

General Information

The Electrical Technology program trains students for entry-level careers in the electrical industry. Construction electrician, maintenance electrician, solar electric installer, automation technician, power system technician, field service engineering technician, electrical research technician, electrical distribution sales, electro-mechanical technician, electrical technical support, and entry-level controls engineer are some of the diverse careers open to graduates.

The curriculum integrates electrical theory and practical application to give students not only the manual skills to wire and install electrical systems and apparatus but also the mathematical and practical knowledge to support, explain and troubleshoot each application. Computer programs are integrated into the coursework to allow for practice of circuit calculations, to create working models that simulate real circuit conditions and to support classroom lectures and demonstrations. Of current interest, topics explored include renewable energy sources and energy conservation practices. Of equal importance is the thorough study of the safety rules, protocols, and procedures laid out in the National, Massachusetts and Rhode Island Electrical Codes as well as the OSHA standards for the construction and general industries. All current codes and standards as mandated by individual state legislature are followed. Through continuous connections being shown between the electrical codes and class/lab work, students become proficient and more willing to research electrical industry standards to support their work.

Laboratory projects provide hands-on experience to develop wiring techniques and to simulate actual job conditions in residential, commercial and industrial environments. The projects range from elementary breadboard experiments to advanced control circuits utilizing programmable automation controllers. Students install lighting, power, network, and control devices used in residential, commercial and industrial environments.

Upon completion of the Associate in Science Degree in Electrical Technology, graduates are qualified to seek employment in entry-level careers in the electrical industry. With a background in the science of electricity, mastery of fundamental mathematical principles, and the knowledge of safety rules and procedures laid out in the National Electrical Code, new graduates are qualified to work as an apprentice electrician or technician skilled in the basic foundation upon which an employer can build. Associate degree graduates can also continue in the NEIT Bachelor of Science in Electrical Engineering Technology, Construction Management or Business Management programs.

Program Mission, Goals and Outcomes

Program Mission

The mission of the Electrical Technology Program (ELY) is to provide a specialized associate degree program to prepare students for entry-level technical careers in diverse electrical, electro-mechanical, technical support, and electrical controls fields. ELY students will develop skills in problem-solving, critical thinking, and appropriate use of construction tools through practical experience in the wiring and troubleshooting of a wide variety of electrical projects. Students will study and learn a background of electrical science, mastery of fundamental mathematical principles, and the knowledge of safety rules and procedures laid out in the National Electrical Code, enabling them to perform the duties of an apprentice electrician or entry-level technician. Graduates will attain a basic foundation of knowledge and skills that an employer can build upon with continuing education.

Program Goals

1. The ELY program will provide appropriate learning opportunities for students to acquire the theoretical knowledge, applicable skills and attitude necessary to function as an entry-level electrical technician or electrical apprentice.
2. ELY students who are entering a State-run electrical apprenticeship program:
 - a. Will acquire the necessary skills for transfer into a State program and
 - b. May meet, contingent on applicable law and regulation, some of the requirements (which vary from state to state) necessary to qualify for state electrical journey electrician licensing exams. Continuing education is a component of most electrical apprentice programs.
3. The ELY program will instill in the student a sense of commitment to the electrical industry's core values and ethics.

Program Outcomes

Graduates of this program will be able to:

1. Identify, define, and analyze fundamental principles of electrical circuitry and processes.
2. Identify, define, and analyze electrical industry materials, tools and equipment.
3. Research, interpret, and apply electrical industry standards for installation criteria and safety considerations.
4. Function independently and/or interdependently as a team member to accomplish the following: install, maintain and troubleshoot residential, commercial, and industrial projects.
5. Demonstrate effective oral and written communications using correct technical terminology with supervisors, co-workers, clients, and suppliers.
6. Perform tasks and duties in a "safe and workmanlike manner" with regards to legal obligations applicable to the electrical industry.
7. Demonstrate attitudes, values, and behaviors congruent with electrical industry standards and ethics.



Curriculum

Quarter I					
Course No.	Course Title		C	L	T
ELY	112	Electrical Foundations I & Lab	5	2	6
ELY	116	Introduction to Residential Wiring/NEC I	3	0	3
ELY	117	Basic Wiring Techniques	0	2	1
ELY	135	OSHA Construction Safety & Health	2	0	2
CHOOSE ONE					
MA	105	Basic College Math with Lab (MA/SCI Core)	4	2	5
MA	110	Introduction to College Math (MA/SCI Core)	4	0	4
			14	4/6	16/ 17

Quarter II					
Course No.	Course Title		C	L	T
ELY	122	Electrical Foundations II & Lab	6	2	7
ELY	126	Residential Wiring/NEC II	1	0	1
ELY	127	Residential Wiring Lab II	0	4	2
MA	125	Technical Math I (MA/SCI Core)	4	0	4
EN	100	Introduction to College Writing (COM Core)	4	0	4
			15	6	18

Quarter III					
Course No.	Course Title		C	L	T
ELY	132	Transformers & Lab	2	2	3
ELY	138	Advanced Wiring/NEC III	4	0	4
ELY	139	Advanced Wiring III Lab	0	4	2
MA	210	Technical Math II (MA/SCI Core)	4	0	4
EN	200	Workplace Communications (COM Core)	4	0	4
			14	6	17

Quarter IV					
Course No.	Course Title		C	L	T
ELY	212	Motor Theory	4	0	4
ELY	213	Motor Controls & Lab	1	8	5
ELY	217	AutoCAD Electrical	1	2	2
ABT	124	Construction Methods & Materials	3	0	3
PHY	200	Physics I & Lab (MA/SCI Core)	3	2	4
			12	12	18

Quarter V					
Course No.	Course Title		C	L	T
ELY	224	Industrial Controls	5	0	5
ELY	225	Industrial Controls Lab	0	4	2
ENG	210	Introduction to Programmable Automation Controllers & Lab	3	4	5
ELECTIVE	100-200 Level Humanities Core		4	0	4
			12	8	16



Quarter VI					
Course No.	Course Title		C	L	T
ELY	244	Electronic Motor Drive Systems	6	0	6
ELY	245	Advanced Industrial Controls Lab	0	6	3
CHOOSE ONE					
<i>PS</i>	<i>210</i>	<i>Human Relations in the Workplace (SS Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
<i>BU</i>	<i>236</i>	<i>Small Business & the Law (SS Core)</i>	<i>4</i>	<i>0</i>	<i>4</i>
CHOOSE ONE					
ELY	249	Legacy PLC & Troubleshooting (ELY/ELRE or MGT/BS)	2	2	3
ABT	223	Structures I (CMT/BS)	3	0	3
ERD	236	Microprocessor Control Systems (ELT/BS)	4	2	5
			12-14	6/8	16/18
Total Quarter Credit Hours for ELY, CMT/BS or MGT/BS = 101-102 Total Quarter Credit Hours for ELT/BS = 103-104					

Legend

C = Number of lecture hours per week

L = Number of laboratory hours per week

T = Total Quarter Credit Hours where each lecture hour per week is one credit, every 2-4 laboratory hours are one credit depending on the expected amount of pre- or post-lab work.

PLEASE NOTE: All liberal arts core courses are listed in italics.

All associate degree students are required to take 32 credits of liberal arts and math/science courses as selected from the liberal arts core. See the course descriptions section of this catalog for a list of the core area courses. Students who place out of MA 105/110 must still take 32 credits of core courses.

Subject to change.

Liberal Arts Core Electives

All programs must meet certain minimum requirements in both the major and in the liberal arts. Course requirements for each program are listed in each curriculum along with liberal arts selections. Courses listed as “Core Electives” in a curriculum can be chosen by students from one of the several core areas listed below. Each core area provides a variety of courses for student choice. Students must take a minimum of 32 credits in core electives for the associate degree and an additional minimum of 28 credits for the bachelor’s degree. Individual majors have specific requirements and may require more than the minimum number of liberal arts credits or may specify certain courses in a particular core area. All liberal arts core elective courses are 4 credits. Please refer to the curriculum of the major for specific requirements.

