Electro-Mechanical w/Green Energy

Program: Engineering Technology
Program Code:
TE_EMO
Academic Area:
Science, Technology, Engineering and Mathematics
Type:
Associate in Science
CIP Code:
15.0403

Program Statement

This program prepares students to work in high-tech industries as technical employees who can work on equipment that uses both electrical and mechanical engineering principles. Students, by selecting the recommended electives, can prepare themselves for employment in the expanding Green Technology industries of Solar Energy and Wind Power. Graduates, by selecting the recommended electives, may prepare themselves for transfer to a Bachelor of Science in Engineering Technology program.

Program Information

- This program is especially valuable to the person who wants technical diversity.
- It can open employment doors to many jobs that require multidisciplinary competencies.
- Students should be in a Math (MTH) course every semester until they have completed their sequence.
- Recommended Program Electives:
  - Automation and Robotics: EGR 113: Introduction to Robotics and EGR 171: Fluid Systems
  - Electronics: EGR 137: Digital Electronics and EGR 235: Electronic Theory I
  - Mechanical: EGR 171: Fluid Systems and EGR 172: Materials Science
- For students with adequate mathematical preparedness, and interested in transfer, PHY 211: General Physics I can be substituted for PHY 101: Technical Physics I.
- Completing courses in the summer will reduce fall and spring semester course loads.
- Oral Communication General Education Competency Infused.

After Bristol

- Graduates work as engineering aides, field service technicians, technical representatives, maintenance technicians and automation technicians.
- If you are considering transferring to a four-year institution, speak with your advisor and visit Transfer Services for additional information.

Degree Requirements

General Education Courses

Course #	Title	Credits
CSS 101	College Success Seminar	1
ENG 101	Composition I: College Writing	3
ENG 102	Composition II: Writing about Literature	3
	HST 113 or HST 114	3
	PHY 101: Technical Physics I	4
	Two-course Math Sequence	7-8

Elective Courses

Course #	Title	Credits
	Human Expression Elective	3
	Multicultural and Social Perspectives Elective	3

Program Courses

Course #	Title	Credits
EGR 131	Introduction to Electrical Circuits	4
EGR 132	Electrical Circuits	4
EGR 211	Programmable Control Systems	4
EGR 251	Statics	3
	EGR 102 or EGR 103	3
	CAD 101, CAD 111 or CAD 172	3

Program Electives

Course #	Title	Credits
	EGR Electives	8
	Electro-Mechanical Program Electives	7-8

Recommended Course Sequence - Semester 1

Course #	Title	Credits
CSS 101	College Success Seminar	1
ENG 101	Composition I: College Writing	3
EGR 131	Introduction to Electrical Circuits	4
	MTH 152, MTH 172 or MTH 214	3-4
PHY 101	Technical Physics I	4
	Program Elective	3-4

Recommended Course Sequence - Semester 2

Course #	Title	Credits
ENG 102	Composition II: Writing about Literature	3
EGR 132	Electrical Circuits	4
	EGR 102 or EGR 103	3
	MTH 172, MTH 214 or MTH 215	4
	Program Elective	3-4

Recommended Course Sequence - Semester 3

Course #	Title	Credits
	CAD 101, CAD 111 or CAD 172	3
EGR 251	Statics	3
	Multicultural and Social Perspectives Elective or Human Expression Elective	3
	Program Elective	3-4
	Program Elective 4 Engineering	4

Recommended Course Sequence - Semester 4

Course #	Title	Credits
EGR 211	Programmable Control Systems	4
	HST 113 or HST 114	3
	Multicultural and Social Perspectives Elective or Human Expression Elective	3
	Program Elective 4 Engineering	4
	Total credits:	**62-65**

Category Descriptions

HST 113 or HST 114

Credits: 3

Choose one of the following:

Course #	Title	Credits
HST 113	United States History to 1877	3
HST 114	United States History from 1877	3

PHY 101: Technical Physics I

Credits: 4

For students with adequate mathematics preparedness and interested in transfer, PHY 211 may be substituted for PHY 101.

Course #	Title	Credits
PHY 101	Technical Physics I	4

Two-course Math Sequence

Credits: 7-8

Choose one two-course math sequence.

Course #	Title	Credits
	MTH 152 and MTH 172	7
	MTH 172 and MTH 214	8
	MTH 214 and MTH 215	8

Human Expression Elective

Credits: 3

Choose one of the Human Expression electives.

The following electives are recommended: ARC 201, COM 101, COM 114, PHL 152 or World Language.

Multicultural and Social Perspectives Elective

Credits: 3

Choose one of the following:

Course #	Title	Credits
ART 106	Survey of Art History II: Modern Art	3
GVT 111	U.S. Government	3
GVT 112	Comparative Government	3
HST 111	The West and the World I	3
HST 112	The West and the World II	3
HST 113	United States History to 1877	3
HST 114	United States History from 1877	3
HST 257	History of Modern East Asia (China and Japan)	3
PSY 271	Global Leadership	3
SOC 101	Principles of Sociology	3
SOC 212	The Sociology of Social Problems	3
SOC 252	The Sociology of Human Relations	3

EGR 102 or EGR 103

Credits: 3

Choose one of the following:

Course #	Title	Credits
EGR 102	Introduction to Sustainable and Green Energy Technologies	3
EGR 103	Computer Skills for Engineers and Technicians	3

CAD 101, CAD 111 or CAD 172

Credits: 3

Choose one of the following:

Course #	Title	Credits
CAD 101	Computer Aided Drafting	3
CAD 111	Mechanical Design with Solidworks	3
CAD 172	Mechanical Design Using Inventor	3

EGR Electives

Credits: 8

Choose two of the following:

Course #	Title	Credits
EGR 113	Introduction to Robotics	4
EGR 137	Digital Electronics	4
EGR 171	Fluid Systems	4
EGR 172	Material Science	4
EGR 235	Electronic Theory I	4

Electro-Mechanical Program Electives

Credits: 7-8

Choose two of the following:

Course #	Title	Credits
	EGR Elective(s)	
	CAD Elective(s)	
CHM 113	Fundamentals of Chemistry I	4
	GIS Elective(s)	
INT 210	Internship Experience I	3
PHY 102	Technical Physics II	4
PHY 212	General Physics II	4
MTH 214	Calculus I	4
	SCI 251 and HON 260	4