES...will compare types of rigging equipment and their uses; determine safe loads, rig and crib loads, and move a load with cranes and hoists, including signaling, in this course. Course will also cover usage and the safety of ladders and scaffolding. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

SAFETY, TOOLS AND TORQUE FOR MMMP TRADES...examines safety as it relates to hand and power tools as well as theory and application of torque in the Maintenance/Millwright trade. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

SHEET METAL AND STRUCTURAL STEEL FOR MMMP TRADES...compares types of sheet metal and tools used by the trade. Apprentices will develop skills related to fabricating sheet metal and structural steel, including layout, bending and forming, as well as erecting structural steel. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

VACUUM SYSTEMS FOR MMMP TRADES...introduces principles of vacuum systems and interpreting vacuum system schematics. Apprentices will then develop skills related to installing, repairing, replacing and applying troubleshooting principles to vacuum systems and components. Course examines preventive maintenance techniques commonly used on the job. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

WELDING FOR MMMP TRADES...compares common welding processes and develops apprentice skills related to welding, cutting, heating and using oxy-gas. Welding with arc, MIG and TIG is included, along with common cutting and joining techniques. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

ABOUT THE PROGRAM

Machines are important in our lives—directly or indirectly. Broken or inefficient machines slow the pace of manufacturing and, ultimately, profits. To remain competitive in today’s fast-paced industrial/manufacturing environment, equipment needs to be maintained to run at peak performance. If you like to troubleshoot problems, put theory to work handson, and have interests in math and mechanical processes, a career in industrial maintenance may be your key to success.

PROGRAM OUTCOMES

- Demonstrate safe work procedures.
- Install industrial equipment and systems.
- Maintain industrial equipment and systems.
- Troubleshoot industrial equipment and systems.
- Repair industrial equipment and systems.
- Communicate technical information.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

Students need to supply their own safety glasses and welding gloves.

RELATED PROGRAMS

- Millwright Apprenticeship
- Maintenance Technician
- Electro-Mechanical Technology

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
31462317	Trades Math Industrial Maintenance 1	1
31462318	Trades Math Industrial Maintenance 2	1
31462309	Industrial Maintenance Introduction	1
31462388	Industrial Maintenance Print Reading	1
31462325	Maintenance Tools and Measurement	1
10620122	Industrial Wiring	2
31420394	Industrial Maintenance Machine Tool Introduction	2
31442346	Industrial Maintenance Introduction to Welding	1
31462311	Industrial Maintenance Introduction to Fabrication	1
31801359	Communication Skills for the Workplace	2
31809362	Psychology for Life	1
		14
Term 2		
10620155	Industrial Maintenance Hydraulics and Pneumatics	3
31420395	Industrial Maintenance Machine Tool Lathes and Mills	2
31462310	Industrial Maintenance Bearings and Lubrication	2
31462305	Industrial Maintenance Power Transmission	3
31462308	Industrial Maintenance Pumps, Fluid/Air Handling	2
31462314	Troubleshooting/Mach Repair	3
		15
		TOTAL 29

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



COMMUNICATION SKILLS FOR THE WORKPLACE...prepares the student to develop paper job-search tools and job-related writing skills to increase job stability; introduces the students to team-building skills to resolve organizational problems; introduces the student to the skills of effective listening; prepares the student to respond to workplace criticism and praise; and introduces the student to interpersonal relationship skills, including effective interviewing skills, customer relations, and management/employee relations.

INDUSTRIAL MAINTENANCE BEARINGS AND LUBRICATION...prepares the learner to properly identify, remove, install, and maintain both plain and rolling element bearings used with either a radial or axial load, including ball, cylindrical roller, tapered roller, linear, and thrust bearings; use manufacturers' resources for proper usage and life of bearings; and look at proper types, properties, and application methods of lubrication. PREREQUISITE: 31462309 or 31462300 Ind Mntc Intro and 31462325 Mntc Tools and Measurement; and COREQUISITES: 31420320 Machine Tool Math or 31462317 Trades Math Indus Mntc 1 and 31462318 Trades Math Indus Mntc 2

INDUSTRIAL MAINTENANCE HYDRAULICS AND PNEUMATICS...prepares the learner to identify hydraulic and pneumatic component symbols and terms, adjust a pressure relief valve, analyze the operation of a pilot operated relief valve; analyze Pascal's law; evaluate flow, velocity, work and power in industrial hydraulic and pneumatic circuits; analyze meter-in, meter-out, and bypass flow control circuits; identify basic hydraulic and pneumatic control valves; and assemble hydraulic circuits. PREREQUISITE: 10804118 or 10804118OL Intermed College Algebra or COREQUISITE: 31462317 Trades Math IM 1 and 31462318 Trades Math IM 2 or 10804115 College Tech Math

INDUSTRIAL MAINTENANCE INTRODUCTION...prepares the learner to apply basic safety, mechanics, force, friction, work, and energy; learn terminology related to maintenance; introduction to threaded and non-threaded fasteners and concrete anchoring; learn to use precision measuring tools; introduction to single phase and three phase motor wiring. Participants will obtain lift truck operation certification upon completion. COREQUISITE: 31462325 Maintenance Tools and Measurement

INDUSTRIAL MAINTENANCE INTRODUCTION TO FABRICATION...introduces the learner to various types of structural steel, sheet metal, and pipe, and prepares the learner to perform fabrication from assembly prints, including cutting, welding, bending, straightening, and repair. PREREQUISITES: 31462309 or 31462300 Ind Mntc Intro, 31462325 Mntc Tools and Measurement, 31462388 Ind Mntc Print Rdg and 31442346 Ind Mntc Wldg or 31442300 or 30442300 or 30442300IN Wldg Intro or 31462301 Indus Mntc Welding

INDUSTRIAL MAINTENANCE INTRODUCTION TO WELDING...introduces the learner to the welding field, including practicing safety and care of equipment and supplies used in common arc welding processes, practice in setup and technique for basic SMAW, GTAW, and GMAW equipment in common positions and on common joints; introduces oxy-fuel and plasma arc cutting.

INDUSTRIAL MAINTENANCE MACHINE TOOL INTRODUCTION...prepares the learner with the skills to identify basic types of machining processes, follow standard shop safety rules, use semi-precision and precision measuring tools, perform workpiece layout procedures, identify metal composition and classification, follow cutoff machine safety rules, operate vertical and horizontal cutoff machines, follow sensitive drill press safety rules, identify drill press components, interpret attributes of hole-producing tools, and operate a sensitive drill press.

INDUSTRIAL MAINTENANCE POWER TRANSMISSION...introduces the learner to belt, chain, and gear drives used in industrial maintenance applications, including v-belts, flat belts, timing belts, conveyor chains, roller chains, bevel gears, worm gears, helical gears, spur gears, couplings, and alignment with emphasis on identification, installation, repair, and maintenance. PREREQUISITES: 31462309 Industrial Maintenance Introduction or 31462300 Industrial Maintenance Introduction and 31462325 Mntc Tools and Measurement and 31462310 Industrial Maintenance Bearings and Lube

INDUSTRIAL MAINTENANCE PRINT READING...prepares the learner to read prints; make sketches; interpret orthographic projections to include sections, auxiliary views, threads, and fasteners; and to solve problems in metal trades, fabrication, and troubleshooting.

INDUSTRIAL MAINTENANCE PUMPS, FLUID/AIR HANDLING...prepares the learner to identify, install, repair, and maintain common pumps and plumbing applications, including centrifugal pumps, diaphragm pumps, packing and seals, tubing, and installing hose and piping used with fluid and air handling. PREREQUISITE: 31462309 or 31462300 IM Intro, 31462325 Mntc Tools/Measure, 31462388 IM Print Rdg, 31462317 Trades Math IM 1 and 31462318 Trades Math IM 2, or 31420320 MT Math and COREQUISITE: 10620155 IM Hyd/Pneum

INDUSTRIAL MAINTENANCE MACHINE TOOL LATHES AND MILLS...prepares the learner to identify the characteristics and attributes of turning tools, apply engine lathe and milling machine safety rules, identify engine lathe and milling machine components, perform facing, turning, and cutoff operations, select and use various workholding devices and cutting tools, perform hole-producing operations, set up a vertical milling machine, mill square surfaces, precision steps and slots, and mill keyseats on a shaft. PREREQUISITE: 31420394 Ind Maint Machine Tool Introduction

INDUSTRIAL WIRING...prepares the learner to follow safety procedures; maintain a safe and healthy work environment; construct electrical circuits; measure electrical quantities using a VOM and/or DVM; analyze measured values using electrical circuit laws; construct typical industrial control circuits; and analyze typical industrial control circuits.

MAINTENANCE TOOLS AND MEASUREMENT...prepares the learner to use hand tools, precision measuring instruments, and torque tools.

PSYCHOLOGY FOR LIFE...prepares the learner to select behavior modification techniques, demonstrate techniques for enhancing memory, analyze expressions of emotion, use conflict for common good, employ techniques to reduce conflict/frustration, use several methods to reduce stress, interpret personality types, ascertain contributors to perception, and apply methods of problem-solving.

TRADES MATH INDUSTRIAL MAINTENANCE 1...provides the learner with the necessary skills to use scientific calculators for the application of pre-algebra, algebra, geometry, and trigonometry. The course is self-paced, open entry/exit, and designed for individualized student needs.

TRADES MATH INDUSTRIAL MAINTENANCE 2...provides the learner with the necessary skills to use scientific calculators for the application of pre-algebra, algebra, geometry, and trigonometry. The course is self-paced, open entry/exit, and designed for individualized student needs. PREREQUISITE: 31462317 Trades Math Industrial Maintenance 1

TROUBLESHOOTING/MACHINE REPAIR...prepares the learner to perform essential troubleshooting, repair, and preventive maintenance of various machine tools and installations used in industrial maintenance and to integrate the skills learned in the other maintenance courses to perform complete repair of machine tools. PREREQUISITE: 31462309 or 31462300 IM Intro, 31462325 Mntc Tools/Meas, 31462305 IM Pwr Trans, 10620122 Ind Ctrls Intro, 31462308 IM Pmps, Fld/Air Hndlg and 31462310 IM Bearings/Lube

Program Number 50-464-1
5-Year Contract

Work Hours (including related instruction): 10,000
Related Instruction: 1,296 hours • Night School: 8 hours

Pending State Approval

ABOUT APPRENTICESHIP

Apprenticeships are employer-sponsored training programs. You must have a contract before being invited to school. A special application process is used for these programs. Please contact the Apprenticeship Office for the proper forms. Apprenticeship means you earn while you learn. If you want a career in a skilled trade, apprenticeship is the best way to get there. You'll combine on-the-job training with on-campus learning—you'll have the best of both worlds when it comes to learning the skills you need to get ahead. And even better, you'll earn a paycheck while you learn those skills.

ABOUT THE CAREER

Maintenance Technicians work in industrial manufacturing and safely perform mechanical and electrical duties to keep machines, equipment, or the structure of a facility in repair. The Maintenance Technician Apprenticeship program is employer sponsored. This program combines the on-the-job hands-on training with related training at the technical college. Some hands-on training is used to reinforce the related training. Thus, skills are developed to help the technician keep machines and equipment operating and productive. If you like to maintain, repair, and troubleshoot problems and put theory to work, a career as a maintenance technician may be your ticket to success.

CAREERS

Graduates of LTC's Maintenance Technician Apprenticeship program work as journey-level maintenance technicians in a variety of industrial and organizational settings.

INDUSTRIAL APPRENTICE APPLICATION REQUIREMENTS

- Determined by employer
- Wisconsin Apprentice Contract

PROGRAM OUTCOMES

- Demonstrate proper rigging techniques.
- Select an appropriate power transmission system for a given application.
- Identify suitable pumps for given applications.
- Recommend bearings for given applications.
- Plan for fabricating parts and assemblies according to specifications.
- Apply operational and troubleshooting principles to fluid power systems.
- Lay out an equipment installation plan.
- Plan maintenance schedules for a given system.
- Apply AC and DC theory to an industrial setting.
- Apply the National Electric Code requirements to industrial equipment and facilities.
- Apply operational and troubleshooting principles to a transformer installation.
- Maintain electric motors and motor controls.
- Test solid-state electronic system components.
- Apply operational and troubleshooting principles to power systems & variable speed drives.
- Apply operational and troubleshooting principles to programmable logic controllers and automation equipment.
- Apply operational and troubleshooting principles to fluid power systems.
- Interpret industrial equipment drawings and electrical prints.
- Communicate trade and occupational-related information effectively.

APPROXIMATE COSTS

Contact the LTC Apprenticeship Office or visit www.gotoltc.edu/apprenticeship for detailed information.

SPECIAL NOTE

You must have a sponsoring employer and contract before attending school.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

Catalog No.	Class Title	Credit(s)
Term 1		
50423710	Math for the MMMP Trades	1
50423713	Precision Measurements for the MMMP Trades	0.5
50423717	Electricity for the MMMP Trades	0.5
50413501	Electrical Apprentice 1	3
		5
Term 2		
50423711	Print Reading for the MMMP Trades	1
50423726	Safety/Tools/Torque for the MMMP Trades	0.25
50423712	Fasteners for the MMMP Trades	0.5
50423723	Adhesives and Sealants for the MMMP Trades	0.25
50413502	Electrical Apprentice 2	3
		5
Term 3		
50423737	Equipment Installation for the MMP Trades	0.75
50423727	Concrete for the MMP Trades	0.25
50423714	Rigging for the MMP Trades	1
50413503	Electrical Apprentice 3	3
		5
Term 4		
50423738	Sheet Metal and Structural Steel for the MMMP Trades	0.75
50423716	Metallurgy for the MMMP Trades	0.5
50423715	Welding for the MMMP Trades	0.75
50413504	Electrical Apprentice 4	3
		5
Term 5		
50423735	Mechanical Power Transmission for the MMMP Trades	0.75
50423733	Belts, Sheaves, Pulleys, and Drives for the MMMP Trades	0.5
50423736	Conveyors for the MMMP Trades	0.25
50423734	Gears, Gearboxes, and Gear Assemblies for the MMMP Trades	0.5
50413505	Electrical Apprentice 5	3
		5
Term 6		
50423731	Couplings and Alignment for the MMMP Trades	0.5
50423730	Bearings for the MMMP Trades	0.75
50423725	Machine Lubrication for the MMMP Trades	0.25
50423724	Preventative and Predictive Maintenance for the MMMP Trades	0.5
50413506	Electrical Apprentice 6	3
		5
Term 7		
50423720	Pipefitting and Valves for the MMMP Trades	0.75
50423722	Packings, Seals, and Gaskets for the MMP Trades	0.5
50423732	Pumps for the MMMP Trades	0.75
50413507	Electrical Apprentice 7	3
		5
Term 8		
50423721	Hydraulics for the MMMP Trades	1
50423718	Pneumatics and Compressed Air for the MMMP Trades	0.75
50423719	Vacuum Systems for the MMMP Trades	0.25
50413508	Electrical Apprentice 8	3
		5
		TOTAL 40

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ADHESIVES AND SEALANTS FOR MMMP TRADES... compares adhesives and sealant types and applications. The apprentice skills will be developed related to applying adhesives and sealants to repair applications, interpreting SDS information, and handling hazardous materials. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

BEARINGS FOR THE MMMP TRADES... will examine bearing types and applications, and compare equipment bearings. Then learners will develop skills related to bearing inspection, selection, removal, mounting, lubrication and diagnosing bearing failures. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

BELTS, SHEAVES, PULLEYS AND DRIVES FOR MMMP... compares different belt types and drive components. Apprentices will develop skills related to inspecting, troubleshooting, removing, selecting, and installing belt drive systems. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

CONCRETE FOR THE MMMP TRADES... examines the principles of concrete as well as anchoring. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

CONVEYORS FOR THE MMMP TRADES... examines chain, belt, and other types of conveyors and related components. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

COUPLINGS AND ALIGNMENT FOR MMMP TRADES... compares different coupling types and examines common misalignment problems. Apprentices will develop skills related to inspecting, troubleshooting, lubricating, and preparing couplings for removal and installation by using dial indicators and laser aligners. This course will also discuss types and principles of clutches and brakes. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 1... introduces the apprentice to the basic electrical concepts of structure of matter, electron theory, Ohm's law for series, parallel and series-parallel circuits; volt and current measurements; conductors and resistors; electrical power and energy; and the national electrical code. Also prepares the learner to select control devices by function and operation; illustrate electrical circuits using symbols, diagrams, and abbreviations; explain the operation of magnetic devices. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 2... introduces the apprentice to magnetism, electricity generation, electromagnetism, application of electromagnetic devices, with continued study of the National Electrical Code. Also expands the learner's experience selecting electromagnetic control devices by function and operation; illustrate electrical circuits using symbols, diagrams, and abbreviations; explain the operation of magnetic devices. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 3... introduces the apprentice to AC circuits, including mathematics for the circuits, vectors and vector analysis, sine wave characteristics, resistive AC current, inductance and inductive reactance, and RL circuits with continued study of the National Electrical Code. Also continues expanding the learner's experience selecting electromagnetic control devices by function and operation; illustrate electrical circuits using symbols, diagrams, and abbreviations; explain the operation of magnetic devices. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 4... expands the apprentice's ability to work with complex AC circuits including capacitor types, capacitance, capacitive reactance, series RC circuits, impedance, parallel RL and RC circuits, series and parallel LCR circuit resonance, power in relative circuits, and basic power correction. Continued study of the national electric code is included. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 5... introduces the apprentice to transformers, DC and AC motor operation; split-phase motors, capacitor motors, shaped pole motors, wound rotor motors, universal motors, three-phase transformer systems and connections and three-phase motor operation. Continued study of the national electric code is included. Also prepares the student to understand basic PLC structure and terminology; learn to create and troubleshoot basic PLC programs using the RLOGIX 500 software and the RSLINX communication software; become familiar with communicating with programming SLC-500 and Micrologix programmable logic controllers. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 6... enhances the apprentice's ability to work with electrical symbols, line diagrams, manual AC contactors and motor starters, solenoid characteristics, magnetic starters and contactors, time delay and complex control circuits, reversing starters, solid state relays, and ladder logic. Also expands the learner's ability with programmable logic controllers. CONDITION: 504131 Industrial Electrician Appr or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 7... introduces the apprentice to solid state fundamentals and the requirements for ground electrical systems in accordance with the national electrical code. Also expands the learner's ability upon programmable logic controllers with CompactLogix, RSLGIX Studio 5000 software. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICAL APPRENTICE 8... expands the apprentice's ability to work with programmable logic controllers with Compact Logix, RSLogix Studio 5000 software for programming these devices as well as hands-on training into their operation. Also prepares the learner to explain the function, construction and troubleshoot frequency drives as well as select and change parameters to meet operational characteristics for the drive application. CONDITION: 504131 Industrial Electrician Apprentice or 504641 Maintenance Technician Apprentice requirements met

ELECTRICITY FOR THE MMMP TRADES... examines basic electrical terms and theory. Apprentices will learn motor wiring, multimeter use as well as lockout tagout as it applies to electricity. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

EQUIPMENT INSTALLATION FOR THE MMMP TRADES... will layout equipment installations, plan for moving equipment, and set and level equipment. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

FASTENERS FOR MMMP TRADES... provides apprentices with a chance to compare fasteners and their uses, analyze fastener failures, and install mechanical fasteners. This course also covers drilling and tapping application. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

GEARS, GEARBOXES, GEAR ASSEMBLIES FOR MMMP... compares gear types and applications. Apprentices will develop skills inspecting gear assemblies, troubleshooting gear problems, removing gears and components, and reassembling gear drive systems. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

HYDRAULICS FOR MMMP TRADES... provides instruction to apprentices concerning many aspects of inspecting, servicing, and troubleshooting hydraulic systems and components. Apprentices will learn safety related issues and be taught proper safety procedures for working with hydraulic systems and components. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

MACHINE LUBRICATION FOR THE MMMP TRADES... examines the types, principles and applications of machine lubricants and lubricating systems. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

MATH FOR MMMP TRADES... examines math concepts as they relate to millwrights and machine maintenance. Apprentices will develop skills related to converting fractions to decimals; using both standard and metric systems; applying basic algebra to solving problems; computing area, volume, mass, and torque; using trigonometry; and using math charts, tables and references in support of common work processes. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

MECHANICAL POWER TRANSMISSION FOR MMMP TRADES... examines drive transmission systems and their applications, including roller chains. Apprentices will develop skills inspecting power transmission systems and troubleshooting mechanical drive systems. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

METALLURGY FOR MMMP TRADES... develops apprentice skills regarding metallurgical concepts. Apprentices will compare various metals and their applications, apply metallurgical techniques to work processes, test metals for hardness, and examine heat treating applications. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

PACKING, SEALS, GASKETS FOR MMMP TRADES... will examine packing, seals, and gaskets and compare materials and applications. The skills in layout, cutting, inspecting, removing, and installing these components will be developed. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

PIPEFITTING AND VALVES FOR MMMP TRADES... introduces apprentices to principles, application and types of pipe, materials, fittings, tubing, and valves, and develops skills related to layout, installation, and maintenance. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

PNEUMATICS AND COMPRESSED AIR FOR MMMP TRADES... provides instruction to apprentices concerning many aspects of inspecting, servicing, and troubleshooting pneumatic systems and components. Apprentices will learn safety related issues and be taught proper safety procedures for working with pneumatic systems and components. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

PRECISION MEASUREMENTS FOR MMMP TRADES... develops apprentice skills in precision measurement. Types of measuring instruments will be compared and then measuring skills using tapes, steel rules, micrometers, calipers, indicators, and gauges will be developed. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

PREVENTIVE AND PREDICTIVE MAINTENANCE FOR MMMP TRADES... examines both preventive and predictive maintenance concepts as they apply to millwright work processes and machine maintenance including vibration and lubrication analysis. Apprentices will develop skills related to assessing machine conditions and faults based on both preventative and predictive maintenance. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

PRINT READING FOR MMMP TRADES... explores reading prints commonly used by millwrights and machine maintenance workers. Course competencies include comparing types of prints, interpreting structural drawings, identifying parts from prints, and developing apprentice sketching drawing skills. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

PUMPS FOR THE MMMP TRADES... compares different pump types including centrifugal, diaphragm, gear, vane and their applications. Apprentices will complete a field inspection of pumps and learn how to troubleshoot, remove, overhaul, and install and perform preventative maintenance on pumps. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

RIGGING FOR MMMP TRADES... will compare types of rigging equipment and their uses; determine safe loads, rig and crib loads, and move a load with cranes and hoists, including signaling. Course will also cover usage and the safety of ladders and scaffolding. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

SAFETY, TOOLS AND TORQUE FOR MMMP TRADES... examines safety as it relates to hand and power tools as well as theory and application of torque in the Maintenance/Millwright trade. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

SHEET METAL AND STRUCTURAL STEEL FOR MMMP TRADES... compares types of sheet metal and tools used by the trade. Apprentices will develop skills related to fabricating sheet metal and structural steel, including layout, bending and forming, as well as erecting structural steel. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

VACUUM SYSTEMS FOR MMMP TRADES... introduces principles of vacuum systems and interpreting vacuum system schematics. Apprentices will then develop skills related to installing, repairing, replacing and applying troubleshooting principles to vacuum systems and components. Course examines preventive maintenance techniques commonly used on the job. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

WELDING FOR MMMP TRADES... compares common welding processes and develops apprentice skills related to welding, cutting, heating and using oxy-gas. Welding with arc, MIG and TIG is included, along with common cutting and joining techniques. CONDITION: 504231 Millwright Apprentice or 504641 Maintenance Technician Apprentice requirements met

Program Number 32-462-1 Technical Diploma • Four Terms

ABOUT THE PROGRAM

Times are changing in the field of maintenance. Facilities are running with both manual and automated equipment and both need to be maintained and repaired. If you like to troubleshoot, work with your hands, and have an interest in math and electrical and mechanical processes, a career in maintenance is for you. Your expertise and knowledge is needed in today's modern, automated facilities.

PROGRAM OUTCOMES

- Demonstrate safe work procedures.
- Install industrial equipment and systems.
- Maintain industrial equipment and systems.
- Troubleshoot industrial equipment and systems.
- Repair industrial equipment and systems.
- Communicate technical information.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

Students need to supply their own safety glasses and welding gloves.

RELATED PROGRAMS

- Electro-Mechanical Technology
- Millwright Apprenticeship
- Industrial Electrician Apprenticeship
- Maintenance Technician Apprenticeship

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
31462317	Trades Math Industrial Maintenance 1	1
31462318	Trades Math Industrial Maintenance 2	1
31462309	Industrial Maintenance Introduction	1
31462388	Industrial Maintenance Print Reading	1
31462325	Maintenance Tools and Measurement	1
10620122	Industrial Wiring	2
31420394	Industrial Maintenance Machine Tool Introduction	2
31442346	Industrial Maintenance Introduction to Welding	1
31462311	Industrial Maintenance Introduction to Fabrication	1
31801359	Communication Skills for the Workplace	2
31809362	Psychology for Life	1
		14
Term 2		
10620155	Industrial Maintenance Hydraulics and Pneumatics	3
31420395	Industrial Maintenance Machine Tool Lathes and Mills	2
31462310	Industrial Maintenance Bearings and Lubrication	2
31462305	Industrial Maintenance Power Transmission	3
31462308	Industrial Maintenance Pumps, Fluid/Air Handling	2
31462314	Troubleshooting/Mach Repair	3
		15
Term 3		
31462302	Industrial Maintenance Layout and Rigging	1
31462319	Preventive and Predictive Maintenance	1
10620168	Robotics Introduction	2
10620169	Robotic Maintenance	1
10660105	DC Fundamentals	2
10804115	College Technical Mathematics 1	5
		12
Term 4		
31420382	Machine Tool CNC Machining Center	2
31449301	OSHA 30	1
10620104	Fluid Power 2	3
10620138	Programmable Controllers - Allen Bradley	3
10620141	Industrial Controls and Motors	3
10660110	AC Fundamentals	2
		14
		TOTAL 55

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



AC FUNDAMENTALS...prepares the student to analyze electrical circuits using AC math, analyze AC waveforms, measure and analyze AC power, analyze capacitors and inductors in DC and AC circuits, analyze AC circuits containing reactance and calculate resonance, apply the elements and properties of basic measuring circuits, and describe transformer characteristics. PREREQUISITES: 10660105 DC Fundamentals

COLLEGE TECHNICAL MATHEMATICS 1...prepares student to solve linear, quadratic, & rational equations; graphing; formula rearrangement; solve systems of equations; percent; proportions; measurement systems; computational geometry; right & oblique triangle trigonometry; trigonometric functions on the unit circle; and operations on polynomials. Emphasis will be on application of skills to technical problems. Course is the equiv of successful completion of College Tech Math 1A & 1B. PRERQS: 10834110 Elementary Algebra w Apps or 31457318 Ind Mtnc Trades Math or 31420320 Mach Tool Math or equiv.

COMMUNICATION SKILLS FOR THE WORKPLACE...prepares the student to develop paper job-search tools and job-related writing skills to increase job stability; introduces the students to team-building skills to resolve organizational problems; introduces the student to the skills of effective listening; prepares the student to respond to workplace criticism and praise; and introduces the student to interpersonal relationship skills, including effective interviewing skills, customer relations, and management/employee relations.

DC FUNDAMENTALS...prepares student to convert values to scientific and engineering notations; calculate math quantities; describe basic atomic theory; identify basic electrical terms; use established symbols standards; describe DC voltage characteristics & current sources and electrical resistance; measure & analyze electrical quantities in series and parallel circuits; and desolder/solder single lead components. COREQS: 10804115 College Tech Math 1 or 10804113 College Tech Math 1A & 10804114 College Tech Math 1B or 10804118 Intermediate Algebra w Apps & 10624105 or 10624105HS Health Physics Calcs & Stats

FLUID POWER 2...enhances the learner's ability to read schematics containing fluid power component symbols; assemble systems using schematics; analyze system's operation using a schematic; evaluate the general characteristics and terms of fluids under pressure, fluid conditioning, conductors, reservoirs, accumulators, pressure control; and troubleshoot malfunctioning pressurized systems. PREREQUISITE: 10620103 Fluid Power 1 or 10620155 Industrial Maintenance Hydraulics and Pneumatics

INDUSTRIAL CONTROLS AND MOTORS...prepares the learner to select control devices by function and operation; illustrate electrical circuits using symbols, diagrams, and abbreviations; explain the operation of magnetic solenoids and apply motor control techniques and introduces the student to three-phase power motor circuits for industrial applications. COREQUISITES: 10660110 AC Fundamentals

INDUSTRIAL MAINTENANCE BEARINGS AND LUBRICATION...prepares learner to properly identify, remove, install, & maintain both plain and rolling element bearings used with either a radial or axial load, including ball, cylindrical roller, tapered roller, linear, & thrust bearings; use manufacturers' resources for proper usage and life of bearings; and look at proper types, properties, & application methods of lubrication. PREREQ: 31462309 or 31462300 Ind Mtnc Intro & 31462325 Mtnc Tools & Msrmt; & COREQS: 31420320 Mach Tool Math or 31462317 Trades Math Indus Mntc 1 & 31462318 Trades Math Indus Mntc 2

INDUSTRIAL MAINTENANCE HYDRAULICS AND PNEUMATICS...prepares the learner to identify hydraulic and pneumatic component symbols and terms, adjust a pressure relief valve, analyze the operation of a pilot operated relief valve; analyze Pascal's law; evaluate flow, velocity, work and power in industrial hydraulic and pneumatic circuits; analyze meter-in, meter-out, and bypass flow control circuits; identify basic hydraulic and pneumatic control valves; and assemble hydraulic circuits. PREREQUISITE: 10804118 or 10804118OL Intermed College Algebra or COREQUISITE: 31462317 Trades Math IM 1 and 31462318 Trades Math IM 2 or 10804115 College Tech Math

INDUSTRIAL MAINTENANCE INTRODUCTION...prepares the learner to apply basic safety, mechanics, force, friction, work, and energy; learn terminology related to maintenance; introduction to threaded and non-threaded fasteners and concrete anchoring; learn to use precision measuring tools; introduction to single phase and three phase motor wiring. Participants will obtain lift truck operation certification upon completion. COREQUISITE: 31462325 Maintenance Tools and Measurement

INDUSTRIAL MAINTENANCE INTRODUCTION TO FABRICATION...introduces the learner to various types of structural steel, sheet metal, and pipe, and prepares the learner to perform fabrication from assembly prints, including cutting, welding, bending, straightening, and repair. PREREQUISITES: 31462309 or 31462300 Ind Mtnc Intro, 31462325 Mtnc Tools and Measurement, 31462388 Ind Mtnc Print Rdg and 31442346 Ind Mtnc Wldg or 31442300 or 30442300 or 30442300IL Wldg Intro or 31462301 Indus Mntc Welding

INDUSTRIAL MAINTENANCE INTRODUCTION TO WELDING...introduces learner to welding field, including practicing safety and care of equipment & supplies used in common arc welding processes, practice in setup & technique for basic SMAW, GTAW, & GMAW equipment in common positions and on common joints; introduces oxy-fuel & plasma arc cutting.

INDUSTRIAL MAINTENANCE LAYOUT AND RIGGING...prepares the learner to perform layout skills for industrial maintenance to include machine layout, proper rigging, installation, and leveling with emphasis on baseline layout, machine rigging and installation, machine leveling, and alignment procedures. PREREQUISITES: 31462309 or 31462300 Industrial Maintenance Introduction and COREQUISITES: 31420320 Machine Tool Math or 31462317 Trades Math IM 1 and 31462318 Trades Math IM 2.

INDUSTRIAL MAINTENANCE MACHINE TOOL INTRODUCTION...prepares learner with skills to identify basic types of machining processes, follow standard shop safety rules, use semi-precision & precision measuring tools, perform workpiece layout procedures, identify metal composition and classification, follow cutoff machine safety rules, operate vertical & horizontal cutoff machines, follow sensitive drill press safety rules, identify drill press components, interpret attributes of hole-producing tools, and operate a sensitive drill press.

INDUSTRIAL MAINTENANCE MACHINE TOOL LATHES AND MILLS...prepares the learner to identify the characteristics and attributes of turning tools, apply engine lathe and milling machine safety rules, identify engine lathe and milling machine components, perform facing, turning, and cutoff operations, select and use various workholding devices and cutting tools, perform hole-producing operations, set up a vertical milling machine, mill square surfaces, precision steps and slots, and mill keyseats on a shaft. PREREQUISITE: 31420394 Ind Maint Machine Tool Introduction

INDUSTRIAL MAINTENANCE POWER TRANSMISSION...introduces the learner to belt, chain, and gear drives used in industrial maintenance applications, including v-belts, flat belts, timing belts, conveyor chains, roller chains, bevel gears, worm gears, helical gears, spur gears, couplings, and alignment with emphasis on identification, installation, repair, and maintenance. PREREQUISITES: 31462309 Industrial Maintenance Introduction or 31462300 Industrial Maintenance Introduction and 31462325 Mtnc Tools and Measurement and 31462310 Industrial Maintenance Bearings and Lube

INDUSTRIAL MAINTENANCE PRINT READING...prepares the learner to read prints; make sketches; interpret orthographic projections to include sections, auxiliary views, threads, and fasteners; and to solve problems in metal trades, fabrication, and troubleshooting.

INDUSTRIAL MAINTENANCE PUMPS, FLUID/AIR HANDLING...prepares the learner to identify, install, repair, and maintain common pumps and plumbing applications, including centrifugal pumps, diaphragm pumps, packing and seals, tubing, and installing hose and piping used with fluid and air handling. PREREQUISITE: 31462309 or 31462300 IM Intro, 31462325 Mtnc Tools/Measure, 31462388 IM Print Rdg, 31462317 Trades Math IM 1 and 31462318 Trades Math IM 2, or 31420320 MT Math and COREQUISITE: 10620155 IM Hyd/Pneum

INDUSTRIAL WIRING...prepares the learner to follow safety procedures; maintain a safe and healthy work environment; construct electrical circuits; measure electrical quantities using a VOM and/or DVM; analyze measured values using electrical circuit laws; construct typical industrial control circuits; and analyze typical industrial control circuits.

MACHINE TOOL CNC MACHINING CENTER...prepares the learner to follow Computer Numerical Control (CNC) machining center safety rules, apply coordinate systems, identify components and tooling, and set up and operate a CNC machining center with Haas controls. COREQUISITE: 31420307 Introto CNC Machining Center and 31420352 Machine Tool Mills 2

MAINTENANCE TOOLS AND MEASUREMENT...prepares the learner to use hand tools, precision measuring instruments, and torque tools.

OSHA 30...gives a basic overview of OSHA's role in prevention and elimination of work-related illnesses and injuries. It includes information about employer and employee rights and responsibilities, and a brief look at safety on the job site in relation to cranes, electrical, excavation, fall protection, materials handling, personal protection equipment, stairs-ladders-scaffolds, and power tools.

PREVENTIVE AND PREDICTIVE MAINTENANCE...provides students the opportunity to research the items to be inspected in a preventive maintenance program. Students develop preventive maintenance schedules and perform actual inspections of mechanical, fluid power, and electrical systems. Techniques for troubleshooting periodic maintenance are explored. PREREQUISITE: 31462314 Troubleshooting/Machine Repair

PROGRAMMABLE CONTROLLERS - ALLEN BRADLEY...prepares the student to understand basic PLC structure and terminology; learn to create and troubleshoot basic PLC programs using the RSLOGIX 500 software and the RSLINX communication software; become familiar with communicating with programming SLC-500 PLCs. This course is highly computer based.