Associate Degree Core Elective Areas¹

To obtain a minimum of 8 courses (32 credits), students may choose from the following course selections:

- 2 courses (minimum) from the Communications Core**
- 2 courses (minimum) from the Math/Science Core**
- 1-2 courses from the Humanities Core OR**
 - 1 course from the Humanities Core AND/OR**
 - 1 course from the Arts/Foreign Language Core**
- 1-2 courses from the Social Sciences Core**

Associate Degree Courses by Core¹

Communications Core Electives (Minimum 8 Credits)

EN 100 Introduction to College Writing
EN 106 Service Industry Communications
EN 110 Healthcare Communications
EN 200 Workplace Communications
EN 211 Oral Communications
HU 208 Rap/Rock and Poetry

Math/Science Core Electives (Minimum 8 Credits)

CHM 101 Life Science Chemistry
MA 100/110 Introduction to College Math
MA 105 Basic College Math with Lab
MA 109 Math for Life Science
MA 121 Business Math
MA 125 Technical Math I
MA 200 Applied Math for Business
MA 210 Technical Math II
PHY 126 Applied Physics & Lab
PHY 200 Physics I and Lab
SCI 110 Environmental Science

Arts/Foreign Language Core Electives (Maximum of 4 Credits in Place of a Humanities Course)

AR 203 Introduction to Drawing
AR 204 Introduction to Theater
AR 206 3D Sculpture: An Adventure in the Third Dimension
AR 207 Introduction to Applied Music
AR 209 The Art of Collage



NEW ENGLAND TECH

**Electrical Technology (ELY)
Associate in Science Degree**
*(For students entering their program
January 2018 – 201820 or later)*

JP 201 Introduction to Japanese
SP 201 Introduction to Spanish
SP 203 Spanish for Healthcare Workers

Humanities Core Electives (Minimum 4 Credits)

HU 207 Introduction to Literature
HU 208 Rap/Rock and Poetry
HU 211 Introduction to Film
HU 212 Documentary Film
HU 215 Popular Culture
HU 216 Music and the Media
HU 240 Graphic Design in the 20th Century
HU 242 The Automobile and American Culture
HU 244 Science Fiction
HU 250 Housing in America: A Political and Cultural History
HU 289 Racing Through Film
HU 291 Critical Thinking and Chess

Social Sciences Core Electives (Minimum 4 Credits)

BU 236 Small Business and the Law
EC 203 Principles of Economics
HI 211 United States History I: 1600-1877
HI 231 Contemporary History
HI 235 Architectural History
HI 280 The Holocaust
PS 140 Life-Span Development
PS 201 Introduction to Psychology
PS 202 Psychology of Healthcare
PS 203 Psychology of Happiness
PS 210 Human Relations in the Workplace
SO 203 Social Problems
SO 220 Internet and Society
SO 231 Crime and Deviance
SS 140 Criminal Investigations
SS 201 American Government in Action
SS 203 Terrorism & National Security
SS 204 Juvenile Justice System in America
SS 206 Constitutional Values in the 21st Century
SS 221 Technology and American Life
SS 222 Mindful Living

1. Subject to Change



Degree Progress Checklist

Check off each completed course.

Technical Course Requirements

Table with 4 columns: Quarter (Q1-Q6), Course ID, Credits, and a checkbox column. Rows include courses like ELY 112, ELY 116, ELY 117, ELY 135, ELY 122, ELY 126, ELY 127, ELY 132, ELY 138, ELY 139, ELY 212, ELY 213, ELY 217, ABT 124, ELY 224, ELY 225, ENG 210, ELY 244, ELY 245, and a 'Choose One' section with ELY 249, ERD 236, and ABT 223.

Students are advised to take courses in the order and in the quarter in which they appear on this checklist. Any deviation may result in an extended time required to complete your degree as well as additional tuition and fees. Please contact your Student Advisor prior to making any changes to the course sequence.

Liberal Arts Core Requirements

8 Required Courses

Each course=4 credits (total of 32 credits)

Table for Communications Core with 2 columns: Course ID and Quarter. Rows include EN 100, EN 200, Q2, and Q3.

Table for Math/Science Core with 2 columns: Course ID and Quarter. Rows include MA 105 or 110*, MA 125, MA 210, PHY 200, Q1, Q2, Q3, Q4, and an OR section with MA 125, MA 210, PHY 200, and 100-200 level MA/SCI elective.

*If you placed into MA 044, take MA 105 instead of MA 110.

Table for Humanities Core* with 2 columns: Course ID and Quarter. Row includes 100-200 level HU elective and Q5.

*You may use one Arts/Foreign Language Core Elective to fulfill your Humanities Core.

Table for Social Sciences Core with 2 columns: Course ID and Quarter. Row includes PS 210 or BU 236 and Q6.

Subject to change.

Please see your advisor for any questions.

Course Descriptions

ELY 112 Electrical Foundations I & Lab

5 Class Hours 2 Lab Hours 6 Quarter Credit Hours

This basic course in electricity introduces students to atomic theory; the fundamental units of volts, amps, ohms and watts; Ohm's Law and the power equations; scientific notation and metric prefixes; circuit analysis of series, parallel and series-parallel circuits; Kirchoff's laws for series and parallel circuits; and troubleshooting. Special emphasis is placed on formula transposition and algebraic notations for voltage and current. Students participate in laboratory analysis of DC series, parallel and series-parallel circuits using analog VOMS and digital multimeters with a DC power source. They are taught protoboard techniques and use the resistor color code extensively. Shorts, opens and various troubleshooting techniques are included. Students will also be familiarized with occupational trends and careers in the electrical industry.

ELY 116 Introduction to Residential Wiring/NEC I

3 Class Hours 3 Quarter Credit Hours

Students practice navigating through the National Electrical Code standards as they learn code and trade terminology and the minimum code requirements for such topics as switching, conductor sizing, overcurrent protection, box fill, voltage drop, grounding and bonding, and wiring methods. Individual state amendments to the Code are also studied. Students diagram basic electrical branch circuits in variety of configurations.

ELY 117 Basic Wiring Techniques Lab

2 Lab Hours 1 Quarter Credit Hour

This course supports ELY 116 by introducing students to the tools of the trade. The students practice wiring techniques which will include mounting and wiring boxes and installing receptacles, lights and switches using non-metallic sheathed cable and metallic-sheathed cable. Safe work practices are emphasized as part of preparation to enter the workforce.

ELY 122 Electrical Foundations II & Lab

6 Class Hours 2 Lab Hours 7 Quarter Credit Hours

Prerequisites: ELY 112, MA 110 (or MA 105)

Three key topics are covered in this course: 1) Inductance and Capacitance: topics include magnetism, coils, electromagnetic induction, capacitors, RL and RC time constants and transient voltages and currents. 2) Alternating Current Circuits: topics include sine wave analysis, RL and RC series and parallel circuit analysis, power factor and power factor correction methods. 3) Power and Generation: topics include DC and AC generation including basic armature winding theory, power and efficiency calculations showing the relationships among heat, light and power units. Throughout the course, students will construct, connect, and troubleshoot AC resistive, inductive, and capacitive circuits and analyze the circuits using measuring instruments that include the oscilloscope and frequency generator.

