LTC *LAKESHORE TECHNICAL COLLEGE*

ABOUT THE PROGRAM

The program curriculum focuses on using game and simulation development to help students learn programming principles, web application development, integration of web marketing and website design, database administration, mobile device development, and freelance and contract employment.

PROGRAM OUTCOMES

- Develop, build, and configure a dynamic and interactive Web site or application.
- Design, model, and implement a database for Web site or application use.
- Demonstrate proficiency in basic Web server maintenance, including configuration, troubleshooting, and maintenance.
- Lead a team or project using basic principles of project management.
- Create basic computer games and computer simulations.
- Convert logic concepts into object oriented programming code.
- Communicate and work effectively in a team environment.
- Communicate information effectively and accurately in systems-related documentation.
- Manage version control, change control, quality assurance testing, user acceptance policies, system deployment, and system maintenance.
- Analyze and define the specifications of a system based on user requirements.
- Develop mobile applications.
- Implement secure coding practices to ensure secure and safe Web sites
- Explore and employ new Web technologies and tools.
- Ensure Web applications comply with W3C validation standards and Section 508 Accessibility standards.
- Explore the relationship between web design, web development, and web marketing.

ADMISSIONS STEPS

- Work with Admissions Specialist to:
 - Submit Application and $30 Fee
 - Complete an Assessment for Placement (Accuplacer or ACT)
 - Submit Official Transcripts (High School and Other Colleges)
- Meet with Program Advisor/Counselor to Discuss Program Details

APPROXIMATE COSTS

- $132 per credit (resident)
- $198 per credit (out-of-state resident)
- Other fees vary by program (books, supplies, materials, tools, uniforms, health-related exams, etc.) Visit gotoltc.edu/payingforcollege for details.

PLACEMENT SCORES

Accuplacer/ACT scores will be used to develop your educational plan. Contact your program advisor/counselor for details.

SPECIAL NOTE

Students must purchase a 250GB external hard drive; have minimum home computer system/laptop requirements including a 2 Ghz processor, 4 GB of RAM, and a 250 GB hard drive; have a home PC with a web cam; and have a computer microphone with headset. 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 and Logic in the first semester.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES

LTC credits transfer to over 30 universities. For more information visit gotoltc.edu transfer.

CONTACT

Jenny Beltran, Admissions Specialist
920.693.1127 • jenny.beltran@gotoltc.edu

The Hire in HIGHER EDUCATION

Catalog No.	Class Title	Credit(s)
Term 1		
10105124	Portfolio Introduction	1
10152111	Emerging Web Trends	1
10152196	Web Development 1	3
10152120	Programming 1	1
10152121	Programming 2	3
10154121	Database Concepts	2
10804133	Math & Logic	3
10801195	Written Communication OR 108101136 English Composition 1	3
		17
Term 2		
10152107	Game Development	3
10152137	Systems Analysis	2
10152199	Web Development 2	4
10201106	CSS for Advanced Web Design	3
10809196	Intro to Sociology	3
10809195	Economics	3
		18
Term 3		
10152123	Mobile Device Development 1	3
10152187	Web Development 3	4
10152106	Integrated Web Concepts	4
10809112	Principles of Sustainability OR 10809122 Intro to American Government	3
10105128	Personal Branding	2
		16
Term 4		
10152112	Web Development 4	4
10152114	Mobile Device Development 2	3
10152122	Multimedia Concepts	3
10152115	Internship - Web and Software Developer	1
10152119	Portfolio Assessment-Web and Software Dev	1
10801196	Oral/Interpersonal Communication	3
10809198	Intro to Psychology	3
		18
	TOTAL	**69**

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

CSS FOR ADVANCED WEB DESIGN ...further explores the range of design methods made possible by Cascading Style Sheets (CSS) and how it can be used for creating progressive and contemporary Website designs. The course will cover imagery, typography, effects, and themes as they relate to CSS and Website design. PREREQUISITE: 10152196 Web Development 1

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.

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

EMERGING WEB TRENDS ...introduces students to the most current developments in the Web. Using resources and tools for staying current in relation to new technologies and trends related to Web design, development and marketing, students will assess current Web trends as they apply to their chosen profession.

