Renewable Energy Technician

Overview

Associate of Applied Science Degree

Program Director: Kerry Hardman

Program Website (http://www.gfcmsu.edu/webs/Technicians)

The Renewable Energy Technician Associate of Applied Science degree program prepares graduates for technician jobs in the rapidly expanding renewable energy industry. Program graduates have general skills in industrial safety, electrical troubleshooting, hydraulic and pneumatic system operation, and mechanical system repair. They also have specialized skills in programmable logic controls, digital electronics, and wind turbine operations and maintenance. These specialized skills are built on a strong educational foundation in math, writing, communications, and computing.

For more information on other programs in this field, visit the catalog pages for the Industrial Technician CAS (http://catalog.gfcmsu.edu/archive/2017-2018/academic-programs/sustainable-energy-technician-cas) and the Industrial Technician AAS (http://catalog.gfcmsu.edu/archive/2017-2018/academic-programs/industrial-technician-aas).

Outcomes

Graduates are prepared to:

- Identify and practice safe workplace habits.
- Demonstrate familiarity with basic electrical tools and the ability to troubleshoot a basic electrical system.
- Demonstrate familiarity with basic mechanical tools and the ability to repair a basic mechanical system.
- Demonstrate a basic understanding of hydraulic and pneumatic systems.
- Demonstrate an understanding of both conventional and renewable energy sources.
- Demonstrate the ability to use personal computers and common operating systems and applications software.
- Develop and practice professional standards of workplace communication and interpersonal skills.
- Demonstrate wind industry safety skills, including climbing, rescue, and confined space procedures.
- Demonstrate a basic understanding of AC and DC variable speed motor drives.
- Demonstrate a basic understanding of programmable logic controllers.
- Demonstrate a basic understanding of digital electronics.
- Demonstrate an understanding of wind turbine operations and maintenance procedures.
- Demonstrate an understanding of college-level algebra.
- Demonstrate an understanding of motor control circuits and how they operate.

Estimated Cost

Estimated Resident Program Cost*

Tutiion and Fees	$6,380
Application Fee	$30
Program Fee	$1,000
Books/Supplies	$2,105
Total	$9,515

* **Fall 2017 MUS Student Health Insurance Premiums will be changing. Please check the Health Insurance website** (http://students.gfcmsu.edu/insurance.html) **and/or Student Central for confirmed premium rates. Students will be charged an additional fee of $21 per credit for online/hybrid courses.**

Program Requirements

Many students need preliminary math and writing courses before enrolling in the program requirements. These courses may increase the total number of program credits. Students should review their math and writing placement before planning out their full program schedules.

GFC MSU Additional Graduation Requirement

Course	Title	Credits	Grade/Sem
COLS 103	Becoming a Successful Student +	1	_____

Course	Title	Credits	Grade/Sem
First Year			
Fall			
ETEC 101	AC/DC Electronics I *,+	3	_____
ELCT 120	Basic Industrial Controls *,+	3	_____
NRGY 120	Industrial Safety and Rigging *,+	3	_____
NRGY 130	Fundmtl of Mechanical Systems *,+	3	_____
Select one of the following:			
M 105	Contemporary Mathematics **,+	3	_____
M 121	College Algebra **, +	3	_____
M 151	Precalculus **,+	4	_____
M 171	Calculus I **,+	4	_____
	Credits	**15-16**	
Spring			
MCH 130	Machine Shop *, +	3	_____
COMX 115	Intro to Interpersonal Communc +	3	_____
ETEC 103	AC/DC Electronics II *,+	3	_____
ELCT 130	Elec Motors and Generators *,+	3	_____
NRGY 110	Fundmtl Hydraul/Pneu Systems *,+	3	_____
WRIT 104	Workplace Communications +	2	_____
	Credits	**17**	
Second Year			
Fall			
CAPP 131	Basic MS Office +	3	_____
ETEC 220	ElectricalPower/Distribution I *,+	3	_____
ETEC 231	Electronic Drive Systems *,+	3	_____
ETEC 245	Digital Electronics *,+	4	_____
ELCT 250	Programmable Electronic Contro *,+	3	_____
	Credits	**16**	
Spring			
CAPP 156	MS Excel *,+	3	_____
ETEC 230	Electric Power/Distribution II *,+	3	_____
NRGY 101	Intro to Sustainable Energy *,+	3	_____
NRGY 210	Wind Technician Safety *,+	4	_____
NRGY 230	Wind Turb Operations & Maint *,+	3	_____
	Credits	**16**	
	Total Credits	**64-65**	

* Indicates prerequisites needed.

** Placement in course(s) is determined by placement assessment.

\+ A grade of C- or above is required for graduation.