ELY 126 Residential Wiring/NEC II

1 Class Hour 1 Quarter Credit Hour

Prerequisites: ELY 116, ELY 117, MA 110 (or MA 105)

Students continue in their studies of the National Electrical Code standards. Minimum requirements for general lighting, small appliance, laundry, and bathroom branch circuits are explored. Other topics includes the required receptacle and lighting locations, attic and basement cable installation, circuit protection (fuses and circuit breakers), personnel protection (GFCI and AFCI) and device protection (TVSS). Students explore the science of light basics as well as the different types of lamps (incandescents, CFLs and LEDs) to better comprehend the importance of energy management and energy efficiency.



ELY 127 Residential Wiring Lab II

4 Lab Hours 2 Quarter Credit Hours

Prerequisites: ELY 116, ELY 117, MA 110 (or MA 105)

Students wire a variety of scenarios to authentically experience working in residential situations. From given specifications, they create a set of blueprints and calculate box fill. They then rough in and trim each lab. With guidance and under supervision, they energize and test each lab wearing the appropriate PPE. Students are required to work in a neat and workmanlike manner which includes housekeeping practices. Lastly, students create invoices that detail the material used with prices and labor costs.

ELY 132 Transformers & Lab

2 Class Hours 2 Lab Hours 3 Quarter Credit Hours

Prerequisites: ELY 122, MA 125

Students study the construction, operation and connections for single phase transformers, three phase transformers, autotransformers, current and potential transformers. Current, voltage and power relationships are examined. Phasing techniques, polarity checking, and closure testing are also investigated. A variety of cooling methods are also explored. Areas of practice include series and parallel connections, single-phase polarity checks, three-phase transformer connections and buck-boost connections. National, Massachusetts and Rhode Island Electrical Code requirements are studied.

ELY 135 OSHA Construction Safety & Health

2 Class Hours 2 Quarter Credit Hours

As part of OSHA's Construction Safety and Health training initiative, this course examines a variety of construction industry standards that entry-level graduates will be required to apply on construction sites. Required topics include: Introduction to OSHA; electrical safety; fall protection, materials handling, storage, use and disposal; stairways, ladders, and scaffolding, excavations, confined spaces; fire prevention and protection; and occupational health and environmental controls. In order to obtain their OSHA 10-hr card, students need to pass the course with a "C" average. Attendance is mandatory.

ELY 138 Advanced Wiring/NEC III

4 Class Hours 4 Quarter Credit Hours

Prerequisites: ELY 126, ELY 127

The topics covered include residential service entrance installation and calculations, conductor resistance, conductor insulation and conduit fill calculations, low voltage structured wiring, fire alarms and voltage drop calculations. All pertinent National, Massachusetts, and Rhode Island Electrical Code articles are covered. Code software will supplement the text material throughout the course.

ELY 139 Advanced Wiring III Lab

4 Lab Hours 2 Quarter Credit Hours

Prerequisites: ELY 126, ELY 127

Areas of practice include installation and test of residential service entrance and advanced general lighting and individual appliance circuits. Additional topics covered are fire alarms, low voltage structured wiring, conduit installation, wire pulls and basic construction techniques. Other areas of practice include the use of power tools such cutting conduit with bandsaws and sawsalls, threading conduit with manual and power threaders, and drilling concrete with hammerdrills for anchoring purposes.



ELY 212 Motor Theory

4 Class Hours 4 Quarter Credit Hours

Prerequisites: ELY 132, MA 125

This course is a study of motor action theory, motor construction, operation, installation and speed control. Areas of DC motors covered are the shunt, series, compound motor and permanent magnet motors; areas of AC polyphase motors covered are the squirrel cage induction motor, the wound rotor induction motor and the synchronous motor; and the areas of single-phase motors covered are the shaded pole, squirrel cage, and universal motors. Specialty motors such servo motors, stepper motors and self-synchronous motors are introduced.

ELY 213 Motor Controls & Lab

1 Class Hour 8 Lab Hours 5 Quarter Credit Hours

Prerequisites: ELY 132, ELY 135, MA 125

Students explore manual and magnetic starters and control circuits. Areas of study include starting and running overcurrent protection, various two-wire and three-wire control schemes, timer applications, reversing controls, multi-speed control, pilot devices and the similarities and differences of NEMA and IEC controls. Emphasis is placed on drawing and reading schematic and wiring diagrams as well as the construction, connection, testing, and troubleshooting of various motor control circuits. Sizing of motor control equipment is performed in accordance with the National Electrical Code.

ELY 217 AutoCAD Electrical

1 Class Hour 2 Lab Hours 2 Quarter Credit Hours

The AutoCAD Electrical course will give students the necessary AutoCAD instruction so they can implement AutoCAD fundamentals into the AutoCAD Electrical software package. Students will be using the latest version of AutoCAD Electrical for the design of control system schematics and connections, control panel layout, PLC systems and electrical distribution systems.

ELY 224 Industrial Controls

5 Class Hours 5 Quarter Credit Hours

Prerequisites: ELY 132, ELY 212, ELY 213, ELY 217

Students will study industrial wiring practices, electro-mechanical and electronic sensors, and the foundations of digital electronics. Applications of these topics will also be discussed. This course begins with an introduction to industrial wiring by reviewing NEC Article 430 concepts and familiarizing students with the NFPA 79 standard. The operation and application of electronic industrial sensors is explored; types include: electromechanical devices, inductive and capacitive proximity detectors, ultrasonic sensors, and photoelectric detectors. Analog sensors such as, thermocouples, RTD and pressure sensors will also be discussed. Topics covered on digital electronics include the theory and application of semiconductor diodes, transistors, SCRs, TRIACs and similar devices. Power supplies, half and full wave rectification, filtering and voltage regulation are investigated. The functions, truth tables, and applications of digital logical gates are studied. The course also includes comparing digital to analog devices.

ELY 225 Industrial Controls Lab

4 Lab Hours 2 Quarter Credit Hours

Prerequisites: ELY 132, ELY 212, ELY 213, ELY 217

Students practice a variety of conduit bending techniques, conduit installations, wire pulls, the drawing and reading of three-phase motor control schematics and wiring diagrams using AutoCAD Electrical. Students also will construct, install, connect, test, and troubleshoot various three-phase motor control configurations. Other areas of study include a review of OSHA requirements for "lock-out-tag-out."



ELY 244 Electronic Motor Drive Systems

6 Class Hours 6 Quarter Credit Hours

Prerequisites: ELY 224, ELY 225

Co-requisite: ELY 245

This course begins with a review of the physics of motion as well as a review of AC and DC motor theory. The following topics will be discussed: closed loop control systems, reduced voltage starting techniques for AC motors, Variable Frequency Drives (VFDs), and DC drives. Subjects covered in closed loop control will include: tachometers, resolvers, linear and rotary optical encoders, and proportional, integral, derivative (PID) algorithms. Students will explore fundamental drive technology by studying microprocessor controls, constant torque and variable torque applications, braking methods, and installation requirements. DC drive concepts will cover thyristor control, motor speed and torque characteristics, and maintenance. AC drive topics will include the common control algorithms – V/Hz, flux vector, and field-oriented control; common bus technology; and the effects that VFDs have on power source quality, such as harmonic distortion.

ELY 245 Advanced Industrial Controls Lab

6 Lab Hours 3 Quarter Credit Hours

Prerequisites: ELY 224, ELY 225

Co-requisite: ELY 244

Students continue to work on installation and wiring of single and three-phase motor branch circuits for various motor control configurations. Students will study the technologies of the FMS-200 Flexible Manufacturing System, a complete, automated assembly system utilizing PLCs, variable speed motor drives, various sensing technologies, pneumatic driven control systems, and industrial networks. Also included are labs which involve the wiring and/or programming of such devices or systems as DC drives, AC variable frequency drives, and troubleshooting labs. Other areas of practice include the use of power tools such as cutting conduit with band-saws and reciprocating saws.

