



Associate in Applied Science Degree
Engineering Technology

Wentworth Institute of Technology and The IBEW-Local 103

Through this degree program, you will earn an Associate of Applied Science in Engineering Technology. Graduates of both the Installer/Technician and Inside Wireman Apprenticeship Training Programs will earn **27 credits** in transfer. The balance of 33 credits of general elective and technical courses will be delivered to members over 2 years. Graduates may continue their education at Wentworth at the completion of this Associate Degree. Possible programs of study include a Bachelor's in Engineering Technology (offered only to IBEW-Local 103) or a Bachelor's in Project Management.

Application Requirements:

- Online application
- Official high school or GED transcript
- Official transcript(s) from any college(s) you have attended
- Copy of Union Membership card
- Copy of Certificate of Completion of Apprenticeship Training
- Online math placement test, if applicable

Curriculum Requirements:

Year One: Semester One (Spring)

English Composition
Math A

Semester Two

Literature and Composition
Math B

Year Two: Semester One

Math C
Humanities/Social Science

Semester Two

Physics A
Circuit Theory and Application

Semester Three

Introduction to Microprocessors
Logic Circuits

**Degree Total: 60 credits
(27 transfer)**

Note: Wentworth Institute of Technology is accredited by the New England Association of Schools and Colleges, INC. (NEASC)

Curriculum Requirements:

ENGL105 English Composition (3 credits):

A short review of English basics is provided. Emphasis is on writing coherent paragraphs and short essays, basic rhetorical strategies and techniques of rewriting and editing. **Prerequisite: 4 units of high school English.**

MATH225 Math A (3 credits):

Topics in college algebra and trigonometry including the trigonometric functions, inverse trigonometric functions, trigonometric identities, trigonometric equations, and applications. **Prerequisite: MATH230 College Math B.**

ELEC 2799 Circuit Theory and Application (4 credits):

Introduction to electrical and electronic circuits, with emphasis on building a foundation for applications involving mechanical systems. Voltage, current and power will be analyzed in DC and AC circuits having components that include resistors, capacitors, inductors, diodes or operational amplifiers. Some of the laboratory exercises will involve applications having sensors of mechanical phenomenon, signal conditioning, data acquisition and basic signal processing on a computer running suitable software. Some of the homework and laboratory exercises will involve building and testing circuits using circuit simulation software.

MATH230 Math B (3 credits):

Topics in college algebra including functions and their graphs, composite and inverse functions, applied functions and variation, quadratic functions, exponential functions, logarithmic functions, systems of equations, and applications. **Prerequisite: MATH225 College Math A.**

ELEC235 Logic Circuits (4 credits):

This course introduces binary and hexadecimal numbers, Boolean algebra, truth tables, Karnaugh maps, and combination logic using basic gates. Flip-flops, counters, registers, ALU's, encoders, and decoders are also presented. Circuit simulation software is used in both

classroom and laboratory work. **Prerequisite: ELEC105 Circuit Theory I.**

ENGL116 Literature and Composition (3 credits):

This course introduces students to the study of literature and literary themes in the genres of short story, poetry, drama, and novel. While the emphasis is on critical reading and thinking, the course also encourages the continued development of effective writing skills through frequent writing assignments. **Prerequisite: ENGL105 English Composition.**

MATH235 Math C (3 credits):

Topics in college algebra and trigonometry including the trigonometric functions, inverse trigonometric functions, trigonometric identities, trigonometric equations, and applications. **Prerequisite: MATH230 College Math B.**

ELEC240 Introduction to Microprocessors (4 credits):

This course introduces microprocessors and microcomputer systems. Related hardware and software issues will be covered. It will also cover memory systems, input/output devices, and interfacing mechanisms. **Prerequisite: ELEC235 Logic Circuits.**

PHYS205 Physics A (3 credits):

General introduction to mechanics, including Newton's Laws, equilibrium, work, energy, and momentum. The laboratory work will support the concepts studied in class. **Prerequisite: MATH225 College Mathematics A.**