



University of
Massachusetts
Lowell

<http://continuinged.uml.edu>

Engineering Technology

*Part-Time Degrees in Mechanical Engineering
Technology & Electronic Engineering Technology*



UMass Lowell's Engineering Technology B.S. degree programs are fully accredited by the Technology Accreditation Commission (TAC) of the Accreditation Board for Engineering and Technology (ABET).



Engineering Technology

at the University of Massachusetts Lowell

As one of the largest engineering education providers in New England, the University of Massachusetts Lowell is pleased to offer one of the region's only part-time, fully-accredited engineering technology programs. UMass Lowell's Bachelor's Degrees in Mechanical Engineering Technology and Electronic Engineering Technology offer working professionals the opportunity to build their knowledge of engineering theory and practical applications, as they form solid communication and problem solving skills that are critical to their ongoing success.

Comprised of both full-time faculty and industry professionals who are able to share their industry insight and expertise in the latest technologies, these programs are reviewed annually by an advisory board of experts who ensure that the program curricula is kept constantly up-to-date. In addition to their regular advisory board review, these programs have also earned national distinction as being fully accredited by the Technology Accreditation Commission (TAC) of the Accreditation Board for Engineering and Technology (ABET).

“I wanted to stay current in my field. Many of the classes I took were closely related to my job and I was able to apply what I learned in my coursework immediately. The University has a strong reputation and I found the curriculum to be relevant and current to what the market demands are today. The availability of both online and on-campus courses made it possible for me to graduate in a shorter amount of time.”

**– Saab Rihani
Mechanical Engineering Technology, '11**





Get Started Today!

▶ Apply Online

<http://continuinged.uml.edu/apply.htm>

Admission to UMass Lowell's Engineering Technology Program is open to students who have earned a high school diploma or GED. There is no deadline to apply and applications are processed year-round for these part-time programs.

What You Will Need

- An official transcript or GED certification must be received directly from your high school(s), college(s) and post-secondary school(s). Transcripts should be mailed to:

University of Massachusetts Lowell
Office of Admissions / Continuing Studies
Attention: Kathleen Shannon
Dugan Hall, Room 110
883 Broadway Street
Lowell, MA 01854-5104

- Complete the online application or send your completed application form along with payment of the application fee (see form or website for details) to the Office of Admissions at the address above.

▶ Register for a Course

You do NOT have to be enrolled in a program to start taking courses. Try a course before you apply. We do, however, recommend that you make an appointment to speak with one of our Engineering Technology faculty advisors sometime during your first semester to discuss program options and to formulate a plan of study. Call the Faculty & Student Support Center at 978-934-2474 to arrange an appointment with an Engineering Technology Faculty Advisor.

New students: To register for a course, simply complete the "Non-Degree Course Registration Form" (available on either the Continuing Studies website or Registrar's Office website) and fax it to 978-934-4017. Once you're established in your first course, if you decide you want to pursue a degree or certificate, you can apply into the program during your first semester.

Current students: Register online using your student account at <http://isis.uml.edu>

Have Questions? Talk to an Advisor!

The University's experienced advisors can help you map out an education plan to meet your personal and professional goals. Call the Student Support Center at 978-934-2474 or email Continuing_Education@uml.edu



We Bring the Classes to You!

Programs can be offered at your company

UMass Lowell can offer part-time degrees and certificates onsite at your company. It's a cost effective, hassle free way to train employees in targeted disciplines. Join the growing number of companies who have tapped into the University's expertise and resources to prepare today's workforce for the future.

For more information, contact Joanne Talty at 978-934-2144 or Joanne_Talty@uml.edu

<http://continuinged.uml.edu/engtech>

Technology Shapes Our World. Be a Part of It.

Mechanical Engineering Technology

Earn an Associate's Degree or Bachelor's Degree

The Mechanical Engineering Technology program prepares graduates with the problem solving skills, communications expertise and knowledge of practical applications demanded by the complex world of modern business and industry. The Manufacturing Engineering Technology program prepares graduates in the areas of manufacturing, manufacturing processes, productivity, industrial economics and quality.