ELY 249 Legacy PLCs & Troubleshooting

2 Class Hours 2 Lab Hours 3 Quarter Credit Hours

Prerequisite: ENG 210

Using the Allen-Bradley SLC500 and Micrologix 1500 programmable logic controller (PLC) with RSLogix 500 software, the student learns programming techniques specific to legacy PLCs and operator interfaces. Topics include the SLC500 advanced instruction set, operator interface using PanelView displays, introduction to SCADA systems, and the interfacing PLCs with other automation devices such as Variable Frequency Drives. Industrial networking which incorporates Ethernet IP, ControlNet and DeviceNet will also be introduced. Students create, write and wire programs using the Allen-Bradley SLC500 PLC and the PanelView operator interface to interface the PLC with AC drive systems. Students will also spend time learning to troubleshoot both the hardware and software in PLC-based systems.

ABT 124 Construction Methods & Materials

3 Class Hours 3 Quarter Credit Hours

This course is an introduction to building science relative to the assembly of systems, both structural and non-structural, and to the extensive technical terminology used in the building industry. The main focus of the course will be on commercial construction. Topics will include explanations of major building systems and their assembly, the identification of their components, and the limitations of the systems.

ABT 223 Structures I

3 Class Hours 3 Quarter Credit Hours

Prerequisite: MA 125

This course will introduce the student to the primary concepts of statics. Topics covered will include concurrent, coplanar and parallel force systems, equilibrium, moment, analysis of statically determinate structures, reactions, and truss analysis using mathematical and graphic methods. Computerized programs for structural analysis will also be introduced.



ENG 210 Introduction to Programmable Automation Controllers & Lab

3 Class Hours 4 Lab Hours 5 Quarter Credit Hours

Prerequisites: ELY 212 & ELY 213 or ERD 242 or MCT 226

This course is an introduction to the programmable automation controller (PAC) and automation systems. Using the Allen-Bradley CompactLogix PLC and RS Logix 5000 software, students learn the tag-based structure common in today's PACs, ladder logic fundamentals and programming techniques using series and parallel elements. Relay instructions, timers, counters, comparisons, and subroutines are introduced. Students will practice advanced analog programming, such as temperature control using thermocouples. Creating and writing programs for the mechatronics systems and the Allen-Bradley CompactLogix programmable logic controller constitutes the major portion of the lab. Students then download their programs into the CompactLogix training unit, debug the programs, and verify the correct operation. Students will also practice the practical wiring and installation of PLCs using sinking and sourcing sensors as well as thermocouples.

ERD 236 Microprocessor Control Systems

4 Class Hours 2 Lab Hours 5 Quarter Credit Hours

The concepts of how a microprocessor processes and stores data will be studied. The interfacing and control is presented from a hardware and software view. Computer to peripheral interfacing and troubleshooting is emphasized. Students will study assembly language programming of the 8051 Core Processor to control several systems.



Liberal Arts Associate Degree Courses

Art (Arts/Foreign Language Core)

AR 203 Introduction to Drawing

4 Class Hours 4 Quarter Credit Hours

This course introduces students to key concepts and techniques integral to developing basic drawing skills. Class time will be spent discussing, demonstrating and practicing these skills in order to produce a comprehensive body of work specific to the course objectives. Course performance will be evaluated on effort and growth as opposed to artistic talent.

AR 204 Introduction to Theater

4 Class Hours 4 Quarter Credit Hours

This course will provide students with both a theoretical and practical understanding of acting and the theatrical process as evidenced by theatrical scenes, performed by students as a final project. Theater exercises will guide students toward self-discovery in order to explore character development and the interpretation of the content/themes of various plays. Students will write character analysis essays as a method for understanding the specific elements of acting necessary to accurately portray a given character. Students will also explore the ways in which a play is translated into a production with an emphasis on differentiating the functions of the playwright, the actor, the director, set designer and other members of a production team.

AR 206 3D Sculpture: An Adventure in the Third Dimension

4 Class Hours 4 Quarter Credit Hours

This course will teach students to think, see and function in 3-dimensional space. They will explore the differences and similarities between 2-dimensional and 3-dimensional representation in composition and design. Students will use a broad range of materials to create sculptures that will help them explore different aspects of 3-dimensional functioning. Class time will be spent in a combination of sculpture design and a discussion of slides of work reflecting the history of three-dimensional works of art from Greek times to the present. No prior experience with art courses is required.

AR 207 Introduction to Applied Music

4 Class Hours 4 Quarter Credit Hours

This course will afford students the opportunity to experience a "hands-on" approach to piano keyboard and composition. Each section of the course will focus on one musical concept through listening, playing and finally application. Because of the computer-assisted nature of the program, all levels of musical and keyboard comprehension can be accommodated and the course can be geared to the individual interests and needs of each student in the class.

AR 209 The Art of Collage

4 Class Hours 4 Quarter Credit Hours

Powerful imagery is a combination of technical skill and imagination. Students will exercise their ability to manipulate composition and color as well as cultivate the power of imagination in this studio class with a focus on collage, a technique where compositions are crafted by adhering various materials to a backing surface. Creativity and the development of ideas will be explored while acquiring a working knowledge of the elements and principles of art. The assemblage process of collage will be the design tool used to investigate, generate and express ideas. Students will research collage as an art form and examine the creative processes of various artistic disciplines. No prior experience is necessary. Students will be evaluated on their effort and creative growth as opposed to artistic talent.



Business (Social Sciences Core)

BU 236 Small Business and the Law

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

This course is designed for those students who intend to start and operate their own small business. This course will focus on the various elements associated with the start-up, acquisition and operation of a small business from the entrepreneurial point of view. Topics to be covered will include business formation, contract negotiations and drafting, financing, employee discrimination issues, customer relations issues, licensing, permits and tax basics. Additionally, students will be asked to complete a legal research assignment and prepare and present a business plan in their particular technological field of study.

Chemistry (Math/Science Core)

CHM 101 Life Science Chemistry

3 Class Hours 2 Lab Hours 4 Quarter Credit Hours

Prerequisite: MA 100/110 or MA 105 or MA 109

This course provides an introduction to inorganic chemistry and organic chemistry with a focus on Life Science applications as reflected in the selection of the text. Topics include measurement, units of concentration, the nature of atoms, states of matter, periodicity, bonding, stoichiometry, chemical reactions, thermodynamics and kinetics.

Community Enrichment

CE 101 Community Enrichment

1 Class Hour 1 Quarter Credit Hour

In this course, which is part of the Feinstein Enriching America Program, each student will explore ways of enhancing the community through performing a project which provides a service to the community. The project, which may be performed over one quarter, will be documented in a reflection paper in which the student will reflect on the significance of the experience.

Economics (Social Sciences Core)

EC 203 Principles of Economics

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

Introduces the fundamental principles of microeconomics and macroeconomics, such as scarcity, supply and demand, growth, fiscal and monetary policies, and the public and the private sectors.

English (Communications Core)

EN 100 Introduction to College Writing

4 Class Hours 4 Quarter Credit Hours

Placement: Based on an evaluation of a writing sample or successful completion of EN 030.

EN 100 is an introductory writing course designed to immerse students in the writing process and sharpen their critical thinking skills. In this course, students will practice using writing as a tool for learning by responding to readings, composing essays, and reflecting on the writing process itself. Through drafting, revising, and writing to learn, students will strengthen their ability to interpret, analyze, and evaluate the ideas presented in the course readings, lectures, and discussions. Conducting, evaluating,



and integrating research (through summarization, quotations, and paraphrasing) is a major component of this course. Additionally, students will be introduced to APA citation style, and will improve essential writing skills such as grammar, punctuation, and standard usage.

