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 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
• Assist engineers in the design process.
• Solve design problems correctly using established and accepted methods and equations.
• Design mechanical parts according to customer specifications for manufacturability and/or cost.
• Analyze engineering problems related to strength and size requirements of machine components.
• Understand the principles of statistical process control, lean manufacturing, and Six Sigma as they relate to and are used in industry.
• Function effectively on both self-directed and team-oriented projects.

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/financial-aid/tuition-and-fees for details.

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

SPECIAL NOTE
This program can also be completed by attending evenings.

CAREER & EDUCATION ADVANCEMENT OPPORTUNITIES
LTC credits transfer to over 30 universities. For more information visit gotoltc.edu/future-students/transfer.

CONTACT
Chou Yang, Admissions Specialist
920.693.1851 • chou.yang@gotoltc.edu

Curriculum and Program Acceptance requirements are subject to change. Program start dates vary; check with your advisor/counselor for details.
BASIC MECHANICAL DRAFTING USING AUTOCAD...provides the learner with the skills to utilize AutoCAD’s drawing tools, 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 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; 10606134 Kinematics; 10606106 Working Drawings Using SolidWorks and 10606160 Manufacturing Processes & Applications or 10606104 Developing Mfg Skills or 10606160C1 Mfg Processes Lecture C1

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: 10804114 College Tech Math 1a 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

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 CURRENT MANUFACTURING TRENDS...introduces the learner to the theories and concepts of Statistical Process Control, Six Sigma and Lean Manufacturing. PREREQUISITE: 10804110 Intermediate Algebra with Apps or 10804110 Elementary Algebra with Apps or 10804115 College Technical Math 1 or 10804113 College Technical Math 1a and 10804114 College Tech Math 1B

INTRODUCTION TO SOCIOLGY...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

KINETICS...provides the student with the skills necessary to determine the motions relative to an observer, apply the laws of motion, and analyze the effects on objects of force and torque. Emphasis will be on the application of the laws of motion to statics and dynamics problems. PREREQUISITE: 10843115 College Technical Math 1a or 10843115 College Technical Math 1a and 10843114 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