BIOTECHNOLOGY, ENGINEERING & SKILLED TECHNOLOGIES

ELECTRONICS ENGINEERING TECHNOLOGY

Electronics Engineering Technology Degree - A40200

The Electronics Engineering Technology curriculum is designed to prepare individuals to become technicians who design, build, install, test, troubleshoot, repair, and modify developmental and production electronic components, equipment, and systems such as industrial/ computer controls, manufacturing systems, communication systems, and power electronic systems.

A broad-based core of courses, including basic electricity, solid-state fundamentals, digital concepts, and microprocessors, ensures the student will develop the skills necessary to perform entry-level tasks. Emphasis is placed on developing the student's ability to analyze and troubleshoot electronic systems.

Graduates should qualify for employment as engineering assistants or electronic technicians with job titles such as electronics engineering technician, field service technician, maintenance technician, electronic tester, electronic systems integrator, bench technician, and production control technician.

Program Sequence

Fall Semester

ELC	131	Circuit Analysis I	4
ELC	131A	Circuit Analysis I Lab	1
ELN	260	Prog Logic Controllers	4
ENG	111	Writing and Inquiry	3
		Math Elective	3

Spring Semester

ELN	131	Analog Electronics I	4
ELN	133	Digital Electronics	4
ELN	275	Troubleshooting	2
		Humanities Elective	3
		Social Science Elective	3

Summer Semester

ELN	132	Analog Electronics II	4
ELN	231	Industrial Controls	3

Fall Semester

CSC	133	C Programming	3
ELN	232	Introduction to Microprocessors	4
ELN	234	Communication Systems	4
		Major Elective	3

Spring Semester

ELN	150	Computer-Aided Drafting for Electronics	2
ELN	233	Microprocessor Systems	4
ELN	235	Data Communication Systems	4
		English/Communication Elective	3
		Major Elective	3

English/Communication Electives
(Select 3 hours from the following courses):

ENG	112	Writing and Research	3
ENG	114	Professional Research & Reporting	3

Humanities Electives
(Select 3 hours from the following courses):

HUM	110	Technology and Society	3
HUM	115	Critical Thinking	3
PHI	240	Introduction to Ethics	3

Math Electives
(Select 3 hours from the following courses):

MAT	121	Algebra/Trigonometry I	3
MAT	171	Precalculus Algebra	4

Social Science Electives
(Select 3 hours from the following courses):

PSY	118	Interpersonal Psychology	3
PSY	150	General Psychology	3

Major Electives
(Select 6 hours from the following courses):

ATR	214	Advanced PLCs	4
ATR	215	Sensors and Transducers	3
ISC	121	Environmental Health & Safety	3
PCI	172	SCADA Systems	4
PCI	262	Intro to Process Control	4
WBL	111	Work-Based Learning I	1
WBL	112	Work-Based Learning I	2
WBL	120	Career Readiness, Explor, & Employ	3

Graduation Requirements ..... 68 Credit Hours

Basic Electronics Certificate - C40200A

The Basic Electronics certificate provides the student with a program of study necessary for developing basic electronic skills. The student will gain an understanding of AC/DC basic circuits, digital circuits, and basic electronic devices. Courses are an adjunct of the Electronics Engineering Technology program and may be transferred directly toward completion of the A.A.S. degree in Electronics Engineering Technology.

Program Sequence

Fall Semester

ELC	131	Circuit Analysis I	4
ELC	131A	Circuit Analysis I Lab	1
ELN	133	Digital Electronics	4

Spring Semester

ELN	131	Analog Electronics I	4
ELN	275	Troubleshooting	2

Graduation Requirements ..... 15 Credit Hours

PLC Programming Certificate - C40200B

The PLC Programming Certificate provides the student with the basic technical skills and knowledge necessary to work with the Programmable Logic Controllers typically found in an industrial environment. The program investigates the operation and programming of PLCs and the interfacing of PLCs to electronic devices and sensors routinely found in industrial controls. Students entering the program are expected to have a basic knowledge of AC and DC electrical circuits.

Program Sequence

Fall Semester

ATR	215	Sensors and Transducers	3
ELN	260	Prog Logic Controllers	4

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Spring Semester
ELN 231 Industrial Controls 3

Fall Semester
ATR 214 Advanced PLCs 4

Graduation Requirements ..... 14 Credit Hours

SCADA Systems Certificate - C40200E

The SCADA Systems Certificate provides the student with technical skills and knowledge necessary to work with data acquisition systems commonly found in industrial process control applications. The program includes the operation, programming, and interfacing of PLCs as well as using data acquisition software to monitor, gather, and process real-time data. Students entering the program are expected to have a basic knowledge of AC and DC electrical circuits.

Program Sequence

Spring Semester
ATR 215 Sensors and Transducers 3
ELN 260 Prog Logic Controllers 4

Fall Semester
ATR 214 Advanced PLCs 4

Spring Semester
PCI 172 SCADA Systems 4

Graduation Requirements ..... 15 Credit Hours

Embedded Systems Certificate – C40200G

The Embedded Systems Certificate program provides the student with the technical skills and knowledge necessary to work in the design and development of embedded systems commonly found in industrial control, communications, and building automation. The program includes coursework in digital electronics, C programming, and programming and interfacing microprocessors and microcontrollers. Students entering the program are expected to have a basic knowledge of electrical circuits.

Program Sequence

Fall Semester
ELN 133 Digital Electronics 4

Fall Semester
CSC 133 C Programming 3
ELN 232 Introduction to Microprocessors 4

Spring Semester
ELN 233 Microprocessor Systems 4

Graduation Requirements ..... 15 Credit Hours