EN 106 Service Industry Communications

5 Class Hours 5 Quarter Credit Hours

In today's competitive service industry technicians must possess a mastery of both technical and nontechnical skills. EN 106 will introduce and equip students with the nontechnical or "soft skills" needed to succeed and advance in their field. Topics will include: written and verbal communication, professionalism, team collaboration, critical thinking, and problem-solving skills. Because learning to write and communicate effectively requires practice, the course provides numerous opportunities; including writing workshops, role play, and group activities, for students to apply the fundamentals of written and oral communication.

EN 110 Healthcare Communication Skills

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

EN 110 builds off the foundation established in EN 100 and focuses on the necessity of clear written and oral communication in the allied health arena. Through role play, small group work, and presentations students will develop the communication and critical thinking skills they will need daily when communicating with other health care providers, clients, and their families. Additionally, by continuing in the writing process (researching, drafting, and revising) students will further their ability to write clear, concise, error free prose with attention given to audience and message.

EN 200 Workplace Communications

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100 or EN 110 or placement based on evaluation of a writing sample.

EN 200 builds off the foundation established in EN 100 and focuses on the necessity of clear written and oral communication in professional settings. Students will be exposed to a variety of business writing genres including memos, emails, business letters, and proposals. By continuing their engagement in the writing process (researching, drafting, and revising), students will compose several professional documents, reinforcing students' attention to audience and their aptitude to develop an effective workplace document. Additionally, this course strengthens students' ability to document in APA citation style, and hone essential writing skills such as grammar, punctuation, and standard usage.

EN 211 Oral Communications

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100 or EN 110 or placement

This is an introductory course with an emphasis on oral communication theory and practice, providing a basic understanding of the significance of oral communication as well as instruction and practice in the basic skills of public speaking. The course is intended to help students develop skills in speaking, organizing thoughts, and critical analysis. Major emphasis is placed on the preparation and presentation of formal speeches.

History (Social Sciences Core)

HI 231 Contemporary History

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

This course encourages students to explore economic, political, social and cultural developments throughout the world since World War II, particularly in developing nations including spiritual, scientific and intellectual developments.



HI 235 Architectural History

4 Class Hours 4 Quarter Credit Hours

This course is a study of the major periods and styles of architecture from Egyptian through postmodern. Styles studied will include Egyptian, Greek, Roman, early Christian, Byzantine, Romanesque, Gothic, Renaissance, Baroque, 18th, 19th and 20th century. Through a series of lectures, discussions, and readings, students will gain a fundamental understanding of the history of architecture including the historical and social context of each period respectively.

HI 280 The Holocaust

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

In this course, students will study genocide and mass murder in modern history. The focus of this course is the Jewish Holocaust of 1933-1945. Through film, photographs, and readings, the course will provide students with a basic understanding of the establishment of the Nazi Party and its attitudes, beliefs, and laws that were put into action during this time period. Students will compare the Holocaust to current genocidal acts in the world today, including the effects of genocide on society.

Humanities (Humanities Core)

HU 208 Rap/Rock and Poetry

4 Class Hours 4 Quarter Credit Hours

Core Fulfillment: Both Communications Core and Humanities Core

Prerequisite: EN 100

What do Eminem, Tupac, Bob Marley, Bob Dylan and WB Yeats have in common? All five wordsmiths are poets who use rhyme, rhythm, figurative language and poetic structure to craft language. In this course, students will explore poetic devices and important global themes through examination of poetry, written by Nobel Prize and Grammy Award winning writers. Focusing on aspects of poetic form will build students' understanding of and appreciation for the power of language.

HU 211 Introduction to Film

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

The focus of the course will be on what goes into the reading and analysis of a film. Film is comprised of several arts – and the objective of this course is to learn to appreciate films and to see them as important social documents that tell us much about ourselves and our world.

HU 212 Documentary Film

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

This course will expose students to the techniques and artistry of making interesting non-fiction films. Students will view and analyze significant documentary films and become familiar with the work of important filmmakers.

HU 215 Popular Culture

4 Class Hours 4 Quarter Credit Hours

This course will analyze cultural expressions of intellectual and social trends since 1950. Students will investigate literature, comics, movies, television, music, advertising, painting, computer games, and the Internet to probe the forces that shape our world. In this course, students will identify and evaluate the popular entertainment we consume and ask how our choices define us and shape our values. Understanding our values and culture enables us to understand why we buy what we buy, why we do what we do, and why we think the way we do.



HU 216 Music and the Media

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

This course will trace the long relationship between visual media and music. Students will study the movie industry from silent movies to the sound tracks that are an integral part of the movies of today. They will also study the importance of music in television, radio and the recording industry, particularly its role in commercials and the "selling" of products, people and programming. In addition, a substantial portion of the course will be devoted to the technology that has led to today's sophisticated performances and recording techniques.

HU 240 Graphic Design in the 20th Century

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

Throughout history, artists and designers have created visual works that help to define historical eras. In this course, students will examine and analyze the most prominent design styles of the past one hundred years. They will learn the defining features and major proponents of each style as well as how each style fits within its historical context. They will then use the knowledge gained to produce designs that respond to past styles in an engaged, knowledgeable way. Course performance will be evaluated on student effort and growth as opposed to artistic talent.

HU 242 The Automobile and American Culture

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

Undeniably, the automobile has had an enormous impact on American culture. A majority of Americans rely on individual transportation daily, but the car is more than a means of heading to work. Automobiles impact our personal independence, our choice of employment, the country and world economies, the environment, and our social culture. The Automobile and American Culture is a course designed to study the broad impact that the automobile has and continues to have on our nation and the world. Students will examine the automobile through historical documents, films, photographs, and music.

HU 244 Science Fiction

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

Isaac Asimov called science fiction "the literature of change." The course will analyze films, short stories, and a classic science fiction novel to understand the ways this popular genre entertains us and gives us insight into the impact science and technology has had on us.

HU 289 Racing Through Film

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100 or EN 106

Racing Through Film is a course dedicated to examining how the sport of motor racing has been explored through film. Through reading, discussion and viewing films we will consider such issues as the history of racing, questions of masculinity and the often countercultural and rebellious nature of racing, with particular interest in the anti-hero figure.

HU 291 Critical Thinking and Chess

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

This course teaches critical thinking and problem-solving skills by using the game of chess as an empirical model for evaluating situations, calculating risks, predicting the consequences of possible actions, solving problems efficiently, and investigating the benefits and limits of reasoning and creative play. Students will demonstrate those skills by solving a wide variety of tactical and strategic problems in chess, by writing a thoughtful analysis of the qualities necessary for a successful thinker/problem solver,



and by applying those qualities to situations in one's personal life and career. Chess will be used as a model for critical thinking skills and life skills.

Japanese (Arts/Foreign Language Core)

JP 201 Introduction to Japanese

4 Class Hours 4 Quarter Credit Hours

Students will be introduced to the basics of Japanese, (speaking, listening, reading, and writing) with an emphasis on comprehension and speaking. Vocabulary used in everyday communication in the workplace, school, and common social situations will be covered. Contemporary Japanese society will be addressed in class discussions and video presentations including, but not limited to art, education, film (in particular animé), food, literature, music, sports, and technology. Japanese technological invention and know-how, as well as the unique challenges of doing business with the Japanese will be studied. Japanese guest speakers will be invited to share their expertise and experiences.

Mathematics (Math/Science Core)

MA 100 Introduction to College Math with Lab

2 Class Hours 4 Lab Hours 4 Quarter Credit Hours

Prerequisite: Placement exam

Topics to be covered in this lab-based introductory algebra course include operations with signed numbers, rules for exponents, polynomial operations, solutions to linear equations in one variable, and several applications important to various technical areas.

MA 105 Basic College Math with Lab

4 Class Hours 2 Lab Hours 5 Quarter Credit Hours

Prerequisite: Placement exam

Topics to be covered in this lab-based introductory algebra course include operations with signed numbers, rules for exponents, polynomial operations, solutions to linear equations in one variable, and several applications important to various technical areas.

