

Electrical Technology – Specialization in Mechatronics

Associate of Applied Science Degree

Program Coordinator: Donnie Melvin • ISC 142A • 276-739-2453

Length: Four semesters (two years)

Purpose: The Associate of Applied Science Degree in Electrical Technology – Specialization in Mechatronics is designed to prepare students for employment upon graduation as electrical technicians with emphasis on installation, power distribution, controls, programmable controls, mechanical systems and the maintenance of industrial machinery.

Occupational Objectives: Basic Electrician, Electrical/ Electronic Technician, Electro-Mechanical Installer/Representative, Industrial Maintenance Technician, Industrial Technical Sales, Industrial Field Service, Maintenance Supervisor

Admission Requirements: A student eligible for admission to the College can normally be considered for admission to the Electrical Technology – Specialization in Mechatronics curriculum. Proficiency in high school English and mathematics is required. Students who are not proficient in English and mathematics will be required to correct their deficiencies in developmental courses.

Program Requirements: The Electrical Technology Degree is a two-year program with two-thirds of the program content in electrical and mechanical courses, and the remaining one-third consists of math, social sciences, English, humanities, and physical education. The graduate will be awarded the Associate of Applied Science in Electrical Technology upon satisfactory completion of the two-year program. Course content will include the theoretical concepts and practical applications as they pertain to industry needs.

Course Number	Course Title	Lecture Hours	Lab Hours	Credits
First Semester (Fall)				
DRF 161	Blueprint Reading	1	2	2
ELE 133	Practical Electricity I	2	2	3
MEC 140	Introduction to Mechatronics	2	2	3
ENG 111 or ENG 115	College Composition I or Technical Writing	3	0	3
SDV 101	Orientation to College Success	1	0	1
SAF 130	Industrial Safety – OSHA 10	1	0	1
ITE 100	Introduction to Information Systems ¹	3	0	3
Total		13	6	16
Second Semester (Spring)				
MTH 103	Applied Technical Mathematics I	3	0	3
ELE 134	Practical Electricity II	2	2	3
ELE 141	DC & AC Machines	3	3	4
ELE 175	Ind. Solid State Devices & Circuits	2	3	3
IND 243	Principles and Apps. of Mechatronics	2	2	3
Total		12	10	16
Third Semester (Fall)				
EEE	General Education Elective	3	0	3
ELE 233	Programmable Logic Controllers I	2	3	3
MEC 161	Hydraulics & Pneumatics	2	2	3
ELE 245	Industrial Wiring	2	2	3
EEE	Social Science Elective	3	0	3
EEE	Humanities Elective	3	0	3
Total		15	7	18

Course Number	Course Title	Lecture Hours	Lab Hours	Credits
Fourth Semester (Spring)				
ELE 234	Programmable Logic Controllers II	2	3	3
ELE 225	Electrical Control Systems	3	3	4
WEL 110	Welding Processes	2	3	3
ELE 132	National Electrical Code II	3	0	3
PED	Physical Education	0	2	1
INS 232	Systems Troubleshooting	2	3	3
Total		12	14	17

Total Minimum Credits for the AAS Degree **67**

1. ITE 115 or ITE 119 are acceptable substitutes

Students are urged to follow the [recommended pathway](#) for this degree when choosing electives.

Additional approved humanities and social science electives are listed at <http://www.vhcc.edu/GenEdCore>.