PSYCHOLOGY FOR LIFE...prepares the learner to select behavior modification techniques, demonstrate techniques for enhancing memory, analyze expressions of emotion, use conflict for common good, employ techniques to reduce conflict/frustration, use several methods to reduce stress, interpret personality types, ascertain contributors to perception, and apply methods of problem-solving.

ROBOTIC MAINTENANCE...introduces the students to the robot teach pendant and robot jogging. Students will be taught to replace servo motors, recalibrate the robot and back up robot software and programs.

ROBOTICS INTRODUCTION...introduces the student to robotic axes, movement control, navigating the teach pendant, robotic frames, basic programming commands such as conditional branching, wait and call instructions.

TRADES MATH INDUSTRIAL MAINTENANCE 1...provides the learner with the necessary skills to use scientific calculators for the application of pre-algebra, algebra, geometry, and trigonometry. The course is self-paced, open entry/exit, and designed for individualized student needs.

TRADES MATH INDUSTRIAL MAINTENANCE 2...provides the learner with the necessary skills to use scientific calculators for the application of pre-algebra, algebra, geometry, and trigonometry. The course is self-paced, open entry/exit, and designed for individualized student needs. PREREQUISITE: 31462317 Trades Math Industrial Maintenance 1

TROUBLESHOOTING/MACHINE REPAIR...prepares the learner to perform essential troubleshooting, repair, and preventive maintenance of various machine tools and installations used in industrial maintenance and to integrate the skills learned in the other maintenance courses to perform complete repair of machine tools. PREREQUISITE: 31462309 or 31462300 IM Intro, 31462325 Mtnc Tools and Measurement, 31462305 IM Pwr Trans, 10620122 Ind Ctrl Intro, 31462308 IM Pmps, Fld/Air Hndlg and 31462310 IM Bearings/Lube

ABOUT THE PROGRAM

Manufacturing Management is a unique associate degree program designed by local industry to meet the needs of the workplace through a combination of supply chain, quality, lean, leadership, and supervisory skills. Graduates of this program are prepared to provide leadership in manufacturing and service industries.

PROGRAM OUTCOMES

- Display respect for individual differences and work cooperatively to build rapport and to achieve team goals.
- Develop and manage teams to enhance work productivity.
- Manage quality control.
- Implement better decision-making skills and utilize successful problem-solving processes.
- Perform successfully in the supervisory roles of planning, organizing, staffing, leading, and controlling.
- Integrate technology into the supply chain to improve profitability.
- Provide an uninterrupted flow of materials, supplies, and services required to operate the organization.
- Analyze and negotiate contracts with suppliers, manufacturers, and/or distributors.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

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ENROLLMENT PROCESS

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CONTACT

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Catalog No.	Class Title	Credit(s)
Term 1		
10103131	Excel 2013 - Level 1	1
10103181	Word 2013 - Level 1	1
10182131	Supply Chain Management	3
10196189	Teambuilding & Problem Solving	3
10809166	Introduction to Ethics OR 10809172	3
	Introduction to Diversity Studies (3cr)	
10801195	Written Communication OR 10801136	3
	English Composition 1	
		14
Term 2		
10804123	Math with Business Applications	3
10196107	Principles of Management	3
10801196	Oral/Interpersonal Communications OR	3
	10801198 Speech (3cr)	
10196134	Legal Issues for Supervisors	3
10623118	Lean Manufacturing Overview	3
		15
Term 3		
10101155	Accounting for Professionals	3
10105128	Personal Branding	2
10196136	Safety in the Workplace	3
10196188	Project Management	3
10623101	Quality Concepts	3
10806112	Principles of Sustainability OR 10809122	3
	Introduction to American Government (3cr)	
		17
Term 4		
10196129	Portfolio Assessment	1
10809198	Introduction to Psychology OR 10809188	3
	Developmental Psychology (3cr)	
10623110	Lean Six Sigma - Measure and Analyze	4
10623193	ISO 9001 Internal Auditor OR 10623195	3
	ISO 9001 Concepts (3cr)	
10809195	Economics	3
		14
		TOTAL 60

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ACCOUNTING FOR PROFESSIONALS...is the study of the information that can be interpreted from financial statements. Students analyze financial statements and apply managerial accounting concepts in an accelerated format. **PREREQUISITE:** 10804123 Math w Business Apps or **CONDITION:** 101101 Paralegal program requirements met

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

EXCEL 2013 - LEVEL 1...introduces the student to creating, modifying and formatting worksheets; entering formulas and functions; working with charts; and developing multiple-sheet workbooks. This course is offered in a self-paced format.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO ETHICS: THEORY AND APPLICATION...provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social and/or professional standards of behavior, and apply a systematic decision-making process to these situations. **COREQUISITE:** 10838105 Intro Reading and Study Skills or equivalent

ISO 9001 INTERNAL AUDITOR...is designed to introduce participants to the current QS/ISO 9001 and ISO 19011 standards. The course is structured to provide a detailed review of the standards, how to document procedures, and how to perform audits. Students will practice preparation for and conducting audits in a local business. Successful completion of this course qualifies the student to receive the ISO 9001 Internal Auditor certificate (19-623-8)

LEAN MANUFACTURING OVERVIEW...expands the learner's ability to develop skills to prioritize and sequence work, execute work plans, implement controls, and create and analyze performance evaluations. It allows the student to explore the execution of quality initiatives and continuous improvement plans in addition to the control and handling of inventories.

LEAN SIX SIGMA - MEASURE AND ANALYZE...provides the student with skills and tools to collect and analyze data to solve problems and improve processes within an organization. Various techniques for process mapping are explored including SIPOC, FMEA, VSM, standard work sheets, and spaghetti diagrams. Statistical tools are explored including probability, confidence intervals, measurement systems analysis, hypothesis testing, and TAKT time analysis to create and implement a data collection plan. MiniTab introduction is included.

LEGAL ISSUES FOR SUPERVISORS...applies the skills and tools necessary for a supervisor to effectively function in today's legal work environment. Learners will demonstrate the application of legal practices in both union and nonunion environments, analysis of the impact of U.S. employment laws, the impact of the global economy, the appeal process, reacting to legal charges, documenting the hiring/firing process, dealing with harassment issues, privacy issues, and summarizing legal issues facing contemporary supervisors.

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. **PREREQUISITE:** 10834109 Pre-Algebra or equivalent and **COREQUISITE:** 10838105 Intro Reading and Study Skills or equivalent or **CONDITION:** 610061 Agribusiness/ Agronomy Basic program admissions requirements met

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. **COREQUISITE:** 10838105 Intro Reading and Study Skills or equivalent

PERSONAL BRANDING...focuses on the importance of developing a strong brand identity for yourself as a professional. As a prospective employee, you are constantly selling yourself from how you talk, walk, dress, your facial expressions, and your body language; people are always forming impressions of you. In this course, you will develop a professional resume, cover letter, practice interview skills, and learn the role of social media in career development.

PORTFOLIO ASSESSMENT-MANUFACTURING MANAGEMENT...prepares the student to identify what they have learned throughout the program, write career goals, re-examine their resume, research and collect project samples of their achievements, and analyze their achievements within the college core abilities. **PREREQUISITE:** 10105128 Personal Branding

PRINCIPLES OF MANAGEMENT...will enable students to develop short and long range plans to effectively accomplish organizational goals. Through the use of terminology, exercises, and case studies, students will be able to give a critical appraisal of real life situations involving organizing, staffing, and motivating others. The student will also learn tools to aid in problem solving, value in diversity, and coping with change.

PRINCIPLES OF SUSTAINABILITY...prepares students to develop sustainable literacy, analyze interconnections among physical and biological sciences and environmental systems, summarize effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal/recycling in the U.S., and analyze approaches used by your community. **COREQUISITE:** 10838105 Intro Reading and Study Skills or equivalent

PROJECT MANAGEMENT...introduces the learner to explore the relationship of existing and emerging processes and technologies to manufacturing strategy and supply chain-related functions. This course addresses three main topics: aligning resources with the strategic plan, configuring and integrating operating processes to support the strategic plan, and implementing change.

QUALITY CONCEPTS...provides an overview of quality systems, methods and analysis using Minitab software. Basic quality philosophies such as Deming's principles, continuous improvement, quality costs, supplier relations and inspection theory will be presented. The components of a basic quality system compatible with ISO 9000 and Six Sigma will be explored. Minitab software will be taught and utilized to collect and analyze data. Techniques such as pareto, trend analysis, histograms, cause and effect diagrams and corrective/preventive action techniques will be applied to the data in order to address problems and improve processes.

SAFETY IN THE WORKPLACE...applies the skills and tools necessary to provide a safe and secure work environment. Each learner will demonstrate the application of safety awareness, federal/state/local compliance, incident investigation and documentation, human relations techniques, safety orientation, inspections, and risk analysis, issues of workplace violence, substance abuse, and health hazards, first aid and CPR, fire and electrical safety, emergency preparedness, and liaison with external agencies.

SUPPLY CHAIN MANAGEMENT...has been developed to provide a basic understanding of the planning and control of materials into, through, and out of organizations. In addition, those who want to become certified by APICS need a fundamentals course to learn about the material planning and control system. This course will provide a basis for further study leading to certification.

TEAMBUILDING AND PROBLEM SOLVING...applies the skills and tools necessary to facilitate problem solving in a team environment. Each learner will demonstrate the application of the benefits and challenges of group work, necessary roles in a team, stages of team development, different approaches to problem solving, consensus, a systematic process of problem definition, data acquisition, analysis, developing alternative solutions, solution implementation, and evaluation.

WORD 2013 - LEVEL 1...introduces the student to word processing features such as creating, saving, editing, formatting, and printing documents, creating basic diagrams, and applying these concepts to produce usable documents. This course is offered in a self-paced format.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. **PREREQUISITE:** 10831103 Intro to College Wrtg equivalent and **COREQUISITE:** 10838105 Intro Rdg & Study Skills or equivalent

Program Number 10-104-3 Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

Whether you are online, at a store, or browsing Facebook, you've experienced marketing. Then imagine yourself as a marketing professional in a digital age. Your personality is geared toward developing relationships with the super-informed consumer ad keeping up with the latest trends in marketing. You're curious about what drives consumers to purchase either digitally or traditionally. Marketing is a program for students interested in selling, social media, retailing promotion, and customer services. If you like generating fresh ideas, and enjoy variety and change, a career in marketing may be a perfect fit for you.

PROGRAM OUTCOMES

- Develop strategies to anticipate and satisfy market needs.
- Prepare an integrated marketing communication plan.
- Evaluate business information through the market research process.
- Demonstrate selling strategies for products, services, and/or ideas to create and maintain relationships.
- Manage Customer Relationship Management (CRM) functions to anticipate market wants and needs.

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SPECIAL NOTE

This program is also offered in an online delivery format. Contact an advisor for details.

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Term 1		
10104102	Marketing, Principles of	3
10103181	Word 2013 Level 1	1
10103131	Excel 2013 Level 1	1
10801198	Speech OR 10801196 Oral/Interpersonal Communication	3
10804123	Math with Business Applications	3
10809198	Introduction to Psychology	3
		14
Term 2		
10104104	Selling Strategies	3
10104122	Marketing Strategies and Planning	3
10104124	Research and Web Analytics	3
10106138	Web Technology	2
10104136	Retail Marketing	3
10801195	Written Communication OR 10801136 English Composition 1	3
		17
Term 3		
10104125	Promotion in the Social Media Campaign	3
10152106	Integrated Web Concepts	4
10105128	Personal Branding	2
10809122	Introduction to American Government OR 10806112 Principles of Sustainability	3
10809195	Economics	3
		15
Term 4		
10104105	B2B Sales and CRM	3
10104134	Direct Marketing, PR and Media	3
10104126	Internship-Marketing	1
10809196	Introduction to Sociology OR 10809172 Introduction to Diversity Studies	3
10196107	Principles of Management	3
10104174	Marketing Field Study	1
		14
		TOTAL 60

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B2B SALES AND CRM...enhances the student's ability to create business to business selling strategies and understand the factors affecting the sales funnel. Students will develop an understanding of CRM, account management, sales leadership and motivation, and sustaining the brand in the new era of Sales 2.0. COREQUISITE: 10104104 Selling Strategies

DIRECT MARKETING, PR AND MEDIA...provides the student with an overview of direct marketing, public relations, and social media as it relates to the consumer. Various channels of direct marketing will be investigated including social media, mobile marketing, email marketing, and traditional direct marketing strategies.

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

EXCEL 2013 - LEVEL 1...introduces the student to creating, modifying and formatting worksheets; entering formulas and functions; working with charts; and developing multiple-sheet workbooks. This course is offered in a self-paced format.

INTEGRATED WEB CONCEPTS...introduces the student to the three major components of the Web -- design, development, and marketing. A common course among Graphic and Web Design, Web and Software Developer, and Marketing, students from each program will be responsible for working in teams and to coordinate projects and present their industry to students from the other programs. PREREQUISITE: 10104102 Prin of Mktg and 101043 Mktg prog req met or 10152187 Web Dev 3 or COREQUISITE: 10201106 CSS for Adv Web Design and CONDITION: 101527 Web & Software Developer or 102012 Graphic & Web Design

INTERNSHIP-MARKETING...requires students to complete 72 hours (1 credit) of performing work in a business/industrial service setting related to their program outcomes. In addition, students will develop an academic portfolio which reflects upon the program outcomes, core abilities, career goal, educational goal, and course summary of learning. Students will meet with their program instructor to explain their portfolio and complete the technical skills attainment documentation.

INTRODUCTION TO AMERICAN GOVERNMENT...introduces American political processes and institutions. It focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. It explores the role of the media, interest groups, political parties and public opinion in the political process. It also explores the role of state and national government in our federal system.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MARKETING FIELD STUDY...provides the student the opportunity to participate in business tours and listen to guest speaker presentations. Enforcement of program outcomes and competencies will assist the student to better understand current trends and strategies in marketing.

MARKETING STRATEGIES AND PLANNING...introduces the student to marketing strategies that support the product/service mix. Students will use critical thinking and analytical skills to develop positioning, branding, differentiation, and relationship marketing strategies to reach the target audience. The student will also be responsible for the development of a marketing plan. PREREQUISITE: 10804123 Math w/ Business Apps

MARKETING, PRINCIPLES OF...introduces the student to the consumer decision process model, the bases used to segment a market, basic concepts about goods, services, and ideas, the nature of supply chain and distribution, integrated marketing communications, and the stages of the product life cycle and their impact on the marketing mix.

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/ Agronomy Basic program admissions requirements met

PERSONAL BRANDING...focuses on the importance of developing a strong brand identity for yourself as a professional. As a prospective employee, you are constantly selling yourself from how you talk, walk, dress, your facial expressions, and your body language; people are always forming impressions of you. In this course, you will develop a professional resume, cover letter, practice interview skills, and learn the role of social media in career development.

PRINCIPLES OF MANAGEMENT...will enable students to develop short and long range plans to effectively accomplish organizational goals. Through the use of terminology, exercises, and case studies, students will be able to give a critical appraisal of real life situations involving organizing, staffing, and motivating others. The student will also learn tools to aid in problem solving, value in diversity, and coping with change.

PROMOTION IN THE SOCIAL MEDIA CAMPAIGN...provides the student with the understanding of the promotional mix in integrated marketing communications. Students will also explore the role of social media in branding and positioning products. COREQUISITE: 10104102 Principles of Marketing

RESEARCH AND WEB ANALYTICS...provides the student with the ability to distinguish between quantitative and qualitative research techniques, primary and secondary data, and the marketing research process. In addition students will learn how web analytics and mobile technology have affected the marketing research process.

RETAIL MARKETING...provides the student with current developments in retail marketing. Students will learn about types of retailers, customer service, distribution and inventory control, and online and traditional retailing methods.

SELLING STRATEGIES...prepares the student to understand the business to consumer selling process, the technological advancement in selling, and the importance of customer relationship management.

SPEECH...explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of the course. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

WEB TECHNOLOGIES...provides a basic understanding of the Web as well as the tools used to create Web pages, blogs, and other features. Reviews social and business Web tools and components.

WORD 2013 - LEVEL 1...introduces the student to word processing features such as creating, saving, editing, formatting, and printing documents, creating basic diagrams, and applying these concepts to produce usable documents. This course is offered in a self-paced format.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 31-606-1 Technical Diploma • Three Terms

ABOUT THE PROGRAM

Students work on acquiring high-level drafting skills and utilize computer-aided drafting (CAD) software. They learn to construct and revise engineering working drawings.

PROGRAM OUTCOMES

- Assist engineers in the design process.
- Prepare detail and assembly drawings for documentation of mechanical parts and machines using CAD (Computer-Aided Design) software using ASME Y14.5M-2009 Standard.
- Function effectively on both self-directed and team-oriented projects.
- Ability to grasp spatial relationships.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

Program can also be completed by attending evenings.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10606101	Basic Mechanical Drafting	3
10606103	Intermediate Mechanical Drafting (AutoCAD)	3
10606105	Basic Modeling Using AutoCad	3
10606160	Manufacturing Processes & Applications	3
10804113	College Technical Math 1A	3
		15
Term 2		
10606106	Geometric Dimensioning and Tolerancing	3
10606140	Parametric Drafting Using Solidworks	3
10606196	Working Drawings Using SolidWorks	3
10801196	Oral/Interpersonal Communication	3
		12
		TOTAL 27

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



BASIC MECHANICAL DRAFTING USING AUTOCAD...provides the learner with the skills to utilize AutoCAD's drawing editor, viewing commands; apply coordinate entry methods, AutoCAD file commands; utilize draw commands, modify commands; create and edit text, prints & plots; apply geometric construction to solve a drawing problem; utilize selection sets, duplicating modify commands, layers & objects properties, blocks; apply principles of orthographic and multi view projection.

BASIC MODELING USING AUTOCAD...provides the learner with the skill to create solid primitives, create a solid model from a two-dimensional closed profile, use Boolean operations, use modify options to existing solid models, create a detail drawing from a solid model and create assembly drawings from solid models. COREQUISITE: 10606103 Intermediate Mechanical Drafting (AutoCAD)

COLLEGE TECHNICAL MATHEMATICS 1A...prepares the student to solve linear, quadratic, and relational equations; graph; formula rearrangement; solve systems of equations; percent; proportions; and operations on polynomials. Emphasis will be on the application of skills to technical problems. Successful completion of College Technical Mathematics 1A and College Technical Mathematics 1B is the equivalent of College Technical Mathematics 1. PRERQUISITES: Accuplacer Math score of 79 and Accuplacer Algebra score of 55 or equivalent or 10834110 Elementary Algebra w Apps or 31457318 Ind MtnC Trades Math or 31420320 Machine Tool Math or equivalent

GEOMETRIC DIMENSIONING AND TOLERANCING...provides the learner with the skills to apply and interpret geometric tolerancing (ASME 14.5M-2009) to part drawings, including form, profile, orientation, runout, and positional tolerances.

INTERMEDIATE MECHANICAL DRAFTING (AUTOCAD)...provides the learner with the skills to create two dimensional section views, create two-dimensional auxiliary views, create prints/plots from paper space, modify and set dimension attributes, apply dimensioning symbols, and apply ASME Y14.5M standards for dimensioning and tolerancing. COREQUISITE: 10606101 Basic Mechanical Drafting

MANUFACTURING PROCESSES AND APPLICATIONS...Introduces the learner to machining processes including, milling, turning, and drilling. The learner will also learn how to properly use and read dial and digital micrometers; dial, digital and vernier calipers; as well as height gages and angle measurement devices. In addition, the student will also explore metallurgy, computer-age machining and methods in advanced manufacturing technology.

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PARAMETRIC DRAFTING USING SOLIDWORKS...provides the learner with the skills to use SolidWorks user interface, sketching tools; create the following features: extrusions, revolves, cuts, holes, fillets and chamfers, ribs, sweeps, shells, lofts; setup reference geometry, edit sketches and features and create detail drawings from SolidWorks models. COREQUISITE: 10606105 Basic Modeling Using AutoCAD

WORKING DRAWINGS USING SOLIDWORKS...will provide the learner with the skills to create different types of assemblies using SolidWorks, insert standard components from toolbox and vendor websites, apply classes of fits to mating parts, determine interference and clearance between parts, specify annotation notes to drawings, insert a Bill-of-Material into an assembly drawing, and apply reverse engineering. COREQUISITE: 10606140 Drafting Parametric Using Solidworks

Program Number 10-606-1
Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

Mechanical design technicians, under the direction of engineering staff members, help develop and test products, calculate strength and cost of materials, make drawings to scale, and work on prototypes and product improvement. Students work on acquiring high-level drafting skills and utilize a variety of Computer-Aided Drafting (CAD) software. They learn to construct and revise engineering working drawings and tooling drawings; research and apply information for parts and materials; and specify appropriate tolerances, materials, and other engineering data. Mechanical designers work on teams that focus on continuous improvement, Six Sigma initiatives, and lean manufacturing efforts.

PROGRAM OUTCOMES

- Prepare detail and assembly drawings for documentation of mechanical components and products.
- Create CAD geometry, parts and assemblies.
- Design mechanical components and products.
- Analyze mechanical engineering problems.
- Select purchased parts.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

This program can also be completed by attending evenings.

CONTACT

LTC Career Coach
 920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10606101	Basic Mechanical Drafting	3
10606103	Intermediate Mechanical Drafting (AutoCAD)	3
10606105	Basic Modeling Using AutoCAD	3
10606160	Manufacturing Processes & Applications	3
10804115	College Technical Mathematics 1	5
		17
Term 2		
10606106	Geometric Dimensioning and Tolerancing	3
10606134	Statics	4
10606140	Drafting Parametric Using Solidworks	3
10606196	Working Drawings Using SolidWorks	3
10806154	General Physics 1	4
		17
Term 3		
10606117	Machine Elements	3
10606118	Kinematics	3
10606130	Strength of Materials	3
10809198	Introduction to Psychology	3
10809196	Introduction to Sociology OR 10809195 Economics	3
		15
Term 4		
10606112	Tool Design Basic	3
10606125	Design Problems	3
10606199	Intro to Current Manufacturing Trends	3
10801195	Written Communication OR 10801197 Technical Reporting OR 10801136 English Composition 1	3
10801196	Oral/Interpersonal Communication	3
		15
		TOTAL 64

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



BASIC MECHANICAL DRAFTING USING AUTOCAD...provides the learner with the skills to utilize AutoCAD's drawing editor, viewing commands; apply coordinate entry methods, AutoCAD file commands; utilize draw commands, modify commands; create and edit text, prints & plots; apply geometric construction to solve a drawing problem; utilize selection sets, duplicating modify commands, layers & objects properties, blocks; apply principles of orthographic and multi view projection.

BASIC MODELING USING AUTOCAD...provides the learner with the skill to create solid primitives, create a solid model from a two-dimensional closed profile, use Boolean operations, use modify options to existing solid models, create a detail drawing from a solid model and create assembly drawings from solid models. COREQUISITE: 10606103 Intermediate Mechanical Drafting (AutoCAD)

COLLEGE TECHNICAL MATHEMATICS 1...prepares the student to solve linear, quadratic, and rational equations; graphing; formula rearrangement; solve systems of equations; percent; proportions; measurement systems; computational geometry; right and oblique triangle trigonometry; trigonometric functions on the unit circle; and operations on polynomials. Emphasis will be on the application of skills to technical problems. This course is the equivalent of successful completion of College Tech Math 1a and 1b. PREREQUISITES: 10834110 Elementary Algebra w Apps or 31457318 Ind MtnC Trades Math or 31420320 Machine Tool Math or equivalent.

DESIGN PROBLEMS...prepares the learner to use knowledge of machine elements to design a mechanical system based on specifications given in class; prepare a project time line; create all documentation for manufacturing, including detail and assembly drawings; perform all design calculations. PREREQUISITE: 10606117 Machine Elements; 10606118 Kinematics; 10606196 Working Drawings Using SolidWorks or 10606160 Manufacturing Processes & Applications

GENERAL PHYSICS 1...presents the applications and theory of basic physics principles. This course emphasizes problem-solving, laboratory investigation, and applications. Topics include unit conversions and analysis, vectors, translational and rotational kinematics, translational and rotational dynamics, heat and temperature, and harmonic motion and waves. COREQUISITE: 10804197 College Tech Math 1B or 10804114 College Tech Math 1B or 10804114M1 College Tech Math 1B Mod 1 & 10804114M2 College Tech Math 1B Mod 2 or 10804115 College Tech Math 1 or 10624105 Hlth Phys Calc & Stats and 10804118 Interm Algebra

GEOMETRIC DIMENSIONING AND TOLERANCING...provides the learner with the skills to apply and interpret geometric tolerancing (ASME 14.5M-2009) to part drawings, including form, profile, orientation, runout, and positional tolerances.

INTERMEDIATE MECHANICAL DRAFTING (AUTOCAD)...provides the learner with the skills to create two dimensional section views, create two-dimensional auxiliary views, create prints/plots from paper space, modify and set dimension attributes, apply dimensioning symbols, and apply ASME Y14.5M standards for dimensioning and tolerancing. COREQUISITE: 10606101 Basic Mechanical Drafting

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO CURRENT MANUFACTURING TRENDS...introduces the learner to the theories and concepts of Statistical Process Control, Six Sigma and Lean Manufacturing. PREREQUISITE: 10804118 Intermediate Algebra with Apps or 10804110 Elementary Algebra with Apps or 10804115 College Technical Math 1 or 10804113 College Tech Math 1A and 10804114 College Tech Math 1B

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

KINEMATICS...provides the student with the skills necessary to determine the motions required to accomplish the objective of a machine, calculate velocities and design gears. PREREQUISITE: 10804118 Intermediate Algebra with Apps or 10804115 College Technical Math 1 or 10804113 College Technical Math 1A and 10804114 College Technical Math 1B

MACHINE ELEMENTS...introduces the student to the various components found on machinery, including shafts, bearings, power transmissions, gears, and the selection of standard machine elements from manufacturers' catalogs, and the use of spreadsheet solutions. COREQUISITE: 10606130 Strength of Materials

MANUFACTURING PROCESSES AND APPLICATIONS...Introduces the learner to machining processes including, milling, turning, and drilling. The learner will also learn how to properly use and read dial and digital micrometers; dial, digital and vernier calipers; as well as height gages and angle measurement devices. In addition, the student will also explore metallurgy, computer-age machining and methods in advanced manufacturing technology.

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PARAMETRIC DRAFTING USING SOLIDWORKS...provides the learner with the skills to use SolidWorks user interface, sketching tools; create the following features: extrusions, revolves, cuts, holes, fillets and chamfers, ribs, sweeps, shells, lofts; setup reference geometry, edit sketches and features and create detail drawings from SolidWorks models. COREQUISITE: 10606105 Basic Modeling Using AutoCAD

STATICS...covers the study of forces on and in structures that are at rest. Forces, vectors, resultants, moments, couples, equilibrium, free-body diagrams, friction, centroids, and centers of gravity, and moments of inertia are covered. PREREQUISITE: 10804115 College Technical Math 1 or 10804113 College Technical Math 1A and 10804114 College Technical Math 1B

STRENGTH OF MATERIALS...provides the learner with the skills to identify and calculate centers of gravity, moments of inertia, and stresses induced in force-bearing elements for the purpose of sizing the material in that element, specifically studying shear, axial, bending, torsional, and combined stresses. PREREQUISITE: 10606134 Statics

TOOL DESIGN BASIC...provides the basic principles needed to design the tools commonly used in manufacturing. Principal topics include drill jigs and milling fixtures. The classroom work is done on CAD, and students are encouraged to research and select standard components from tooling company catalogs. PREREQUISITE: 10606196 Working Drawings Using SolidWorks or 10606160 Manufacturing Processes & Applications

WORKING DRAWINGS USING SOLIDWORKS...will provide the learner with the skills to create different types of assemblies using SolidWorks, insert standard components from toolbox and vendor websites, apply classes of fits to mating parts, determine interference and clearance between parts, specify annotation notes to drawings, insert a Bill-of-Material into an assembly drawing, and apply reverse engineering. COREQUISITE: 10606140 Drafting Parametric Using Solidworks

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 31-509-1 Technical Diploma • Two Terms

ABOUT THE PROGRAM

Before you see your physician during a typical office visit, it's very likely you'll interact with a Medical Assistant first. Medical Assistants serve an important role on the healthcare team by performing a wide variety of clinical and clerical skills. If you want a career that features opportunities to work in the administrative, laboratory, and patient care areas of a physician's office or clinic, medical assisting may be just what you're looking for.

PROGRAM OUTCOMES

- Perform medical office administrative functions.
- Provide patient care in accordance with regulations, policies, laws, and patient rights.
- Perform medical laboratory procedures.
- Demonstrate professionalism in a health care setting.
- Demonstrate safety and emergency practices in a health care setting.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete health requirements.
 - Meet Keyboarding skills proficiency.
 - Submit Healthcare Provider CPR or Professional Rescuer certification.
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

- The Medical Assistant program is accredited by the Accrediting Bureau of Health Education Schools (ABHES).
- The one course, Human Body in Health Disease, is offered as two courses: Human Diseases for Health Professions AND Body Structure and Function at LTC.
- Students will need to submit proof of Nursing Assistant competency prior to taking Medical Assistant Clinical Procedures 1.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10501101	Medical Terminology	3
10501104	Healthcare Customer Service	2
10501107	Intro to Healthcare Computing	2
31509301	Medical Assistant Administrative Procedures	2
10806103	Body Structure and Function OR 31509302 Human Body in Health and Disease (3cr)	3
10530182	Human Diseases for Health Professions or 31509302 Human Body in Health & Disease (3Cr)	3
31509303	Medical Assistant Laboratory Procedures 1	2
31509304	Medical Assistant Clinical Procedures 1	4
		21
Term 2		
10501102	Health Insurance and Reimbursement OR 31509307 Medical Office Insurance and Finance (2 cr)	3
31509305	Medical Assistant Laboratory Procedures 2	2
31509306	Medical Assistant Clinical Procedures 2	3
31501308	Pharmacology for Allied Health	2
31509309	Medical Law, Ethics & Professionalism	2
31509310	Medical Assistant Practicum	3
		15
		TOTAL 36

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



BODY STRUCTURE AND FUNCTION...introduces the learner to the structures and functions of the integumentary, musculoskeletal, nervous, sensory, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

HEALTHCARE CUSTOMER SERVICE...is designed as an introduction to customer service for learners interested in working in various health care settings. The learner investigates health care systems and the health care workforce. The learner examines professionalism, interpersonal and written communication skills, and confidentiality as they relate to customer service.

HEALTH INSURANCE AND REIMBURSEMENT...introduces the learner to Federal, state, and private health insurance plans and managed care systems; and surveys the coding, submission and processing cycle of claims, as well as reimbursement methods used by payers. It provides application of information to ambulatory settings, pharmacies, hospitals, and long term care.

HUMAN DISEASES FOR HEALTH PROFESSIONS...focuses on the common diseases of each body system as encountered in all types of health care settings by health professionals. Emphasis is placed on understanding the etiology (cause), signs and symptoms, diagnostic tests, and treatment (including pharmacological) of each disease. COREQUISITES: 10501101 Med Term or CONDITION: 101064 Med Trans Spec program requirements met and 10806103 Body Struc & Func or CONDITION: 311067 Medical Transcription program requirements met and 10806103 Body Structure and Function

INTRO TO HEALTHCARE COMPUTING...provides an introduction to basic computer functions and applications utilized in contemporary healthcare settings. Students are introduced to the hardware and software components of modern computer systems and the application of computers in the workplace. Emphasis is placed on the use of common software packages, operating systems, file management word processing, spreadsheet, database, Internet, electronic mail, and electronic health records (EHR).

MEDICAL ASSISTANT ADMINISTRATIVE PROCEDURES...introduces learners to office management, business administration, risk management, and managed care in the medical office. Students learn to schedule appointments, perform filing, recordkeeping, telephone, and reception duties, while emanating professionalism and confidentiality within ethical and legal boundaries. CONDITION: 315164 Ophthalmic Medical Assistant program requirements met or 315091 Medical Assistant and COREQUISITE: 10501107 Intro to Healthcare Computing

MEDICAL ASSISTANT CLINICAL PROCEDURES 1...introduces medical assistant students to the procedures performed medical office settings. Students perform basic examining room skills including screening, vital signs, patient history, minor surgery and patient preparation for routine and specialty exams in the ambulatory care setting. COREQUISITE: 31509302 Human Body in Hlth & Dis or 10806103 Body Struc/Func & 10530182 Hum Dis for Hlth Prof & 31509303 Med Assist Lab Proc 1 & CONDITION: 315091 Med Assist program requirements met and CNA Competency

MEDICAL ASSISTANT CLINICAL PROCEDURES 2...addresses patient care skills performed by the medical assistant in the medical office setting. Students learn to perform clinical procedures including administering medications, assisting with minor surgery, performing an electrocardiogram, assisting with respiratory testing, educating patients/community, and maintaining clinical equipment in an ambulatory care setting. PREREQUISITES: 31509304 Medical Assistant Clinical Procedures 1 and 31509303 Medical Assistant Lab Procedures 1 and COREQUISITE: 31509305 Medical Assistant Laboratory Procedures 2

MEDICAL ASSISTANT LAB PROCEDURES 1...introduces medical assistant students to laboratory procedures commonly performed by medical assistants in a medical office setting. Students perform routine laboratory procedures commonly performed in the ambulatory care setting under the supervision of a physician. Students follow laboratory safety requirements and federal regulations while performing specimen collection and processing, microbiology, and urinalysis testing. COREQUISITE: 31509304 Medical Assistant Clinical Procedures 1 and CONDITION: 315091 Medical Assistant program requirements met

MEDICAL ASSISTANT LAB PROCEDURES 2...addresses laboratory procedures commonly performed by medical assistants including phlebotomy, immunology, hematology and chemistry. Students learn to perform routine laboratory procedures commonly performed in the ambulatory care setting under the supervision of a physician. PREREQUISITE: 31509303 Medical Assistant Lab Procedures 1 and COREQUISITE: 31509306 Medical Assistant Clinical Procedures 2

MEDICAL ASSISTANT PRACTICUM...requires medical assistant students to integrate and apply knowledge and skills from all previous medical assistant courses in actual patient care settings. Learners perform medical assistant administrative, clinical, and laboratory duties under the supervision of trained mentors to effectively transition to the role of a medical assistant. Practicum is completed in 2 1/2 weeks after graduation. Student's CPR and First Aid certification must be current throughout the entire Practicum. CONDITION: 315091 Med Ast or 315164 Op Med Ast prg reqs met; PREREQUISITE: 31509301 MA-Adm Prc & 10501104 Healthcare Customer Service; CORQUISITE: 31509306 MA CIn Prc 2, 31509305 MA Lab Prc 2, 31501308 Phrm-Allied Hlth, 10501102 Hlth Ins/Reimb, 31509309 Med Law/Ethcs/Prof

MEDICAL LAW, ETHICS & PROFESS...provides the student with the skills to display professionalism, maintain confidentiality, perform within ethical and legal boundaries, examine legal aspects of the medical record, perform risk management procedures, and examine legal and bioethical issues. CONDITION: 315091 Medical Assistant or 315164 Ophthalmic Medical Assistant or 315103 Health Care Technician program requirements met

MEDICAL TERMINOLOGY...focuses on the component parts of medical terms, including prefixes, suffixes, and word roots. Spelling, definition, and pronunciation will enhance student learning as students practice formation, analysis, and reconstruction of medical terms. Medical terminology will come "alive" through an introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology. Students will explore the Greek and Latin origins of medical terms and commonly used abbreviations.