MA 109 Math for Life Science

4 Class Hours 4 Quarter Credit Hours

This course is designed to assist in the understanding of the proper techniques needed to perform accurate dosage calculations; vital signs in order to ensure patient safety. This course will focus on developing the mathematical skills, critical thinking and quantitative reasoning methods needed to apply medical language and systems of measurement to solve problems in a variety of healthcare settings.

MA 110 Introduction to College Math

4 Class Hours 4 Quarter Credit Hours

Prerequisite: Placement exam

Topics to be covered in this introductory algebra course include operations with signed numbers, rules for exponents, polynomial operations, solutions to linear equations in one variable, and several applications important to various technical areas.

MA 121 Business Math

4 Class Hours 4 Quarter Credit Hours

Prerequisite: MA 100/110 or MA 105 or MA 106 or MA 109

This is an elementary applied course studying such business topics as interest rates, discounts, payrolls, markups, depreciation, insurance, mortgages, and basic statistics.



MA 125 Technical Math I

4 Class Hours 4 Quarter Credit Hours

Prerequisite: MA 100/110

Topics to be studied include the analytic geometry of a straight line, systems of linear equations, trigonometry, vectors and their applications, and quadratic equations.

MA 200 Applied Math for Business

4 Class Hours 4 Quarter Credit Hours

Prerequisite: MA 105 or MA 100/110

MA 200 is designed to help with the transition from basic algebra to more advanced business-related courses, such as statistics and finance. Applications will be stressed throughout the course. Specific topics include linear functions, quadratic functions, descriptive statistics, exponential functions, and annuities.

MA 210 Technical Math II

4 Class Hours 4 Quarter Credit Hours

Prerequisite: MA 105 or MA 125

The following four major topics and their applications will be studied: Cramer's Rule, exponential and logarithmic functions, trigonometry, and complex numbers.

Physics Courses (Math/Science Core)

PHY 126 Applied Physics & Lab

3 Class Hours 2 Lab Hours 4 Quarter Credit Hours

Prerequisite: MA 100/110 or MA 109

This course studies the applications of fundamental concepts of physics. The topics covered include: the motion of objects, the forces that cause motion, velocity, acceleration, Newton's Laws, torques, work, power, and energy. The laboratory component is designed to give students the opportunity to have hands-on experience with the fundamental concepts of physics studied in the theory portion of the course.

PHY 200 Physics I & Lab

3 Class Hours 2 Lab Hours 4 Quarter Credit Hours

Prerequisite: MA 125

This course is a non-calculus approach to the study of fundamental physics and includes kinematics and dynamics of bodies, velocity, acceleration, and Newton's laws of motion, forces in equilibrium, concurrent and non-concurrent forces, work, power, energy, and torque. Labs are performed within the course to reinforce concepts.

Psychology (Social Sciences Core)

PS 140 Life-Span Development

4 Class Hours 4 Credit Hours

The purpose of Life-Span Development is to introduce students to the broad concepts of human growth and development from conception to death. Students will be introduced to human development from the prenatal stage to death with particular emphasis placed on early childhood, adolescence and old age. The course is especially designed for students entering the healthcare professions as the slant is toward practical application of all stages. Upon completion of the course, students should be able to demonstrate a basic knowledge of the developmental stages of life.



PS 201 Introduction to Psychology

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

This introductory course in psychology is a survey of the multiple aspects of human behavior. It includes, but is not limited to, such topics as the history of psychology, the biological foundations of behavior, memory, learning, personality, psychological disorders and treatment and social behavior. Importantly, this course will be geared to stress those areas of more practical significance for those in medical service fields.

PS 202 Psychology of Healthcare

4 Class Hours 4 Credit Hours

Prerequisite: EN 100

This course addresses the human element of clinical competence in providing health care. Students will explore the psychodynamics of interactions between health care workers and patients, the psychological influences of illness and pain, the psychosocial factors that impact one's effectiveness as a health care team member, the impact of families on a patient's treatment plan, the role of body image in patient responsiveness to treatment, and a variety of other psychosocial factors that influence health care delivery.

PS 203 Psychology of Happiness

4 Class Hours 4 Credit Hours

This course will explore the psychological principles associated with the experience, feelings and thoughts of happiness. Students will be exposed to a variety of research investigations that have studied different variables that impact happiness. Some of the subtopics discussed in this course include ways to define and measure happiness, differences and similarities in happiness across cultures, happiness and money, and ways to increase happiness.

PS 210 Human Relations in the Workplace

4 Class Hours 4 Quarter Credit Hours

Major skill areas covered in the course include making a good impression with your employer, managing conflict with difficult coworkers, working on a team with diverse groups of people, providing exceptional customer service, and managing on-the-job stressors. This course provides a set of practical human relations techniques that will help students increase the likelihood of job security and career advancement in any current or future job.

Science (Math/Science Core)

SCI 110 Environmental Science

4 Class Hours 4 Quarter Credit Hours

This course will focus on man's interaction with his environment. It will cover current issues like global warming, human population growth, and pollution.

Sociology (Social Sciences Core)

SO 203 Social Problems

4 Class Hours 4 Quarter Credit Hours

This course will examine contemporary social issues from multiple perspectives. Attempts to see the ethics, the arguments and the policy outcomes involved in problems such as drug abuse, crime, poverty and the global environment.



SO 220 Internet and Society

4 Class Hours 4 Quarter Credit Hours

Prerequisite: B- or better in EN 100

Internet and Society is an online course that focuses on the impact of the Internet on our lives. The goal of this course is to encourage students to think deeply and critically about the reality of living in a technology-driven society and how technological change influences work, families, social lives, education, and privacy.

SO 231 Crime and Deviance

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

This course traces the historical development of crime and deviance. A review of the social, physiological, and psychological theories of crime are examined. Topics such as the history of policing and the history of corrections are also reviewed.

Spanish (Arts/Foreign Language Core)

These courses are designed for students with no prior knowledge of Spanish.

SP 201 Introduction to Spanish

4 Class Hours 4 Quarter Credit Hours

This course will introduce students to the Spanish language with an emphasis on the use of Spanish in the workplace. Students will learn to communicate with customers and other employees in Spanish with a focus on basic vocabulary words used in everyday interactions at the workplace. Topics covered include: conversational skills as well as key principles of Spanish grammar and cultural traditions in Spanish-speaking countries.

SP 203 Spanish for Healthcare Workers

4 Class Hours 4 Quarter Credit Hours

This course will introduce students to the Spanish language with an emphasis on the use of Spanish in the workplace. Students will learn to communicate with Spanish speaking patient and family and other employees in Spanish with a focus on basic vocabulary words used in everyday interactions at the workplace. While each class will emphasize conversational skills, the course will also cover some key principles of Spanish grammar and provide some exposure to a variety of cultural traditions in Spanish-speaking countries.

Social Sciences (Social Sciences Core)

SS 140 Criminal Investigations

4 Class Hours 4 Quarter Credit Hours

In this course, students will get exposure to a wide range of interpersonal and scientific factors that are explored by criminal investigators in their efforts to support hypotheses developed to solve a variety of crimes. Some of the course topics will include the appropriate collection of evidence at a crime scene, techniques for interviewing witnesses and suspects, the role of the crime lab, the science of fingerprinting, forensic medicine, and the preparation of testimony that leads to the conviction of criminals.

SS 201 American Government in Action

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

This is an introductory course that will help students understand how the pieces of American government fit together, and how politics continuously affects their lives. Students will examine the roles of interest groups, the media, political parties and the three branches of government. Class discussions about relevant and current political issues will be encouraged.