Graduates leave the program well versed in applied mechanics; applied thermal sciences; applied fluid mechanics; fundamentals of electrical, electronic and digital basics; material science; and the mathematics, physics and chemistry necessary to support those areas of concentration. The industry offers graduates of the program a broad spectrum of opportunities in such areas as design, development, manufacturing support and quality. It's one of the many reasons why the program is so popular among students at UMass Lowell.

CORE PROGRAM COURSES

17.130	Electrical Basics and Laboratory*	23.302	Mechanics/Materials Lab*
17.131	Electronic Basics and Lab*	23.305	Manufacturing Processes
23.101	Engineering Graphics*	23.314	Manufacturing Productivity
23.102	Engineering Design & Graphics*	23.320	Machine Design
23.200	Computer Aided Drafting*	23.354	Problems in Mechanical Engineering Technology
23.202	Thermo/Fluids Laboratory*	23.402	Engineering Measurement Laboratory
23.221	Statics*	23.414	Engineering Economics
23.222	Dynamics*	23.475	Heat Transfer
23.223	Mechanics of Materials*	23.480	Computer Aided Design
23.226	Technical Communications for Engineering Technology*	23.484	Intro ProENGINEER
23.241	Elements of Thermodynamics*	84.111	General Chemistry I
23.242	Applied Fluid Mechanics*	84.113	General Chemistry Lab I
23.243	Elements of Thermodynamics II	92.120	Precalculus Mathematics I*
23.262	Engineering Data Analysis	92.123	Precalculus Mathematics II*
23.295	Materials Science*	92.125	Calculus A*
23.301	Manufacturing Technology Laboratory	92.126	Calculus B*
		92.225	Calculus C
		99.131	Technical Physics I*
		99.132	Technical Physics II*

GENERAL EDUCATION COURSES

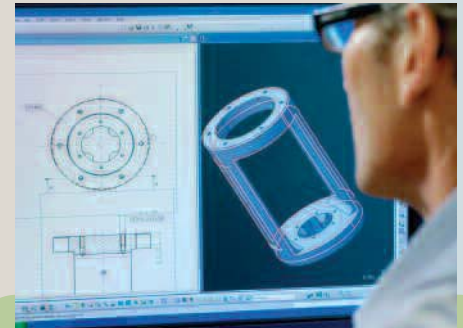
42.101	College Writing I*
42.102	College Writing II*
42.- - -	General Education - Arts & Humanities (AH)
43.- - -	General Education - Arts & Humanities (AH) (D)*
45.- - -	General Education - Arts & Humanities (AH) (E)
47.101	General Psychology (SS)*
48.- - -	General Education - Social Sciences (SS) (D or E)
49.201	Economics I (Microeconomics) (SS)

PROGRAM ELECTIVES

Students must choose two of the following approved courses for the B.S. degree:

23.211	Labview Programming with Engineering Applications
23.353	Forensic Engineering
23.416	Statistical Quality Control
23.419	Applied Computer Aided Manufacturing
23.485	Introduction to SolidWorks
90.211	Introduction to Programming with C - I

*Courses marked with an asterisk are required for the Associate's Degree. All courses are required for the Bachelor's Degree.



EARN A CERTIFICATE AS YOU PURSUE THIS DEGREE...

The following two Certificate Programs can be counted toward the degree in Mechanical Engineering Technology:

- The Certificate Program in Computer Assisted Manufacturing
- The Certificate Program in Manufacturing Technology

See the back of this brochure for more information.

Electronic Engineering Technology

Earn an Associate's Degree or Bachelor's Degree

Consumer electronics, telecommunications, semiconductors – the Electronic Engineering Technology industry offers a vast field of opportunity for students interested in the design and manufacture of hardware and software for all-things electrical. In the Electronic Engineering Technology program, instruction centers around the fundamentals of circuit design, semiconductor devices, applied electrical theory, microprocessors and more.

An array of career options are available for graduates of the program in power, communications, consumer electronics, manufacturing, the defense industry and more. Students experience every aspect of the electronic engineering field first hand – from concept to manufacturing, from quality assurance to product launch.