PHARMACOLOGY FOR ALLIED HEALTH...introduces students to classifying medications into correct drug categories and applying basic pharmacology principles. Students apply basic pharmacodynamics to identifying common medications, medication preparation, and administration of medications used by the major body systems. COREQUISITES: 31509302 Human Body in Hlth & Disease or 10501101 Medical Term and 10806103 or 10806103OL Body, Struc, Function and 10530182 Human Diseases for Health Professions and 31509306 Medical Assist Clinical Proc 2

Program Number 31-530-2 Technical Diploma • Two Terms

ABOUT THE PROGRAM

The Medical Coding Specialist program prepares individuals for employment as entry-level coding specialists in health care facilities such as hospitals, clinics, physician practice groups, surgery centers, long-term care facilities, and home healthcare agencies. Coding specialists are also employed in consulting firms, coding and billing services, insurance companies, governmental agencies, and computer software companies. The medical coding specialist reviews medical documentation provided by physicians and other health care providers and translates this into numerical codes. The coding specialist assigns and sequences diagnostic and procedural codes using universally recognized coding systems. Several uses of coded data are for payment of health care claims, statistics, and medical research.

PROGRAM OUTCOMES

- Assign diagnostic and procedure codes using the ICD coding system.
- Assign procedure codes using the HCPCS/CPT coding system.
- Adhere to security/privacy/confidentiality policies.
- Use computers to process information.
- Support data collection and reimbursement system.
- Communicate in a professional manner.
- Model professional behaviors, ethics, and appearance.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete health requirements.
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10501101	Medical Terminology	3
10501102	Health Insurance and Reimbursement OR 10530185 Health Care Reimbursement (2 cr)	3
10530187	Clinical Information Management OR 10530176 Health Data Management (2 cr) AND 10530181 Introduction to the Health Record (1 cr)	4
10501107	Intro to Healthcare Computing	2
10806189	Basic Anatomy OR 10806189OL Basic Anatomy (3 cr) OR 10806103 Body Structure and Function (3 cr) OR 10806177 General Anatomy & Physiology (4 cr)	3
		15
Term 2		
10530182	Human Diseases for Health Professions	3
10530184	CPT Coding	3
10530197	ICD Diagnosis Coding	3
10530199	ICD Procedure Coding	2
10530195	Applied Coding	2
10530191	HIM/Coding Practicum 1	2
		15
		TOTAL 30

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



APPLIED CODING...prepares students to assign ICD and CPT/HCPCS codes supported by medical documentation with intermediate level of proficiency. Students will prepare appropriate physician queries in accordance with compliance guidelines and will assign codes to optimize compliance with federal regulations and reimbursement. PREREQUISITE: 10501101 Medical Terminology and COREQUISITES: 10530197 ICD Diagnosis Coding and 10530199 ICD Procedure Coding and 10530184 CPT Coding and 10501102 Health Insurance and Reimbursement

BASIC ANATOMY...examines concepts of anatomy and physiology as they relate to health careers. Learners correlate anatomical and physiological terminology to all body systems. COREQUISITE: 10838105 Intro Reading and Study Skills or Equivalent or Accuplacer Reading score of 74 or equivalent

CPT CODING...prepares learners to assign CPT codes, supported by medical documentation, with entry-level proficiency. Learners apply CPT instructional notations, conventions, rules, and official coding guidelines when assigning CPT codes to case studies and actual medical record documentation. COREQ: 10530182 Human Dis for Hlth Prof or 31509302 Human Body in Hlth & Disease and 10501102 Hlth Ins & Reimb and PREREQUISITE: 10501101 Med Term and CONDITION: 315302 Medical Coding Spec or 105304 Health Information Mgmt program requirements met

HEALTH DATA MANAGEMENT...introduces the use and structure of health care data elements, data sets, data standards, their relationships to primary and secondary record systems and health information processing.

HEALTHCARE REIMBURSEMENT...prepares learners to compare and contract health care payers, illustrate the reimbursement cycle, and to comply with regulations related to fraud and abuse. Learners assign Diagnosis Related Groups (DRGs), Ambulatory Payment Classifications (APCs) and Resource Utilization Groups (RUGs) with entry-level proficiency.

HIM/CODING PRACTICUM 1...applies previously acquired skills and knowledge by means of clinical experiences in the technical procedures of health record systems and discussion of clinical situations. COREQUISITES: 10530195 Applied Coding, 10530197 ICD Diagnosis Coding, 10530199 ICD Procedure coding, 10530184 CPT Coding, CONDITION: 315302 Medical Coding Specialist or 105304 Health Information Management program requirements met

HUMAN DISEASE FOR HEALTH PROFESSIONS...focuses on the common diseases of each body system as encountered in all types of health care settings by health professionals. Emphasis is placed on understanding the etiology (cause), signs and symptoms, diagnostic tests, and treatment (including pharmacological) of each disease. COREQUISITES: 10501101 Med Term or CONDITION: 101064 Med Trans Spec program requirements met and 10806103 Body Struc & Func or CONDITION: 311067 Medical Transcription program requirements met and 10806103 Body Structure and Function

ICD DIAGNOSIS CODING...prepares students to assign ICD diagnosis codes supported by medical documentation with entry level proficiency. Students apply instructional notations, conventions, rules, and official coding guidelines when assigning ICD diagnosis codes to case studies and actual medical record documentation. PREREQUISITE: 10501101 Medical Terminology and COREQUISITES: 10530182 Human Diseases for the Health Professions and 10501102 Health Insurance and Reimbursement

ICD PROCEDURE CODING...prepares students to assign ICD procedure codes supported by medical documentation with entry level proficiency. Students apply instructional notations, conventions, rules, and official coding guidelines when assigning ICD procedure codes to case studies and actual medical record documentation. PREREQUISITE: 10501101 Medical Terminology and COREQUISITES: 10530182 Human Diseases for the Health Professions and 10501102 Health Insurance and Reimbursement

INTRO TO HEALTHCARE COMPUTING...provides an introduction to basic computer functions and applications utilized in contemporary healthcare settings. Students are introduced to the hardware and software components of modern computer systems and the application of computers in the workplace. Emphasis is placed on the use of common software packages, operating systems, file management word processing, spreadsheet, database, Internet, electronic mail, and electronic health records (EHR).

INTRO TO THE HEALTH RECORD...prepares learners to illustrate the flow of health information in various health care delivery systems and within the health information department. It prepares learners to retrieve data from health records. Professional ethics, confidentiality, and security of information are emphasized.

MEDICAL TERMINOLOGY...focuses on the component parts of medical terms, including prefixes, suffixes, and word roots. Spelling, definition, and pronunciation will enhance student learning as students practice formation, analysis, and reconstruction of medical terms. Medical terminology will come "alive" through an introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology. Students will explore the Greek and Latin origins of medical terms and commonly used abbreviations.

Program Number 10-624-1
Associate Degree in Applied Science • Five Terms

ABOUT THE PROGRAM

The increasing use of radiation and radioactive materials in today's world has created a demand for radiation protection technicians. The Nuclear Technology program offers the student a unique opportunity to obtain the specialized training in demand by businesses and organizations licensed to utilize radioactive materials. This program can result in starting salaries higher than many four-year degree programs. It is also an excellent springboard for a four-year degree in the high-demand field of health physics and radiation safety.

PROGRAM OUTCOMES

- Work safely within industrial and radiological hazard areas.
- Understand and communicate nuclear technology-related concepts effectively in both oral and written formats.
- Diagnose equipment requiring electrical or mechanical repair and carry out preventive maintenance procedures.
- Perform radiological surveys for radiation and radioactive contamination.
- Follow procedures for operating and maintaining systems and equipment at nuclear facilities.
- Participate in applying nuclear technologies to a variety of industrial, medical, and research processes.
- Apply knowledge in a variety of related occupational jobs such as reactor plant operations, maintenance, quality assurance, etc.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

- Classes are offered at LTC's main campus with videoconferencing to NWTC's Green Bay Campus.
- Students may potentially earn *NUCP certification by maintaining a "B" or above in all coursework. (Program courses meet NUCP standards; certification is contingent upon LTC's NUCP partnership with a nuclear facility) Online students are not eligible. (*NUCP=Nuclear Uniform Curriculum Program)
- Gaining employment in the nuclear, radiation safety, and health physics likely includes a very comprehensive background check of one's lifespan. This includes not only criminal activities, but likely also credit history, civil actions, and a psychological profile.
- Online Option: Available to working adults in the Nuclear/Radiation Safety/Health Physics industry. To register for online courses, search for the catalog numbers with an "OL" suffix. Online courses have prerequisites of other specific online courses and are not interchangeable with the in-person courses. Online classes are constructed without hands-on lab components; therefore, online students work with their industry supervisor to identify suitable activities at their worksite.

CONTACT

LTC Career Coach
 920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10624105	Health Physics Calculations and Statistics	3
10624110	Nuclear Technology and Regulations	3
10804115	College Technical Math 1	5
10801195	Written Communication	3
		14
Term 2		
10624114	Nuclear Systems and Sources	3
10624122	Radiation Physics	3
10624123	Radiation Physics-Lab	2
10624103	Nuclear DC and AC Applications	3
10809122	Introduction to American Government	3
10801196	Oral/Interpersonal Communications	3
		17
Summer		
10624118	Radiation Biology	3
		3
Term 3		
10624138	Radioactive Materials Management	2
10624132	Radiological Emergencies	2
10624134	Radiation Shielding	2
10624135	Radiation Shielding Lab	1
10806154	General Physics 1	4
10624149	Reactor Plant Components	4
		15
Term 4		
10624140	Radiochemistry	3
10624148	Reactor Theory and Operation	3
10624145	Applied Health Physics	3
10624146	Applied Health Physics Lab OR 10624156 Radiation Safety Internship	2
10809198	Introduction to Psychology	3
		14
		TOTAL 63

Most classes in this program have prerequisites.

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



APPLIED HEALTH PHYSICS...prepares learner to issue dosimetry, monitor personal exposure, calculate/estimate radioactive airborne activity concentration, issue respirators, determine contamination levels, don and remove protective clothing, reduce the spread of contamination, conduct an ALARA audit, reduce the total radiation exposure, maintain records and estimate skin dose, etc. PREREQ: 10624122 Radiation Physics

APPLIED HEALTH PHYSICS-LAB...expands the learner's ability to perform applied health physics tasks as covered in Applied Health Physics, 624-145 and should be completed within the same semester. COREQUISITE: 10624145 App Health Physics

COLLEGE TECHNICAL MATHEMATICS 1...prepares the student to solve linear, quadratic, and rational equations; graphing; formula rearrangement; solve systems of equations; percent; proportions; measurement systems; computational geometry; right and oblique triangle trigonometry; trigonometric functions on the unit circle; and operations on polynomials. Emphasis will be on the application of skills to technical problems. This course is the equivalent of successful completion of College Tech Math 1a and 1b. PREREQUISITES: 10834110 Elementary Algebra w Apps or 31457318 Ind MtnC Trades Math or 31420320 Machine Tool Math or equivalent.

GENERAL PHYSICS 1...presents the applications and theory of basic physics principles. This course emphasizes problem-solving, laboratory investigation, and applications. Topics include unit conversions and analysis, vectors, translational and rotational kinematics, translational and rotational dynamics, heat and temperature, and harmonic motion and waves. COREQUISITE: 10804197 College Tech Math 1B or 10804114 College Tech Math 1B or 10804114M1 College Tech Math 1B Mod 1 & 10804114M2 College Tech Math 1B Mod 2 or 10804115 College Tech Math 1 or 10624105 Hlth Phys Calc & Stats and 10804118 Intern Algebra

HEALTH PHYSICS CALCULATIONS AND STATISTICS...prepares the learner to solve linear and exponential equations, logarithms, plot graphs, determine counting statistics and reliability, and work with geometry and trigonometry problems. COREQUISITE: 10624110 Nuclear Technology & Regulations

INTRODUCTION TO AMERICAN GOVERNMENT...introduces American political processes and institutions. It focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. It explores the role of the media, interest groups, political parties and public opinion in the political process. It also explores the role of state and national government in our federal system.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

NUCLEAR DC AND AC APPLICATIONS...prepares nuclear, radiation safety, and health physics learners to apply direct current (DC) and alternating current (AC) concepts and laws; perform calculations and measurements to identify basic electrical terms, symbols, units, etc.; apply the electrical laws (such as, Ohm's law, Kirchhoff's voltage and current laws); to analyze DC/AC electronic circuit, power, etc.; to analyze AC waveform (including single-phase versus three-phase), batteries, chargers, etc. PREREQUISITE: 10624105 HealthPhysics Calcs & Stats

NUCLEAR SYSTEMS AND SOURCES...introduces the learner to the major components of natural/man-made background sources, x-ray tubes and applications, medical-used radioactivity materials, accelerators, nuclear gauging devices, non-ionization radiations, and power/research nuclear reactors and associated health physics topics. PREREQUISITE: 10624110 Nuclear Technology & Regulations

NUCLEAR TECHNOLOGY AND REGULATIONS...introduces the learner to atomic and nuclear structure; radioactivity and basic dosimetry; regulation standards, including 10CFR 19, 20, 30, and 35. COREQUISITE: 10624105 Health Physics Calcs & Stats

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

RADIATION BIOLOGY...prepares the learner to convert measuring units and activity to dose rates, predict the effect of radiation on living cells and human organs, evaluate radiation risk, and calculate internal doses. PREREQUISITES: 10624110 Nuclear Tech/Reg, 10624105 Health Phys Calc/Stats, 10624114 Nuclear Systems and Sources, 10624122 Rad Physics, 10624123 Rad Phys-Lab, and 10804115 College Tech Math 1 or 10804114 Tech Math 1B

RADIATION PHYSICS...introduces the learner to health physics-related physics, including the properties of radiation; interactions of radiation with matters; basic principles of radiation detection and measurement; and different kinds of radiation detectors; i.e., gas-filled and solid-state detectors. PREREQUISITE: 10624110 Nuclear Tech & Reg and 10624105 Health Physics Calc & Stats and 10804115 College Tech Math 1 or 10804114 College Tech Math 1B

RADIATION PHYSICS-LAB...expands the learners ability to perform calculations, select instruments, and analyze samples. This course is associated with 624-122, Radiation Physics. COREQUISITE: 10624122 Radiation Physics and PREREQUISITE: 10801195 Written Communications and COREQUISITE: 10624110 Nuclear Technology & Regulations

RADIATION SHIELDING...provides the learner with the skills to calculate radiation attenuation from various geometric radioactive sources, determine the effect of neutron radiation on materials, and estimate the exposure rate from various sources with or without shielding materials. PREREQUISITE: 10624122 Radiation Physics

RADIATION SHIELD-LAB...expands the learner's ability to perform shielding of ionizing radiation sources and to measure the penetration of beta and gamma radiation. COREQUISITE: 10624134 Radiation Shielding

RADIOACTIVE MATERIAL AND MANAGEMENT...introduces the learner to the proper methods used to dispose of radioactive waste in liquid, solid, gaseous forms; determine waste classification, evaluate methods used to process low-level and high-level waste, determine the package/label requirements, proper type of transport container, shipment quantity classification, storage distance from people and film during shipments by rail/vessel/public roads, proper shipping name and UN number; completion of proper shipping papers; document materials inventory/shipments. PREREQUISITES: 10624105 Health Physics Calc & Statistics, 10624110 Nuclear Technology & Regulations, 10624114 Nuclear Systems & Sources

RADIOCHEMISTRY...provides the student with the fundamentals of chemistry and the application of chemistry control to a nuclear facility. The course will cover basic water treatment principles, corrosion, reactor water chemistry control and chemical hazards. Prepares the learner to separate dissolved, suspended, liquid, and ionic radioactive components; perform qualitative and quantitative analysis of samples; and prevent the production of radioactive material by using proper chemical control. PREREQUISITE: 10624122 Radiation Physics

RADIOLOGICAL EMERGENCIES...prepares the learner to understand a radiological emergency within the commercial nuclear power industry and explain how it is prevented, mitigated, and the proper preparations should an emergency occur. A radiological emergency is displaced radioactive substances in solid, liquid, or gaseous form in amounts which may result in doses to plant workers, plant equipment, the environment, or the public, that exceed company, state, and federal limits or regulations. Post-accident actions will be described as well as company, state, and federal regulations on radioactive releases and doses. PREREQUISITES: 10624110 Nuclear Technology and Regulations, 10624105 Health Physics Calculations and Statistics and 10624114 Nuclear Systems and Sources

REACTOR PLANT COMPONENTS...provides the learner with the fundamentals of heat transfer and fluid flow, and properties of reactor plant materials. The course introduces basic mechanical and electrical components used in nuclear power plants such as different types of piping, valves, pumps, ejectors, filters, turbines, heat exchangers, compressors, lubrication systems, valve actuators, breakers, transformers, relays and other equipment. PREREQUISITES: 10624110 Nuclear Technology & Regulations, 10624105 Health Physics Calculations & Statistics, 10804115 College Technical Math 1 or 10804114 College Tech Math 1B and COREQUISITE: 10624114 Nuclear Systems and Sources,

REACTOR THEORY AND OPERATION...introduces the learner to the basic reactor types, the fission process, reactivity/criticality, reactor kinetics, heat removal, residual/decay heat, basic reactor types, nuclear plant water chemistry, and reactor thermodynamics. PREREQUISITE:10624122 Radiation Physics and 10624132 Radiological Emergencies

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 30-543-1 Technical Diploma • One Term

ABOUT THE PROGRAM

Nursing assistants play an important role in basic patient/resident care activities in hospitals, nursing homes, and other healthcare settings, including home healthcare. If you're a good communicator, compassionate, and interested in caring for people, becoming a nursing assistant may be a rewarding career choice for you.

PROGRAM OUTCOMES

- Communicate and interact with clients, families and coworkers.
- Maintain and protect client rights.
- Report and record observations.
- Demonstrate ethical and legal responsibilities of the NA/HHA.
- Perform the basic nursing skills required of the NA/HHA.
- Provide for personal care and hygiene.
- Assist with the client rehabilitation and restorative care, promoting independence.
- Assist clients with long-term disabling conditions including dementia.
- Distinguish color and color intensity.
- Read and converse in English.
- Work under stress of time and job demands.
- Maintain emotional control.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Review and complete Nursing Assistant Handbook.
 - Complete health requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

SPECIAL NOTE

The Nursing Assistant program meets state and federal requirements for training and testing. Upon completion, the graduate will be eligible to sit for the State of Wisconsin Nursing Assistant Competency Examination. The Nursing Assistant program is open to eligible individuals including high school students who are at least 16 years of age or older. This program is not eligible for financial aid.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
	Term 1	
30543300	Nursing Assistant	3
TOTAL 3		

*Curriculum and Program Acceptance requirements are subject to change.
Program start dates vary; check with your advisor for details.*



NURSING ASSISTANT...is designed to prepare learners for employment in home care agencies, nursing homes, and hospitals. Learners are supervised by qualified RNs in classroom, lab, and clinical areas. Classes are presented by means of online and face-to-face instruction. Lab and clinical activities are scheduled at designated locations in Manitowoc and Sheboygan Counties. Upon successful completion, the graduate will be eligible to sit for the State of Wisconsin Nursing Assistant Competency Examination. CONDITION: 305431 Nursing Assistant Admission Requirements Met

ABOUT THE PROGRAM

If you're ill or injured, it's comforting to know you're in the care of highly skilled, well-educated healthcare professionals. At the core of that healthcare team are registered nurses whose mission is to assess and care for the ill and injured as well as to maintain health and prevent illness of individuals across the lifespan. If you work well under pressure; like math, science, communications, and problem solving; are independent; and have a strong desire to work with and help people—success may be yours as a registered nurse.

PROGRAM OUTCOMES

- Implement one's role as a nurse in ways that reflect integrity, responsibility, ethical practices, and an evolving identity as a nurse committed to evidence-based practice, caring, advocacy, and quality care.
- Demonstrate appropriate written, verbal, and nonverbal communication in a variety of clinical contexts.
- Integrate social, mathematical, and physical sciences, pharmacology, in clinical decision making.
- Provide patient centered care by utilizing the nursing process across diverse populations and health care settings.
- Minimize risk of harm to patients, members of the health care team, and self through safe individual performance and participation in system effectiveness.
- Lead the multidisciplinary health care team to provide effective patient care throughout the lifespan.
- Use information and technology to communicate, manage data, mitigate error, and support decision making.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Health Occupations Entrance assessment - HESI.
 - Complete chemistry requirement.
 - Complete health requirements.
 - Complete Functional Abilities Statement of Understanding form.
 - Complete Nursing Program Handbook form
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

- High school Chemistry may fulfill admission requirement.
- Background check must be completed prior to admission and within one month of starting first clinical course.
- Nursing Assistant skills must be attained within 6 months of starting clinicals.
- LTC's Nursing—Associate Degree program is accredited by the Accreditation Commission for Education in Nursing, 3343 Peachtree Road N.E., Suite 850, Atlanta, Georgia 30326.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10543101	Nursing Fundamentals	2
10543102	Nursing Skills	3
10543103	Nursing Pharmacology	2
10543104	Nsg: Intro Clinical Practice	2
10801195	Written Communication OR 10801136 English Composition 1	3
10806177	General Anatomy and Physiology	4
10809188	Developmental Psychology	3
19		
Term 2		
10543105	Nursing Health Alterations	3
10543106	Nursing Health Promotion	3
10543107	Nsg: Clinical Care Across Lifespan	2
10543108	Nsg: Intro Clinical Care Mgt	2
10801196	Oral/Interpersonal Communication	3
10806179	Advanced Anatomy and Physiology	4
17		
Term 3		
10543109	Nsg: Complex Health Alterations 1	3
10543110	Nsg: Mental Health Community Concepts	2
10543111	Nsg: Intermediate Clinical Practice	3
10543112	Nursing Advanced Skills	1
10806197	Microbiology	4
10809198	Introduction to Psychology	3
10999992	Elective***	2
18		
Term 4		
10543113	Nsg: Complex Health Alterations 2	3
10543114	Nsg: Mgt & Professional Concepts*	2
10543115	Nsg: Advanced Clinical Practice	3
10543116	Nursing Clinical Transition	2
10809172	Introduction to Diversity Studies OR 10809196 Introduction to Sociology	3
10999999	Elective	3
16		
TOTAL 70		

NOTE:

- 1080614 General Chemistry will count toward elective credit requirements.
- Courses with * may count toward BSN completion credit requirements.
- Courses with *** are encouraged to use as part of elective credits.

Recommended Support/Elective Courses:

10501101	Medical Terminology	3
10543124	Virtual Clinical for 2nd Semester Nursing	1
10543125	Virtual Clinical for 3rd Semester Nursing***	1
10809166	Intro to Ethics: Theory and Application*	3
10510109	EKG/Phlebotomy	4

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.

ADVANCED ANATOMY AND PHYSIOLOGY...is the second semester in a two-semester sequence in which normal human anatomy and physiology are studied using a body systems approach with emphasis on the interrelationships between form and function at the gross and microscopic levels of organization. Instructional delivery within a classroom and laboratory setting. Experimentation within a science lab will include analysis of cellular metabolism, the individual components of body systems such as the nervous, neuro-muscular, cardiovascular, and urinary. Continued examination of homeostatic mechanisms and their relationship to fluid, electrolyte, acid-base balance and blood. Integration of genetics to human reproduction and development are also included in this course. PREREQUISITE: 10806177 General Anatomy & Physiology or equivalent

DEVELOPMENTAL PSYCHOLOGY...introduces the student to the study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills will enable students to gain an increased knowledge and understanding of themselves and others.

GENERAL ANATOMY AND PHYSIOLOGY...examines basic concepts of human anatomy & physiology as they relate to health sciences. Using a body systems approach, course emphasizes the interrelationships between structure and function at the gross & microscopic levels of organization of the entire human body. Intended to prepare health care professionals who need to apply basic concepts of whole body anatomy & physiology to informed decision-making and professional communication with colleagues & patients. PREREQUISITE: 10806134 General Chemistry or equiv

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO DIVERSITY STUDIES...introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, religion are explored. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MICROBIOLOGY...introduces learner to examine microbial structure, metabolism, genetics, growth and relationship between humans and microorganisms. Addresses disease production, epidemiology, host defense mechanisms and the medical impact of microbes. Examines the role of microbes in the environment, industry, and biotechnology. PREREQUISITE: 10806177 Gen Anatomy and or equiv

NSG: ADVANCED CLINICAL PRACTICE...requires student to integrate concepts from all previous courses in the management of groups of clients facing complex health alterations. Students will have the opportunity to further develop critical thinking skills using the nursing process in making clinical decisions. Continuity of care through interdisciplinary collaboration is emphasized. Students need current professional AHA CPR card, TB test, & flu vaccine. Must have completed 3rd semester courses. Requires a min grade of "C" or better. COREQ: 10543113 Nrs Complex Health Alt II

NSG: CLINICAL CARE ACROSS LIFESPAN...applies nursing concepts and therapeutic interventions to clients across the lifespan. It also provides an introduction to concepts of teaching and learning. Extending care to include the family is emphasized. Student must have completed all first semester courses. Student needs a current TB test, AHA CPR card (1 and 2 person, adult, infant, and child, AED), and flu vaccine. Course requires a minimum grade of "C" or better. COREQUISITE: 10543106 Nursing Health Promotion. Student must have completed all first semester courses. Student needs a current TB test and professional CPR card (1 and 2 person, adult, infant, and child, AED). Course requires a minimum grade of "C" or better.

NSG: COMPLEX HEALTH ALTERATIONS 1...prepares learner to provide and evaluate care for patients across the lifespan with alterations in cardiovascular, respiratory, endocrine, and hematologic systems as well as patients with fluid/electrolyte and acid-base imbalance, and alterations in comfort. Must have completed all second semester courses. Course requires a minimum grade of "C" or better. PREREQ: 10543105 Nrs Hlth Alt and 10543106 Nrs Hlth Prom & 10543107 Clin Care Across Lifespan & 10543108 Intro Clin Care Mgmt and; 10806196 A&P II or 10806179 or 10806179OL Adv A&P COREQ: 10806197 or 10809197OL Microbiology

NSG: COMPLEX HEALTH ALTERATIONS 2...prepares the learner to provide and evaluate care for patients across the lifespan with alterations in the immune, neuro-sensory, musculoskeletal, gastrointestinal, hepatobiliary, renal/urinary, reproductive systems and shock/burns and trauma. The learner will also focus on management of care for patients with high-risk perinatal conditions and high-risk newborns. Course requires a minimum grade of "C" or better. PREREQUISITE: 10543109 Nrs Complex Hlth Alt 1 and 10543112 Nrs Adv Skills and 10543110 Nrs Mental Hlth Comm Con & 10543111Nrs Interm Clin Pract & 10806197 Microbiology or 10806197OL Microbiology

NSG: INTERMEDIATE CLINICAL PRACTICE...develops the RN role when working with clients with complex health care needs. A focus of the course is developing skills needed for managing multiple clients across the lifespan and priorities. Using the nursing process students will experience adapting nursing practice to meet the needs of clients with diverse needs and backgrounds. Student must have completed all second semester courses. Student needs a current TB test, AHA CPR card (1 and 2 person, adult, infant, and child, AED), and flu vaccine. Course requires a minimum grade of "C" or better. COREQUISITE: 10543112 Nursing Advanced Skills and 10543109 Nursing Complex Health Alterations I & 10543110 Nursing Mental Health Community Concepts

NSG: INTRO CLINICAL CARE MGT...applies nursing concepts & therapeutic nursing interventions to groups of clients across the lifespan. Also provides an introduction to leadership, management, and teambuilding. Student must have completed all 1st semester courses. Student needs a current TB test, AHA CPR card (1 & 2 person, adult, infant & child, AED), and flu vaccine. Course requires a min grade of "C" or better. COREQUISITE: 10543105 Nursing Health Alterations.

NSG: INTRO CLINICAL PRACTICE...is an introductory clinical course that emphasizes basic nursing skills and application of the nursing process in meeting the needs of diverse clients across the lifespan. Emphasis is placed on performing basic nursing skills, the formation of nurse-client relationships, communication, data collection, documentation, and medication administration. Student needs a current TB test, AHA CPR card (1 and 2 person, adult, infant, and child, AED), and flu vaccine. Student needs to be admitted to the Nursing program. Course requires a minimum grade of "C" or better. CONDITION: 105431 Nursing-Associate Degree Admissions Requirements Met and COREQUISITE: 10543101 Nursing Fundamentals and 10543102 Nursing Skills and 10543103 Nursing Pharmacology

NSG: MENTAL HEALTH COMMUNITY CONCEPTS...will cover topics related to the delivery of community and mental health care. Specific health needs of individuals, families, and groups will be addressed across the lifespan. Attention will be given to diverse and at-risk populations. Mental health concepts will concentrate on adaptive/maladaptive behaviors and specific mental health disorders. Community resources will be examined in relation to specific types of support offered to racial, ethnic, and economically diverse individuals and groups. Student must have completed all second semester courses. Course requires a minimum grade of "C" or better. PREREQUISITE: 10543105 Nrs Hlth Alt, 10543106 Nrs Hlth Promo, 10543107 Clin Care Across Lifespan, 10543108 Intro Clin Care Mgt, 10806196 A&P II; or 10806179 or 10806179OL Adv A&P & COREQUISITE: 10809198 or 10809198OL Psyc-Intro or 10809199 Psyc-Hum Rel

NSG: MGT & PROFESSIONAL CONCEPTS...covers nursing management and professional issues related to the role of the registered nurse. Emphasis is placed on preparing for practice as a registered nurse. This course requires a minimum grade of "C" or better. PREREQUISITE: 10543109 Nrs Complex Hlth Alterations 1 and 10543112 Nursing Advanced Skills and 10543110 Nrs Mental Hlth Comm Concepts and 10543111 Nrs Interm Clin Practice

NURSING ADVANCED SKILLS...focuses on the development of advanced clinical skills across the lifespan. Content includes advanced IV skills, blood product administration, chest tube systems, basic EKG interpretation and nasogastric/feeding tube insertion. This course requires a minimum grade of "C" or better. PREREQUISITE: 10543105 Nrs Hlth Alterations and 10543106 Nrs Hlth Promotion and 10543107 Clin Care Across Lifespan; and 10543108 Intro Clin Care Mgmt and 10806196 A&P II; or 10806179 or 10809179OL Adv A&P

NURSING CLINICAL TRANSITION...integrates all knowledge learned in the previous courses in transitioning to the role of the graduate nurse. The course promotes relatively independent clinical decisions, delegation, and works collaboratively with others to achieve client and organizational outcomes. Continued professional development is fostered. Student needs a current professional AHA CPR card, TB test, and flu vaccine. Student must have completed all third semester courses. Course requires a minimum grade of "C" or better. COREQUISITE: 10543115 Nrs Advanced Clinical Practice and 10543114 Nursing Management Concepts and 10543113 Nursing Complex Health Alterations II

NURSING FUNDAMENTALS...focuses on basic nursing concepts to provide evidenced-based care to diverse patient populations across the lifespan. Current and historical issues impacting nursing will be explored within the scope of nursing practice. The nursing process will be introduced as a framework for organizing the care of patients. This course requires a minimum grade of "C" or better. COREQUISITE: 10806177 or 10806177OL or 10806177SA Gen Anatomy and Physiology, 10801195 Written Comm or 10801195OL Written Comm-Online and CONDITION: 105431 Nursing-Associate Degree

NURSING HEALTH ALTERATIONS...elaborates upon the basic concepts of health and illness as presented in Nursing Fundamentals. It applies theories of nursing in the care of clients through the lifespan, utilizing problem solving and critical thinking. This course will provide an opportunity to study conditions affecting different body systems and apply evidence-based nursing interventions. It will also introduce concepts of leadership and management. Course requires a minimum grade of "C" or better. PREREQUISITE: 10543101 Nrs Fund and 10543102 Nrs Skills and 10543103 Nrs Pharm and 10543104 Nrs: Intro to Clin Practice and 10806177 or 10806177OL or 10806177SA Gen Anat & Phys or 10806196 Anat & Phys II

NURSING HEALTH PROMOTION...focuses on topics related to health promotion in for individuals and families throughout the lifespan. We will cover nursing care of the developing family, which includes reproductive issues, pregnancy, labor and delivery, post-partum, the newborn, and the child. Recognizing the spectrum of healthy families we will discern patterns associated with adaptive and maladaptive behaviors applying mental health principles. An emphasis is placed on teaching and supporting healthy lifestyle choices for individuals of all ages. Nutrition, exercise, stress management, empowerment, and risk reduction practices are highlighted. Study of the family will cover dynamics, functions, discipline styles, and stages of development. Course requires a minimum grade of "C" or better. PREREQUISITE: 10543101 Nrs Fund, 10543102 Nrs Skills, 10543103 Nrs Pharm, 10543104 Nrs Intro Clin Pract , 10809164 Human Grwth/Dev or 10809188 Dev Psyc & 10806177 or 10806177OL or 10806177SA Gen A & P or 10806196 A&P 2 & COREQUISITE: 10801196 or 10801196OL Oral/Interprs Com or 10801198 Speech

NURSING PHARMACOLOGY...introduces the principles of pharmacology, including drug classifications and their effects on the body. Emphasis is on the use of the components of the nursing process when administering medications. Student must be admitted to the Nursing program. Course requires a minimum grade of "C" or better. Do not register for this class until you are assigned a clinical slot in 543-104 in current or next semester. CONDITION: 105431 Nursing-Associate Degree Admissions Requirements Met and COREQUISITE: 10806196 Anat & Phys 2 or 10806177 or 10806177OL or 10806177SA Gen Anat & Phys

NURSING SKILLS...focuses on development of evidence-based clinical skills and physical assessment across the lifespan. Content includes mathematical calculations and conversions related to clinical skills. In addition the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach. This course requires a minimum grade of "C" or better. CONDITION: 105431 Nursing-Associate Degree Admissions Requirements Met and COREQUISITE: 10806196 Anatomy and Physiology II or 10806177 or 10806177OL or 10806177SA Gen Anatomy and Physiology

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 31-106-1 Technical Diploma • Two Terms

ABOUT THE PROGRAM

Today's businesses realize it takes efficiency and effectiveness on the part of the office staff to be successful. If your ideal work environment includes using high-tech equipment, working well with people, being organized and attentive to detail, and handling a variety of different tasks, a career as an office assistant may be a satisfying choice.

