

# ELECTRICAL & ELECTROMECHANICAL TECHNOLOGY

## Associate of Applied Science Degree, Diploma

### ELECTRICAL SYSTEMS FOCUS

#### Types of jobs available:

- Residential, commercial and industrial construction environments
- Designing, installing, maintaining and upgrading advanced electrical control circuits



#### Program overview

Students are admitted in the summer and winter quarters. Approximately half of the training time will take place in a laboratory setting where students will apply their classroom theory.

### ELECTROMECHANICAL SYSTEMS FOCUS

#### Types of jobs available:

- Designing, installing, maintaining and upgrading industrial automated systems
- Designs in the machining, welding, fabrication, wiring and installation of new and existing production equipment



#### Program overview

Students focus on electrical principles, manufacturing processes, welding, electrical and mechanical repair of machinery, hydraulics, electric motors and generators, and many other components and processes directly related to electromechanical technology.

#### For more information contact:

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or the College Admissions Office  
Milford 402-761-8243, 800-933-7223 ext. 8243

## Milford Campus

Credit Hours Required for Graduation:

- Diploma – Construction Electrician: 85.0
- Associate of Applied Science Degree
  - Electrical Systems Focus: 149.0
  - Electromechanical Systems Focus: 149.5

## Construction Electrician Diploma Required Courses:

COURSE #	COURSE TITLE	CREDIT HRS
ELEC1131	DC Principles	13.0
ELEC1217	AC Principles	13.0
ELEC1336	CAD & Electrical Estimating	3.0
ELEC1344	Motor Controls	3.0
ELEC1365	Residential & Commercial Wiring	18.0
ELEC1464	Transformer Three Phase Systems	7.0
ELEC1474	Predictive Maintenance Principles	4.0
ELEC1495	Industrial Wiring	13.0

#### Computer Course Requirements

A minimum of 2 credit hours in word processing and spreadsheets.

Suggested courses:

INFO1117	Microcomputer Applications	2.0
	or	
INFO1121	Microsoft Word & PowerPoint and	1.5
INFO1131	Microsoft Excel	1.5
Or if considering transfer to another institution:		
INFO1010	Computer Literacy or	4.5
BSAD1010	Microsoft Applications I	4.5

76.0 hours

## General Education Requirements: Diploma

Contact your program advisor to select general education course/s from each category which will meet your program's graduation requirements. See page 4 for complete list.

Mathematics	MATH1050 Thinking Mathematically	4.5
<i>(Plus one class from the following areas).</i>		
Oral Communications, Written Communications, Science, Social Science, and/or Humanities		4.5
		9.0 hours

## Electrical Systems Focus

*(Diploma courses (76.0) credits plus the following courses and general education hours)*

ELEC2534	Programmable Logic Controllers I	5.5
ELEC2546	Electrical Machine Controls	3.0
ELEC2555	Industrial Communications & Alarm Systems	3.0
ELEC2564	Industrial Electronics	9.0
ELEC2614	Industrial Control Systems	12.0
ELEC2624	Programmable Logic Controllers II	13.0
ACFS2020	Career Development	2.5
BSAD1730	Quality Management	2.5
		50.5 hours

## Electromechanical Systems Focus

COURSE #	COURSE TITLE	CREDIT HRS
ELEC1131	DC Principles	13.0
ELEC1217	AC Principles	13.0
ELEC1337	Sketching & CAD	3.0
ELEC1344	Motor Controls	3.0
ELEC1356	Fluid Power	7.0
ELEC1436	Power Transmission & Lubricants	5.0
ELEC1446	Industrial Machines & Mechanical Systems	7.0
ELEC1464	Transformer Three Phase Systems	7.0
ELEC1474	Predictive Maintenance Principles	4.0
ELEC2534	Programmable Logic Controllers I	5.5
ELEC2546	Electrical Machine Controls	3.0
ELEC2555	Industrial Communications & Alarm Systems	3.0
ELEC2564	Industrial Electronics	9.0
ELEC2614	Industrial Control Systems	12.0
ELEC2624	Programmable Logic Controllers II	13.0
ACFS2020	Career Development	2.5
BSAD1730	Quality Management	2.5
MACH1121	Manufacturing Processes	5.0
MFGT1456	Manufacturing Processes II	4.5
WELD1184	Welding for Electrical & Electromechanical	3.0

#### Computer Course Requirements

A minimum of 2 credit hours in word processing and spreadsheets.

Suggested courses:

INFO1117	Microcomputer Applications	2.0
	or	
INFO1121	Microsoft Word & PowerPoint and	1.5
INFO1131	Microsoft Excel	1.5
Or if considering transfer to another institution:		
INFO1010	Computer Literacy or	4.5
BSAD1010	Microsoft Applications I	4.5
		127.0 hours

## General Education Requirements: A.A.S.

Contact your program advisor to select general education course/s from each category which will meet your program's graduation requirements. See page 4 for complete list.

*(One class from each area below).*

Oral Communications		4.5
Written Communications		4.5
Mathematics	MATH1050 or higher	4.5
Science	PHYS1017 or PHYS1150 or PHYS1410	4.5
<i>(Plus one class from one of the two areas below).</i>		
Social Science or Humanities		4.5
		22.5 hours