CORE PROGRAM COURSES

17.213	Circuits I*	17.384	Microprocessors B*
17.214	Circuits II and Laboratory*	17.391	Project Laboratory B
17.215	Circuits III and Laboratory*	17.392	Project Laboratory C
17.216	Circuits IV*	23.226	Technical Communications for Engineering Technology*
17.341	Logic Design I and Lab	49.201	Economics I (SS) (Microeconomics)
17.342	Logic Design II and Lab	90.267	C Programming*
17.350	Control Systems I	90.268	C++ Programming
17.353	Digital Electronics	92.120	Precalculus Mathematics I*
17.354	PSpice Simulation*	92.123	Precalculus Mathematics II*
17.355	Electronics I and Laboratory*	92.125	Calculus A*
17.356	Electronics II and Laboratory*	92.126	Calculus B*
17.357	Electronics III and Laboratory*	92.225	Calculus C
17.358	Electronics IV and Laboratory*	92.226	Calculus D
17.360	Mathematics and Statistics/E.E.T.	92.234	Differential Equations
17.361	Project Laboratory A*	99.131	Technical Physics I*
17.365	Applied Linear Devices	99.132	Technical Physics II*
17.368	Data Conversion and Lab	99.133	Technical Physics III
17.376	Electromagnetic Theory I		
17.383	Microprocessors A*		

GENERAL EDUCATION COURSES

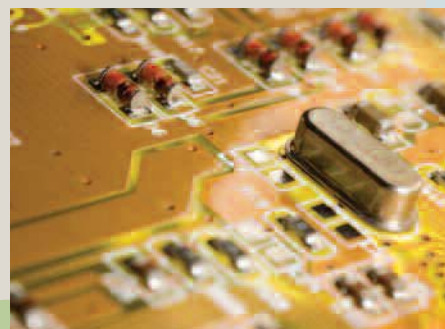
42.101	College Writing I*
42.102	College Writing II*
42.- -	General Education - Arts & Humanities (AH)
43.- -	General Education - Arts & Humanities (AH) (D)*
45.- -	General Education - Arts & Humanities (AH) (E)
47.101	General Psychology (SS)*
48.- -	General Education - Social Sciences (SS) (D or E)

PROGRAM ELECTIVES

Students must choose three of the following approved courses for the B.S. degree:

17.427	Digital Signal Processing
17.459	Power Conversion I
17.469	Control Systems II
17.477	Electromagnetic Theory II
17.272	Intro to Alternative Energy
17.422	GPS: Principles and Applications

*Courses marked with an asterisk are required for the Associate's Degree. All courses are required for the Bachelor's Degree.



EARN A CERTIFICATE AS YOU PURSUE THIS DEGREE...

The following two Certificate Programs can be counted toward the degree in Electronic Engineering Technology:

- The Certificate Program in Computer Engineering Technology
- The Certificate Program in Electronics Technology

See the back of this brochure for more information.

Engineering Technology Certificate Programs

Earn a certificate on your way toward a degree in Engineering Technology. Certificate coursework may be applied to the requirements for an Associate's or Bachelor's Degree in Engineering Technology. Speak with an advisor to learn more. Please check course prerequisites on our website prior to enrolling in a course.

THE CERTIFICATE PROGRAM IN COMPUTER ASSISTED MANUFACTURING

Use Toward a Degree in Mechanical Engineering Technology

Designed to provide engineers, technicians, managers and those working in a manufacturing environment with an introduction to the computer and how it is used to enhance industrial competitiveness.

Required Courses

23.200	Computer Aided Drafting	23.484	Intro to ProENGINEER
23.480	Computer Aided Design	23.485	Intro to SolidWorks

THE CERTIFICATE PROGRAM IN MANUFACTURING TECHNOLOGY

Use Toward a Degree in Mechanical Engineering Technology

Designed for technical personnel, supervisors and managers that require a broad understanding of manufacturing processes, automation methods and environments. Focusing on the technology of manufacturing processes, the program is designed to correlate theoretical knowledge and the real-world environment of manufacturing technology.