PROGRAM OUTCOMES

- Demonstrate effective workplace communications.
- Apply technology skills to business and administrative tasks.
- Perform routine administrative procedures.
- Maintain internal and external relationships.
- Model professionalism in the workplace.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

RELATED PROGRAMS

- Administrative Professional Associate Degree

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10106102	Information Management	3
10106131	Document Formatting	2
10106132	Keyboard-Speedbuilding 1	1
10106164	Information Technology Essentials	3
10801195	Written Communication OR 10801136 English Composition 1	3
10804123	Math with Business Applications	3
		15
Term 2		
10106130	Office Professionalism	3
10106177	Career Development	1
10106124	eCommunications	3
10106166	Microcomputer Business Applications 1	2
10106168	Microcomputer Business Applications 2	2
10801196	Oral/Interpersonal Communication OR 10801198 Speech	3
		14
		TOTAL 29

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



CAREER DEVELOPMENT...teaches students to develop a job search plan; develop a career portfolio including complete application materials, professional resume, cover letter; practice interview skills, participate in mock interview, and learn the role of social media in career development. COREQUISITE: 10106130 Office Professionalism

DOCUMENT FORMATTING...prepares the learner to keyboard and format business memorandums, business letters, business reports and tabbed columns. The learner will also create tables, create multicolumn documents, use SmartArt, create and modify styles and create ad use templates and building blocks. Emphasis will also be placed on proofreading and editing skills. COREQUISITE: 10106100 Keyboarding with a minimum grade of C or Keyboarding testout equivalent.

ECCOMMUNICATIONS...prepares the learner to apply proofreading skills -- punctuation, grammar, spelling, word usage, capitalization, number usage--to edit or compose error-free business documents; transcribe and correctly format business documents from dictation, dictate podcasts and other items; exposure to speech recognition functions; take and key meeting minutes; and facilitation of meetings. PREREQUISITE: 10106131 Document Formatting and 10106132 Keyboard - Speedbuilding 1

INFORMATION MANAGEMENT...introduces the student to basic terms, concepts, filing rules, systems (alphabetic and numeric), noncorrespondence filing, new filing equipment, new methods of storing and recording records, and Microsoft Access including the principles and procedures for developing, managing, and maintaining a filing system in a modern office. COREQUISITE: 10106100 Keyboarding or Keyboarding testout equivalent

INFORMATION TECHNOLOGY ESSENTIALS...prepares the learner with the skills to use Web 2.0 tools for group collaboration and research emerging technologies. Emphasis in this class will be to develop a plan to implement a new technology in a business environment and train classmates in this new technology.

KEYBOARD-SPEEDBUILDING 1...prepares the learner with the skills to keyboard text with speed and accuracy using the "touch" method.

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/ Agronomy Basic program admissions requirements met

MICROCOMPUTER BUSINESS APPLICATIONS 1...expands the learner's ability to use Microsoft Word by using advanced table functions; format multiple-page documents with headers, footers, footnotes and endnotes; perform merge operations for correspondence and labels; create customized forms; create a Table of Contents and Index in long documents and create and run Macros. PREREQUISITE: 10106131 Document Formatting

MICROCOMPUTER BUSINESS APPLICATIONS 2...prepares the learner to create worksheets, utilize formulas and functions, apply formatting functions, print spreadsheet files, edit and manipulate spreadsheets and workbooks, create and modify charts, analyze spreadsheet data, create templates, and apply database features to a spreadsheet. COREQUISITE: 10106100 Keyboarding or Keyboarding testout equivalent

OFFICE PROFESSIONALISM...prepares the learner to identify positive attitudes and personality development; develop self-awareness of elements affecting personal and work relationships. Prepares the learner to apply communication and conflict resolution skills; demonstrate effective/efficient work habits and self-management skills; apply business protocol in a culturally diverse international market. Areas of study will also include telephone and customer service techniques, ethics, etiquette and ergonomics.

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 31-516-4
Technical Diploma • Three Terms

ABOUT THE PROGRAM

The Ophthalmic Medical Assistant program prepares students for employment in ophthalmic and optometric practices and in retail optical settings. Students apply technical skills to perform prescreening and specialty testing, assist with dispensing glasses and contact lenses, and perform office management duties including maintaining patient information and billing and insurance processes.

PROGRAM OUTCOMES

- Apply technical skills to perform eye care prescreening and specialty testing procedures on patients accurately and efficiently.
- Apply technical skills to educate and assist patients with glasses and/or contact lenses to meet their eye health and visual needs.
- Perform business office procedures such as maintaining appointment schedules, maintaining patient records, processing insurance reimbursement, and billing patients.
- Demonstrate professional ethics, honesty, and respect when dealing with doctors, patients, and co-workers.
- Communicate clearly and professionally in both written and oral formats.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete health requirements.
 - Complete Functional Abilities Statement of Understanding form.
 - Meet Keyboarding skills proficiency.
 - Meet to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

- Eye exam required prior to Ophthalmic Pre-testing course (minimum of 12 months prior).
- Students must provide proof of First Aid certification and CPR certification before Ophthalmic Clinical Experience course.

CONTACT

LTC Career Coach
 920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10501101	Medical Terminology	3
31516306	Basic Ocular Science	3
		6
Term 2		
10530182	Human Diseases for Health Professions	3
31516302	Optical Dispensing	4
31516303	Optical Concepts	3
31516304	Ophthalmic Pre-Testing	4
		14
Term 3		
31809362	Psychology for Life	1
31509309	Medical Law, Ethics and Professionalism	2
31516312	Contact Lenses	2
31516330	Ophthalmic Clinical Procedures Specialty Testing	4
31516343	Ophthalmic Clinical Experience	3
		12
		TOTAL 32

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



BASIC OCULAR SCIENCE...introduces learners to the structures, microscopic anatomy, and functional aspects of the eye and visual system. Clinical application emphasizes diseases, disorders and common treatments including pharmacological..
CONDITION: 315164 Ophthalmic Medical Assistant program requirements met

CONTACT LENSES...provides the student in-depth exposure to the technical aspects of clinical contact lens practice. Lecture and laboratory experiences emphasize lens verification, patient education and evaluation. COREQUISITE: 31516343 Ophthalmic Clinical Experience and PREREQUISITE: 31516302 Optical Dispensing

HUMAN DISEASE FOR HEALTH PROFESSIONS...focuses on the common diseases of each body system as encountered in all types of health care settings by health professionals. Emphasis is placed on understanding the etiology (cause), signs and symptoms, diagnostic tests, and treatment (including pharmacological) of each disease. COREQUISITES: 10501101 Med Term or CONDITION: 101064 Med Trans Spec program requirements met and 10806103 Body Struc & Func or CONDITION: 311067 Medical Transcription program requirements met and 10806103 Body Structure and Function

MEDICAL LAW, ETHICS & PROFESSIONALISM...provides the student with the skills to display professionalism, maintain confidentiality, perform within ethical and legal boundaries, examine legal aspects of the medical record, perform risk management procedures, and examine legal and bioethical issues. CONDITION: 315091 Medical Assistant or 315164 Ophthalmic Medical Assistant or 315103 Health Care Technician program requirements met

MEDICAL TERMINOLOGY...focuses on the component parts of medical terms, including prefixes, suffixes, and word roots. Spelling, definition, and pronunciation will enhance student learning as students practice formation, analysis, and reconstruction of medical terms. Medical terminology will come "alive" through an introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology. Students will explore the Greek and Latin origins of medical terms and commonly used abbreviations.

OPHTHALMIC CLINICAL EXPERIENCE...will have students participate in assigned clinical experience beginning with vision screenings on patients from the college and continues in an optometric, ophthalmology or optical setting. Class discussions are held analyzing the results of the screening as well as the students' performance. The student is expected to achieve specific educational objectives determined for this experience. PREREQUISITE: 31516302 Optical Dispensing and COREQUISITES: 31516312 Contact Lenses and 31516330 Ophthalmic Clinical Procedures Specialty Testing

OPHTHALMIC CLINICAL PROCEDURES SPECIALTY TESTING...provides the student experience and knowledge in areas of special vision care procedures: subjective refraction, visual field testing, slit lamp evaluation, Goldmann and non-contact tonometry, ultrasound, basic concepts of orthoptics, and the treatment of eye diseases, including instillation of eye medications and eye patching. Patient instruction and assistance are emphasized in laboratory sessions. COREQUISITE: 31516343 Ophthalmic Clinical Experience and PREREQUISITE: 31516302 Optical Dispensing

OPHTHALMIC PRE-TESTING...covers the history of optometry, relationships between optometry, ophthalmology and opticianary and various paraprofessional careers in vision care. The course involves the study of and practical experience in patient pre-testing such as case history, visual acuity, color vision, pupil evaluation, and depth perception as well as the specialized testing procedures such as keratometry and blood pressure measurement. COREQUISITE: 31516302 Optical Dispensing

OPTICAL CONCEPTS...begins the study of the neutralization and verification of spectacle lens powers, to include spherical, cylindrical and prism lenses. The properties of light and the function of a lens in vision correction as well as a review of basic math needed in vision care and the physiological aspects of vision. COREQUISITE: 31516302 Optical Dispensing

OPTICAL DISPENSING...introduces learners to frame definition, parts and types of frames, measurement of frames and lenses, alignment of frames, inserting and removing lenses, introduction to dispensing of eyewear and frame repairs. COREQUISITES: 31516303 Optical Concepts and 31516304 Ophthalmic Pre-Testing and 31516306 Basic Ocular Science and CONDITION: 315164 Ophthalmic Medical Assistant program requirements met

PSYCHOLOGY FOR LIFE...prepares the learner to select behavior modification techniques, demonstrate techniques for enhancing memory, analyze expressions of emotion, use conflict for common good, employ techniques to reduce conflict/frustration, use several methods to reduce stress, interpret personality types, ascertain contributors to perception, and apply methods of problem-solving.

Program Number 10-110-1 Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

Paralegals work under the supervision of lawyers in a range of tasks—researching the law; investigating; preparing for hearings, trials, and real estate closings; interviewing clients and witnesses; and preparing legal documents and other legal correspondence. Paralegals cannot give legal advice or represent clients in court. If you are detail oriented, organized, strong in communications, and enjoy researching and analyzing facts, you might find a career as a paralegal very rewarding.

PROGRAM OUTCOMES

- Apply ethical principles in a legal environment.
- Process legal documents.
- Perform legal research.
- Apply critical thinking skills to address legal issues.
- Demonstrate professionalism in a legal environment.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

LTC's Paralegal program is approved by the American Bar Association. LTC offers its Paralegal classes at LTC and also at Moraine Park Technical College (MPTC) via live interactive television. As a Paralegal student you'll attend live classes at the LTC campus or attend live interactive TV classes at Moraine Park Technical College and take general studies classes and labs at your local technical college.

SPECIAL NOTE FOR ONLINE LEARNERS

While many of the courses may be offered online, students are required to take at least ten semester credits or the equivalent of legal specialty courses through traditional classroom instruction. This requirement may be satisfied through synchronous interactive video systems, as they are considered equivalent to traditional classroom instruction.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10102160	Business Law 1	3
10103181	Word 2013 - Level 1	1
10110101	Introduction to Paralegalism and Legal Ethics	3
10110130	Real Estate Law - Paralegal	3
10801195	Written Communication OR 10801136 English Composition 1	3
10809196	Introduction to Sociology OR 10809166 Introduction to Ethics	3
		16
Term 2		
10101155	Accounting for Professionals OR 10101111 Accounting 1 (4 cr)	3
10110102	Civil Litigation 1	3
10110104	Legal Research	3
10110106	Family Law	3
10801196	Oral/Interpersonal Communication OR 10801198 Speech	3
		15
Term 3		
10110103	Civil Litigation 2	3
10110105	Legal Writing	3
10110160	Employment Law - Paralegal	3
10110132	Personal Branding-Paralegal	1
10809122	Introduction to American Government	3
10809198	Introduction to Psychology OR 10809188 Developmental Psychology	3
		16
Term 4		
10110107	Legal Aspects of Business Organizations	3
10110114	Administration of Estates	3
10110143	Paralegal Internship OR 10110145 Paralegal Studies	2
10110168	Criminal Law-Paralegal	3
10806112	Principles of Sustainability OR 10804107 College Mathematics	3
10809195	Economics	3
		17
		TOTAL 64

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ACCOUNTING FOR PROFESSIONALS...is the study of the information that can be interpreted from financial statements. Students analyze financial statements and apply managerial accounting concepts in an accelerated format. PREREQUISITE: 10804123 Math w Business Apps or CONDITION: 101101 Paralegal program requirements met

ADMINISTRATION OF ESTATES...provides the learner with the skills to assist attorneys to administer estates, differentiate between probate and nonprobate property, contrast various forms of marital property, gather appropriate factual and financial information, select and draft appropriate forms to open an estate, prepare an inventory, draft a final accounting and documents to close an estate, draft tax documents, prepare powers of attorney and simple wills, and assist in the valid execution of estate planning documents. PREREQUISITE: 10110101 Intro to Paralegalism

BUSINESS LAW 1...provides the learner with the skills to summarize the American legal system; diagram the state/federal court systems; evaluate dispute resolution methods; sequence the civil litigation process; summarize the administrative agencies; differentiate civil and criminal law; apply theories of negligence, intentional tort, and product liability; summarize elements of a contract; assess the validity of a contract; assess third-party rights and available remedies; and summarize Article II of the UCC.

CIVIL LITIGATION 1...provides the learner with the skills to evaluate causes of action and defenses; conduct an initial client interview; perform an initial investigation; draft a summons and complaint, answer, counterclaim, cross complaint, motions and supporting documents, select appropriate discovery devices; draft interrogatories and responses; prepare for depositions; draft a Notice of deposition and Subpoenas; analyze fact patterns; and evaluate evidentiary objections. PREREQUISITE: 10110101 Intro to Paralegalism

CIVIL LITIGATION 2...provides the learner with the skill to evaluate and summarize depositions; evaluate evidentiary challenges; prepare a witness list; draft settlement documents; locate expert witnesses; prepare witnesses; prepare for presentation of evidence at trial; prepare a trial notebook; draft a Bill of Costs; prepare post trial motions; evaluate and research appellate issues. PREREQUISITE: 10110102 Civil Litigation

CRIMINAL LAW-PARALEGAL...provides the learner with the skills to analyze state and federal criminal procedures, determine if a search and arrest is in accordance with the Fourth Amendment, analyze the Miranda rules, draft a criminal summons and complaint, determine possible defenses for a defendant, draft motions, analyze a criminal complaint and jury instructions for required elements, create demonstrative evidence, create a trial notebook, conduct a client interview, and contrast prosecution and defense roles. PREREQUISITE: 10110101 Intro to Paralegalism

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

EMPLOYMENT LAW-PARALEGAL...provides the learner with the skills to analyze state and federal law governing employment relationships, job discrimination, sexual harassment, workplace privacy, labor standards and human resource management. PREREQUISITE: 10110101 Intro to Paralegalism

FAMILY LAW...provides the learner with the skills to conduct an initial client interview for a family law matter, including divorce and domestic violence; draft initial pleadings for divorce, financial family law documents, divorce discovery documents, and concluding documents in divorces; assess the need for post-divorce modification and enforcement; and outline factors involving child custody and support. PREREQUISITE: 10110101 Intro to Paralegalism

INTRODUCTION TO PSYCHOLOGY...introduces a survey of the multiple aspects of human behavior. Involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, & social influences. Directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO AMERICAN GOVERNMENT...introduces American political processes and institutions. It focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. It explores the role of the media, interest groups, political parties and public opinion in the political process. It also explores the role of state and national government in our federal system.

INTRODUCTION TO PARALEGALISM AND LEGAL ETHICS...introduces the learner to the paralegal profession, including civil, criminal, and administrative procedure; state and federal judicial systems; legal research; case briefing; ethical rules that apply to paralegals; law office software; and substantive civil law.

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology; culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

LEGAL ASPECTS OF BUSINESS ORGANIZATIONS...provides learners with the skills to analyze legal aspects of the formation, operation, and dissolution of sole proprietorships, partnerships, limited liability entities, and corporations; draft documents related to various business entities such as Certificates of Limited Partnership; Articles of Organization and Incorporation, Name Reservation Applications, Organizational Resolutions, Form SS-4 and 2553, Stock Certificates, Resolutions and Minutes, and Amendments and Articles of Dissolution. PREREQUISITE: 10110101 Intro to Paralegalism

LEGAL RESEARCH...provides the learner with the skills to differentiate between primary or secondary authority, locate statutes and constitutional provisions, locate case law, locate administrative regulations, locate secondary authority, use correct citation form, verify and update legal authority, formulate legal issues, use effective research strategies, evaluate solutions to legal problems, and use computer-assisted and internet legal research strategies. Some classes will be held off campus in a law library. PREREQUISITE: 10110101 Intro to Paralegalism

LEGAL WRITING...provides the learner with the skills to draft legal correspondence, operative legal documents, case briefs, and legal and office memoranda; analyze and synthesize legal authority; use correct citation form; draft a civil pleading, affidavit, trial brief, and appellate brief; and apply rules of civil procedure. PREREQUISITE: 10110104 Legal Research and 10801195 Written Comm or 10801195OL Written Comm Online and 10103181 Word 2013-Level 1

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PARALEGAL INTERNSHIP...enhances the participant's ability to perform the duties of a paralegal; to seek and obtain employment as a paralegal; apply paralegal skills in an actual workplace setting; to perform legal research and writing; and understand law office systems and administration. Students are responsible for seeking and obtaining an internship position for a minimum of 144 hours in a legal environment under the supervision of an attorney or other qualified professional, completing an internship agreement and e-portfolio, maintaining a work log and obtaining approval from the internship instructor. COREQUISITE: 10110105 Legal Writing and PREREQUISITE: 10110131 Personal Branding-Paralegal

PERSONAL BRANDING-PARALEGAL...prepares the student to prepare an electronic portfolio, to develop a career plan, write a resume, create a cover letter, prepare for an interview, search for work on the internet, adapt a resume for an electronic scan, and post a resume and cover letter on the internet.

PRINCIPLES OF SUSTAINABILITY...prepares students to develop sustainable literacy, analyze interconnections among physical and biological sciences and environmental systems, summarize effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal/recycling in the U.S., and analyze approaches used by your community. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

REAL ESTATE LAW - PARALEGAL...provides the learner with the skills to analyze types of real estate ownership; analyze the effect of the Marital Property Act on real estate; determine the requirements of listing contracts; draft legal descriptions; draft an offer to purchase; negotiate a real property sale; prepare financing documents; compare abstracting and title insurance; record deeds; compare land contracts; summarize foreclosure procedure; draft closing documents; compare landlord and tenant rights and responsibilities. COREQUISITE: 10110101 Introduction to Paralegalism and Legal Ethics

WORD 2013 - LEVEL 1...introduces the student to word processing features such as creating, saving, editing, formatting, and printing documents, creating basic diagrams, and applying these concepts to produce usable documents. This course is offered in a self-paced format.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 10-531-1
Associate Degree in Applied Science • Varies

ABOUT THE PROGRAM

Life can bring about unfortunate events of medical or traumatic emergency; a Paramedic is a highly trained and skilled medical professional ready to assist those in need. Paramedics integrate Advanced Life Support treatment measures into the challenging pre-hospital environment. The Associate Degree Paramedic (ADP) is the individual that has exceeded minimum professional requirements and has furthered their education beyond the entry level technical diploma to gain additional knowledge and capabilities to better serve their region.

PROGRAM OUTCOMES

- Prepare for incident response and EMS operations.
- Integrate pathophysiological principles and assessment findings for a variety of patient encounters.
- Demonstrate paramedic skills associated with established standards and procedures for a variety of patient encounters.
- Communicate effectively with others.
- Demonstrate professional behavior.
- Meet state and national competency requirements for paramedic credentialing.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete health requirements.
 - Submit Wisconsin Emergency Medical Technician License.
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

Students successfully completing Terms 1 and 2 coursework of the program are able to sit for the National Registry Paramedic exam. At this time, a student can also apply for graduation in the Paramedic Technical Diploma program. The remaining general education and science courses can be completed afterwards to complete the Associate Degree requirements for graduation. The Lakeshore Technical College Paramedic Program is accredited by the Commission on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP). 1361 Park St, Clearwater, FL 33756. Phone 727-210-2350. Web www.caahep.org.

CONTACT

LTC Career Coach
 920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10531911	EMS Fundamentals	2
10531912	Paramedic Medical Principles	4
10531913	Advanced Patient Assessment Principles	3
10531914	Advanced Prehospital Pharmacology	3
10531915	Paramedic Respiratory Management	2
10531916	Paramedic Cardiology	4
10531928	Paramedic Clinical	2
10531926	Paramedic HPS Lab 1	1
		21
Summer		
10531918	Advanced Emergency Resuscitation	1
10531919	Medical Emergencies	4
		5
Term 2		
10531920	Paramedic Trauma	3
10531921	Special Patient Populations	3
10531922	EMS Operations	1
10531923	Paramedic Capstone	1
10531927	Paramedic HPS Lab 2	1
10531929	Paramedic Field	3
		12
Term 3		
10804107	College Mathematics	3
10806177	General Anatomy & Physiology	4
10801195	Written Communication OR 10801136 English Composition 1	3
10809198	Introduction to Psychology	3
		13
Term 4		
10806179	Advanced Anatomy & Physiology	4
10801196	Oral/Interpersonal Communication	3
10809159	Abnormal Psychology OR 10809188 Developmental Psychology (3 cr)	3
10809166	Introduction to Ethics: Theory and Application	3
		13
		TOTAL 64

To contact CoAEMSP:
 8301 Lakeview Parkway
 Suite 111-312
 Rowlett, TX 75088
 214-703-8445
 Fax 214-703-8992
www.coaemsp.org

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ABNORMAL PSYCHOLOGY...surveys the essential features, possible causes, and assessment and treatment of the various systems of abnormal behavior from the viewpoint of the major theoretical perspectives in the field of abnormal psychology. Students will be introduced to the diagnosis system of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). In addition, the history of the psychology of abnormality will be traced. Cultural and social perspectives in understanding and responding to abnormal behavior will be explored as well as current topics and issues within abnormal psychology. PREREQUISITE: 10809198 or 10809198OL Psychology-Introduction

ADVANCED ANATOMY AND PHYSIOLOGY...the second semester in a two-semester sequence in which normal human anatomy and physiology are studied using a body systems approach with emphasis on the interrelationships between form and function at the gross and microscopic levels of organization. Instructional delivery within a classroom and laboratory setting. Experimentation within a science lab will include analysis of cellular metabolism, the individual components of body systems such as the nervous, neuro-muscular, cardiovascular, and urinary. Continued examination of homeostatic mechanisms and their relationship to fluid, electrolyte, acid-base balance and blood. Integration of genetics to human reproduction and development are also included in this course. PREREQ: 10806177 General Anatomy & Physiology or equivalent

ADVANCED EMERGENCY RESUSCITATION...provides ACLS and PALS knowledge and skills preparing the student in the integration of comprehensive knowledge of causes and pathophysiology into the management of shock, respiratory failure, respiratory arrest, cardiac arrest, and peri-arrest with intervention to prevent respiratory and/or cardiac arrest if possible. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531916 Paramedic Cardiology

ADVANCED PATIENT ASSESSMENT PRINCIPLES...provides knowledge of scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531912 Paramedic Medical Principles

ADVANCED PREHOSPITAL PHARMACOLOGY...provides student with comprehensive knowledge of pharmacology required to formulate and administer a pharmacological treatment plan intended to mitigate emergencies and improve the health of the patient. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531913 Advanced Patient Assessment Principles

COLLEGE MATHEMATICS...is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. PREREQUISITE: 10834109 Pre-Algebra or equivalent

EMS FUNDAMENTALS...provides comprehensive knowledge of EMS systems, safety, well-being, legal issues and ethical issues with intended outcome of improving EMS personnel, patients and the community. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITES: 10531102 EMT Basic or 30531301 EMT Part 1

EMS OPERATIONS...provides the knowledge of operational roles and responsibilities to ensure patient, public and EMS personnel safety. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531921 Special Patient Populations

GENERAL ANATOMY AND PHYSIOLOGY...examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare health care professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision-making and professional communication with colleagues and patients. PREREQUISITE: 10806134 General Chemistry or equivalent

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO ETHICS: THEORY AND APPLICATION...provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social and/or professional standards of behavior, and apply a systematic decision-making process to these situations. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MEDICAL EMERGENCIES...provides the skills to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a treatment plan for an acutely injured patient. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531918 Advanced Emergency Resuscitation

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PARAMEDIC CAPSTONE...provides the final opportunity to incorporate knowledge and skills through labs and scenario-based practice and evaluations prior to taking the NREMT written and practical exams. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531922 EMS Operations

PARAMEDIC CARDIOLOGY...provides the principles of cardiovascular anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and a plan for a patient with a cardiovascular complaint. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531915 Paramedic Respiratory Management

PARAMEDIC CLINICAL...provides the opportunity to enhance their learning through the skills practice in a health care environment experience with actual patients under the supervision of approved preceptors or high-fidelity human patient simulator. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic Program Requirements Met and COREQUISITE: 10531911 EMS Fundamentals

PARAMEDIC FIELD...provides student with the opportunity to enhance their learning through the practice in the field and health care environment experience with actual patients under the supervision of approved preceptors or high-fidelity human patient simulator. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic Program Requirements Met and COREQUISITE: 10531918 Advanced Emergency Resuscitation

PARAMEDIC HUMAN PATIENT SIMULATION LAB 1...reinforces student learning through the practice of paramedicine in a controlled environment utilizing high-fidelity human patient simulators and realistic emergency response scenarios with support and guidance of instructors. The student will apply assessment knowledge and demonstrate paramedic level skills in a variety of emergency response scenarios and environments.

PARAMEDIC HUMAN PATIENT SIMULATION LAB 2...reinforces student learning through the practice of paramedicine in a controlled environment utilizing high-fidelity human patient simulators and realistic emergency response scenarios with support and guidance of instructors. The student will evaluate patient presentations, formulate treatment plans, reassess interventions, and implement corrective actions by integrating pathophysiological principles and assessment findings.

PARAMEDIC MEDICAL PRINCIPLES...provides the knowledge of anatomy, physiology and pathophysiology of major human systems while also introducing the students to shock, immunology and bleeding. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531911 EMS Fundamentals

PARAMEDIC RESPIRATORY MANAGEMENT...provides specific knowledge pertaining to the respiratory system and to ensure the student is prepared to formulate a field impression and implement a comprehensive treatment plan for a respiratory complaint. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531914 Advanced Prehospital Pharmacology

PARAMEDIC TRAUMA...provides the student the skills to integrate assessment findings with principles of anatomy, physiology, epidemiology and pathophysiology to formulate a field impression and implement a treatment plan for an acutely injured patient. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531919 Paramedic Medical Emergencies

SPECIAL PATIENT POPULATIONS...provides the student the skills to integrate assessment findings with principles of anatomy, physiology, epidemiology and pathophysiology to formulate a field impression and implement a treatment plan for patient with special needs. CONDITION: 105311 Paramedic Technician or 315311 EMT Paramedic or 105312 Fire Medic program requirements met and COREQUISITE: 10531920 Paramedic Trauma

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrting equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

ABOUT THE PROGRAM

The Associate Degree in Pharmacy Services Management prepares individuals to advance their roles as Pharmacy Technicians or to transition into related roles in the work place. Pharmacy Technicians are able to provide a wide range of duties in the pharmacy, and will enhance their technical skills through additional knowledge in third party payment processing and related reimbursement issues, staff scheduling processes, customer service, and enhancing store sales. Marketing, management, and business operations are also introduced in this degree. The program culminates in a capstone course that provides the student with the opportunity to apply their education to a real-life situation through increasing store sales, creating efficient operations, improving management practices, or enhancing service to patients. Graduates will find positions as Senior Pharmacy Technicians, Assistant Store Managers, Trainers, Pharmacy Technician Managers, and many related positions in hospital or retail pharmacies or related organizations.

PROGRAM OUTCOMES

- Perform all pharmacy technician functions.
- Incorporate into practice professional ethics, laws, regulations, and policies established by the licensing state and regulatory agencies (Pharmacy Examining Board, FDA, DEA).
- Pursue lifelong professional growth and development through self-directed learning, participation in professional organizations, and continuing education.
- Maintain an awareness of developments in the pharmacy and management fields as they relate to job responsibilities.
- Manage human resources and employee development.
- Resolve conflict and build teams.
- Implement a mission and goals.
- Demonstrate critical thinking and problem solving skills.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete health requirements.
 - Complete Pharmacy Technician Program Handbook form.
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10501101	Medical Terminology	3
10501102	Health Insurance and Reimbursement	3
10536110	Pharmaceutical Calculations	3
10536113	Pharmacy Business Applications	3
10536115	Pharmacy Law	2
10536120	Fundamentals of Reading Prescriptions	1
10536122	Pharmacology	3
		18
Term 2		
10536125	Pharmacy Drug Distribution Systems	2
10536126	Pharmacy Parenteral Admixtures	3
10801196	Oral/Interpersonal Communication	3
10809198	Introduction to Psychology	3
10536143	Pharmacy Hospital Clinical OR 10536142	2
	Pharmacy Community Clinical-Advanced	
10536141	Pharmacy Computer Lab	2
10536138	Pharmacy Community Clinical	2
		17
Term 3		
10104102	Principles of Marketing OR 10182108	3
	Purchasing	
10801195	Written Communication OR 10801141	3
	Introduction to Mass Communications OR	
	10801136 English Composition 1	
10804123	Math with Business Applications	3
10809195	Economics	3
10809196	Introduction to Sociology	3
		15
Term 4		
10182102	Service Operations Management OR	3
	10102110 Introduction to Business (3cr)	
10196191	Supervision	3
10196193	Human Resource Management	3
10536150	Advanced Pharmacy Services Applications	3
10809166	Intro to Ethics: Theory & Application OR	3
	10809172 Race, Ethnic, & Diversity Studies	
		15
		TOTAL 65

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ADVANCED PHARMACY SERVICES APPLICATIONS...allows the learner to integrate skills learned in the Pharmacy Services Management courses and apply them to the pharmacy workplace. Areas include staff training, development, supervision, and scheduling; customer service; PBM processing and claims rejection management; and improving efficiency of operations, maximizing profits, and increasing sales. PREREQUISITE: All courses in the Associate Degree plan need to be completed prior to this course. PREREQUISITES: 10536143 Pharmacy Hospital Clinical and 10536139 Pharmacy Community Clinical and CONDITION: 105361 Pharmacy Services Mngmt

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610062 Agribusiness/Financial Basic program admissions met

FUNDAMENTALS OF READING PRESCRIPTIONS...prepares the learner to work in a community or hospital pharmacy by exploring the role of a pharmacy technician within the healthcare team; examining each step in the prescription filling process; and identifying the key top 200 drugs by brand and generic name and therapeutic class. CONDITION: 315361 Pharmacy Technician Admission Requirements Met

HEALTH INSURANCE AND REIMBURSEMENT...introduces the learner to Federal, state, and private health insurance plans and managed care systems; and surveys the coding, submission and processing cycle of claims, as well as reimbursement methods used by payers. It provides application of information to ambulatory settings, pharmacies, hospitals, and long term care.

HUMAN RESOURCE MANAGEMENT...applies the skills/tools necessary to effectively value and apply employees' abilities and needs to organization goals. Learners will demonstrate the application of the supervisor's role in contemporary human resources management, impacts of EEOC, writing job descriptions, recruitment, selection, conducting job interviews, orientation, developing policies/procedures, training, performance management, employee counseling/development, and effective use of compensation and benefit strategies.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRODUCTION TO ETHICS: THEORY AND APPLICATION...provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social and/or professional standards of behavior, and apply a systematic decision-making process to these situations. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MARKETING, PRINCIPLES OF...introduces the student to the consumer decision process model, the bases used to segment a market, basic concepts about goods, services, and ideas, the nature of supply chain and distribution, integrated marketing communications, & the stages of the product life cycle and impact on marketing mix.

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/Agronomy Basic program admissions requirements met

MEDICAL TERMINOLOGY...focuses on the component parts of medical terms, including prefixes, suffixes, and word roots. Spelling, definition, and pronunciation will enhance student learning as students practice formation, analysis, and reconstruction of medical terms. Medical terminology will come "alive" through an introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology. Students will explore the Greek and Latin origins of medical terms and commonly used abbreviations.

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PHARMACEUTICAL CALCULATIONS...prepares the learner to enlarge and reduce formulas and solve proportions, dilutions, alligations, and other calculations pertinent to the preparation of pharmaceuticals using metric, apothecary, avoirdupois, and household measuring systems. CONDITION: 315361 Pharmacy Technician or 105361 Pharmacy Services Management or 195316 Employed Pharmacy Technician Admission Requirements Met

PHARMACOLOGY...enhances the learner's ability to act and react appropriately in the pharmacy by learning how drugs work through examination of the anatomy, physiology, pathophysiology, and drug therapy for each of the major systems. CONDITION: 315361 Pharmacy Technician or 105361 Pharmacy Services Management or 195361 Employed Pharmacy Technician admissions requirements met

PHARMACY BUSINESS APPLICATIONS...prepares the learner to utilize pharmaceutical business terminology, procedures, customer service, record keeping, purchasing procedures, inventory control systems, pricing, merchandising, reference materials, ethics, roles, responsibilities, and relationships with patients and coworkers. CONDITION: 315361 Pharmacy Technician or 105361 Pharmacy Services Management program requirements met

PHARMACY COMMUNITY CLINICAL...provides hands-on experience in a community pharmacy for 108 hours during quarter two. Areas of instruction include interpretation of prescriptions, entering prescriptions on computer, patient profiles, correctly filling and labeling prescriptions, billing patient and third parties, customer service, over-the-counter medications, purchasing, checking in deliveries, and inventory control, compounding and patient confidentiality. PREREQUISITES: 10536120 Fund of Rdg Prescriptions, 10536113 Pharm Bus Appls, 10536110 Pharm Calculations and 10501102 Hlth Ins & Reimburse and CONDITION: 315361 Pharmacy Technician or 105361 Pharmacy Services Management admission requirements met

PHARMACY COMPUTER LAB...expands the learner's ability to enter prescription orders and familiarizes learner with a variety of pharmacy software features, including updating pharmacy data bases, running reports, and billing. This course is offered in a self-paced format. PREREQUISITES: 10536120 Fundamentals of Reading Prescriptions and CONDITION 315361 Pharmacy Technician or 105361 Pharmacy Services Management Admissions Requirements Met

PHARMACY DRUG DISTRIBUTION SYSTEMS...is an introductory study of the basic drug distribution systems used in community and institutional pharmacy, including automation technology, pharmacist and pharmacy technician roles, and dispensing considerations. CONDITION: 315361 Pharmacy Technician or 105361 Pharmacy Services Management Admission Requirements Met

PHARMACY HOSPITAL CLINICAL...provides the learner with the skills to prepare parenteral admixtures, fill medication carts and unit-dose drawers, control inventory, package medications, and maintain patient records in the hospital setting. PREREQUISITES: 10536138 Pharmacy Community Clinical, 10536110 Pharmacy Calc; COREQUISITES: 10536141 Pharmacy Computer Lab; 10536126 Pharmacy Parenteral Admixtures and CONDITION 315361 Pharmacy Tech or 105361 Pharmacy Svcs Management Admission Req met

PHARMACY LAW...introduces the learner to federal and state regulations that apply to pharmacy practice. CONDITION: 315361 Pharmacy Technician or 105361 Pharmacy Services Management or 195361 Employed Pharmacy Technician admissions requirements met

PHARMACY PARENTERAL ADMIXTURES...provides the learner with the skills to utilize aseptic technique in vertical and horizontal laminar flow hoods for preparation of solutions and medications to be administered intravenously, intramuscularly, subcutaneously, and intradermally to patients. PREREQUISITE: 10536110 Pharm Calculations and CONDITION: 315361 Pharmacy Technician or 105361 Pharmacy Services Management or 195361 Employed Pharmacy Technician Admission Requirements Met

SERVICE OPERATIONS MANAGEMENT...introduces the student to the basic coverage of the concepts and current issues in service operation management. Topics include the value equation in operations management; understanding services; building the service system; operating the service system; enterprise resource management (ERP) and supply chain management concepts in the service sector.