SS 203 Terrorism and National Security

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

This course examines the challenge contemporary terrorism presents for U.S. national security. It investigates the causes of terrorism and inquires into the motives, objectives, methods, and effectiveness of contemporary terrorist groups with an emphasis on al Qaeda. Analysis of the determinants of American counter-terrorism policies and evaluation of the effectiveness of these initiatives are central themes of the course. As such, evaluation of the roles the invasion of Afghanistan, the Iraq War, covert operations, domestic and foreign internal security initiatives, and global law enforcement operations have played in addressing the terrorist threat are major points of emphasis.

SS 204 Juvenile Justice System in America

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

The course is designed to explore the components of the juvenile justice system in America. The various features, characteristics, policies and concerns about the juvenile justice system are carefully examined. As part of the review, adolescent behavior and influence of the family dynamic will be discussed. The detention of juveniles, the various programs focused on the diversion of youths from the juvenile justice system, rehabilitation programs and prevention programs will also be reviewed.

SS 206 Constitutional Values in the 21st Century

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

This course is an introduction to constitutional law and will utilize a historical examination of major United States Supreme Court decisions to better understand contemporary federal and state judicial interpretations of constitutional theory and individual freedoms. It will focus on government powers, the federal court system and judicial review. It will also closely examine those individual freedoms guaranteed under the Bill of Rights and will critically analyze the controversial issues of gun control and the death penalty. Students will also understand how the interpretation of the Constitution involves the application of individual and societal values. These topics will be reinforced through case briefs, persuasive essays, current event worksheets, group activities, debates and media presentations.

SS 221 Technology and American Life

4 Class Hours 4 Quarter Credit Hours

Prerequisite: EN 100

The course, based on abstract thinking and analysis, examines the interactive relationship between technology and society over historic time and across geographic space. The course will address basic questions about technology and its place in society. Students will be able to evaluate the impact of social change on their lives, and the impact of their technology on changing the social system.

SS 222 Mindful Living

4 Class Hours 4 Quarter Credit Hours

On a single day, how often do you find yourself pulled in multiple directions? In a world inundated with information, and increasingly demanding of our time and attention, it can be overwhelming to know how to even begin prioritizing what is important. What if there were something you could do to increase your productivity, reduce anxiety and stress, and be more fully present in your daily experiences? Welcome to the practice of mindfulness –sustained, purposeful, moment-to-moment attention without judgement. Research studies have shown that a regular mindfulness practice yields concrete physical and emotional benefits, including reduced stress, decreased physical pain, increased concentration, and a happier mindset. In this course, you will learn different ways to practice mindful living.



Questions & Answers

1. When do my classes meet?

Day Classes: Technical classes normally meet for at least three hours a day for up to five days a week. Classes normally begin in the early morning (7:45 a.m.), late morning (usually 11:25 a.m.), or mid-afternoon. The time slot for your program may vary from quarter to quarter.

Evening Classes: technical classes meet on the average of three nights a week, although there may be times when they will meet four nights a week. Classes normally begin at 5:45 p.m..

In addition, to achieve your associate degree, you will take a total of approximately eight liberal arts courses, which will be scheduled around your technical schedule over the course of your entire program. Each liberal arts course meets approximately four hours per week. Liberal arts courses are offered days, evenings, and Saturdays.

At the beginning of each quarter you will receive a detailed schedule giving the exact time and location of all your classes. The College requires that all students be prepared to take classes and receive services at any of NEIT's locations where the appropriate classes and services are offered.

When a regularly scheduled class falls on a day which is an NEIT observed holiday (Columbus Day, Veterans Day, Martin Luther King, Jr. Day, and Memorial Day), an alternate class will be scheduled as a make up for that class. The make up class may fall on a Friday. It is the student's responsibility to take note of when and where classes are offered.

2. How large will my classes be?

The average size for a class is about 20 to 25 students; however, larger and smaller classes occur from time to time.

3. How much time will I spend in lab?

Almost half of your technical courses consist of laboratory work. In order for you to get the most out of your laboratory experiences, you will first receive a thorough explanation of the theory behind your lab work.

4. Where do my classes meet?

Students should be prepared to attend classes at any of NEIT's classroom facilities: either at the Post Road, Access Road, or East Greenwich campus.

5. I have not earned my high school diploma or GED: can I enroll in an Associate Degree Program?

A candidate for admission to the associate's degree program must have a high school diploma, have earned a recognized equivalency diploma (GED), or meet the federal home school requirements.

6. How long should it take me to complete my program?

To complete your degree requirements in the shortest possible time, you should take the courses outlined in the prescribed curriculum. For a typical six-quarter curriculum, a student may complete the requirements in as little as 18 months.

To complete all your degree requirements in the shortest time, you should take at least one liberal arts course each quarter. Students who need more time to complete their curriculum may postpone some of the liberal arts courses until after the completion of the technical requirements. Students are provided up to two additional quarters of study to complete the liberal arts requirements without any additional tuition assessment fee. During these additional quarters of study, students are required to pay all applicable fees.



Students may also elect to complete some of their liberal arts requirements during Intersession, a five-week term scheduled between Spring and Summer Quarters. Students will not be assessed any additional tuition for liberal arts courses taken during the Intersession but may be assessed applicable fees.

Students wishing to extend the number of quarters needed to complete the required technical courses in their curriculum will be assessed additional tuition and fees.

7. Is NEIT accredited?

NEIT is accredited by the New England Association of Schools & Colleges (NEASC). Accreditation by NEASC is recognized by the federal government and entitles NEIT to participate in federal financial aid programs. Some academic departments have specialized professional accreditations in addition to accreditation by NEASC. For more information on accreditation, see NEIT's catalog.

8. Can I transfer the credits that I earn at NEIT to another college?

The transferability of a course is always up to the institution to which the student is transferring. Students interested in the transferability of their credits should contact the Office of Teaching and Learning for further information.

9. Can I transfer credits earned at another college to NEIT?

Transfer credit for appropriate courses taken at an accredited institution will be considered for courses in which the student has earned a "C" or above. An official transcript from the other institution must be received before the end of the first week of the quarter for transfer credit to be granted for courses to be taken during that quarter. Students will receive a tuition reduction for the approved technical courses based on the program rate and will be applied against the final technical quarter of the curriculum's tuition amount. No tuition credit is provided for courses which are not a part of the technical curriculum.

10. What is the "Feinstein Enriching America" Program?

New England Institute of Technology is the proud recipient of a grant from the Feinstein Foundation. To satisfy the terms of the grant, the College has developed a one-credit community enrichment course which includes hands-on community enrichment projects. The course can be taken for a few hours per quarter, spread over several quarters. Students who are already engaged in community enrichment on their own may be able to count that service towards course credit.

11. How many credits do I need to acquire my Financial Aid?

In order to be eligible for the maximum financial aid award, you need to maintain at least 12 credits per academic quarter.

12. What does my program cost?

The cost of your program will be as outlined in your enrollment agreement, along with your cost for books and other course materials. Students who decide to take more quarters than the enrollment agreement describes to complete the technical courses in their curriculum will be subject to additional fees and possible additional tuition costs. Students who elect to take the technical portion of the degree requirements at a rate faster than the rate prescribed in the curriculum and the enrollment agreement will be assessed additional tuition.

Students who require prerequisite courses will incur additional tuition and fees above those outlined in their enrollment agreement.

If a student elects to take a course(s) outside of the prescribed curriculum, additional tuition and fees will be assessed.

Remember, students who withdraw and re-enter, one time only, pay the tuition rate that was in effect for them at the time of their last day of attendance for up to one year from their last day of attendance.



Second re-entrees and beyond pay the tuition rate in effect at the time they re-enter. The most economical way for you to complete your college degree is to begin your program now and continue your studies straight through for the six quarters necessary to complete your degree requirements.