Required Courses

23.101	Engineering Graphics	23.305	Manufacturing Processes
23.200	Computer Aided Drafting	23.314	Manufacturing Productivity
23.301	Manufacturing Technology Laboratory	23.414	Engineering Economics
		23.419	Computer Aided Manufacturing

THE CERTIFICATE PROGRAM IN COMPUTER ENGINEERING TECHNOLOGY

Use Toward a Degree in Electronic Engineering Technology

Designed to provide students with a broad-based knowledge of digital electronics, microprocessors and advanced digital technologies. The curriculum includes engineering science and design courses that provide a balanced view of hardware, software, application trade-offs and the basic modeling techniques used in computer engineering.

Required Courses

17.341	Logic Design I & Lab	17.384	Microprocessors B
17.342	Logic Design II & Lab	90.267	C Programming
17.353	Digital Electronics	90.268	C++ Programming
17.383	Microprocessors A		

THE CERTIFICATE PROGRAM IN ELECTRONICS TECHNOLOGY

Use Toward a Degree in Electronic Engineering Technology

Designed to provide the students with a broad-based knowledge of circuit theory and electronics, with laboratory work included to ensure that solid hands-on experience is acquired along with the deep understanding of fundamental and changing technologies.

Required Courses

17.213	Circuits I	17.355	Electronics I & Lab
17.214	Circuits II & Lab	17.356	Electronics II & Lab
17.215	Circuits III & Lab	17.357	Electronics III & Lab
17.216	Circuits IV	17.358	Electronics IV & Lab

Frequently Asked Questions

Q. HOW LONG WILL IT TAKE TO EARN A CERTIFICATE OR DEGREE?

A. The length of time depends on the student's course load and any credits he/she may be able to transfer from another accredited institution. Moreover, students can earn a certificate or an associate's degree on their way toward a bachelor's degree, and can use these milestones of achievement to help in their career advancement.

Q. WHAT IS THE DIFFERENCE BETWEEN AN ENGINEERING TECHNOLOGY DEGREE AND AN ENGINEERING DEGREE?

A. The Engineering Technology curriculum places less emphasis on abstract mathematics and general scientific principles and greater focus on the applications of these tools to the solution of practical problems. The traditional Engineering curriculum is less applied and places a greater emphasis on abstract mathematics, scientific principles and engineering theory.

Q. AM I ELIGIBLE FOR FINANCIAL AID?

A. Yes, the University offers scholarships, financial aid, loans and grants. You are eligible for aid if you are fully accepted into a degree program or approved certificate program and are a U.S. Citizen or have permanent visa status. Check out the University's financial aid website at www.uml.edu/financialaid/general_info/ to explore a whole host of options. You can also contact the University's Financial Aid Office at 978-934-4222.

Q. CAN I WORK FULL TIME WHILE GETTING MY DEGREE?

A. Yes! All of UMass Lowell's part-time degree programs are designed with working professionals in mind.

Q. WHEN CAN I GET STARTED?

A. Applications are processed year-round for Continuing Studies programs, so you can apply at any time during the year. You can register for courses three times per year during Fall, Spring and Summer semester registration.

Q. CAN I TRANSFER CREDITS FROM OTHER UNIVERSITIES?

A. Students may transfer academic credit completed at other accredited institutions of higher education toward a certificate, associate's degree or bachelor's degree. Credit will be accepted if it is equivalent to UMass Lowell instruction, if it is applicable to the intended program and if the student has received a grade equivalent to a C- (1.7 on a 4.0 scale) or better, as shown on official transcripts of record, which are received directly from other accredited institutions.



University of
Massachusetts
UMASS Lowell

Engineering Technology Department

<http://continuinged.uml.edu/engtech>

University of Massachusetts Lowell
James B. Francis College of Engineering
Engineering Technology Department
One University Avenue
Falmouth Hall Room 305
Lowell, MA 01854

About UMass Lowell

UMass Lowell is one of the five campuses of the University of Massachusetts system. It offers over 80 degree programs at all levels through the doctorate, and presently has over 400 faculty members and a student enrollment of more than 12,000. UMass Lowell's Division of Continuing Studies, Corporate and Distance Education is one of the largest continuing education units in New England. It offers graduate and undergraduate courses, degrees and certificates online and on campus in a wide array of subjects. It also offers customized training solutions to companies worldwide using a variety of flexible learning formats.

Printed on recycled paper, contains 30% post-consumer waste, Elemental Chlorine-Free (ECF).

