*Science, Technology, Engineering & Mathematics Division*

**ELECTRONIC ENGINEERING TECHNOLOGY**

**This program is accredited by the Engineering Technology Accreditation Commission of ABET,** [**http://www.abet.org.**](http://www.abet.org)

Today’s electronics engineering technician must always be ready to serve our dynamic society. The expanding domain of electronics technology has reached into and overlapped many other disciplines. Electronic technicians of today are different from those of only a few years ago. The Electronic Engineering Technology Program at Naugatuck Valley Community College offers a curriculum that is designed to prepare students for these new career opportunities.

The program emphasizes the fundamentals of electric and electronic circuit theory and analysis, but also stresses the role of computers, computer software, CAD systems, microprocessors, robotics, digital systems, programmable logic controllers (PLC's), various laboratory instruments, data acquisition and control systems. Students gain practical “hands-on” experience by using electronic instruments, microprocessors and computers. Also, a thorough knowledge of digital/electronic circuits is acquired, along with experience in electronic fabrication techniques and the design of printed circuit boards. As a result of the training and preparation provided by our program, the Electronic Engineering Technology graduate is an important and much sought after contributor to the engineering team in Connecticut’s ever-changing high technology industries. Typical job entry titles include: Engineering Technician, Research Technician, Customer Engineer, Field Service Technician, Test/Service Manager, Repair Technician, Assistant Engineer and Electronics Technician.

*General Education Core course listings and definitions appear on pages 53-54. Additional courses may be required. The suggested sequence for full-time students is shown below. Note: To complete the degree in two years, students are advised to complete the courses in the sequence listed beginning in the fall semester.*

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| **Competency or Program Requirement** | **Course Number and Title** | Required Credits |
| **FIRST SEMESTER** |  |  |
| Continuing Learning/Information  Literacy | EET\*H104 Electrical CAD and Fabrication | 1 |
| Critical Analysis and Logical Thinking/  Written Communication | ENG\*H101 Composition | 3 |
| Ethical Dimensions | EET\*H110 Electric Circuits 1 | 4 |
| Scientific Knowledge | PHY\*H121 General Physics I | 4 |
| Quantitative Reasoning | MAT\*H186 Precalculus1 | 4 |
| **SECOND SEMESTER** |  |  |
| Oral Communication | Choose any Oral Communication listed | 3 |
| Social Phenomena | Choose any Social Phenomena listed | 3 |
| Program Requirement | EET\*H114 Electric Circuits II | 4 |
| Program Requirement | EET\*H136 Electronics I | 4 |
| Program Requirement | EET\*H126 Labview | 2 |
| **THIRD SEMESTER** |  |  |
| Scientific Reasoning | EET\*H252 Digital Electronics | 4 |
| Program Requirement | EET\*H232 Electronics II | 4 |
| Program Requirement | MAT\*H254 Calculus I  **OR** EET\*H208 Applied  Circuit Analysis | 3-4 |
| Program Requirement | EET\*H251 Electronic Instrumentation | 3 |
| **FOURTH SEMESTER** |  |  |
| Continuing Learning /Information  Literacy | EET\*H294 Projects | 2 |
| Written Communication | ENG\*H102 Literature and  Composition **OR** ENG\*H200 Advanced Composition **OR**  ENG\*H202 Technical Writing | 3 |
| Program Requirement | Directed Technical Elective2 (Choose from list below) | 3 |
| Program Requirement | Directed Technical Elective2 (Choose from list below) | 3 |
| Program Requirement | EET\*H256 Microprocessors | 4 |

**Total Credits: 61-62**

*Any given course may only be used to satisfy one of the competency areas even if it is listed under more than one.*

1MAT\*H172 College Algebra and MAT\*H185 Trigonometric functions can be substituted for MAT\*H186.

2Directed Technical Elective: Choose from EET\*H253 Advanced Digital, EET\*H268 Control Systems, or EET\*H208 Applied Circuit Analysis if MAT\*H254 Calculus is also taken.

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| ***Program Educational Objectives***  ***(PEOs)*** |

*Upon successful completion of all program requirements, graduates will be able to:*

1. Apply mathematical principles and scientific laws and theorems to electrical circuit applications.
2. Use equipment to test and measure circuit characteristics.
3. Be proficient in the use of state-of-the-art software as applicable tools in the development process of new circuit or system designs.
4. Effectively communicate findings of research or laboratory experiments using written, oral and computer skills.
5. Work as a member of a team to accomplish assigned tasks on time in a laboratory setting.
6. Be expected to act consistent with accepted standards of ethical and professional conduct of an electronic engineering technician.
7. Possess the educational background and technical skills needed to: a. obtain employment as an electronic technician, and b. continue studies toward a B.S. degree in electrical engineering as well as other engineering programs.

***Associate***

***Degree***

***Programs***

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| ***Student Outcomes (SOs)*** |

*Upon successful completion of the program requirements, the graduates will be able to:*

1. Use mathematical formulas based on scientific laws and theorems as they relate to electricity, to analyze circuit problems, formulate solutions, and predict circuit behavior of both analog and digital circuits.
2. Possess the knowledge and skills to create a digital logic circuit design as a solution to a given problem statement. Build, troubleshoot, and verify designed circuit operation. Provide full documentation on design.
3. Build analog or digital circuits from a schematic drawing. Verify operation using test equipment such as ohmmeters, digital and analog voltmeters, ammeters, oscilloscopes, power supplies, function generators, and logic probes.
4. Use PSPICE modeling circuit simulation software as a design tool to draw, simulate and test behavior of both analog and digital circuits.
5. Create an electronic project using an Electronic Design Automation software to design printed circuit board(s), build the project, and ensure its proper operation.
6. Use a high level programming language to program a microcontroller or solve a technical problem.
7. Design a LabVIEW program to serve as a system including virtual instruments to display/store /evaluate or plot data. Create a LabVIEW program as a solution to a problem, recognize the need for continuous improvement, and demonstrate the ability to apply to design.
8. Communicate lab experiment findings in the form of laboratory reports in a professional manner using appropriate word processor, spreadsheet, and schematic drawing software.
9. Present experiment results or research orally to a group.
10. Demonstrate a respect for diversity and actively participate on multicultural teams in a laboratory setting to achieve final solutions to a given task within the time allotted.
11. Realize the responsibility of the individual technician to work in a safe and ethical manner as it relates to the electronic technician profession and demonstrate the ability recognize ethical issues and utilize the IEEE code of ethics as a guide to determine appropriate course of action in response to these issues.