SUPERVISION...allows the learner to apply the skills and tools necessary to perform the functions of a frontline leader. Students learn the application of strategies and transition to a contemporary supervisory role including day-to-day operations, controlling, staffing, leadership, problem-solving, team skills, motivation, and training.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 31-536-1 Technical Diploma • Two Terms

ABOUT THE PROGRAM

If you're ill or injured, you have access to an enormous variety of therapeutic medications, and you trust your pharmacy to correctly interpret and fill your prescriptions. Pharmacy technicians contribute to our safety by assisting pharmacists in a variety of technical tasks. If you're attentive to detail, organized, a good communicator, and like math, science, and working with people, a career as a pharmacy technician may be your prescription for success.

PROGRAM OUTCOMES

- Demonstrate personal/interpersonal knowledge and skills in the practice of pharmacy.
- Demonstrate foundational professional knowledge and skills for the practice of pharmacy.
- Prepare prescriptions/medication orders and pharmaceutical products for dispensing, distribution, and disposal.
- Compound sterile and nonsterile medications.
- Follow established policies and procedures for procurement, billing, reimbursement and inventory management.
- Utilize pharmacy technology and informatics.
- Adhere to state and federal regulations governing the practice of pharmacy.
- Apply the principles of quality assurance to the practice of pharmacy.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete health requirements.
 - Complete Pharmacy Technician Program Handbook form.
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

- LTC offers its Pharmacy Technician program in cooperation with technical colleges across the state. As a pharmacy technician student, you'll attend live, interactive TV classes sent from LTC to your local technical college; receive laboratory training in local pharmacies; participate in real-world, hands-on training during a 4-week clinical program; and take general studies classes at your local technical college.
- The Pharmacy Technician program conducted at Lakeshore Technical College, Cleveland, WI is accredited by the American Society of Health-System Pharmacists.

RELATED PROGRAMS

- Pharmacy Services Management Associate Degree

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10501101	Medical Terminology	3
10501102	Health Insurance and Reimbursement	3
10536110	Pharmaceutical Calculations	3
10536113	Pharmacy Business Applications	3
10536115	Pharmacy Law	2
10536120	Fundamentals of Reading Prescriptions	1
10536122	Pharmacology	3
		18
Term 2		
10536125	Pharmacy Drug Distribution Systems	2
10536126	Pharmacy Parenteral Admixtures	3
10801196	Oral/Interpersonal Communication	3
10809198	Introduction to Psychology	3
10536143	Pharmacy Hospital Clinical OR	2
	10536142 Pharmacy Community Clinical-Advanced (2cr)	
10536141	Pharmacy Computer Lab	2
10536138	Pharmacy Community Clinical	2
		17
		TOTAL 35

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



FUNDAMENTALS OF READING PRESCRIPTIONS...prepares the learner to work in a community or hospital pharmacy by exploring the role of a pharmacy technician within the healthcare team; examining each step in the prescription filling process; and identifying the key top 200 drugs by brand and generic name and therapeutic class. CONDITION: 315361 Pharmacy Technician Admission Requirements Met

HEALTH INSURANCE AND REIMBURSEMENT...introduces the learner to Federal, state, and private health insurance plans and managed care systems; and surveys the coding, submission and processing cycle of claims, as well as reimbursement methods used by payers. It provides application of information to ambulatory settings, pharmacies, hospitals, and long term care.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MEDICAL TERMINOLOGY...focuses on the component parts of medical terms, including prefixes, suffixes, and word roots. Spelling, definition, and pronunciation will enhance student learning as students practice formation, analysis, and reconstruction of medical terms. Medical terminology will come "alive" through an introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology. Students will explore the Greek and Latin origins of medical terms and commonly used abbreviations.

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PHARMACEUTICAL CALCULATIONS...prepares the learner to enlarge and reduce formulas and solve proportions, dilutions, alligations, and other calculations pertinent to the preparation of pharmaceuticals using metric, apothecary, avoirdupois, and household measuring systems. CONDITION: 315361 Pharmacy Technician or 105361 Pharmacy Services Management or 195316 Employed Pharmacy Technician Admission Requirements Met

PHARMACOLOGY...enhances the learner's ability to act and react appropriately in the pharmacy by learning how drugs work through examination of the anatomy, physiology, pathophysiology, and drug therapy for each of the major systems. CONDITION: 315361 Pharmacy Technician or 105361 Pharmacy Services Management or 195361 Employed Pharmacy Technician admissions requirements met

PHARMACY BUSINESS APPLICATIONS...prepares the learner to utilize pharmaceutical business terminology, procedures, customer service, record keeping, purchasing procedures, inventory control systems, pricing, merchandising, reference materials, ethics, roles, responsibilities, and relationships with patients and coworkers. CONDITION: 315361 Pharmacy Technician or 105361 Pharmacy Services Management program requirements met

PHARMACY COMMUNITY CLINICAL...provides hands-on experience in a community pharmacy for 108 hours during quarter two. Areas of instruction include interpretation of prescriptions, entering prescriptions on computer, patient profiles, correctly filling and labeling prescriptions, billing patient and third parties, customer service, over-the-counter medications, purchasing, checking in deliveries, and inventory control, compounding and patient confidentiality. PREREQUISITES: 10536120 Fund of Rdg Prescriptions, 10536113 Pharm Bus Appls, 10536110 Pharm Calculations and 10501102 Hlth Ins & Reimburse and CONDITION: 315361 Pharmacy Technician or 105361 Pharmacy Services Management admission requirements met

PHARMACY COMMUNITY CLINICAL ADVANCED...expands the learners ability to support community pharmacy services in areas of diabetes services, immunization programs, durable medical equipment, automated dispensing systems, patient education, and over-the-counter products, in addition to traditional community services. This course involves a hands-on component in a community pharmacy and a research component. PREREQUISITE: 10536138 Pharmacy Community Clinical and CONDITION 315361 Pharmacy Technician or 105361 Pharmacy Services Management Admission Requirements Met

PHARMACY COMPUTER LAB...expands the learner's ability to enter prescription orders and familiarizes learner with a variety of pharmacy software features, including updating pharmacy data bases, running reports, and billing. This course is offered in a self-paced format. PREREQUISITES: 10536120 Fundamentals of Reading Prescriptions and CONDITION 315361 Pharmacy Technician or 105361 Pharmacy Services Management Admissions Requirements Met

PHARMACY DRUG DISTRIBUTION SYSTEMS...is an introductory study of the basic drug distribution systems used in community and institutional pharmacy, including automation technology, pharmacist and pharmacy technician roles, and dispensing considerations. CONDITION: 315361 Pharmacy Technician or 105361 Pharmacy Services Management Admission Requirements Met

PHARMACY HOSPITAL CLINICAL...provides the learner with the skills to prepare parenteral admixtures, fill medication carts and unit-dose drawers, control inventory, package medications, and maintain patient records in the hospital setting. PREREQUISITES: 10536138 Pharmacy Community Clinical, 10536110 Pharmacy Calc; COREQUISITES: 10536141 Pharmacy Computer Lab; 10536126 Pharmacy Parenteral Admixtures and CONDITION 315361 Pharmacy Tech or 105361 Pharmacy Svcs Management Admission Req met

PHARMACY LAW...introduces the learner to federal and state regulations that apply to pharmacy practice. CONDITION: 315361 Pharmacy Technician or 105361 Pharmacy Services Management or 195361 Employed Pharmacy Technician admissions requirements met

PHARMACY PARENTERAL ADMIXTURES...provides the learner with the skills to utilize aseptic technique in vertical and horizontal laminar flow hoods for preparation of solutions and medications to be administered intravenously, intramuscularly, subcutaneously, and intradermally to patients. PREREQUISITE: 10536110 Pharm Calculations and CONDITION: 315361 Pharmacy Technician or 105361 Pharmacy Services Management or 195361 Employed Pharmacy Technician Admission Requirements Met

Program Number 50-427-5

5-Year Contract

Work Hours (including related instruction): 8000

Related Instruction Hours: 572 • Night School Hours: 260

ABOUT APPRENTICESHIP

Apprenticeships are employer-sponsored training programs. You must have a contract before being invited to school. A special application process is used for these programs. Please contact the Apprenticeship Office for the proper forms. Apprenticeship means you earn while you learn. If you want a career in a skilled trade, apprenticeship is the best way to get there. You'll combine on-the-job training with on-campus learning—you'll have the best of both worlds when it comes to learning the skills you need to get ahead. And even better, you'll earn a paycheck while you learn those skills.

ABOUT THE CAREER

Imagine a home or business without a plumbing system—drinking a cool glass of water, cooking, and showering would be an inconvenience at best. Plumbing systems and those who install, repair, and maintain them are critical to the building process. The Plumbing Apprenticeship program is an employer-sponsored, hands-on training program under the direction of a master plumber. If you're looking for a specialized career that's always in demand, becoming a journey-level plumber is an excellent choice.

CAREERS

Graduates of LTC's Plumbing Apprenticeship program are required to take and pass the journey-level license exam provided by the Department of Commerce before working as journey-level or master plumbers in a variety of residential or commercial settings.

CONSTRUCTION APPRENTICE APPLICATION REQUIREMENTS

- Apprentice Application
- Proof of Age
- Accuplacer Entrance Assessment
- High School Transcripts or Equivalent
- Advisory Committee Interview

PROGRAM OUTCOMES

- Apply state plumbing code requirements to the installation and repair of sanitary drain systems.
- Apply state plumbing code requirements to the installation and repair of venting systems.
- Apply state plumbing code requirements to the installation and repair of water supply systems.
- Apply state plumbing code requirements to the installation and repair of storm drain systems.
- Apply state plumbing code requirements to the installation and repair of POWTS systems.
- Refer to the Wisconsin Administrative Plumbing codes.
- Prepare for Journey level licensure examination

APPROXIMATE COSTS

Contact the LTC Apprenticeship Office or visit www.gotoltc.edu/apprenticeship for detailed information.

MINIMUM PLACEMENT SCORES

Accuplacer: Arithmetic-66, Reading-66, Elementary Algebra-33
ACT: Mathematics-18, Reading-18

SPECIAL NOTE

Apprentices registered by the Lake to Lake Plumbing Committee will attend paid-related instruction at Fox Valley Technical College. Upon completion of the apprentice requirements, you'll be issued a Letter of Introduction, which states your requirements have been met. You'll use this Letter of Introduction to apply for work in the trade. You must have a sponsoring employer before receiving a contract and being invited to school.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

Catalog No.	Class Title	Credit(s)
Term 1		
50427751	Sanitary Drains 1	2
Term 2		
50427752	Vents and Venting Systems	2
Term 3		
50427753	Water Distribution 1	2
Term 4		
50427754	Water Distribution 2	2
Term 5		
50427755	Sanitary Drains 2	2
Term 6		
50427756	Private Onsite Wastewater Treatment Systems (POWTS)	2
Term 7		
50427757	Green Plumbing Applications	2
Term 8		
50427758	Plumbing Advanced Topics	2
		TOTAL 16

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



GREEN PLUMBING APPLICATIONS...provides plumbing apprentices with an introduction to green applications and prepares students to take certification exams. Union Programs: UA Green Awareness Certification (geared toward journey workers, not apprenticeship); WTCS Programs: Green Plumbers USA Certification Program. Learning materials from both certificate programs have been incorporated into the development of this course as appropriate. CONDITION: 504275 Plumbing Apprentice requirements met

PLUMBING ADVANCED TOPICS...provides the apprentice with the opportunity to select and complete an applied plumbing project in collaboration with the instructor. Projects will apply the skills required to identify, design, install, and service various plumbing applications that are listed in plumbing codes. Apprentices will use the code language and tables in accordance with the Wisconsin Plumbing Code. This course builds upon the theory, work experience, and the application of plumbing code principles. CONDITION: 504275 Plumbing Apprentice requirements met

PRIVATE ONSITE WASTEWATER TREATMENT SYSTEM...provides the apprentice with the skills to identify, design, install, and service various applications for private onsite wastewater treatment systems that are listed in plumbing codes or individual component manuals. Apprentices will use the code language and tables in various plumbing systems in accordance with the Wisconsin Plumbing Code. Other topics include pretreatment, soil evaluation, site planning, and new technologies. CONDITION: 504275 Plumbing Apprentice requirements met

SANITARY DRAINS 1...provides plumbing-related instruction of sanitary drain systems. Course includes a review of codes and trade practices related to sanitary drains and drainage. CONDITION: 504275 Plumbing Apprentice requirements met

SANITARY DRAINS 2...provides the apprentice with the skills to identify, design, install, and service various applications for storm water, clear water, and drainage systems. Apprentices will use the code language and tables in various plumbing systems in accordance with the Wisconsin Plumbing Code. The course focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations. CONDITION: 504275 Plumbing Apprentice requirements met

VENTS AND VENTING SYSTEMS...is designed to provide the apprentice with the skills to identify and design sanitary vent piping in a plumbing system in accordance with the Wisconsin Plumbing Code. This course focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations. CONDITION: 504275 Plumbing Apprentice requirements met

WATER DISTRIBUTION 1...provides the apprentice with the skills to identify, design, install and service various applications for water supply systems that are listed in plumbing codes. Apprentices will use the code language and tables in various plumbing systems in accordance with the Wisconsin Plumbing Code. Course topics include commercial to single family and private well pump systems. The course focuses on theory, work experience, and the application of plumbing code principles through discussion. CONDITION: 504275 Plumbing Apprentice requirements met

WATER DISTRIBUTION 2...provides the apprentice with the skills to identify, design, install and service cross-connection controls, water treatment equipment, and multipurpose piping systems in accordance with the Wisconsin Plumbing Code. The course focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations. CONDITION: 504275 Plumbing Apprentice requirements met

Program Number 31-543-1 Technical Diploma • Two Terms

ABOUT THE PROGRAM

If you're ill or injured, it's comforting to know you're in the care of highly skilled, well-educated healthcare professionals. If you work well under pressure; like math, science, communications, and problem solving; are independent; and have a strong desire to work with and help people—a career as a practical nurse may be the choice for you.

PROGRAM OUTCOMES

- Implement one's role as a nurse in ways that reflect integrity, responsibility, ethical practices, and an evolving identity as a nurse committed to caring, advocacy, and quality care while adhering to evidence-based practice.
- Demonstrate appropriate written, verbal, and nonverbal communication in a variety of clinical contexts.
- Integrate knowledge of social, mathematical, and physical sciences, pharmacology, and disease processes while participating in clinical decision making.
- Provide patient centered care under supervision by participating in the nursing process across diverse populations and health care settings.
- Minimize risk of harm to patients, members of the health care team, and self through safe individual performance and participation in system effectiveness.
- Collaborate as an active member of the multidisciplinary health care team to provide effective patient care throughout the lifespan.
- Use information and technology to communicate, manage data, mitigate error, and support decision making.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Health Occupations Entrance assessment - HESI.
 - Complete health requirements.
 - Complete Functional Abilities Statement of Understanding form.
 - Complete Nursing Program Handbook form
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

- Background check must be completed prior to admission and within one month of starting first clinical course.
- Nursing Assistant skills must be attained within 6 months of starting clinicals.
- The WI Board of Nursing has approved LTC to plan a Practical Nursing Program.
- This program is a candidate for accreditation by the Accreditation Commission for Education in Nursing, 3343 Peachtree Road N.E., Suite 850, Atlanta, Georgia 30326, 404-975-5000 Fax 404-975-5020.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1 (Fall)		
10809188	Developmental Psychology	3
10801195	Written Communication OR 10801136 English Composition 1 (3 cr)	3 6
Term 2 (Spring)		
10806103	Body Structure and Function OR 10806177 General Anatomy & Physiology (4 cr)	3 6
10801196	Oral/Interpersonal Coummications	3 6
Term 3 (Summer)		
31543301	Nursing Fundamentals OR 10543101 Nursing Fundamentals (2 cr)	2 2
Term 4 (Fall)		
31543302	Nursing Skills OR 10543102 Nursing Skills (3 cr)	3
31543303	Nursing Pharmacology OR 10543103 Nursing Pharmacology (2 cr)	2
31543304	Nsg: Intro Clinical Practice OR 10543104 Nsg: Intro Clinical Practice (2 cr)	2 7
Term 5 (Spring)		
31543305	Nursing Health Alterations OR 10543105 Nursing Health Alterations (3 cr)	3
31543306	Nursing Health Promotions OR 10543106 Nursing Health Promotions (3 cr)	3
31543307	Nsg: Clin Care Across Lifespan OR 10543107 Nsg: Clin Care Across Lifespan (2 cr)	2
31543308	Nsg: Intro Clinical Care Mgt OR 10543108 Nsg: Intro Clinical Care Mgt (2 cr)	2 10
		TOTAL 31
Required/Recommended Support Courses:		
78854783	Math for Nursing (<i>required in Summer Term</i>)	2
78858785	Reading Fundamentals and Study Skills	2
78851781	Writing Fundamentals and Study Skills	2
78856789	Science Fundamentals and Study Skills	2
78851789	Communication Fundamentals and Study Skills	2

*Curriculum and Program Acceptance requirements are subject to change.
Program start dates vary; check with your advisor/counselor for details.*



BODY STRUCTURE AND FUNCTION...introduces the learner to the structures and functions of the integumentary, musculoskeletal, nervous, sensory, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

DEVELOPMENTAL PSYCHOLOGY...introduces the student to the study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills will enable students to gain an increased knowledge and understanding of themselves and others. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

NSG: CLIN CARE ACROSS LIFESPAN...applies nursing concepts and therapeutic interventions to clients across the lifespan. It also provides an introduction to concepts of teaching and learning. Extending care to include the family is emphasized. Student must have completed all first semester and general education courses. Student needs a current TB test, flu vaccine, and professional AHA CPR card (1 and 2 person, adult, infant, and child, AED). Course requires a minimum grade of "C" or better. COREQUISITE: 31543306 Nursing Health Promotion

NSG: INTRO CLINICAL CARE MGT...applies nursing concepts and therapeutic nursing interventions to groups of clients across the lifespan. It also provides an introduction to leadership, management, and teambuilding. Student must have completed all first semester and general education courses. Student needs a current TB test, flu vaccine, and professional AHA CPR card (1 and 2 person, adult, infant, and child, AED). Course requires a minimum grade of "C" or better. COREQUISITE: 31543305 Nursing Health Alterations

NSG: INTRO CLINICAL PRACTICE...is an introductory clinical course that emphasizes basic nursing skills and application of the nursing process in meeting the needs of diverse clients across the lifespan. Emphasis is placed on performing basic nursing skills, the formation of nurse-client relationships, communication, data collection, documentation, and medication administration. Student needs a current TB test, flu vaccine, and professional AHA CPR card (1 and 2 person, adult, infant, and child, AED). Student needs to be admitted to the Practical Nursing program. Course requires a minimum grade of "C" or better. CONDITION: 315431 Practical Nursing Admissions Requirements Met; and COREQUISITE: 31543301 Nursing Fundamentals and 31543302 Nursing Skills and 31543303 Nursing Pharmacology

NURSING FUNDAMENTALS...focuses on basic nursing concepts to provide evidenced-based care to diverse patient populations across the lifespan. Current and historical issues impacting nursing will be explored within the scope of nursing practice. The nursing process will be introduced as a framework for organizing the care of patients. This course requires a minimum grade of "C" or better. PREREQUISITE: 10809188 Developmental Psychology; and 10806103 Body Structure & Function OR 10806177 Gen Anatomy & Physiology; and 10801195 Written Comm OR 10801136 English Comp 1; and 10801196 Oral/Interpersonal Comm and CONDITION: 315431 Practical Nursing Admission Requirements met.

NURSING HEALTH ALTERATIONS...elaborates upon the basic concepts of health and illness as presented in Nursing Fundamentals. It applies theories of nursing in the care of clients through the lifespan, utilizing problem solving and critical thinking. This course will provide an opportunity to study conditions affecting different body systems and apply evidence-based nursing interventions. It will also introduce concepts of leadership and management. Course requires a minimum grade of "C" or better. PREREQUISITE: 31543301 Nrsng Fund and 31543302 Nrsng Skills and 31543304 Nrsng: Intro to Clin Practice.

NURSING HEALTH PROMOTION...focuses on topics related to health promotion in for individuals and families throughout the lifespan. We will cover nursing care of the developing family, which includes reproductive issues, pregnancy, labor and delivery, postpartum, the newborn, and the child. Recognizing the spectrum of healthy families we will discern patterns associated with adaptive and maladaptive behaviors applying mental health principles. An emphasis is placed on teaching and supporting healthy lifestyle choices for individuals of all ages. Nutrition, exercise, stress management, empowerment, and risk reduction practices are highlighted. Study of the family will cover dynamics, functions, discipline styles, and stages of development. Course requires a minimum grade of "C" or better. PREREQUISITE: 31543301 Nrsng Fund and 31543303 Nrsng Pharm and 31543304 Nrsng Intro Clin Pract.

NURSING PHARMACOLOGY...introduces the principles of pharmacology, including drug classifications and their effects on the body. Emphasis is on the use of the components of the nursing process when administering medications. Student must be admitted to the Practical Nursing program. Course requires a minimum grade of "C" or better. Do not register for this class until you are assigned a clinical slot in 543-304 in current or next semester. PREREQUISITE: 10809188 Developmental Psychology; and 10806103 Body Structure & Function OR 10806177 Gen Anatomy & Physiology; and 10801195 Written Comm OR 10801136 English Comp 1; and 10801196 Oral/Interpersonal Comm; and CONDITION: Practical Nursing Admissions Requirements Met.

NURSING SKILLS...focuses on development of evidence-based clinical skills and physical assessment across the lifespan. Content includes mathematical calculations and conversions related to clinical skills. In addition the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach. This course requires a minimum grade of "C" or better. PREREQUISITE: 10809188 Developmental Psychology; and 10806103 Body Structure & Function OR 10806177 Gen Anatomy & Physiology; and 10801195 Written Comm OR 10801136 English Comp 1; and 10801196 Oral/Interpersonal Comm; and CONDITION: 315431 Practical Nursing Admissions Requirements Met.

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

ABOUT THE PROGRAM

Quality assurance is a program for the systematic monitoring and evaluation of the various aspects of a project, service, or facility to ensure that standards of quality are being met. In simple business terms, quality assurance is the difference between success and failure. If you believe in the idea of “quality in, quality out,” and you want to play a vital role in helping an organization achieve success through quality, LTC’s Quality Assurance Technician program is the way to realize your goal.

PROGRAM OUTCOMES

- Understand total quality control concepts, inspection methods, data collection, application of sampling plans, quality cost, and quality audits.
- Utilize mathematical calculations, including metric conversions, geometry, trigonometry, and basic and advanced statistical process control techniques.
- Understand and apply Lean Six Sigma concepts of continuous improvement.
- Understand quality systems used currently in industry. These systems include, ISO 9000, Malcolm Baldrige, and Deming Prize.
- Plan quality audits to assure quality systems are working and take corrective action through continuous improvement.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

CONTACT

LTC Career Coach
 920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10103131	Word 2013-Level 1	1
10103181	Excel 2013-Level 1	1
10182131	Supply Chain Management	3
10623101	Quality Concepts	3
10623118	Lean Manufacturing Overview	3
10801195	Written Communication OR 10801136	3
	English Composition 1 (3cr)	
10809198	Introduction to Psychology OR 10809188	3
	Developmental Psychology (3cr)	
		17
Term 2		
10809166	Introduction to Ethics OR 10806112	3
	Principles of Sustainability (3cr)	
10801198	Speech OR 10801196 Oral/Interpersonal Communications (3cr)	3
10804123	Math with Business Applications	3
10623193	ISO 9001 Internal Auditor OR 10623195	3
	ISO 9001 Concepts (3cr)	
10809195	Economics	3
		15
Term 3		
10101155	Accounting for Professionals	3
10105128	Personal Branding	2
10196188	Project Management	3
10623110	Lean Six Sigma - Measure and Analyze	4
10623111	Lean Six Sigma Tools - Improve & Control	4
		16
Term 4		
10182102	Service Operations Management	3
10623112	Lean Six Sigma - Implementation	3
10623114	Lean Six Sigma Tools - Black Belt	4
10809196	Introduction to Sociology OR 10809122	3
	Introduction to American Government (3cr)	
		13
		TOTAL 61

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.

ACCOUNTING FOR PROFESSIONALS...is the study of the information that can be interpreted from financial statements. Students analyze financial statements and apply managerial accounting concepts in an accelerated format. PREREQUISITE: 10804123 Math w Business Apps or CONDITION: 101101 Paralegal program requirements met

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

EXCEL 2013 - LEVEL 1...introduces the student to creating, modifying and formatting worksheets; entering formulas and functions; working with charts; and developing multiple-sheet workbooks. This course is offered in a self-paced format.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO ETHICS: THEORY AND APPLICATION...provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social and/or professional standards of behavior, and apply a systematic decision-making process to these situations. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

ISO 9001 INTERNAL AUDITOR...is designed to introduce participants to the current QS/ISO 9001 and ISO 19011 standards. The course is structured to provide a detailed review of the standards, how to document procedures, and how to perform audits. Students will practice preparation for and conducting audits in a local business. Successful completion of this course qualifies the student to receive the ISO 9001 Internal Auditor certificate (19-623-8)

LEAN MANUFACTURING OVERVIEW...expands the learner's ability to develop skills to prioritize and sequence work, execute work plans, implement controls, and create and analyze performance evaluations. It allows the student to explore the execution of quality initiatives and continuous improvement plans in addition to the control and handling of inventories.

LEAN SIX SIGMA - IMPLEMENTATION...introduces the student to the implementation of a six sigma project. Students apply the techniques used in prior Lean Six Sigma courses to a real problem in their place of employment. An emphasis is placed on team skills required to successfully implement the project. Skills demonstrated include project initiation, time management, and constraint management. Student final projects demonstrate their mastery of both DMAIC and Lean methodologies. PREREQUISITE: 10623111 Lean Six Sigma-Improve& Control

LEAN SIX SIGMA - IMPROVE & CONTROL...provides the student with the skills and tools to select and implement solutions to solve problems and improve processes. An emphasis is placed on the use of statistical techniques in solution selection including correlation, regression, and statistical process control. Lean manufacturing methods including SMED, POCUS, cellular manufacturing, mistake proofing, TPM, 5S and visual management are practiced. Students learn how to create a control plan. MiniTab skill expansion is included. COREQUISITE: 10623110 Lean Six Sigma -Measure & Analyze

LEAN SIX SIGMA - MEASURE AND ANALYZE...provides the student with skills and tools to collect and analyze data to solve problems and improve processes within an organization. Various techniques for process mapping are explored including SIPOC, FMEA, VSM, standard work sheets, and spaghetti diagrams. Statistical tools are explored including probability, confidence intervals, measurement systems analysis, hypothesis testing, and TAKT time analysis to create and implement a data collection plan. MiniTab introduction is included.

LEAN SIX SIGMA TOOLS - BLACK BELT...provides the student with the knowledge to achieve Lean Six Sigma - Black Belt. Students demonstrate additional proficiency in high level statistical analysis including reliability, hypothesis testing, ANOVA, DOE, failure rates and MTBF. Project management through the DMAIC process is examined. Students learn how to "build quality in" at the design stage by use of the concepts of design for six sigma (DFSS). Advanced lean tools are explored including 3P, Jidoka, and Heijunka. COREQUISITES: 10623112 Lean Six Sigma-Implementation

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agrribusiness/ Agronomy Basic program admissions requirements met

PERSONAL BRANDING...focuses on the importance of developing a strong brand identity for yourself as a professional. As a prospective employee, you are constantly selling yourself from how you talk, walk, dress, your facial expressions, and your body language; people are always forming impressions of you. In this course, you will develop a professional resume, cover letter, practice interview skills, and learn the role of social media in career development.

PROJECT MANAGEMENT...introduces the learner to explore the relationship of existing and emerging processes and technologies to manufacturing strategy and supply chain-related functions. This course addresses three main topics: aligning resources with the strategic plan, configuring and integrating operating processes to support the strategic plan, and implementing change.

QUALITY CONCEPTS...provides an overview of quality systems, methods and analysis using Minitab software. Basic quality philosophies such as Deming's principles, continuous improvement, quality costs, supplier relations and inspection theory will be presented. The components of a basic quality system compatible with ISO9000 and Six Sigma will be explored. Minitab software will be taught and utilized to collect and analyze data. Techniques such as pareto, trend analysis, histograms, cause and effect diagrams and corrective/preventive action techniques will be applied to the data in order to address problems and improve processes.

SERVICE OPERATIONS MANAGEMENT...introduces the student to the basic coverage of the concepts and current issues in service operation management. Topics include the value equation in operations management; understanding services; building the service system; operating the service system; enterprise resource management (ERP) and supply chain management concepts in the service sector.

SPEECH...explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of the course. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

SUPPLY CHAIN MANAGEMENT...has been developed to provide a basic understanding of the planning and control of materials into, through, and out of organizations. In addition, those who want to become certified by APICS need a fundamentals course to learn about the material planning and control system. This course will provide a basis for further study leading to certification.

WORD 2013 - LEVEL 1...introduces the student to word processing features such as creating, saving, editing, formatting, and printing documents, creating basic diagrams, and applying these concepts to produce usable documents. This course is offered in a self-paced format.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 31-623-2 Technical Diploma • Two Terms

ABOUT THE PROGRAM

This technical diploma, Quality Process Improvement, provides you with the basic skills for quality assurance work. This credential 'ladders' up to the full two-year associate degree, Quality Assurance Technician. Quality Assurance is a program for the systematic monitoring and evaluation of the various aspects of a project, service, or facility to ensure that standards of quality are being met. In simple business terms, quality assurance is the difference between success and failure. If you believe in the idea of "quality in, quality out," and you want to play a vital role in helping an organization achieve success through quality, LTC's Quality Process Improvement technical diploma is the way to get you started in this field.

PROGRAM OUTCOMES

- Provides basic understanding of total quality control concepts, inspection methods, data collection, application of sampling plans, quality cost, and quality audits.
- Utilize mathematical calculations, including metric conversions, geometry, trigonometry, and basic and advanced statistical process control techniques.
- Provides basic understanding of Lean Six Sigma concepts of continuous improvement and provides you with the basic skills to apply these principles.
- Provides basic understanding of quality systems used currently in industry. These systems include, ISO 9000, Malcolm Baldrige, and Deming Prize.
- Assist in the planning of quality audits to assure quality systems are working and take corrective action through continuous improvement.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

This credential, the Quality Process Improvement technical diploma, is part of the quality assurance career pathway and can serve as a step to the higher credential, the Quality Assurance Technician Associate Degree. The associate degree provides further in-depth training in quality, management, and in "soft" skills.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10623101	Quality Concepts	3
10623110	Lean Six Sigma - Measure and Analyze	4
10623111	Lean Six Sigma - Improve & Control	4
10809196	Introduction to Sociology OR 10809122	3
	Introduction to American Government (3cr)	
		14
Term 2		
10623112	Lean Six Sigma - Implementation	3
10623193	ISO 9001 Internal Auditor OR 10623195	3
	ISO 9001 Concepts (3cr)	
10623118	Lean Manufacturing Overview	3
10801195	Written Communication OR 10801136	3
	English Composition 1 (3cr)	
		12
		TOTAL 26

*Curriculum and Program Acceptance requirements are subject to change.
Program start dates vary; check with your advisor for details.*



INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

ISO 9001 INTERNAL AUDITOR...is designed to introduce participants to the current QS/ISO 9001 and ISO 19011 standards. The course is structured to provide a detailed review of the standards, how to document procedures, and how to perform audits. Students will practice preparation for and conducting audits in a local business. Successful completion of this course qualifies the student to receive the ISO 9001 Internal Auditor certificate (19-623-8)

LEAN MANUFACTURING OVERVIEW...expands the learner's ability to develop skills to prioritize and sequence work, execute work plans, implement controls, and create and analyze performance evaluations. It allows the student to explore the execution of quality initiatives and continuous improvement plans in addition to the control and handling of inventories.

LEAN SIX SIGMA - IMPLEMENTATION...introduces the student to the implementation of a six sigma project. Students apply the techniques used in prior Lean Six Sigma courses to a real problem in their place of employment. An emphasis is placed on team skills required to successfully implement the project. Skills demonstrated include project initiation, time management, and constraint management. Student final projects demonstrate their mastery of both DMAIC and Lean methodologies. PREREQUISITE: 10623111 Lean Six Sigma-Improve& Control

LEAN SIX SIGMA - IMPROVE & CONTROL...provides the student with the skills and tools to select and implement solutions to solve problems and improve processes. An emphasis is placed on the use of statistical techniques in solution selection including correlation, regression, and statistical process control. Lean manufacturing methods including SMED, POKYS, cellular manufacturing, mistake proofing, TPM, 5S and visual management are practiced. Students learn how to create a control plan. MiniTab skill expansion is included. COREQUISITE: 10623110 Lean Six Sigma -Measure & Analyze

LEAN SIX SIGMA - MEASURE AND ANALYZE...provides the student with skills and tools to collect and analyze data to solve problems and improve processes within an organization. Various techniques for process mapping are explored including SIPOC, FMEA, VSM, standard work sheets, and spaghetti diagrams. Statistical tools are explored including probability, confidence intervals, measurement systems analysis, hypothesis testing, and TAKT time analysis to create and implement a data collection plan. MiniTab introduction is included.

QUALITY CONCEPTS...provides an overview of quality systems, methods and analysis using Minitab software. Basic quality philosophies such as Deming's principles, continuous improvement, quality costs, supplier relations and inspection theory will be presented. The components of a basic quality system compatible with ISO9000 and Six Sigma will be explored. Minitab software will be taught and utilized to collect and analyze data. Techniques such as pareto, trend analysis, histograms, cause and effect diagrams and corrective/preventive action techniques will be applied to the data in order to address problems and improve processes.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 10-624-2
Associate Degree in Applied Science • 5 Terms

ABOUT THE PROGRAM

Safety in today's healthcare, energy, manufacturing, defense, and pharmaceutical research fields depends on qualified experts to perform technical duties in areas using radioisotopes. These experts play a vital role in the health, safety, and well-being of their coworkers, patients, the public, and the environment. If you have a strong interest in science, thrive on precision, are attentive to details, have the ability to follow exact instructions, and are comfortable working with technology and people, becoming a radiation safety technician is an ideal way to maximize your talents.

PROGRAM OUTCOMES

- Provide radiological safety in the workplace.
- Understand the natural laws of ionizing radiation.
- Maintain control over radioactive materials in compliance with regulatory requirements and accepted industry practices.
- Perform surveys to detect radiation and assess hazards.
- Mitigate hazards associated with the use of radioactive materials and devices that produce ionizing radiation.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

- Classes are offered at LTC's main campus with videoconferencing to NWTC's Green Bay Campus and BTC's Janesville campus.
- Gaining employment in the nuclear, radiation safety, and health physics likely includes a very comprehensive background check of one's lifespan. This includes not only criminal activities, but likely also credit history, civil actions, and a psychological profile.
- **ONLINE OPTION:** Available to working adults in the Radiation Safety/Health Physics industry. To register for online courses, search for the catalog numbers with an "OL" suffix. Online courses have prerequisites of other specific online courses and are not interchangeable with the in-person courses. Online classes are constructed without hands-on lab components; therefore, online students work with their industry supervisor to identify suitable activities at their worksite.