GAME DEVELOPMENT …introduces the learner to gaming concepts including chase games, imaging, audio, sprite graphics and tile games. This course explores 2D graphics with DirectX, the C# language and the XNA Game Development Studio. Programming concepts are taught using game creation on personal computers and the XBox 360. PREREQUISITES: 10152121 Programming 2

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. 10104102 Prin of Marketing and 101043 Marketing program requirements met or COREQUISITES: 10152187 Web Development 3 and 10201106 CSS for Adv Web Design and CONDITION: 101527 Web and Software Developer or 102012 Graphic and Web Design or 101043 Marketing program requirements met

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 workrelated project, and an assessment of the student's portfolio. Students meet periodically at LTC. PREREQUISITE: 10152187 Web Development 3 and 10152106 Integrated Web Concepts and CONDITION: 101527 Web and Software Developer program requirements met

INTRO 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 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 & LOGIC ...will apply mathematical problem solving techniques. Topics will include symbolic logic, sets, algebra, Boolean algebra, and number bases. PREREQUISITE: 10834109 Pre-Algebra or equivalent and COREQUISITE: 10838105 Intro Reading and Study Skills or equivalent

MOBILE DEVICE DEVELOPMENT 1 ...introduces the student to designing and building mobile applications using Google's Android open-source platform. The course explains what Android is and how it compares to other mobile environments, the setup of the Android, Eclipse-based development tools, the Android SDK, all essential features, as well as the advanced capabilities and APIs such as background services, accelerometers, graphics, and GPS. EREQUISITES: 10152121 Programming 2 and 10152185 Web Development 2

MOBILE DEVICE DEVELOPMENT 2 ...introduces the student to programming iPhone applications. Students will learn basic Mac operating systems concepts, Objective C concepts, iPhone programming basics, and use the SDK environment as a development platform. Design concepts and programming tools will be integrated with an emphasis on developing and deploying iPhone applications. PREREQUISITE: 10152108 Mobile Device Development 1 and 10152121 Programming 2

MULTIMEDIA CONCEPTS ...will teach students how to ceate various multimedia elements including video, audio, and basic animation and learn how to incorproate these elements into web pages. PREREQUISITE: 10152196 Web Development 1

ORAL/INTERPERSONAL COMM ...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. PREREQUISITE: 10105124 Portfolio Introduction or 10201116 Graphic and Web Portfolio

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 Web market, and the analysis of the achievement of their core abilities and program outcomes. PREREQUISITES: 10105124 Portfolio Introduction and 10105128 Career Exploration and 10152187 Web Development 3 and 10152106 Integrated Web Concepts and CONDITION: 101527 Web and Software Developer admissions requirements met

PORTFOLIO INTRODUCTION ...prepares the student to develop a personal and professional portfolio, to identify self-awareness through various self-assessments and apply these results to the workplace and other environments, to write goal statements and understand their value, to develop an individual history of events and achievements, and to identify significant learning experiences throughout the student's life.

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 communinty.

PROGRAMMING 1 …introduces students to the concepts of programming with no coding. Topics covered include the theory of Object-Oriented Programming (Classes and objects), methods, properties, variables, data types, decisions, loops, and arrays.

PROGRAMMING 2 ...builds on the concepts mastered in Programming 1 by introducing coding techniques using the Java programming language. Students will learn how to write code using an Integrated Development Environment (IDE) and compile a program. In addition to the concepts covered in Programming 1, topics covered will also include inheritance, exception handling, and advanced class and object concepts. PREREQUISITE: 10152120 Programming 1

SYSTEMS ANALYSIS …introduces the student to the principles of systems analysis, including the phases for the life cycle of analysis, preparation of data gathering instruments, interviews, user interaction and the use of UML (Unified Modeling Language) to develop analysis documentation. Students work as part of a team to develop the analysis of a system. PREREQUISITE: 10152121 Programming 2

WEB DEVELOPMENT 1 ...introduces the students to Adobe Dreamweaver, HTML and web page principles beginning with building simple web pages using graphics and continuing on to build web pages with greater layout control by using table design and forms. In addition, they will have hands-on experience using Cascading Style Sheets (CSS) as an important component of dynamic HTML pages; and hands-on experience using in-line, embedded and external style sheets to create dynamic pages that allow for more control over the attributes of a web page.

WEB DEVELOPMENT 2 …introduces the student to DHTML, JavaScript, AJAX, and framework libraries such as JQuery. Students learn how to add JavaScript and AJAX to existing programs, and design new applications to exploit the power of Web 2.0. Students learn how to create rich clients, use visual effects, add client-side validation, and handle forms.

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, serverside 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 10152185 Web Development 2

WEB DEVELOPMENT 4 …introductes the learner to Microsoft's .NET platform, .NET frameworks, contentmanaged 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: 1015287 Web Development 3 and 10152107 Game 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