13. What kind of employment assistance does NEIT offer?

The Career Services Office assists NEIT students and graduates in all aspects of the job search, including resume writing, interviewing skills, and developing a job search strategy. Upon completion of their programs, graduates may submit a resume to the Career Services Office to be circulated to employers for employment opportunities in their fields. Employers regularly contact us about our graduates. In addition, our Career Services Office contacts employers to develop job leads. A strong relationship with employers exists as a result of our training students to meet the needs of industry for over fifty years. No school can, and NEIT does not, guarantee to its graduates employment or a specific starting salary.

14. Where will job opportunities exist?

Graduates have obtained employment in the local area. However, one of the most exciting aspects of this program is the ability to look nationally for employment opportunities.

15. Is there any state or federal licensing required in my field?

Jobs at the technician level currently require no license in the state of Rhode Island. Graduates who wish to work as electricians can expect to meet some type of licensing requirements in whichever state they work. Under current Rhode Island law, New England Tech graduates in the Electricity program can qualify for the journey person "B" electrical examination after two years employment as an indentured apprentice. Graduates of New England Tech's Electrical Program can get credit for portions of the apprenticeship on-the-job training and classroom instruction hours which are required to qualify for the Journey Electrician examination. The law allows applicants who have successfully completed a course of study at a recognized college or university in electrical technology to be credited with 4,000 hours of a total of 8,000 hours of job experience, required prior to taking the licensing exam. In addition, graduates will be able to claim 288 hours of classroom instruction toward the mandatory 576 hours needed to qualify for the exam. Because of the complex nature of licensing requirements and because these requirements change periodically, we cannot list all the requirements for the various types of licenses in the various states. NEIT IS NOT RESPONSIBLE FOR ANY CHANGES IN LICENSING REQUIREMENTS THAT ANY STATE LEGISLATURE, INCLUDING RI'S, MAY IMPLEMENT AT ANY TIME. Each student should take personal responsibility for determining the licensing requirements in the specific trade and state in which he or she plans to work. Your instructor or department chair can give you help as needed.

16. What kind of jobs will I be qualified to look for?

You will be qualified to look for a job at the technician level, working under an engineer or as an electrical apprentice in a residential, commercial or industrial setting.

17. Can I get a bachelor's degree in my field?

Graduates of the Electrical Technology Program can earn a baccalaureate degree in Electrical Engineering Technology with approximately 6 more quarters of study.

18. Will I be required to wear special clothing?

Yes. In accordance with OSHA Standard 29CFR 1926.28(a), each student is required to purchase and wear appropriate attire for the workplace when in Lab or Open Lab. Electrical Technology students are required to wear button down or pull-over shirts for all classes (no sleeveless shirts or shirts containing objectionable printing of any type, as determined by the class instructor). Proper work pants include jeans or cotton-blend work pants (no sweatpants, nylon pants, shorts, tattered, too tight or oversized pants). Proper footwear includes no-slip work shoes, boots, or sneakers – no open-toe shoes, slip-on shoes, dress shoes, or shoes with large heels will be allowed. For safety, no dangling jewelry (bracelets, necklaces, or earrings) is allowed. No rings other than wedding bands will be allowed. Safety glasses



must be worn in all Lab classes. For more details, refer to the Electrical Technology Department's Dress Code Policy.

19. Where can I purchase an optional uniform shirt and what kind do I need?

Though specific uniform shirts are optional, students may purchase NEIT Electrical Technology uniform shirts online at Alexander's Uniforms <http://aucorporateapparel.com/>. At the site's homepage, click "New England Institute of Technology" from either the icon or the left tab, then select your department from the list. All items are priced to include a 15% discount. If you have any questions, contact Wendy Magnette via email at wmagnette@alexandersuniforms.com or at 401-654-6500.

The required uniforms include:	
Hunter Sanmar PC54 Shirt w/ Screen Printing	\$11.00 (S-XL), \$13.00 (2X-5X)
Hunter Sanmar PC54LS Shirt w/ Screen Printing	\$15.00 (S-XL), \$17.00 (2X-5X)

You may also purchase your uniform items at Alexander's Uniforms at one of their three locations (recommended if you are unsure of the size): 1) *Rhode Island*: Marshall's Plaza, 1 Lambert Lind Highway, Warwick RI 02886, 860-889-7744, 401-654-6500; 2) *Connecticut*: 77 Salem Turnpike, Norwich, CT 06360, 781-762-1449; 3) *Massachusetts*: 500 Providence Highway, Norwood MA 02062. A Student ID is needed to ensure you receive your 15% discount at checkout.



Technical Standards

These technical standards set forth by the Electrical Technology Department, establish the essential qualities considered necessary for students admitted to the program. The successful student must possess the following skills and abilities or be able to demonstrate that they can complete the requirements of the program with or without reasonable accommodation, using some other combination of skills and abilities.

Cognitive Ability:

- Ability to visualize and portray ideas graphically.
- Good reasoning and critical thinking skills.
- Ability to learn, remember and recall detailed information and to use it for problem solving.
- Ability to deal with materials and problems such as organizing or reorganizing information.
- Ability to use abstractions in specific concrete situations.
- Ability to break information into its component parts.
- Ability to understand spatial relationships.
- Possession of basic math skills through addition, subtraction, multiplication and division of whole numbers and fractions using both the U.S. and Metric systems of measurement.
- Ability to perform tasks by observing demonstrations.
- Ability to perform tasks following verbal instructions.

Communications Skills:

- Ability to demonstrate and use the knowledge acquired during the classroom training process and in the lab setting.

Adaptive Ability:

- Ability to maintain emotional stability and the maturity necessary to interact with other members of the faculty and students in a responsible manner.

Physical Ability:

- An ability to work in a standing, walking, climbing, squatting, kneeling, or lying position for extended periods of time while maintaining high levels of concentration.
- Ability to lift objects weighing up to 35 pounds.
- Sufficient upper body strength to carry 20 pounds.
- Sufficient strength and agility to grasp and maintain tension for long periods of time.
- Ability to perform learned skills, independently, with accuracy and completeness within reasonable time frames in accordance with procedures.

Manual Ability:

- Ability to manipulate side cutters, diagonal cutters, needle-nose pliers, and other tools.
- Sufficient motor function and sensory abilities to participate effectively in the classroom laboratory.
- Sufficient manual dexterity and motor coordination to coordinate hands, eyes and fingers in the operation of tools, wire and other equipment.
- Good manual dexterity.



Sensory Ability:

- Adequate vision for distinguishing colors, interpretation of gauges, oscilloscopes, and diagnostic equipment (adaptive equipment acceptable).
- Adequate vision for reading blueprints and other printed instruction, working with tools and equipment, and for maneuvering on job sites, scaffolding, and areas in various stages of completion (adaptive equipment acceptable).
- Visual ability, if necessary, with correction, to see tools, instruments and wires

- Acute enough to read small print.
- Acute enough to read small numbers on instrument



NEW ENGLAND TECH

**Electrical Technology (ELY)
Associate in Science Degree**
*(For students entering their program
January 2018 – 201820 or later)*

**Student Acknowledgement
Electrical Technology Department**

I acknowledge that I have received copies of the following documents for the above technology:

- 1) Program Description
- 2) Curriculum
- 3) Course Descriptions
- 4) Q&A
- 5) Technical Standards

I understand that it is my responsibility to read these documents. I have been advised that should I have any questions related to the content of any of these documents, I may contact my admissions officer who will review the material with me.

I further understand that NEIT reserves the right, in response to industry demands, to change the contents of these documents without prior notice. Copies of the most recent versions of these documents may be obtained in the Admissions Office.

Printed Name of Student _____

Signature _____ **Date** _____