CONTACT

LTC Career Coach
 920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10624105	Health Physics Calculations and Statistics	3
10624110	Nuclear Technology and Regulations	3
10804115	College Technical Math 1	5
10801195	Written Communication	3
		14
Term 2		
10624114	Nuclear Systems and Sources	3
10624122	Radiation Physics	3
10624123	Radiation Physics-Lab	2
10624103	Nuclear DC and AC Applications	3
10809122	Introduction to American Government	3
10801196	Oral/Interpersonal Communications	3
		17
Summer		
10624118	Radiation Biology	3
		3
Term 3		
10624138	Radioactive Materials Management	2
10624132	Radiological Emergencies	2
10624134	Radiation Shielding	2
10624135	Radiation Shielding Lab	1
10806154	General Physics 1	4
10809198	Introduction to Psychology	3
		14
Term 4		
10529150	*Hazardous Waste Site Worker 40-Hour Training	2
10624140	Radiochemistry	3
10624148	Reactor Theory and Operation	3
10624145	Applied Health Physics	3
10624146	Applied Health Physics Lab	2
		13
		TOTAL 61

* This class is offered in a week-long in-person seminar format outside of the traditional semester and is not available online. However, online students who have completed this 40-hour training may provide their transcript to their program advisor for these credits.

Most classes in this program have prerequisites.

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



APPLIED HEALTH PHYSICS...prepares learner to issue dosimetry, monitor personal exposure, calculate/estimate radioactive airborne activity concentration, issue respirators, determine contamination levels, don and remove protective clothing, reduce the spread of contamination, conduct an ALARA audit, reduce the total radiation exposure, maintain records and estimate skin dose, etc. PREREQ: 10624122 Radiation Physics

APPLIED HEALTH PHYSICS-LAB...expands the learner's ability to perform applied health physics tasks as covered in Applied Health Physics, 624-145 and should be completed within the same semester. COREQUISITE: 10624145 App Health Physics

COLLEGE TECHNICAL MATHEMATICS 1...prepares the student to solve linear, quadratic, and rational equations; graphing; formula rearrangement; solve systems of equations; percent; proportions; measurement systems; computational geometry; right and oblique triangle trigonometry; trigonometric functions on the unit circle; and operations on polynomials. Emphasis will be on the application of skills to technical problems. This course is the equivalent of successful completion of College Tech Math 1a and 1b. PREREQUISITES: 10834110 Elementary Algebra w Apps or 31457318 Ind Mtn Trades Math or 31420320 Machine Tool Math or equivalent.

GENERAL PHYSICS 1...presents the applications and theory of basic physics principles. This course emphasizes problem-solving, laboratory investigation, and applications. Topics include unit conversions and analysis, vectors, translational and rotational kinematics, translational and rotational dynamics, heat and temperature, and harmonic motion and waves. COREQUISITE: 10804197 College Tech Math 1B or 10804114 College Tech Math 1B or 10804114M1 College Tech Math 1B Mod 1 & 10804114M2 College Tech Math 1B Mod 2 or 10804115 College Tech Math 1 or 10624105 Hlth Phys Calc & Stats and 10804118 Intern Algebra

HAZARDOUS WASTE SITE WORKER...provides training to respond to a hazardous material incident both in an industrial setting and field setting. Student will receive hazardous waste site worker certificate upon successful completion of the class.

HEALTH PHYSICS CALCULATIONS AND STATISTICS...prepares the learner to solve linear and exponential equations, logarithms, plot graphs, determine counting statistics and reliability, and work with geometry and trigonometry problems. COREQUISITE: 10624110 Nuclear Technology & Regulations

INTRODUCTION TO AMERICAN GOVERNMENT...introduces American political processes and institutions. It focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. It explores the role of the media, interest groups, political parties and public opinion in the political process. It also explores the role of state and national government in our federal system.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

NUCLEAR DC AND AC APPLICATIONS...prepares nuclear, radiation safety, and health physics learners to apply direct current (DC) and alternating current (AC) concepts and laws; perform calculations and measurements to identify basic electrical terms, symbols, units, etc.; apply the electrical laws (such as, Ohm's law, Kirchhoff's voltage and current laws); to analyze DC/AC electronic circuit, power, etc.; to analyze AC waveform (including single-phase versus three-phase), batteries, chargers, etc. PREREQUISITE: 10624105 HealthPhysics Calcs & Stats

NUCLEAR SYSTEMS AND SOURCES...introduces the learner to the major components of natural/man-made background sources, x-ray tubes and applications, medical-used radioactivity materials, accelerators, nuclear gauging devices, non-ionization radiations, and power/research nuclear reactors and associated health physics topics. PREREQUISITE: 10624110 Nuclear Technology & Regulations

NUCLEAR TECHNOLOGY AND REGULATIONS...introduces the learner to atomic and nuclear structure; radioactivity and basic dosimetry; regulation standards, including 10CFR 19, 20, 30, and 35. COREQUISITE: 10624105 Health Physics Calcs & Stats

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

RADIATION BIOLOGY...prepares the learner to convert measuring units and activity to dose rates, predict the effect of radiation on living cells and human organs, evaluate radiation risk, and calculate internal doses. PREREQUISITES: 10624110 Nuclear Tech/Reg, 10624105 Health Phys Calc/Stats, 10624114 Nuclear Systems and Sources, 10624122 Rad Physics, 10624123 Rad Phys-Lab, and 10804115 College Tech Math 1 or 10804114 Tech Math 1B

RADIATION PHYSICS...introduces the learner to health physics-related physics, including the properties of radiation; interactions of radiation with matters; basic principles of radiation detection and measurement; and different kinds of radiation detectors; i.e., gas-filled and solid-state detectors. PREREQUISITE: 10624110 Nuclear Tech & Reg and 10624105 Health Physics Calc & Stats and 10804115 College Tech Math 1 or 10804114 College Tech Math 1B

RADIATION PHYSICS-LAB...expands the learners ability to perform calculations, select instruments, and analyze samples. This course is associated with 624-122, Radiation Physics. COREQUISITE: 10624122 Radiation Physics and PREREQUISITE: 10801195 Written Communications and COREQUISITE: 10624110 Nuclear Technology & Regulations

RADIATION SHIELDING...provides the learner with the skills to calculate radiation attenuation from various geometric radioactive sources, determine the effect of neutron radiation on materials, and estimate the exposure rate from various sources with or without shielding materials. PREREQUISITE: 10624122 Radiation Physics

RADIATION SHIELD-LAB...expands the learner's ability to perform shielding of ionizing radiation sources and to measure the penetration of beta and gamma radiation. COREQUISITE: 10624134 Radiation Shielding

RADIOACTIVE MATERIAL AND MANAGEMENT...introduces the learner to the proper methods used to dispose of radioactive waste in liquid, solid, gaseous forms; determine waste classification, evaluate methods used to process low-level and high-level waste, determine the package/label requirements, proper type of transport container, shipment quantity classification, storage distance from people and film during shipments by rail/vessel/public roads, proper shipping name and UN number; completion of proper shipping papers; document materials inventory/shipments. PREREQUISITES: 10624105 Health Physics Calc & Statistics, 10624110 Nuclear Technology & Regulations, 10624114 Nuclear Systems & Sources

RADIOCHEMISTRY...provides the student with the fundamentals of chemistry and the application of chemistry control to a nuclear facility. The course will cover basic water treatment principles, corrosion, reactor water chemistry control and chemical hazards. Prepares the learner to separate dissolved, suspended, liquid, and ionic radioactive components; perform qualitative and quantitative analysis of samples; and prevent the production of radioactive material by using proper chemical control. PREREQUISITE: 10624122 Radiation Physics

RADIOLOGICAL EMERGENCIES...prepares the learner to understand a radiological emergency within the commercial nuclear power industry and explain how it is prevented, mitigated, and the proper preparations should an emergency occur. A radiological emergency is displaced radioactive substances in solid, liquid, or gaseous form in amounts which may result in doses to plant workers, plant equipment, the environment, or the public, that exceed company, state, and federal limits or regulations. Post-accident actions will be described as well as company, state, and federal regulations on radioactive releases and doses. PREREQUISITES: 10624110 Nuclear Technology and Regulations, 10624105 Health Physics Calculations and Statistics and 10624114 Nuclear Systems and Sources

REACTOR THEORY AND OPERATION...introduces the learner to the basic reactor types, the fission process, reactivity/criticality, reactor kinetics, heat removal, residual/decay heat, basic reactor types, nuclear plant water chemistry, and reactor thermodynamics. PREREQUISITE:10624122 Radiation Physics and 10624132 Radiological Emergencies

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 10-526-1
Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

Diagnosing certain medical conditions or injuries often requires physicians to go beyond a routine physical examination; they need to see inside the body, so an x-ray of the affected area is ordered. Radiographers work with patients to acquire the necessary diagnostic images. If you're detail-oriented, caring, interested in anatomy and physiology, able to work under pressure, and inclined to work with technology and people, a career as a radiographer may be a satisfying choice for you.

PROGRAM GOALS

- Students/Graduates will demonstrate critical thinking in the clinical setting.
- Students/Graduates will demonstrate good communication skills in the clinical setting.
- Students/Graduates will possess the knowledge and skills of an entry level radiographer and are able to perform competently in the clinical setting.
- Students/Graduates will model professional and ethical behavior.
- Graduates will successfully complete the ARRT Certification Examination and enter the field to meet the needs of the community.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete health requirements.
 - Complete 8 hours of clinical observation and submit form.
 - Complete Functional Ability Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

- Students must either have completed the Nursing Assistant course within 2 years prior to the Radiography clinical start OR be current on the Nursing Assistant Registry.
- CPR BLS Healthcare Provider certification is required prior to starting clinicals.
- LTC offers its Radiography program in cooperation with Nicolet Technical College. As a radiography student, you'll attend live or interactive TV classes and take general studies classes at your local technical college.
- LTC's Radiography program is accredited by The Joint Review Committee on Education in Radiologic Technology, 20 North Wacker Drive, Suite 2850, Chicago, Illinois 60606-3182. Phone: 1.312.704.5300.

CONTACT

LTC Career Coach
 920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
10806177	General Anatomy and Physiology	4
Term 1		
10526149	Radiographic Procedures 1	5
10526158	Introduction to Radiography	3
10526159	Radiographic Imaging 1	3
10526168	Radiography Clinical 1	2
		13
Term 2 Summer		
10526192	Radiography Clinical 2	3
10804107	College Mathematics	3
		6
Term 3		
10526170	Radiographic Imaging 2	3
10526191	Radiographic Procedures 2	5
10526193	Radiography Clinical 3	3
10801196	Oral/Interpersonal Communication	3
		14
Term 4		
10526194	Imaging Equipment Operation	3
10526196	Modalities	3
10526199	Radiography Clinical 4	3
10809198	Introduction to Psychology	3
10809172	Introduction to Diversity Studies	3
		15
Term 5 Summer		
10526190	Radiography Clinical 5	2
10526189	Radiographic Pathology	1
10801195	Written Communication	3
		6
Term 6		
10526174	ARRT Certification Seminar	2
10526195	Radiographic Quality Analysis	2
10526197	Radiation Protection & Biology	3
10526198	Radiography Clinical 6	2
10809196	Introduction to Sociology	3
		12
		TOTAL 70

Prerequisites: Chemistry and Medical Terminology

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ARRT CERTIFICATION SEMINAR...provides preparation for the national certifying examination prepared by the American Registry of Radiologic Technologists. Emphasis is placed on the weak areas of the individual students. Simulated registry examinations are utilized. Successful completion of the Radiography program requirements is required to enroll in this course. PREREQUISITE: 10526190 Radiography Clinical 5 and CONDITION: 105261 Radiography or 195262 Limited X-Ray Machine Operator Admissions Requirements Met

COLLEGE MATHEMATICS...is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. PREREQUISITE: 10834109 Pre-Algebra or equivalent

GENERAL ANATOMY AND PHYSIOLOGY...examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare health care professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision-making and professional communication with colleagues and patients. PREREQUISITE: 10806134 General Chemistry or equivalent

IMAGING EQUIPMENT OPERATION...introduces radiography students to the principles and application of x-ray technology. Students analyze how x-rays are produced and determine the corrective actions necessary for common equipment malfunctions. PREREQUISITE: 10526170 Radiographic Imaging 2 and CONDITION: 105261 Radiography Admissions Requirements Met

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO DIVERSITY STUDIES...introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, religion are explored. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRODUCTION TO RADIOGRAPHY...introduces students to the role of radiography in health care. Students apply legal and ethical considerations to patient care and pharmacology in the radiologic sciences. PREREQUISITE: 10501101 Medical Terminology and CONDITION: 105261 Radiography Admissions Requirements Met

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MODALITIES...introduces radiography students to other types of imaging including ultrasound, MRI, mammography, and bone density scans. Students analyze the role of various imaging technologies in health care. PREREQUISITE: 10526191 Radiographic Procedures 2 and CONDITION: 105261 Radiography Admissions Requirements Met

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

RADIATION PROTECTION & BIOLOGY...prepares radiography students to protect themselves and others from exposure to radioactivity. Students examine the characteristics of radiation and how radiation affects cell biology. Students apply standards and guidelines for radiation exposure. PREREQUISITE: 10526194 Imaging Equipment Operation and CONDITION: 105261 Radiography or 195262 Limited X-Ray Machine Operator Admissions Requirements Met

RADIOGRAPHIC IMAGING 1...introduces radiography students to the process of creating radiographic images. Students determine the factors that affect image quality including contrast, density, and distortion. Students apply OSHA standards for health and safety in the darkroom. PREREQUISITES: 10806174 General Chemistry or 10806143 General Chemistry or High School Chemistry Equivalent and CONDITION: 105261 Radiography Admissions Requirements Met

RADIOGRAPHIC IMAGING 2...prepares radiography students to apply advanced radiographic principles to the production of radiographic images. Students analyze exposure factor considerations, differentiate between film and exposure latitude, and use beam-restricting devices. PREREQUISITES: 10526159 Radiographic Imaging 1

RADIOGRAPHIC PATHOLOGY...prepares radiography students to determine the basic radiographic manifestations of pathological conditions. Students classify trauma related to site, complications, and prognosis and locate the radiographic appearance of pathologies. CONDITION: 105261 Radiography or 195262 Limited X-Ray Machine Operator Admissions Requirements Met

RADIOGRAPHIC PROCEDURES 1...prepares radiography students to perform routine radiologic procedures on various parts of the body including the upper body, hip, pelvis and ankle. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result. CONDITION: 105261 Radiography Admissions Requirements Met and PREREQUISITES: 10806177 Gen Anatomy & Physiology or 10806177OL Gen Anatomy & Physiology

RADIOGRAPHIC PROCEDURES 2...prepares radiography students to perform routine radiologic procedures on various parts of the body including the skull and spine. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result. PREREQUISITE: 10526149 Radiographic Procedures 1

RADIOGRAPHIC QUALITY ANALYSIS...prepares radiography students to analyze radiographic images for quality. Students apply quality control tests to determine the causes of image problems including equipment malfunctions and procedural errors. CONDITION: 105261 Radiography Admissions Requirements Met and PREREQUISITE: 10526194 Imaging Equipment Operation

RADIOGRAPHY CLINICAL 1...is a beginning level clinical course that prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting. CONDITION: 105261 Radiography Admissions Requirements Met and COREQUISITE: 10526149 Radio Proc 1, 10526158 Intro to Radio, 10526159 Radio Imaging 1, and PREREQUISITE: 10806177 Gen A&P or 10806196 A&P II

RADIOGRAPHY CLINICAL 2...is the second level clinical course that prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting. COREQUISITE: 10526168 Radiography Clinical 1

RADIOGRAPHY CLINICAL 3...is the third level clinical course which prepares radiography students to perform radiologic procedures on patients with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the demonstration of communication and critical thinking skills appropriate to the clinical setting. PREREQUISITE: 10526192 Radiographic Clinical 2

RADIOGRAPHY CLINICAL 4...is the fourth level clinical course that prepares radiography students to perform radiologic procedures on patients with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies. PREREQUISITE: 10526193 Radiographic Clinical 3

RADIOGRAPHY CLINICAL 5...is the fifth level clinical course that prepares radiography students to perform radiologic procedures on patients with some supervision. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies. COREQUISITE: 10526199 Radiographic Clinical 4

RADIOGRAPHY CLINICAL 6...is the final clinical course which requires students to integrate and apply all knowledge learned in previous courses to the production of high quality radiographs in the clinical setting. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies. PREREQUISITE: 10526190 Radiography Clinical 5

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Pending State Approval

Program Number 31-104-8
Technical Diploma • Two Terms

ABOUT THE PROGRAM

The Sales Representative technical diploma prepares the student to be a professional in both business-to-business and business-to-consumer environments. The student will have a fundamental understanding of selling techniques, sales strategies, customer relations management and customer service, professionalism, and Web-based selling and marketing. A graduate holding such a diploma may be expected to manage customers and accounts, prepare quotes and close sales, provide sales data and marketing analysis, and work inside sales, outside sales, retail sales, and other customer support roles. This technical diploma will ladder into the Marketing associate degree program.

PROGRAM OUTCOMES

- Develop strategies to anticipate and satisfy market needs.
- Prepare an integrated marketing communication plan.
- Evaluate business information through the market research process.
- Demonstrate selling strategies for products, services, and/or ideas to create and maintain relationships.
- Manage Customer Relationship Management (CRM) functions to anticipate market wants and needs.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

This program is also offered in an online delivery format. Contact an advisor for details.

RELATED PROGRAMS

- Marketing In A Digital Era Associate Degree

CONTACT

LTC Career Coach
 920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10104102	Marketing, Principles of	3
10801198	Speech OR 10801196 Oral/Interpersonal Communication	3
10104125	Promotion in the Social Media Campaign	3
10809122	Introduction to American Government OR 10806112 Principles of Sustainability	3
		12
Term 2		
10104104	Selling Strategies	3
10104124	Research and Web Analytics	3
10104105	B2B Sales and CRM	3
10104134	Direct Marketing, PR and Media	3
		12
		TOTAL 24

*Curriculum and Program Acceptance requirements are subject to change.
 Program start dates vary; check with your advisor for details.*



B2B SALES AND CRM...enhances the student's ability to create business to business selling strategies and understand the factors affecting the sales funnel. Students will develop an understanding of CRM, account management, sales leadership and motivation, and sustaining the brand in the new era of Sales 2.0. COREQUISITE: 10104104 Selling Strategies

DIRECT MARKETING, PR AND MEDIA...provides the student with an overview of direct marketing, public relations, and social media as it relates to the consumer. Various channels of direct marketing will be investigated including social media, mobile marketing, email marketing, and traditional direct marketing strategies.

INTRODUCTION TO AMERICAN GOVERNMENT...introduces American political processes and institutions. It focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. It explores the role of the media, interest groups, political parties and public opinion in the political process. It also explores the role of state and national government in our federal system.

MARKETING, PRINCIPLES OF...introduces the student to the consumer decision process model, the bases used to segment a market, basic concepts about goods, services, and ideas, the nature of supply chain and distribution, integrated marketing communications, and the stages of the product life cycle and their impact on the marketing mix.

PROMOTION IN THE SOCIAL MEDIA CAMPAIGN...provides the student with the understanding of the promotional mix in integrated marketing communications. Students will also explore the role of social media in branding and positioning products. COREQUISITE: 10104102 Principles of Marketing

RESEARCH AND WEB ANALYTICS...provides the student with the ability to distinguish between quantitative and qualitative research techniques, primary and secondary data, and the marketing research process. In addition students will learn how web analytics and mobile technology have affected the marketing research process.

SELLING STRATEGIES...prepares the student to understand the business to consumer selling process, the technological advancement in selling, and the importance of customer relationship management.

SPEECH...explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of the course. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

Program Number 31-504-6 Technical Diploma • Three Terms

ABOUT THE PROGRAM

This program prepares new corrections officers and security professionals for the dynamic environment they face. Learners will gain a foundational understanding of private security officer roles and responsibilities as well as complete a Wisconsin Department of Justice Basic Jail Officer Academy and Co-located Academy. Students will develop their capabilities through scenario based training and exercises ensuring they have the skills and capabilities needed to be successful in this field.

PROGRAM OUTCOMES

- Demonstrate communication skills within security and corrections environments.
- Explore procedures, practices and processes within the security industry and correctional system.
- Safeguarding lives, organizational profits, assets, interests, and property.
- Positively interact with individuals to assist and maintain security.
- Reduce risk through planning, preparation, observation, communication, mitigation, and recovery.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).
 - Complete background check and \$16 processing fee.

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Complete Department of Justice Jail requirements:
 - Complete Student release of information form (DJ-LE-310)
 - Fingerprint card submission and review
 - Complete Department of Justice medical assessment (DJ-LE-332)
 - Be at least 18 years of age before taking any term 3 courses (DJ-LE-322)
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

Completion of the Basic Jail Officer Parts 1, 2, and 3 courses meets State of Wisconsin Law Enforcement Standards Board training requirements for a Basic Jail Officer. Employed candidates become certified upon presentation of their academy transcripts to the Standards Board and upon board approval. Candidates seeking employment have three years from completion of the course to secure a Jail Officer position in order to become certified.

RELATED PROGRAMS

- Criminal Justice-Law Enforcement Associate Degree

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10540131	Emergency Management	2
10504108	Law Enforcement Communications	3
10801196	Oral/Interpersonal Communications	3
10809166	Introduction to Ethics	3
		11
Term 2 Spring		
10504106	Fundamentals of Security	3
10504107	Security Applications	3
10196136	Safety in the Workplace	3
10504102	Basic Jail Officer Part 1	3
		12
Term 3 Summer		
10-504103	Basic Jail Officer Part 2	3
10-504104	Basic Jail Officer Part 3	3
10-504105	Co-located Academy	2
		8
		TOTAL 31

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



BASIC JAIL ACADEMY CO-LOCATED...is designed for staff members working in co-located secure juvenile detention facilities. The course consists of four task modules: Introduction to Detention Operations, Supervise Juveniles, Discipline Juveniles, and Apply Legal Requirements. Successful completion of this course qualifies a person for certification by the Law Enforcement Standards Board as a secure juvenile detention officer. CONDITION: 315046 Security and Corrections program admissions requirements met

BASIC JAIL OFFICER TRAINING PART 1...exposes learners to the basic fundamentals of jail officer training as configured by the Wisconsin Department of Justice. Topics presented include: Introduction to Corrections, Principles of Subject Control (POSC), Professional Communications, Ethics and Decision Making, and Corrections Law. CONDITION: 315046 Security and Corrections program admissions requirements met

BASIC JAIL OFFICER TRAINING PART 2...builds on previously learned foundations to develop learners as prospective jail officers. Department of Justice Topics presented include: Maintaining Jail Security, Jail Hostage Response, Admit and Release Inmates, Inmate Supervision and Behavioral Control, Supervision of Special needs, and Preparing Reports. CONDITION: 315046 Security and Corrections program admissions requirements met

BASIC JAIL OFFICER TRAINING PART 3...instructs learners to refine their skills and knowledge within the Department of Justice Basic Jail Officer Training Program. This capstone course will include presentations on the following topics: Jail Health Care, CPR, and Jail Fire Safety. Additionally, this course will include practical application scenarios and a final evaluation for credentialing within the Department of Justice. CONDITION: 315046 Security and Corrections program admissions requirements met

EMERGENCY MANAGEMENT...gives the student a working knowledge of Emergency Management, Public Safety Occupations, and the Incident Command System.

FUNDAMENTALS OF SECURITY...introduces the learner to the roles and responsibilities of the security professional. Students will investigate the skills that are needed for security and learn essential concepts including legal authority, ethics, and life safety code, how to perform investigations, as well as interacting with the media.

INTRODUCTION TO ETHICS: THEORY AND APPLICATION...provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social and/or professional standards of behavior, and apply a systematic decision-making process to these situations. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

LAW ENFORCEMENT COMMUNICATIONS...provides the learner with the fundamentals of verbal and nonverbal communications in the law enforcement profession. Students will harness the skills to prepare effective field notes, prepare various uniform report forms, organize information in reports, write narratives, differentiate between an interview and an interrogation, and analyze reports for required components.

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

SAFETY IN THE WORKPLACE...applies the skills and tools necessary to provide a safe and secure work environment. Each learner will demonstrate the application of safety awareness, federal/state/local compliance, incident investigation and documentation, human relations techniques, safety orientation, inspections, and risk analysis, issues of workplace violence, substance abuse, and health hazards, first aid and CPR, fire and electrical safety, emergency preparedness, and liaison with external agencies.

SECURITY APPLICATIONS...builds on previously learned foundations and will include the skills needed to perform a security patrol and protect property. Additionally, learners will be exposed to the various methods of utilizing technology to assist in maintaining security. This course will include scenario based application of these concepts.

**Program Number 50-432-1
5-Year Contract**

**Work Hours (including related instruction): 9000
Related Instruction Hours: 512 • Night School Hours: 250**

ABOUT APPRENTICESHIP

Apprenticeships are employer-sponsored training programs. You must have a contract before being invited to school. A special application process is used for these programs. Please contact the Apprenticeship Office for the proper forms. Apprenticeship means you earn while you learn. If you want a career in a skilled trade, apprenticeship is the best way to get there. You'll combine on-the-job training with on-campus learning—you'll have the best of both worlds when it comes to learning the skills you need to get ahead. And even better, you'll earn a paycheck while you learn those skills.

ABOUT THE CAREER

Sheet metal workers plan and lay out work from blueprints and sketches, fabricate parts using hand and power equipment, assemble HVAC (Heating, Ventilation, and Air Conditioning) and architectural units, and install the assembled units in the final structure. The Sheet Metal Apprenticeship program is an employer-sponsored, hands-on training program. If you like to work on projects from start to finish, using a variety of skills, check out a career as a journey-level sheet metal worker.

CAREERS

Graduates of LTC's Sheet Metal Apprenticeship program work as journey-level sheet metal workers in a variety of workplace settings.

CONSTRUCTION APPRENTICE APPLICATION REQUIREMENTS

- Apprentice Application
- Proof of Age
- Accuplacer Entrance Assessment
- High School Transcripts or Equivalent
- Advisory Committee Interview

PROGRAM OUTCOMES

- Work safely in a variety of work situations.
- Demonstrate proficiency in welding.
- Install sheet metal components according to industry standards.
- Lay out sheet metal components according to specifications.
- Fabricate sheet metal components using a variety of metal fabricating machinery.
- Interpret trade-related documents.
- Demonstrate proficiency using acetylene and hand plasma cutting.

APPROXIMATE COSTS

Contact the LTC Apprenticeship Office or visit www.gotoltc.edu/apprenticeship for detailed information.

MINIMUM PLACEMENT SCORES

Accuplacer: Arithmetic-66, Reading-66, Elementary Algebra-33
ACT: Mathematics-16, Reading-15

SPECIAL NOTE

Upon completion of the apprentice requirements, you'll be issued a Letter of Introduction, which states your requirements have been met. You'll use this Letter of Introduction to apply for work in the trade. You must have a sponsoring employer before receiving a contract and being invited to school.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

Catalog No.	Class Title	Credit(s)
Term 1		
50432501	Sheet Metal Apprentice 1	2
Term 2		
50432502	Sheet Metal Apprentice 2	2
Term 3		
50432503	Sheet Metal Apprentice 3	2
Term 4		
50432504	Sheet Metal Apprentice 4	2
Term 5		
50432505	Sheet Metal Apprentice 5	2
Term 6		
50432506	Sheet Metal Apprentice 6	2
Term 7		
50432507	Sheet Metal Apprentice 7	2
Term 8		
50432508	Sheet Metal Apprentice 8	2
		TOTAL 16

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



SHEET METAL APPRENTICE 1...introduces the apprentice to the sheet metal industry; learn craftsmanship; use drafting equipment and materials. They apprentice will learn trade overview and history; learn hand tools and their proper use; begin learning fundamentals of fabrication on metal; learn drafting tools and materials; learn lines and lettering; develop orthographic projections; begin layout techniques; learn layout tools and terms and principles; and begin fabricating fittings with metal. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met.

SHEET METAL APPRENTICE 2...introduces the apprentice to parallel line, radial line, and triangulation pattern development. The apprentice will learn the following layout principles: Ogee offsets, parallel line layout, radial line layout, triangulation layout, and soldering. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met.

SHEET METAL APPRENTICE 3...introduces the apprentice to the basics of organizing time; introduction to computers; the use of scientific calculators for trigonometry and everyday equations. The apprentice will revisit orthographic drawing development; learn pattern development and fabrication of the following - round tee's, round elbows, round tapers, roof jacks, square to rounds, and transitions. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met.

SHEET METAL APPRENTICE 4...introduces the apprentice to the basics of Architectural Sheet Metal, describes the primary functions and forms of architectural sheet metal, including shelter, durability, and appearance. It also identifies the larger concepts of architectural sheet metal, including moisture control, expansion and contraction, roof and wall systems, shop layout and fabrication including soldering of architectural components, installation, safety, and project management. It also describes the contributions of architectural sheet metal to architecture, art, and design. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met.

SHEET METAL APPRENTICE 5...provides the apprentice with skills to understand the concepts of HVAC systems. The apprentice will learn how to understand the different systems and components, heat transfer theories, refrigeration theories, electrical theories, automatic controls, and field installation roles and responsibilities. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met.

SHEET METAL APPRENTICE 6...provides the apprentice with skills to understand the concepts of HVAC systems and reading plans and specs. Apprentices will interpret load calculations and sizing ductwork; understand test and balance (TAB) procedures, understand commissioning duties, become an effective project manager, interpret plans and specs, and create CAD drawings. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met.

SHEET METAL APPRENTICE 7...introduces the apprentice to Industrial Sheet Metal skills. The apprentice will be able to identify types of materials used in industrial sheet metal work, understand the weldability of each of the types of materials used in industrial work, identify the primary steps of stock metal used in industrial sheet metal applications--plates, angles, bars, beams and channels, calculate the weight of stock metal components represented in a drawing, calculate the cost of stock metal components represented in a drawing, identify the welding and drawing symbols used in industrial sheet metal, understand where pipe welding is used, understand how to safely operate power equipment that is used for industrial work, and know the appropriate PPE to use for any given situation and how to use the equipment correctly. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met

SHEET METAL APPRENTICE 8...teaches the apprentice to become familiar with layout principles for sheet metal items commonly found in industrial environments. The apprentice will understand the difference between plan view and elevation view, understand how to lay out a project using a combination of two of the three methods of an industrial project, be familiar with the technical aspects related to cutting heavy metals, be familiar with common shop workflow procedures, be familiar with the types of job sites where industrial work might be performed, identify and describe the six steps used for field installation, be familiar with the challenges of scheduling an industrial job, understand the importance of communicating and cooperating with other trades, understand the overall purpose and function of an industrial ventilation/exhaust system, understand the principles of airflow and how it impacts industrial ventilation/exhaust system design, be familiar with basic rigging principles, and be familiar with hand signals used during hoisting operations. CONDITION: 504321/504322 Sheet Metal Apprentice requirements met

Program Number 31-182-1 Technical Diploma • Two Terms

ABOUT THE PROGRAM

This technical diploma, Supply Chain Assistant, provides you with the basic skills needed to perform entry level work in supply chain management. This credential 'ladders' up the associate degree credential, Supply Chain Management. Words such as logistics, purchasing, or material management all encompass part of a supply chain. Supply chains are led and managed by people who enjoy working with others and analyzing data. Without supply chain management, you could not get the products or services you need every day. If you want to be a part of an ever-changing and growing field, supply chain management is for you, and this introductory credential, the Supply Chain Assistant Technical Diploma, can help get you started.

PROGRAM OUTCOMES

- Define (plan) operations, transportation, procurement and distribution.
- Measure operations, transportation, procurement and distribution.
- Analyze operations, transportation, procurement and distribution.
- Improve operations, transportation, procurement and distribution.
- Control operations, transportation, procurement and distribution.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

This technical diploma is part of the career pathway for supply chain management, and it can serve as a foundation for the higher level credential, the Supply Chain Management Associate Degree. The associate degree provides further in-depth training in quality, management, and in "soft" skills.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10182108	Purchasing	3
10182131	Supply Chain Management	3
10623118	Lean Manufacturing Overview	3
10182122	Logistics	3
		12
Term 2		
10182102	Service Operations Management	3
10623110	Lean Six Sigma - Measure and Analyze	4
10809198	Introduction to Psychology or 10809188 Developmental Psychology (3cr)	3
10182114	Enterprise Resource Planning and Control	3
10801195	Written Communication OR 10801136 English Composition 1 (3cr)	3
		16
		TOTAL 28

*Curriculum and Program Acceptance requirements are subject to change.
Program start dates vary; check with your advisor for details.*



ENTERPRISE RESOURCE PLANNING AND CONTROL...prepares the participant to interpret material requirements planning reports, build a master production schedule, construct capacity plans, and understand sales and operations planning. The curriculum is developed from the American Production and Inventory Controls exam certification's domain of knowledge. **PREREQUISITE:** 10182131 Supply Chain Management

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

LEAN MANUFACTURING OVERVIEW...expands the learner's ability to develop skills to prioritize and sequence work, execute work plans, implement controls, and create and analyze performance evaluations. It allows the student to explore the execution of quality initiatives and continuous improvement plans in addition to the control and handling of inventories.

LEAN SIX SIGMA - MEASURE AND ANALYZE...provides the student with skills and tools to collect and analyze data to solve problems and improve processes within an organization. Various techniques for process mapping are explored including SIPOC, FMEA, VSM, standard work sheets, and spaghetti diagrams. Statistical tools are explored including probability, confidence intervals, measurement systems analysis, hypothesis testing, and TAKT time analysis to create and implement a data collection plan. MiniTab introduction is included.

LOGISTICS...introduces the student to business logistics, including the efficient and effective flow of goods, services, and related information from the point of origin to the point of consumption and provides a summary of the role and importance of transportation and an overview of carriers, carrier management, and technology and strategies in logistics.

PURCHASING...introduces the participant to basic purchasing, quality specifications, inventory control, supplier selection, price aspects, research and measurement, negotiation, and global purchasing. This course is exciting for anyone interested in working in a challenging and rewarding purchasing and supply chain management career.

SERVICE OPERATIONS MANAGEMENT...introduces the student to the basic coverage of the concepts and current issues in service operation management. Topics include the value equation in operations management; understanding services; building the service system; operating the service system; enterprise resource management (ERP) and supply chain management concepts in the service sector.

SUPPLY CHAIN MANAGEMENT...has been developed to provide a basic understanding of the planning and control of materials into, through, and out of organizations. In addition, those who want to become certified by APICS need a fundamentals course to learn about the material planning and control system. This course will provide a basis for further study leading to certification.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. **PREREQUISITE:** 10831103 Intro to College Wrtg equivalent and **COREQUISITE:** 10838105 Intro Rdg & Study Skills or equivalent

Program Number 10-182-1
Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

Supply chains are everywhere in every business, service, or hospital. Other terms you may know describe specific parts of a supply chain. Words such as logistics, purchasing, or material management all encompass only a part of a supply chain. Supply chains are led and managed by people who enjoy working with others and analyzing data. Without supply chain management, you could not get the products or services you need every day. If you want to be a part of an ever-changing and growing field, supply chain management is for you.

PROGRAM OUTCOMES

- Define (plan) operations, transportation, procurement and distribution.
- Measure operations, transportation, procurement and distribution.
- Analyze operations, transportation, procurement and distribution.
- Improve operations, transportation, procurement and distribution.
- Control operations, transportation, procurement and distribution.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

CONTACT

LTC Career Coach
 920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10103131	Excel 2013 - Level 1	1
10103181	Word 2013 - Level 1	1
10182108	Purchasing	3
10182131	Supply Chain Management	3
10623118	Lean Manufacturing Overview	3
10801195	Written Communication OR 10801136 English Composition 1 (3cr)	3
		14
Term 2		
10105128	Personal Branding	2
10801196	Oral/Interpersonal Communication OR 10801198 Speech (3cr)	3
10804123	Math with Business Applications	3
10809198	Introduction to Psychology OR 10809188 Developmental Psychology (3cr)	3
10182160	Global Supply Chain Management	3
		14
Term 3		
10101155	Accounting for Professionals	3
10196188	Project Management	3
10623110	Lean Six Sigma - Measure and Analyze	4
10182114	Enterprise Resource Planning and Control	3
10809196	Introduction to Sociology OR 10809172 Introduction to Diversity Studies (3cr) OR 10809166 Intro to Ethics (3cr)	3
		16
Term 4		
10182102	Service Operations Management	3
10182122	Logistics	3
10182107	Portfolio Assessment-Supply Chain	1
10623193	ISO 9001 Internal Auditor OR 10623195 ISO 9001 Concepts (3cr)	3
10809195	Economics	3
10806112	Principles of Sustainability OR 10809122 Introduction to American Government (3cr)	3
		16
		TOTAL 60

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ACCOUNTING FOR PROFESSIONALS...is the study of the information that can be interpreted from financial statements. Students analyze financial statements and apply managerial accounting concepts in an accelerated format. PREREQUISITE: 10804123 Math w Business Apps or CONDITION: 101101 Paralegal program requirements met

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

ENTERPRISE RESOURCE PLANNING AND CONTROL...prepares the participant to interpret material requirements planning reports, build a master production schedule, construct capacity plans, and understand sales and operations planning. The curriculum is developed from the American Production and Inventory Controls exam certification's domain of knowledge. PREREQUISITE: 10182131 Supply Chain Management

EXCEL 2013 - LEVEL 1...introduces the student to creating, modifying and formatting worksheets; entering formulas and functions; working with charts; and developing multiple-sheet workbooks. This course is offered in a self-paced format.

GLOBAL SUPPLY CHAIN MANAGEMENT...introduces the student to supply chain financial transactions which include foreign exchange market, fluctuations of the market, role of the global capital market, major determinants in country risk, methods of foreign market entry, international contracts and commercial documents, export packaging, customs clearance, and global supply chain logistics infrastructure.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

INTRODUCTION TO SOCIOLOGY...introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

ISO 9001 INTERNAL AUDITOR...is designed to introduce participants to the current QS/ISO 9001 and ISO 19011 standards. The course is structured to provide a detailed review of the standards, how to document procedures, and how to perform audits. Students will practice preparation for and conducting audits in a local business. Successful completion of this course qualifies the student to receive the ISO 9001 Internal Auditor certificate (19-623-8)

LEAN MANUFACTURING OVERVIEW...expands the learner's ability to develop skills to prioritize and sequence work, execute work plans, implement controls, and create and analyze performance evaluations. It allows the student to explore the execution of quality initiatives and continuous improvement plans in addition to the control and handling of inventories.

LEAN SIX SIGMA - MEASURE AND ANALYZE...provides the student with skills and tools to collect and analyze data to solve problems and improve processes within an organization. Various techniques for process mapping are explored including SIPOC, FMEA, VSM, standard work sheets, and spaghetti diagrams. Statistical tools are explored including probability, confidence intervals, measurement systems analysis, hypothesis testing, and TAKT time analysis to create and implement a data collection plan. MiniTab introduction is included.

LOGISTICS...introduces the student to business logistics, including the efficient and effective flow of goods, services, and related information from the point of origin to the point of consumption and provides a summary of the role and importance of transportation and an overview of carriers, carrier management, and technology and strategies in logistics.

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/ Agronomy Basic program admissions requirements met

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PERSONAL BRANDING...focuses on the importance of developing a strong brand identity for yourself as a professional. As a prospective employee, you are constantly selling yourself from how you talk, walk, dress, your facial expressions, and your body language; people are always forming impressions of you. In this course, you will develop a professional resume, cover letter, practice interview skills, and learn the role of social media in career development.

PORTFOLIO ASSESSMENT-SUPPLY CHAIN...prepares the student to identify what they have learned through the supply chain program, write career goals, re-examine their resume, research and collect project samples of their achievements, and analyze their achievements within the college core abilities. PREREQUISITES: 10105128 Personal Branding

PRINCIPLES OF SUSTAINABILITY...prepares students to develop sustainable literacy, analyze interconnections among physical and biological sciences and environmental systems, summarize effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal/recycling in the U.S., and analyze approaches used by your community. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PROJECT MANAGEMENT...introduces the learner to explore the relationship of existing and emerging processes and technologies to manufacturing strategy and supply chain-related functions. This course addresses three main topics: aligning resources with the strategic plan, configuring and integrating operating processes to support the strategic plan, and implementing change.

PURCHASING...introduces the participant to basic purchasing, quality specifications, inventory control, supplier selection, price aspects, research and measurement, negotiation, and global purchasing. This course is exciting for anyone interested in working in a challenging and rewarding purchasing and supply chain management career.

SERVICE OPERATIONS MANAGEMENT...introduces the student to the basic coverage of the concepts and current issues in service operation management. Topics include the value equation in operations management; understanding services; building the service system; operating the service system; enterprise resource management (ERP) and supply chain management concepts in the service sector.

SUPPLY CHAIN MANAGEMENT...has been developed to provide a basic understanding of the planning and control of materials into, through, and out of organizations. In addition, those who want to become certified by APICS need a fundamentals course to learn about the material planning and control system. This course will provide a basis for further study leading to certification.

WORD 2013 - LEVEL 1...introduces the student to word processing features such as creating, saving, editing, formatting, and printing documents, creating basic diagrams, and applying these concepts to produce usable documents. This course is offered in a self-paced format.

WRITTEN COMMUNICATION...teaches the writing process, which includes prewriting, drafting, revising, and editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQUISITE: 10831103 Intro to College Wrtg equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills or equivalent

Program Number 10-001-4
Associate Degree in Applied Science • Four Terms

ABOUT THE PROGRAM

Sustainable Landscape Horticulture technicians can make a living in a wide variety of ways. This is truly a “green” career. You may work in the disciplines of plant propagation and production for a greenhouse or tree nursery—nurturing plants to be used in landscaping, food production, or sold in retail garden centers. You may also work on landscape maintenance or landscape construction crews for landscape contractors, lawn care service companies, botanical gardens, municipal park departments, golf courses, civil engineering firms, and natural resource management agencies. Work duties are typically outdoors and very hands on. With time and experience, management and consulting opportunities within the field are possible.

PROGRAM OUTCOMES

- Analyze growing media.
- Diagnose plant health.
- Communicate as a horticulture professional.
- Apply design principles.
- Provide horticulture maintenance.
- Apply the principles of plant science.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

To parallel the work cycle of this profession and to provide a potent curriculum including full life cycles of plants and seasonal application of knowledge and skills, this program’s instruction meets throughout the summer months and completes in 1 1/2 years.

To avoid multi-term overlap conflicts, students are asked to enroll in the specific courses as planned in your schedule.

CONTACT

LTC Career Coach
 920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1 - Fall		
10001110	Horticulture Introduction	3
10001114	Computer Applications for Technicians	1
10001127	Landscape Design Studio Introduction	1
10001153	Botany and Soil Science	3
10001159	Plants 1	2
10001180	Landscape Installation 1	2
10001109	Landscape Installation 2	2
		14
Term 2 - Winter/Spring		
10001128	Computer Aided Design for Sustainability	2
10001130	Greenhouse & Nursery Production	2
10801196	Oral/Interpersonal Communications	3
10806112	Principles of Sustainability	3
10804123	Math with Business Applications	3
10809198	Introduction to Psychology	3
		16
Term 3 - Late Spring/Summer		
10001158	Plants 2	2
10001170	Facilities Maintenance/Installation	1
10001172	Landscape Maintenance	3
10001147	Advanced Greenhouse & Nursery Mgmt	3
10001129	Site Inventory and Analysis	2
10001140	Advanced Concepts in Horticulture	3
10809122	Introduction to American Government	3
		17
Term 4 - Fall		
10001131	Technology in Horticulture and Landscape	2
10001141	Plant Communities of Wisconsin	2
10001143	Stormwater Structures & Management	2
10001144	Sustainable Horticulture Capstone Experience	3
10001146	Sustainable Landscape Management	2
10801197	Technical Reporting	3
10809195	Economics	3
		17
		TOTAL 64

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



ADVANCED CONCEPTS IN HORTICULTURE...prepares the student to analyze and implement progressive methods and techniques at the forefront of the horticulture field, such as permaculture, hydroponics, aquaponics, aeroponics, vertical gardening, growing season extension, biodynamic farming, and agroforestry. COREQUISITE: 10001172 Landscape Maintenance or CONDITION: 190013 Management of Sustainable Landscapes admissions requirements met

ADVANCED GREENHOUSE AND NURSERY MANAGEMENT...provides the student with managerial skills and experiences to choose, obtain, propagate, grow, maintain, sell, and determine prices for plants in a greenhouse and nursery context. Students will choose an additional greenhouse/nursery topic for advanced study and application. PREREQUISITE: 10001130 Greenhouse and Nursery Production

BOTANY AND SOIL SCIENCE...introduces the language and nature of botany and biology and makes them relevant to horticulture and landscaping. It also addresses the interactions of healthy plants and soils and examines the physical, chemical, biological, and management characteristics of soils. COREQUISITE: 10001110 Horticulture-Introduction

COMPUTER AIDED DESIGN FOR SUSTAINABILITY...will use computer and computer aided design software as tools for design communication; learners will be introduced to the fundamental components of CAD in landscape design. Property lines, topography, site planning, hardscapes, planting plans, and section view graphics will be covered. PREREQUISITES: 10001114 Computer Applications for Technicians and 10001127 Landscape Design Studio Intro

COMPUTER APPLICATIONS FOR TECHNICIANS...provides the learner with basics of the current Windows operating system, terminology, file management, Microsoft Word, Microsoft Excel, and horticulture engineering applications utilizing appropriate computer drafting software.

ECONOMICS...provides the participant with an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610062 Agribusiness/Financial Basic program admissions met

FACILITIES MAINTENANCE/INSTALLATION...prepares the learner to use hand tools and power tools in basic applications of carpentry, plumbing, and basic electricity. CONDITION: 310011 Horticulture Technician or 100014 Sustainable Landscape Horticulture program requirements met

GREENHOUSE AND NURSERY PRODUCTION...provides the student with the skills to analyze and implement efficient, cost-effective, and sustainable methods of horticultural production in a variety of structures as well as field scenarios. PREREQUISITES: 10001153 Botany and Soil Science and 10001110 Horticulture-Introduction

HORTICULTURE INTRODUCTION...explores plant growth, development, and ecology; plant classification; plant health care; horticultural crops and production; the horticulture industry and related careers; and principles of design and design implementation.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

INTRODUCTION TO AMERICAN GOVERNMENT...introduces American political processes and institutions. It focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. It explores the role of the media, interest groups, political parties and public opinion in the political process. It also explores the role of state and national government in our federal system.

LANDSCAPE DESIGN STUDIO INTRODUCTION...provides the learner with strategies to develop a structured approach to designing space. Fundamental components of the landscape design process are covered including basic site analysis, plan development and detailing, landscape graphic conventions, and client interactions.

LANDSCAPE INSTALLATION 1...investigates techniques used in landscape construction practices. These include the use of specific landscape tools, plan implementation methods, preliminary site survey methods, proper planting, equipment operations & installations of basic landscape features.

LANDSCAPE INSTALLATION 2...builds upon landscape construction methods learned in Introduction to Landscape Installation. Possible projects include mixed material patios, retaining walls, water features, sustainable landscape elements, rain gardens, roof gardens, wooden structures, etc. COREQUISITE: 10001180 Landscape Installation 1

LANDSCAPE MAINTENANCE...assists learner in identifying appropriate cultural practices and dealing with challenges in the landscape, including pruning techniques, insect/disease/abiotic problems; pesticides; turf issues; and resolving situations in the field. Course will also include production, installation, maintenance, and harvest of edible and ornamental plants. PREREQUISITES: 10001110 Horticulture Introduction and 10001153 Botany and Soil Science

MATH WITH BUSINESS APPLICATIONS...covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent or CONDITION: 610061 Agribusiness/Agromony Basic program admissions requirements met

ORAL/INTERPERSONAL COMMUNICATION...provides students with the skills to develop speaking, verbal and nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PLANT COMMUNITIES OF WISCONSIN...enables the student to experience the diversity of the native plant communities throughout the Lakeshore region of Wisconsin and beyond. This course will involve extensive plant and plant community identification and analysis in the field. PREREQ: 10001158 Plants 2 and 10001159 Plants 1 or CONDITION: 190014 Design of Sustainable Landscapes-Adv Certificate admissions requirements met

PLANTS 1...introduces ornamental and weedy woody and herbaceous plant identification and culture/management, focusing on plants encountered in landscaping and production in eastern Wisconsin and the Midwest. This is the first course of a two-course series that continues as Plants 2.

PLANTS 2...building upon Plants 1, the learner conducts and presents research on ornamental woody and herbaceous plants as well as on edible fruits, vegetables, and herbs. As outdoor conditions improve, emphasis returns to plant identification and culture/management as undertaken in Plants 1. PREREQUISITE: 10001159 Plants 1

PRINCIPLES OF SUSTAINABILITY...prepares students to develop sustainable literacy, analyze interconnections among physical and biological sciences and environmental systems, summarize effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal/recycling in the U.S., and analyze approaches used by your community. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

SITE INVENTORY AND ANALYSIS...guides the student through inventory and evaluation of physical, biological, and cultural site resources to determine their potential for enhancement of human activities and their sensitivities to use-impact. Emphasis on information sources, data gathering methods and analysis techniques with projects to develop proficiency. PREREQUISITES: 10001127 Landscape Design Studio Introduction or CONDITION: 190014 Design of Sustainable Landscape-Adv Certificate admissions requirements met

STORMWATER STRUCTURES AND MANAGEMENT...analyzes and implements stormwater retention, detention, and harvesting at various landscape scales from backyard to regional watersheds. Environmental regulation considerations, best management practices, and design approaches will be utilized in project installations.

SUSTAINABLE HORTICULTURE CAPSTONE EXPERIENCE...undertaking independent and group study across the field of horticulture, the learner implements knowledge and skills, and analyzes progress and results. Proposal scope must be approved by the instructor. PREREQUISITES: 10001140 Advanced Concepts in Horticulture or 10001140C2 Adv Concepts in Horticulture and COREQUISITE: 10001147 Advanced Greenhouse and Nursery Management or CONDITION: 190014 Design of Sustainable Landscapes admissions requirements met

SUSTAINABLE LANDSCAPE MANAGEMENT...approaches sustainable landscape management from a practical goal-based outlook and implements management and supervisory strategies for "triple bottom line" sustainability (Environment, Economic, and Social). PREREQUISITE: 10001172 Landscape Maintenance or CONDITION: 190013 Management of Sustainable Landscapes admissions requirements met

TECHNICAL REPORTING...provides students with the skills to prepare and present oral and written technical reports. Types of reports may include lab and field reports, proposals, technical letters and memos, technical research reports, and case studies. PREREQUISITE: 10831103 Intro to College Wrtg or equivalent and COREQUISITE: 10838105 Intro Rdg & Study Skills equivalent

TECHNOLOGY IN HORTICULTURE AND LANDSCAPE...utilizes various programs and technologies for landscape, nursery, greenhouse, small/urban farm, and grounds planning, design, reporting, and monitoring. PREREQUISITE: 10001140 Advanced Concepts in Horticulture and COREQUISITE: 10001144 Sustainable Horticulture Capstone Experience

Program Number 10-499-5 Associate Degree in Applied Science • Varies

ABOUT THE DEGREE

In response to requests for academic recognition of registered apprenticeship training in the state of Wisconsin, the Wisconsin Technical College System provides a Technical Studies—Journeyworker Associate Degree in Applied Science. The Technical Studies—Journeyworker degree is designed to support lifelong learning and accelerate the achievement of individual career goals. Transferability of the Technical Studies portion of this 60-credit associate degree to four-year institutions will be based on the accepting institution's policies.

ABOUT APPRENTICESHIP

Apprenticeships are employer-sponsored training programs. You must have a contract before being invited to school. A special application process is used for these programs. Please contact the Apprenticeship Office for the proper forms. Apprenticeship means you earn while you learn. If you want a career in a skilled trade, apprenticeship is the best way to get there. You'll combine on-the-job training with on-campus learning—you'll have the best of both worlds when it comes to learning the skills you need to get ahead. And even better, you'll earn a paycheck while you learn those skills.

ADVANCEMENT AS A JOURNEYWORKER

As people embark on the path to Journeyworker status in a skilled trade, they often consider the attainment of that card the culmination of their career training. In many cases, this may very well be true. However, in other cases, the holder of a journeyworker card may ask, "What's next?" They may be interested in becoming a business owner or expanding their studies to the bachelor's degree level. There are any number of possible options as one builds a career in the skilled trades. If your career path takes you on a route where a degree beyond the journeyworker card is necessary, then this degree is designed for you.

DEGREE COMPLETION REQUIREMENTS

- Possess a Wisconsin Apprenticeship Completion Certificate issued by the Department of Workforce Development—Bureau of Apprenticeship Standards.
- Complete all WTCS apprentice-related technical instruction. Possession of the DWD—BAS Wisconsin Apprentice Completion Certificate AND successful completion of all coursework fulfills the 39-credit minimum technical studies requirement of the Technical Studies—Journeyworker Associate Degree in Applied Science.
- Meet the WTCS Associate Degree in Applied Science requirement for a minimum of 21 credits of General Education.
- Successful completion of Accuplacer test.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health-related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

CONTACT

Don Geiger, Advisor
920.693.1378 • donald.geiger@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Occupational Specific		
10499100	BAS/BAT Apprenticeship Completion	39
General Education (21 Credits)		
	Communication: 6 Credits Required	6
	Social Science: 3 Credits Required	3
	Behavioral Science: 3 Credits Required	3
	Math OR Science: 3 Credits Required	3
	General Education Electives: 6 Credits Required	6
		TOTAL 60

LTC students must earn a grade of C (2.0) or better in each course and a minimum 2.5 grade point average to receive the certificate.

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



BAS/BAT APPRENTICESHIP COMPLETION...requires the completion of a BAS approved apprenticeship which includes a minimum of 400 hours of paid related instruction.

Program Number 50-439-3

5-Year Contract

Work Hours (including related instruction): 10,000

Related Instruction Hours: 576 • Night School Hours: 8

Pending State Approval

ABOUT APPRENTICESHIP

Apprenticeships are employer-sponsored training programs. You must have a contract before being invited to school. A special application process is used for these programs. Please contact the Apprenticeship Office for the proper forms. Apprenticeship means you earn while you learn. If you want a career in a skilled trade, apprenticeship is the best way to get there. You'll combine on-the-job training with on-campus learning—you'll have the best of both worlds when it comes to learning the skills you need to get ahead. And even better, you'll earn a paycheck while you learn those skills.

ABOUT THE CAREER

Tool and die makers are vital to the metal-working industry because they produce the tools, dies, and special grinding and holding devices used in mass production. The Tool and Die Apprenticeship program is an employer-sponsored, hands-on training program. If you like working with mechanical technology/ manufacturing processes and you value and can work with exacting precision, your talents fit perfectly with a career as a journey-level tool and die maker.

CAREERS

Graduates of LTC's Tool and Die Apprenticeship program work as journey-level tool and die makers in a variety of manufacturing/industrial settings.

INDUSTRIAL APPRENTICE ACCEPTANCE REQUIREMENTS

- Determined by employer
- Wisconsin Apprentice Contract

PROGRAM OUTCOMES

- Apply basic safety practices in the machine shop.
- Interpret industrial/engineering drawings.
- Apply precision measuring methods to part inspection.
- Perform basic machine tool equipment setup and operation.
- Perform programming, setup, and operation of CNC machine tools.

APPROXIMATE COSTS

Contact the LTC Apprenticeship office or visit www.gotoltc.edu/apprenticeship for detailed information.

SPECIAL NOTE

You must have a sponsoring employer and a contract before attending school.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

Catalog No.	Class Title	Credit(s)
Term 1		
50420714	Engineering Drawings for Machine Trades Apprentices 1	1
50420713	Precision Measurement for Machine Tool Trades Apprentices	1
2		
Term 2		
50420711	Mathematics for Machine Trades 1	1
50420715	Mechanical Hardware and Hand Tools for Machine Trades Apprentices	0.5
50420720	Materials and Cut-Off Machines for Machine Trades Apprentices	0.5
2		
Term 3		
50420721	Mathematics for Machine Trades 2	0.5
50420722	Engineering Drawings for Machine Trades Apprentices 2	0.5
50420718	Drilling Machines for Machine Trades Apprentices	0.5
50420717	Milling Machines for Machine Trades Apprentices	0.5
2		
Term 4		
50420724	CNC Programming and Planning for Machine Trades Apprentices	1
50420716	Turning Machines for Machine Trades Apprentices	0.5
50420723	Intro to CAM for Machine Trades Apprentices	0.5
2		
Term 5		
50420725	Basic CAD/CAM for Machine Trades Apprentices	1
50420726	Jig and Fixture Design for Machine Trades Apprentices	0.5
50420719	Grinding Machines for Machine Trades Apprentices	0.5
2		
Term 6		
50420733	CNC Operations for Machine Tool Trades Apprentices	1
50420727	Geometric Design and Tolerancing for Machine Trades Apprentices	0.5
50420731	Metallurgy for Machine Trades Apprentices	0.5
2		
Term 7		
50420732	Electrical Discharge Machining for Machine Trades Apprentices	1
50420728	Basic Stamping Diemaking for Machine Trades Apprentices	1
2		
Term 8		
50420730	Stamping Die Design Applications	1
50420729	Mold Making for Machine Trades Apprentices	1
2		
		TOTAL 16

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



BASIC CAD/CAM FOR MACHINE TRADES APPRENTICE... is designed to provide concepts and techniques used in computer-aided design (CAD) and computer-aided manufacturing (CAM) as part of their related instruction. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

BASIC STAMPING DIEMAKING FOR MACHINE TRADES... introduces the basics of stamping diemaking. Topics include basic terminology, blanking, piercing, bending and related basic operations. In addition, learners will discover the basics of the theory and background knowledge related to stamping diemaking. CONDITION: 504393 Tool and Die Apprentice Program Requirements Met

CNC OPERATIONS FOR MACHINE TOOL TRADES APPRENTICE... will examine CNC related operations and safety. Course competencies include classifying types of equipment, comparing CNC tooling, setup, and work holding operations. Additional CNC programming skill development is included in the course. CNC controls and communications are explored as well. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

CNC PROGRAMMING AND PLANNING FOR MACHINE TRADES... is a classroom introduction to CNC programming for apprentices, with a focus on CNC turning and milling centers. Apprentices will create set up sheets, develop tool lists, calculate speeds and feeds, assign tool offsets and write CNC program. CONDITION: 504393 Tool & Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

DRILLING MACHINES FOR MACHINE TRADES APPRENTICE... focuses on the safety, terminology, construction and operations of drilling machines in the metal-working industry. CONDITION: 504393 Tool & Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

ELECTRICAL DISCHARGE MACHINING FOR MACHINE... is designed to give a basic understanding of the theory and process of sinker and wire EDM in toolmaking. This course uses the EDM Technical Manual distributed by POCO Graphite, Inc., which contains the most current information available in industry. CONDITION: 504393 Tool and Die Apprentice Program Requirements Met

ENGINEERING DRAWINGS FOR MACHINE TOOL APPRENTICE... will acquaint the apprentice with the interpretation of engineering prints and other technical and manufacturing documentation. The primary focus of the course will be on that part of manufacturing most closely related to machining and tooling. Background information is provided relative to the process used to create and finish the product or piece part on the prints being studied. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

ENGINEERING DRAWINGS FOR MACHINE TRADES 2... prepares the learner to interpret manufacturing prints to extract detailed information about threads, sections, auxiliary views, fasteners, surface finishes, welding symbols, assembly, geometric location, and tolerances. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

GEOMETRIC DESIGN AND TOLERANCING FOR MACHINE TRADES... will acquaint the apprentice with the skills to interpret the geometric dimensions and tolerances found on engineering drawings and in other industrial documents. Instruction concentrates on interpreting the symbols, identifying tolerance zones and determining ways to check parts for conformity to the specified geometric controls. Reference is made to ASME Y14.5M - 1994. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

GRINDING MACHINES FOR MACHINE TRADES APPRENTICE... focuses on the safety, terminology, construction, and operation of grinding machines in the metal working industry. It instructs apprentices in the use of traditional grinding machines and the attachments and accessories frequently encountered in manufacturing operations that use the common grinding processes. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

INTRO TO CAM FOR MACHINE TOOLS TRADES APPRENTICE... is widely used in industry for creating G&M code programs for CNC machines. In this course the learner will explore the Mastercam interface. You will be determining the proper post processors for the work being done. Create and edit basic geometry. Create and edit tool paths for basic operations. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

JIG AND FIXTURE DESIGN FOR MACHINE TRADE APPRENTICE... introduces the apprentice to the concepts of jig and fixture design as part of their apprentice related instruction. Topics include the basic elements of tool design, jig and fixture application, and the actual design of tooling. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

MATERIALS AND CUTOFF MACHINES FOR MACHINE TRADES... prepares the learner to identify metal composition and classification, follow cutoff machine tool safety rules, operate horizontal cutoff machine tools, and operate vertical machine tools. CONDITION: 504393 Tool & Die Appr or 504202 Machinist Appr Program Req Met

MATH FOR MACHINE TRADES 2... prepares the learner to interpret symbols used in algebraic expressions, solve equations by the rearrangement of formulas, use formulas, solve unknown angles using angular principles, and solve for the angles and length of sides in a right triangles. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

MATHEMATICS FOR MACHINE TRADES... provides applied mathematics instruction from a review of basic arithmetic; basic algebra; applications based on geometry; right triangle trigonometry and oblique angle trigonometry; and compound angles. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

MECHANICAL HARDWARE & HAND TOOLS FOR MACHINE TRADES APPRENTICE... provides instruction for the apprentice in the recognition, selection, and operation of mechanical hardware and hand tools. Apprentices are taught to use outside sources to select correct component or tool sizes, characteristics, and operating parameters. Apprentices will sharpen drills and single point cutting tools. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

METALLURGY FOR MACHINE TRADES APPRENTICES... prepares the learner to interpret the properties of ferrous and non-ferrous materials as well as how to heat treat and test the hardness of ferrous materials. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

MILLING MACHINES FOR MACHINE TRADES APPRENTICE... will instruct apprentices on the basic principles of vertical and horizontal milling machines for the machine tool trade. Instruction includes safety, basic parts and functions of the machines, work holding devices, tooling requirements, and feeds and speeds. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

MOLD MAKING FOR MACHINE TRADES APPRENTICES... introduces the apprentice to the basic mold die making process consisting of mold construction, components, and materials. CONDITION: 504393 Tool and Die Apprentice Program Requirements Met

PRECISION MEASUREMENT FOR MACHINE TOOL TRADES... is designed to acquaint the apprentice with the measurement systems and tools most frequently used in layout and machining processes. Learning outcomes relate to semi-precision through super-precision measuring tools and equipment combined with opportunities to investigate new technologies. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

STAMPING DIE DESIGN APPLICATIONS FOR MACHINE TRADES APPRENTICE... provides the stamping die maker apprentice with the opportunity to design from part specifications two elementary stamping dies. This course provides instruction for the tool and die, stamping die and mold makers apprenticeship. CONDITION: 504393 Tool and Die Apprentice Program Requirements Met

TURNING MACHINES FOR MACHINE TRADES APPRENTICE... will acquaint the apprentice with the terminology, methods, and operations for turning machines used in the metal-working industry. Apprentices will learn to perform calculations needed to operate turning machines including speed and feed calculations. Apprentices will make calculations necessary to setup a turning machine for screw threads and taper operations. CONDITION: 504393 Tool and Die Apprentice or 504202 Machinist Apprentice Program Requirements Met

Program Number 32-457-1 Technical Diploma • Two Terms

ABOUT THE PROGRAM

Develop the skills you need to pursue a great career in metal fabrication and welding. In this program, the learner will discover the wonderful world of welding and fabrication through the use of the three major electrical welding processes; Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), and Gas Tungsten Arc Welding (GTAW). Learners will weld in all positions preparing you for a career in many fields of work, including manufacturing, shipbuilding, custom fabrication and pipe welding. Learners will perfect their welding technique on mild steel, stainless steel and aluminum with a thickness range of 16 gauge up to one inch thick. Learners will perfect their weld quality techniques by using visual inspection and destructive testing. Throughout this program, the learner will apply math and print reading to today's industry standards. In this technical diploma, learners will set up, program, and use metal cutting and forming equipment to produce steel fabrication to industry specifications. Students will be introduced to Lean manufacturing by applying their welding and fabrication skills in an automated fabrication cell to include robotic welding.

PROGRAM OUTCOMES

- Demonstrate industry recognized safety practices.
- Form materials to detailed drawings.
- Cut materials to detailed drawings.
- Join materials to detailed drawings.
- Layout components/assemblies.
- Inspect product.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
31442300	Welding Introduction	1
31442308	Welding Metallurgy	1
31442350	Welding Hand Tools and Measurement	1
31442310	Welding Shielded Metal Arc 1A (Stick)	1
31442312	Welding Shielded Metal Arc 1B (Stick)	1
31442314	Welding Shielded Metal Arc 2A (Stick)	1
31442316	Welding Shielded Metal Arc 2B (Stick)	1
31442320	Welding Gas Metal Arc 1A (Wire/Mig)	1
31442322	Welding Gas Metal Arc 1B (Wire/Mig)	1
31442324	Welding Gas Metal Arc 2A (Wire/Mig)	1
31442326	Welding Gas Metal Arc 2B (Wire/Mig)	1
31442304	Welding Submerged Arc (SAW)	1
31442330	Welding Gas Tungsten Arc 1A (Heli-Arc/TIG)	1
31442332	Welding Gas Tungsten Arc 1B (Heli-Arc/TIG)	1
31442334	Welding Gas Tungsten Arc 2A (Heli-Arc/TIG)	1
31442336	Welding Gas Tungsten Arc 2B (Heli-Arc/TIG)	1
31442318	Pipe Welding Fundamentals	1
31442382	Welding Math 1	1
31442385	Welding Print Reading	1
31442340	Welding Advance Process 1A	1
31442342	Welding Advance Process 1B	1
31442357	Welding Fabrication Introduction	2
10106116	Computer Essentials	1
31801359	Communication Skills for the Workplace	2
31809362	Psychology for Life	1
		27

Term 2		
31442301	Advanced Pipe Welding	1
31442303	Advanced Pipe Welding 2	1
31442305	Advanced Pipe Welding 3	1
31442325	Advanced Pipe Welding Processes	1
31442307	Measurement for Fabricators	1
31420337	Drills for Fabricators	1
31420348	Machine Tool 1 Mills for Fabricators	1
31420349	Machine Tool Lathes 1 for Fabricators	1
31442309	Print Reading for Fabricators	1
31442311	CWI Prep 1	1
31442313	CWI Prep 2	1
31442315	CWI Prep 3	1
31442317	CWI Prep 4	1
31442323	CNC Programming for Fabricators	1
31620333	Introduction to Robotics 1A	1
31620335	Introduction to Robotics 1B	1
31442327	Robotics Welding 1A	1
31442329	Robotics Welding 1B	1
31442331	Fabrication 1A	2
31442333	Fabrication 1B	2
31442335	Fabrication Design and Application	2
31449301	OSHA 30	1
31442384	Weld Math 2	1
10606123	Basic Mechanical Drafting for Fabricators	2
		28

TOTAL 55

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



Please see *Industrial Welding for Term 1* course descriptions.

ADVANCED PIPE WELDING 1...will have learners producing quality pipe welds in the flat and horizontal positions. Pipe to Pipe and Socket welds will be made by using Gas Metal Arc Welding, Shielded Metal Arc Welding and the Gas Tungsten Arc Welding processes. Learners will use WPS's (welding procedure specifications sheet) of pipe welding for mild steel in accordance with various welding codes. COREQUISITES: 31442326 Wldg Gas Metal Arc 2B, 31442316 Wldg Shielded Metal Arc 2B, and 31442336 Wldg Gas Tungsten Arc 2B

ADVANCED PIPE WELDING 2...will have learners weld pipe to pipe and socket welds in the 4F, 5F, and 5G positions. Pipe to Pipe and Socket welds will be made by using the Flux Core Arc Welding, Shield Metal Arc Welding and the Gas Tungsten Arc Welding processes. Learners will use WPS's (welding procedure specifications sheet) of pipe welding for mild steel in accordance with various welding codes. COREQUISITE: 31442301 Advanced Pipe Welding 1

ADVANCED PIPE WELDING 3...will teach learners to weld pipe to pipe and socket welds in the 6F and 6G positions. Pipe to Pipe and Socket welds will be made by using the Flux Core Arc Welding, Shield Metal Arc Welding and the Gas Tungsten Arc Welding processes. Learners will use WPS's (welding procedure specifications sheet) of pipe welding for mild steel in accordance with various welding codes. COREQUISITE: 31442303 Advanced Pipe Welding 2

ADVANCED PIPE WELDING PROCESSES...instructs the learner to weld a piping spool project. They will layout, cut, grind, bevel, fit and pressure test. The spool project will be welded using the GTAW, SMAW, GMAW and the FCAW processes. The learner will have the opportunity to test for the state certification in the 6G pipe position. The learner will choose either the SMAW or the GMAW/FCAW welding processes. All welding will be completed using welding practices and will be in accordance with the AWS and ANSI steel code. COREQUISITE: 31442305 Adv Pipe Welding 3

BASIC MECHANICAL DRAFTING FOR FABRICATORS...provides the learner with the skills to utilize AutoCAD's drawing editor, viewing commands; apply coordinate entry methods, AutoCAD file commands; utilize draw commands, modify commands; create and edit text, prints & plots; apply geometric construction to solve a drawing problem; utilize selection sets, duplicating modify commands, layers & objects properties, blocks; apply principles of orthographic and multi view projection.

CNC PROGRAMMING FOR FABRICATORS...prepares the learner to interpret positions in the coordinate systems, prepare a sequence of machining operations, use G/M programming codes, and prepare G/M part programs for machining and cutting operations

CWI PREP 1...prepares the learner with information on nondestructive examination methods applicable to common welding processes. It will assist welding inspectors and welding educators with knowledge of welding and inspection fundamentals useful on the jobsite. It will prepare exam candidates for Part A (Fundamentals) of the AWS-CWI exam. Students will be exposed to safe practices, metric practices, and metal joining and cutting processes, terminology weld joint geometry, welding and inspection symbols.

CWI PREP 2...will teach the learner the application of documents governing welding inspection and qualification. Welding metallurgy, metal properties and destructive testing will be taught. The learner will demonstrate proper evaluation of weld and base metal discontinuities. The learner will be introduced to VT and other NDE methods. COREQUISITE: 31442311 CWI Prep 1

CWI PREP 3...provides hands-on training in the use of weld measurement tools and weld replicas to determine the sizes of various weld discontinuities and compare their findings to the codebook to determine the acceptability or rejection criteria; sample practical examination to prepare test candidates for Part B (Practical Applications) of the AWS-CWI exam; use inspection tools, ensure compliance with the code, proper documentation, and why visual inspection can be the most effective NDE techniques. COREQUISITE: 31442313 CWI Prep 2

CWI PREP 4...prepares the learner for proper navigation of the AWS D1.1 code, including qualification of welding procedures for welds containing filler-metal additions, design and preparation of the joint for production welding, nondestructive testing and acceptance standards, and automatic welding with and without filler-metal additions, attendees will practice open codebook testing under time constraints. COREQUISITE: 31442315 CWI Prep 3

DRILLS FOR FABRICATORS...prepares the learner to calculate drill speeds and feed rates to match specific material types, identify attributes of hole-producing cutting tools, follow drilling machine tool safety rules, identify drilling machine tool components, and operate sensitive drilling equipment.

FABRICATION 1A...will teach the advanced process of forming product using automated and manual equipment. Demonstrate proficiency of forming by choice of tooling, calculations and sequence of forming. COREQUISITE: 31442307 Measurement for Fabricators and 31442309 Print Reading for Fabricators

FABRICATION 1B...teaches the basics of metal fabrication safety, production, measuring, hand tools, and layout. Learn how to use shears, forming, press brakes, box and pan brakes, and slip rollers. Learners will demonstrate proficiency in metal fabrication through related projects. COREQUISITE: 31442331 Fabrication 1A

FABRICATION DESIGN AND APPLICATION...will have learners set-up, program, operate, weld, assemble, inspect, and finish/coat to complete metal fabrication projects and provide shop routings to demonstrate comprehension of process control in a manufacturing facility. Maintain safety in the shop for all operations with hand tools and machinery while providing written documentation for machine safety to prove comprehension. COREQUISITE: 31442333 Fabrication 1B

INTRODUCTION TO ROBOTICS 1A...prepares the learner to identify the component parts of a robot; describe teach pendant and robot functions; power up the robot control in proper sequence; jog in Joint and Cartesian movement; establish robot axis soft limits; identify axis movements; navigate the teach pendant to set up the robot for desired movement; demonstrate working knowledge of arm speed and inching control.

INTRODUCTION TO ROBOTICS 1B...prepares the learner to define the Frames of reference used by the coordinate system; create multiple Tool Frames; create a program file; write a functional motion instruction; edit an existing program; demonstrate the use of a wait statement; demonstrate the use of a Call statement; demonstrate the use of an Output statement; and upload and download program memory files. COREQUISITE: 31620335 Introduction to Robotics 1A

MACHINE TOOL LATHES 1 FOR FABRICATORS...prepares the learner to follow engine lathe safety rules, identify engine lathe components, and operate engine lathe machine tools, perform facing and center drilling operations, perform turning operations, and perform hole-producing operations.

MACHINE TOOL MILLS 1 FOR FABRICATORS...provides the learner with the skills to: Apply safety rules, identify machine components, select cutting tools, set up the milling machine for work, mill square surfaces, mill precision steps and slots, and perform hole producing operations.

MEASUREMENT FOR FABRICATORS...provides the learner with the skills to: Use precision hand held measuring tools and the use semi-precision measuring tools, use of layout and measurement tools to fabricate steel projects.

OSHA 30...gives a basic overview of OSHA's role in prevention and elimination of work-related illnesses and injuries. It includes information about employer and employee rights and responsibilities, and a brief look at safety on the job site in relation to cranes, electrical, excavation, fall protection, materials handling, personal protection equipment, stairs-ladders-scaffolds, and power tools.

PRINT READING FOR FABRICATORS...prepares the learner to recognize and use pipe welding symbols, dual dimensioning, analyze metric units and how they can impact print reading, Inspection and Testing by the use of destructive testing symbols, and non-destructive testing symbols, understanding the International Standards symbols for welding, interpret Geometric Dimensioning and Tolerancing characteristic and symbols.

ROBOTIC WELDING 1A...prepares the learner to perform basic robotic welding skills on the five major joints used in industry, how to load weld programs for their welding joints, and demonstrate safety practices associated with robotic welding. COREQUISITE: 31620335 Introduction to Robotics 1B

ROBOTIC WELDING 1B...builds upon learner's knowledge and skills of the robotic world, to weld the horizontal and circumferential positions, perform basic troubleshooting skills in the program and in the work cell, learn how to edit the weld program and re-teach the robot, and maintain good weld quality throughout the welding process. COREQUISITE: 31442327 Robotic Welding

WELDING MATH 2...prepares the learner with the necessary skills to use scientific calculators for the application of solving problems of ratio and proportion, precision, and accuracy in measurements, unit conversions, direct-length measurements, pre-algebra, and simple and complex equations using algebra concepts. The class is designed for individualized student needs. This is credit two of the two-credits needed for the Welding program. COREQUISITE: 31442382 Weld Math 1 or CONDITION: Welding Math 1 Testout or equivalent

Program Number 31-442-1 Technical Diploma • One Term

ABOUT THE PROGRAM

Evidence of welders' work is all around us—everything from battleships, cars, and piping to the amazing dome on the U.S. Capitol Building. If you like hands-on work, have solid math and reading skills, are dedicated to accuracy, and have an eye for detail, welding is the perfect career for you.

PROGRAM OUTCOMES

- Demonstrate industry-recognized safety practices.
- Interpret welding drawings.
- Produce shielded metal arc welds (SMAW).
- Produce gas metal arc welds (GMAW).
- Produce flux core welds.
- Produce gas tungsten arc welds (GTAW).
- Perform thermal cutting.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

This program is available in a part-time evening and full-time day offering. All classes meet the American Welding Society requirements.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
31442300	Welding Introduction	1
31442308	Welding Metallurgy	1
31442350	Welding Hand Tools and Measurement	1
31442310	Welding Shielded Metal Arc 1A (Stick)	1
31442312	Welding Shielded Metal Arc 1B (Stick)	1
31442314	Welding Shielded Metal Arc 2A (Stick)	1
31442316	Welding Shielded Metal Arc 2B (Stick)	1
31442320	Welding Gas Metal Arc 1A (Wire/Mig)	1
31442322	Welding Gas Metal Arc 1B (Wire/Mig)	1
31442324	Welding Gas Metal Arc 2A (Wire/Mig)	1
31442326	Welding Gas Metal Arc 2B (Wire/Mig)	1
31442304	Welding Submerged Arc (SAW)	1
31442330	Welding Gas Tungsten Arc 1A (Heli-Arc/TIG)	1
31442332	Welding Gas Tungsten Arc 1B (Heli-Arc/TIG)	1
31442334	Welding Gas Tungsten Arc 2A (Heli-Arc/TIG)	1
31442336	Welding Gas Tungsten Arc 2B (Heli-Arc/TIG)	1
31442318	Pipe Welding Fundamentals	1
31442382	Welding Math 1	1
31442385	Welding Print Reading	1
31442340	Welding Advance Process 1A	1
31442342	Welding Advance Process 1B	1
31442357	Welding Fabrication Introduction	2
10106116	Computer Essentials	1
31801359	Communication Skills for the Workplace	2
31809362	Psychology for Life	1

TOTAL 27

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



COMMUNICATION SKILLS FOR THE WORKPLACE...prepares the student to develop paper job-search tools and job-related writing skills to increase job stability; introduces the students to team-building skills to resolve organizational problems; introduces the student to the skills of effective listening; prepares the student to respond to workplace criticism and praise; and introduces the student to interpersonal relationship skills, including effective interviewing skills, customer relations, and management/employee relations.

COMPUTER ESSENTIALS...covers computer technology and basic computer skills for the student who is just starting classes at LTC. This course will include topics related to uses of computer hardware and software, internet searching, e-mail, MyLTC, online courses, and an introduction to documents and presentations.

PIPE WELDING FUNDAMENTALS...demonstrates safe shop working practices. The learner will weld pipe to plate in the 2F, 5F and 6F positions while using the SMAW, GMAW, FCAW and GTAW welding processes. Students will weld pipe groove welds in the 1G, 2G, 5G and 6G positions while using the SMAW, GMAW, FCAW and GTAW welding processes. COREQUISITES: 31442326 Wldg Gas Metal Arc 2B, 31442316 Wldg Shielded Metal Arc 2B, and 31442336 Wldg Gas Tungsten Arc 2B

PSYCHOLOGY FOR LIFE...prepares the learner to select behavior modification techniques, demonstrate techniques for enhancing memory, analyze expressions of emotion, use conflict for common good, employ techniques to reduce conflict/frustration, use several methods to reduce stress, interpret personality types, ascertain contributors to perception, and apply methods of problem-solving.

WELDING ADVANCE PROCESS 1A...is a student selected welding process. In it the student will begin to use that process to weld in all positions including pipe. The learner will prepare to become a certified welder. COREQUISITE: 31442326 Welding Gas Metal Arc 2B (Wire/MIG) or 31442316 Welding Shielded Metal Arc 2B (stick) or 31442336 Welding Gas Tungsten Arc 2B (Heli-Arc/TIG)

WELDING ADVANCE PROCESS 1B...is a student selected welding process. In it the student will learn to use that process to weld in all positions including pipe. The learner will have the opportunity to become a certified welder in the chosen welding process. COREQUISITE: 31442340 Welding Advance Process 1A

WELDING FABRICATION INTRODUCTION...introduces the learner to various methods of steel fabrication. The learner will produce a steel fabrication from assembly drawings and will produce working drawings to produce their own steel fabrication. The learner will see all aspects of industry design, cut, machine, form, weld, and finish all parts of their steel fabrications including producing a working blueprint. COREQUISITE: 31442385 Welding Print Reading and 31442342 Welding Advance Process 1B or 31442342S3 Welding Advance Process 1B (Stick) or 31442342M3 Welding Advance Process 1B (Mig) or 31442342T3 Welding Advance Process 1B (Heli-Arc/Tig)

WELDING GAS METAL ARC 1A...prepares the learner to demonstrate safe shop work practices; learners will perform set up and shut down of GMAW and FCAW equipment; weld mild steel using the GMAW and FCAW welding processes, and weld in all positions using the GMAW process. COREQUISITE: 31442300 Welding Intro or 31442346 Industrial Maint Welding Intro or 31442345 Auto Servicing Welding

WELDING GAS METAL ARC 1B...will use safe shop work practices while producing 3/4" fillet welds using the FCAW and MCAW welding processes and 1/4" fillet welds while welding tube to plate in the horizontal position. Learners will produce V-groove weldments in all four positions, using .035 hard wire, .052 Flux Core and Metal electrode wires. COREQUISITE: 31442320 Welding Gas Metal Arc 1A (Wire/MIG)

WELDING GAS METAL ARC 2A...will have learners demonstrate safe shop working practices while welding fillet welds in all positions using the FCAW and MCAW welding process. Learners will perform single bevel groove welds and V-groove welds in all positions using the multiple GMAW welding process, and will perform groove welds with and without backing material. COREQUISITE: 31442322 Welding Gas Metal Arc 1B (Wire/MIG)

WELDING GAS METAL ARC 2B...prepares the learner to demonstrate safe shop work practices; make single bevel groove welds in the horizontal, vertical, and overhead positions using 1 inch steel plate, and using .052" flux core electrode wire; make single bevel tee welds in the horizontal position using .052" metal core wire. Learners will be introduced to welding through corners and stagger starts and stops. COREQUISITE: 31442324 Welding Gas Metal Arc 2A (Wire/MIG)

WELDING GAS TUNGSTEN ARC 1A...prepares the learner to demonstrate safe shop work practices, weld mild steel, stainless steel and aluminum in the flat position or horizontal positions using the GTAW process. COREQUISITE: 31442300 Welding Intro or 31442346 Industrial Maint Welding Intro or 31442345 Auto Servicing Welding

WELDING GAS TUNGSTEN ARC 1B...prepares the learner to demonstrate safe shop work practices, weld mild steel, stainless steel and aluminum in the horizontal and vertical up positions using the GTAW process, and weld mild steel using the GTAW pulse welding process. COREQUISITE: 31442330 Welding Gas Tungsten Arc 1A (Heli-Arc/TIG)

WELDING GAS TUNGSTEN ARC 2A...prepares the learner to demonstrate safe shop work practices; weld a square butt joint on mild steel in the horizontal, vertical, and overhead positions using the GTAW process; weld a lap joint on mild steel in the horizontal, vertical, and overhead positions using the GTAW process; weld a tee joint on mild steel in the horizontal, vertical, and overhead positions using the GTAW process; and minimize oxidation in metals during welding. COREQUISITE: 31442332 Welding Gas Tungsten Arc 1B (Heli-Arc/TIG)

WELDING GAS TUNGSTEN ARC 2B...prepares the learner to demonstrate safe shop work practices; weld 1/4" mild steel plate in the flat, horizontal, vertical, and overhead positions using the GTAW process; weld multi-pass fillets in 1/4" mild steel plate in the flat position using the GTAW "walking the cup" process; and make corner weldments in mild steel using the GTAW process. COREQUISITE: 31442334 Welding Gas Tungsten Arc 2A (Heli-Arc/TIG)

WELDING HAND TOOLS AND MEASUREMENT...prepares the learner to communicate using proper terminology used in industry, demonstrate safety practices in the work place, demonstrate the use of hand tools, demonstrate the use of power hand tools, demonstrate measurement of steel using measuring tools, classify mechanical fasteners (threaded), install threaded fasteners and other industrial fasteners. COREQUISITE: 31442300 Welding Intro or 31442346 Industrial Maint Welding Intro or 31442345 Auto Servicing Welding

WELDING INTRO...introduces the learner to the world of welding, weld shop safety practices, welding terminology, and welding machine setup to industry standards. Learners will be introduced to the three major welding processes: SMAW, GMAW, and GTAW and will build skills welding with each process in the flat, and horizontal positions while using the common welding joints found in industry. The learner will process material by using the two major hand held cutting processes - the Oxyfuel and PAC cutting processes.

WELDING MATH 1...provides the learner with the necessary skills to solve problems involving whole numbers, fractions, and decimal numbers using pad and pencil and calculator. The course is designed for individualized student needs. This is credit one of the twomath credits need for the Welding program.

WELDING METALLURGYprepares the learner to interpret properties of ferrous materials, heat treat ferrous metals; and test the hardness of ferrous materials. The learner will interpret weld discontinuities and how heat of the weld affects base metal properties.

WELDING PRINT READING...prepares the learner to apply orthographic projection principles and AWS welding symbols as they relate to welding fabrications. Students will learn the basics of print reading including alphabet lines, tolerances, bill of materials, title blocks, and revision blocks.

WELDING SHIELDED METAL ARC 2A...will use safe shop work practices so the learner will experience the art of welding in the vertical and overhead position. To gain an understanding of the vertical and overhead positions, you will perform padding plate welds on mild steel with E7018 electrode; perform fillet welds in the vertical, overhead and 5F positions; groove welds will also be performed in the vertical and overhead position. Groove welds will be with and without backing. COREQUISITE: 31442312 Welding Shielded Metal Arc 1B (Stick)

WELDING SHIELDED METAL ARC 2B...prepares the learner to demonstrate safe shop work practices while making multi pass groove welds in single beveled plate in the 1G, 3G, and 4G positions using E7018 electrode. You will make multi pass fillet welds to pipe to plate in the 2F and 5F positions. You will be introduced to pipe welding in the 1G and 2G positions. COREQUISITE: 31442314 Welding Shielded Metal Arc 2A (Stick)

WELDING SHIELDED METAL ARC 1A...prepares the learner to demonstrate safe shop work practices; make bead on plate welds on mild steel; make padding plate welds on mild steel; make fillet welds in 3/8" mild steel plate in the flat and horizontal positions; and make groove welds in mild steel plate. COREQUISITE: 31442300 Welding Intro or 31442346 Industrial Maint Welding Intro or 31442345 Auto Servicing Welding

WELDING SHIELDED METAL ARC 1B...will have the learner demonstrate safe shop work practices; make horizontal padding plate welds on 1/2" mild steel with E7018 electrode; 1/4", 3/8" and 3/4" fillet welds in the horizontal position, 1/4" fillet welds on round and square tubing; open root groove welds with a 3/32" root opening in mild steel in the 1G position; groove welds with 1/4" root opening and 1/4" backup bar on mild steel in the 2G position using E7018 electrode; padding plates and fillet welds in the vertical position. COREQUISITE: 31442310 Welding Shielded Metal Arc 1A (Stick)

WELDING SUBMERGED ARC (SAW)...is a common arc welding process. It requires a continuously fed consumable electrode. The molten weld and the arc zone are protected from atmospheric contamination by being "submerged" under a blanket of granular fusible flux. The learner will interpret SAW terminology, setup and shut down of SAW equipment, SAW weld safety; and perform SAW welds in the flat position. COREQUISITES: 31442326 Welding Gas Metal Arc 2B and 31442300 Welding Intro or 31442346 Industrial Maint Welding Intro or 31442345 Auto Servicing Welding

Program Number 10-482-1 Associate Degree in Applied Science • Five Terms

ABOUT THE PROGRAM

The wind energy industry is the fastest growing segment of renewable energy production. The U.S. and Canadian wind industry is experiencing annual growth of 25%. Employers seek skilled technicians for operation and maintenance activities in wind farms. There is also a demand for advanced technicians with U.S. and international wind turbine manufacturers; these include: installation technicians, quality control technicians, and warranty and commissioning technicians. Operation and maintenance positions generally remain with a given wind farm location; other technicians travel extensively with the construction of new wind farms and repair/retrofitting of wind turbines around the world.

PROGRAM OUTCOMES

- Install, test, service, and repair wind turbine components.
- Troubleshoot and maintain control and PLC systems.
- Wear PPE for climbing and identify safe practices for climbing.
- Safely climb wind turbine towers.
- Understand and use terms, definitions, and proper nomenclature of the wind industry.
- Explain theories governing the generation of electrical power through wind turbine usage.

CAREER AND EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

PROGRAM ADMISSIONS STEPS

- Work with Career Coach to:
 - Submit application and \$30 fee.
 - Submit official transcripts (high school and other colleges).

ENROLLMENT PROCESS

- Work with program Academic Advisor to:
 - Complete an assessment for placement (Accuplacer or ACT).
 - Complete Functional Abilities Statement of Understanding form.
 - Meet to plan your first semester schedule, review your entire plan of study, discuss placement assessment results and complete any additional enrollment requirements.

APPROXIMATE COSTS

- \$142 per credit (resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health related exams, etc.) Visit gotoltc.edu/financial-aid/tuition-and-fees for details.

FINANCIAL AID

This program is eligible for financial aid. Visit gotoltc.edu/Financial-Aid or talk with your Career Coach about how to apply for aid.

SPECIAL NOTE

This program is an official shared program with students from FVTC, MPTC, and NWTC. Students attend electro-mechanical and general education classes at their local technical colleges. During the summer months, these students attend Wind Energy Technology specific courses at LTC in Cleveland and may graduate with both a degree from their respective colleges as well as a degree in Wind Energy Technology from LTC. Please note that an online Intro to Wind Systems course runs each fall and spring as a prerequisite to the summer term. LTC welcomes transfer students who are graduates of electro-mechanical and energy-related programs at LTC and other WTCS colleges. Interested transfer/dual-degree students are encouraged to contact the LTC program advisor at 920-693-1378 for more information and to determine eligibility to attend the summer program courses.

CONTACT

LTC Career Coach
920.693.1162 • CareerCoach@gotoltc.edu

Catalog No.	Class Title	Credit(s)
Term 1		
10482101	Wind Systems Introduction	3
10482120	Wind Technician 1 Lab **	1
10620122	Industrial Wiring	2
10620103	Fluid Power 1	2
10660105	DC Fundamentals	2
10804115	College Technical Math 1	5
		15
Term 2		
10482110	Energy Introduction	1
10482113	Wind Technician Health and Safety **	2
10482122	Wind Technician 2 Lab**	1
10620104	Fluid Power 2	3
10620138	Programmable Controllers - Allen Bradley	3
10660110	AC Fundamentals	2
10620141	Industrial Controls & Motors	3
		15
Summer Term		
10482132	10482132 Turbine Maintenance ** OR 10482103 Wind Farm Internship (2 cr) **	2
		2
Term 3		
10482124	Wind Technician 3 Lab **	1
10620130	Mechanisms Mechanics Introduction to	3
10620164	Electromechanical Systems	2
10620193	NEC Codes	1
10620140	Programmable Controllers-Allen Bradley Advanced	2
10806154	General Physics 1	4
10801195	Written Communication OR 10801197 Technical Reporting OR 10801136 English Composition 1	3
		16
Term 4		
10482126	Wind Technician 4 **	3
10482128	Wind Technician 5 **	2
10620192	Frequency Drives	1
10620195	Industrial Troubleshooting	1
10806112	Principles of Sustainability OR 10809195 Economics (3 cr)	3
10801196	Oral/Interpersonal Communication	3
10809198	Introduction to Psychology	3
		16
		TOTAL 64

**These class dates and times may be rescheduled due to inclement weather. Students must be within safe-climbing, unequipped body weight of 100 to 275 pounds.

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor for details.



AC FUNDAMENTALS...prepares the student to analyze electrical circuits using AC math, analyze AC waveforms, measure and analyze AC power, analyze capacitors and inductors in DC and AC circuits, analyze AC circuits containing reactance and calculate resonance, apply the elements and properties of basic measuring circuits, and describe transformer characteristics. PREREQUISITES: 10660105 DC Fundamentals

COLLEGE TECHNICAL MATHEMATICS 1...prepares the student to solve linear, quadratic, and rational equations; graphing; formula rearrangement; solve systems of equations; percent; proportions; measurement systems; computational geometry; right and oblique triangle trigonometry; trigonometric functions on the unit circle; and operations on polynomials. Emphasis will be on the application of skills to technical problems. This course is the equivalent of successful completion of College Tech Math 1a and 1b. PREREQUISITES: 10834110 Elementary Algebra w Apps or 31457318 Ind Mtnc Trades Math or 31420320 Machine Tool Math or equivalent.

DC FUNDAMENTALS...prepares the student to convert values to scientific and engineering notations; calculate math quantities; describe basic atomic theory; identify basic electrical terms; use established symbols standards; describe DC voltage characteristics and current sources and electrical resistance; measure and analyze electrical quantities in series and parallel circuits; and desolder/solder single lead components. COREQUISITES: 10804115 College Technical Math 1 or 10804113 College Tech Math 1A and 10804114 College Tech Math 1B or 10804118 Intermediate Algebra w Applications and 10624105 or 10624105HS Health Physics Calculations and Statistics

ELECTROMECHANICAL SYSTEMS...prepares the student to communicate with, tune, run, and troubleshoot Allen-Bradley servos; utilize electrical control of hydraulic systems, explore PID control of motor speed; and investigate open and closed loop control systems. PREREQUISITES: Fluid Power 2 and 10660110 AC Fundamentals

ENERGY INTRODUCTION...provides the learner with an overview of electrical energy generation and distribution and their relationship to the Wind industry. Applications and tours include electricity from the following modes: wind, photovoltaic, coal-fired, hydro, and natural gas. Careers for wind maintenance technicians and associated careers are explored.

FLUID POWER 1...prepares the learner to identify hydraulic and pneumatic component symbols; adjust a pressure relief valve; analyze the operation of a pilot operated relief valve; analyze Pascal's law; evaluate flow, velocity, work and power in industrial hydraulic and pneumatic circuits; analyze meter-in, meter-out, and bypass flow control circuits; identify basic hydraulic and pneumatic control valves; and assemble hydraulic circuits. COREQUISITES: 10804115 College Technical Math 1 or 10804113 College Tech Math 1A and 10804114 College Tech Math 1B

FLUID POWER 2...enhances the learner's ability to read schematics containing fluid power component symbols; assemble systems using schematics; analyze system's operation using a schematic; evaluate the general characteristics and terms of fluids under pressure, fluid conditioning, conductors, reservoirs, accumulators, pressure control; and troubleshoot malfunctioning pressurized systems. PREREQUISITE: 10620103 Fluid Power 1 or 10620155 Industrial Maintenance Hydraulics and Pneumatics

FREQUENCY DRIVES...prepares the learner to explain the function, construction and troubleshoot frequency drives as well as select and change parameters to meet operational characteristics for the drive application. PREREQUISITE: 10620141 Industrial Controls and Motors

GENERAL PHYSICS 1...presents the applications and theory of basic physics principles. This course emphasizes problem-solving, laboratory investigation, and applications. Topics include unit conversions and analysis, vectors, translational and rotational kinematics, translational and rotational dynamics, heat and temperature, and harmonic motion and waves. COREQUISITE: 10804197 College Tech Math 1B or 10804114 College Tech Math 1B or 10804114M1 College Tech Math 1B Mod 1 & 10804114M2 College Tech Math 1B Mod 2 or 10804115 College Tech Math 1 or 10624105 Hlth Phys Calc & Stats & 10804118 Intern Algebra

INDUSTRIAL CONTROLS AND MOTORS...prepares the learner to select control devices by function and operation; illustrate electrical circuits using symbols, diagrams, and abbreviations; explain the operation of magnetic solenoids and apply motor control techniques and introduces the student to three-phase power motor circuits for industrial applications. COREQUISITES: 10660110 AC Fundamentals

INDUSTRIAL TROUBLESHOOTING...prepares the learner to conduct effective machine control troubleshooting techniques with an understanding of preventive maintenance methods designed to minimize motor and controls issues between preventive maintenance measures. PREREQUISITE: 10620141 Industrial Controls and Motors

INDUSTRIAL WIRING...prepares the learner to follow safety procedures; maintain a safe and healthy work environment; construct electrical circuits; measure electrical quantities using a VOM and/or DVM; analyze measured values using electrical circuit laws; construct typical industrial control circuits; and analyze typical industrial control circuits.

INTRODUCTION TO PSYCHOLOGY...introduces students to a survey of the multiple aspects of human behavior. Involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. Directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

MECHANISMS MECHANICS INTRODUCTION TO...prepares the learner to use tools and fasteners safely; identify belt and chain drive components; install and adjust belt and chain drives; apply bearing and lubrication information; perform coupling alignment using straight edge, feeler gauge, and dial indicator and laser methods; identify various gear drives; calculate gear ratios; and analyze first-, second-, and third-class levers.

NEC CODES...introduces the student to National Electric Codes NFPA 70. Prepares the learner to apply NFPA 70 to motor and control installations and repairs. PREREQUISITE: 10620141 Industrial Controls and Motors

ORAL/INTERPERSONAL COMMUNICATION...provides students with skills to develop speaking, verbal & nonverbal communication, and listening skills through individual speeches, group activities, and other projects. COREQ: 10838105 Intro Reading & Study Skills or equiv

PRINCIPLES OF SUSTAINABILITY...prepares students to develop sustainable literacy, analyze interconnections among physical and biological sciences and environmental systems, summarize effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal/recycling in the U.S., and analyze approaches used by your community. COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

PROGRAMMABLE CONTROLLERS - ALLEN BRADLEY...prepares the student to understand basic PLC structure & terminology; learn to create & troubleshoot basic PLC programs using the RSLOGIX 500 software & the RSLINX communication software; become familiar with communicating with programming SLC-500 PLCs. This course is highly computer based.

PROGRAMMABLE CONTROLLERS - ALLEN BRADLEY ADVANCED...prepares the student to develop applications utilizing subroutine instructions, analog modules; gain a basic understanding of creating and troubleshooting programs using the ControlLogix, RSLOGIX5000 software. This course is highly computer based. PREREQUISITE: 10620138 Prog Cntrls/AB

TURBINE MAINTENANCE...prepares learners to climb, inspect & service wind turbines; use torque fasteners; check gearbox lubrication; add grease to moving & exposed parts; verify good electrical connections; perform an overall "system check" and routine maintenance on a wind energy system; in addition to fault determination & troubleshooting. Students will incorporate wind industry best safety practices, must be prepared to climb multiple times in a day, and work full days outside in varying weather conditions. PREREQ: 10660110 AC Fund & 10620138 Program Controllers-Allen Bradley & 10804115 College Tech Math 1 or 10804114 College Tech Math 1B & 10620104 Fluid Power 2 & COREQ: 10482124 Wind Tech 3 Lab

WIND SYSTEMS INTRODUCTION...prepares the learner to assess the global energy picture, analyze the causes of wind flow and wind flow properties, write a site assessment, explore small, medium, and large wind turbine designs, assess the environmental effects of wind turbines, perform business assessments for wind energy projects, plan a wind energy project, evaluate the operation and maintenance requirements of wind turbines and their components, and analyze the future of wind energy.

WIND TECHNICIAN 1 LAB...prepares the learner for work at height. Students will perform equipment inspections on climbing and fall arrest gear, wear required PPE, PFPE, and outdoor apparel while working on a wind turbine system. In addition the learner will be provided with the S.A.F.E.R. certification in safe tower access, climbing, rescue, and confined space rescue. Students will demonstrate proper knot tying ability and display professionalism and safe working habits during all tasks. COREQUISITE: 10482101 Wind Systems Introduction

WIND TECHNICIAN 2 LAB...students will perform basic maintenance and troubleshooting on the campus towers, including greasing, torqueing, and hydraulic station maintenance. Students will demonstrate safe rigging techniques while raising and lowering tools and associated gear up and down the towers. Students will demonstrate comprehension of the rescue gear usage through real-life scenarios and will learn to safely self-evacuate off the training tower and to complete the necessary paperwork associated with tasks. COREQUISITES: 10482120 Wind Technician 1 Lab and 10482113 Wind Tech Health and Safety

WIND TECHNICIAN 3 LAB...certifies learner in torque tool techniques with Snap-on tools. Students will apply safe and proper techniques while using various styles of torque wrenches and adapters including hand torque and hydraulic torque wrenches. Students will demonstrate proficiency in performing a variety of maintenance functions on the GE 1.5 nacelle including oil filter changes, generator brush maintenance, and brake pad replacement while following proper safety and LOTO procedures. COREQUISITE: 10482122 Wind Technician 2

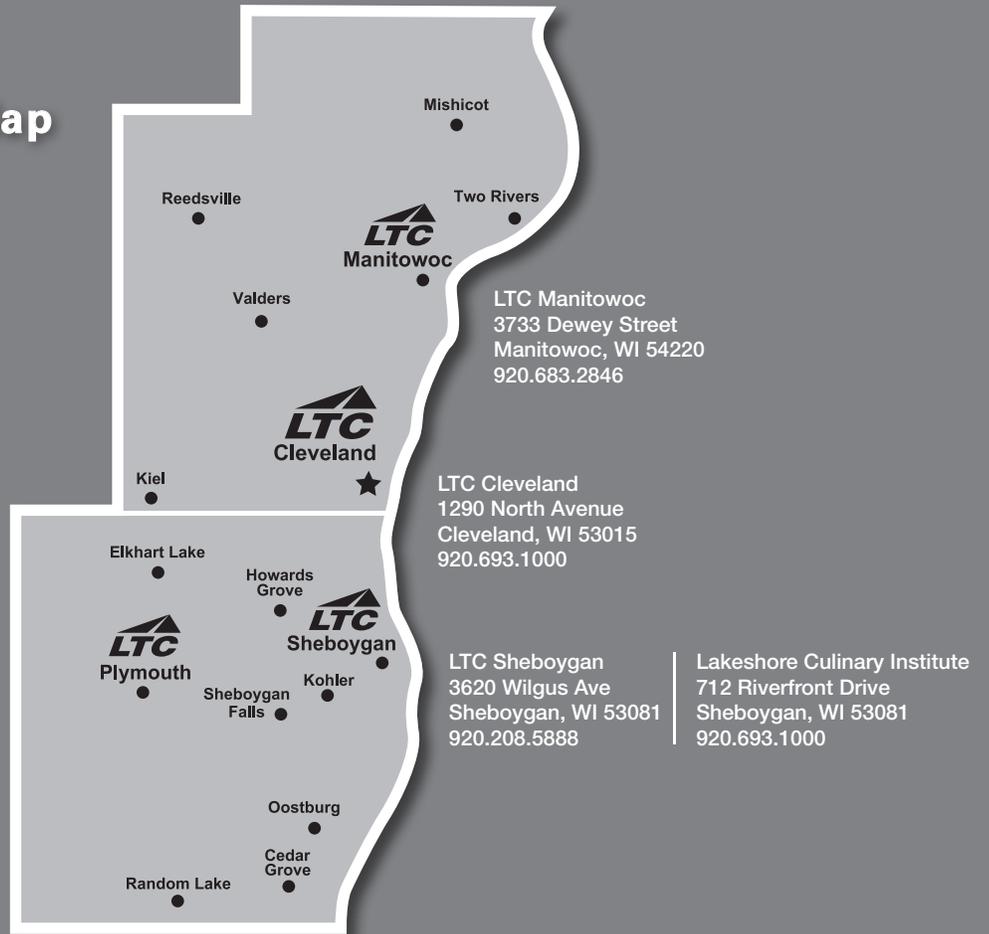
WIND TECHNICIAN 4...reviews arc flash requirements, power quality, power factor correction, transformer calculations, electrical distribution, and transmission systems. Student will learn the components and functions of a gearbox; how to inspect bearings and gears, troubleshoot the cooling system, and replace various gearbox components. Student will perform proper maintenance of the yaw system on the GE 1.5 nacelle, and will be responsible for completing troubleshooting/maintenance on the campus's wind turbines. PREREQUISITES: 10482124 Wind Tech 3, 10620141 Industrial Controls & Motors, 10620130 Mech Mech Intro, 10620138 Prog Cont-Allen Bradley and COREQUISITES: 10482132 Turbine Mtnc or 10482103 Wind Farm Intern and 10482128 Wind Tech 5 and 10620140 PLC Advanced

WIND TECHNICIAN 5...familiarizes the students with schematic reading and prepares the student to use schematics for troubleshooting and LOTO. The student will demonstrate proficiency in the use of a multi-meter for troubleshooting and LOTO. The student will demonstrate proficiency in troubleshooting motors and safely changing out motors. In this capstone course, students will responsibly perform troubleshooting and maintenance of the wind turbines on LTC's campus. COREQUISITE: 10482126 Wind Technician 4

WIND TECHNICIAN HEALTH AND SAFETY...familiarizes learners with Federal Safety and Health Regulations (OSHA) related to the wind energy industry. It introduces the student to proper methods and procedures to eliminate and control hazards related to potential injury/illness in the industry. Students will receive training in First Aid, CPR, rigging, and confined space and will receive a 10-hour OSHA for General Industry certification upon completion of the course. PREREQUISITE: 10482101 Wind Systems Introduction

WRITTEN COMMUNICATION...teaches writing process, which includes prewriting, drafting, revising, & editing. Through a variety of writing assignments, the student will analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Keyboarding skills are required for this course. It also develops critical reading and thinking skills through the analysis of a variety of written documents. PREREQ: 10831103 Intro to College Wrtg equiv & COREQ: 10838105 Intro Rdg & Study Skills or equiv

District Map



LAKESHORE TECHNICAL COLLEGE
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