

# ASSOCIATE OF APPLIED SCIENCE - ENERGY TECHNOLOGIES - WIND ENERGY EMPHASIS

The wind energy program is designed to provide students with the skills necessary to enter the workforce in the renewable energy field as large and small wind installers. Wind installers complete an accurate resource assessment and energy demand analysis from which a wind system will be designed and installed. The program prepares students to sit for industry-recognized certifications required to enter the workforce. Wind installers need strong mechanical, electrical, technical, and computer skills.

## Degree Outcomes

Students completing the degree will:

- Fulfill the requirements of the Associate of Applied Science.
- Demonstrate competency in their specified emphasis.

## Emphasis Outcomes

Students completing the emphasis will:

- Demonstrate knowledge of the operation of wind turbines and wind farms.
- Solve technical problems associated with wind turbines.
- Demonstrate knowledge of environmental regulations in the installation of wind turbines.

AAS degrees are generally non-transfer degrees that are designed for students to enter the workforce.

To earn an AAS degree, students must:

1. Maintain a minimum cumulative GPA of 2.0 (see requirements for graduation.)
2. Complete a minimum of 15 units within the college.
3. Satisfy General Education requirements for the AAS (<http://catalog.tmcc.edu/degrees-certificates/general-education/aas>).
4. Have no financial or library obligation to the college.

## General Education Requirements

*Diversity*<sup>1</sup> [3]

Recommended:

AAD 201 History of the Built Environment

*Communications/English* 6

*Fine Arts/Humanities/Social Science* 3

Recommended:

AAD 201 History of the Built Environment

*Human Relations* 3

Recommended:

CE 201 Workplace Readiness

*Mathematics* 3

Recommended:

MATH 126 Pre-Calculus I

*Science* 3

*U.S. and Nevada Constitutions* 3

## Degree Requirements

ECON 102 Principles of Microeconomics 3

ENGR 100 Introduction to Engineering Design 3

ENGR 110 Introduction to Renewable Energy 3

ENRG 110 Basic Electricity 3

IS 101 Introduction to Information Systems 3

OSH 222 General Industry Safety 1

## Emphasis Requirements

ELM 127 Introduction to AC Controls 3

ELM 129 Electric Motors and Drives 3

ELM 134 Programmable Logic Controllers I 3

ENRG 120 Fundamentals of Energy Efficiency 3

ENRG 150 Introduction to Wind Energy 3

ENRG 152 Wind Energy Technologies 3

ENRG 215 Electrical Distribution Systems 3

MT 108 Fluid Power (Pneumatics, Hydraulics, Instrumentation) 3

Total Units 61

<sup>1</sup> Course may also count toward degree requirement. Please consult with Academic Advisement.

Course	Title	Units
<b>1st semester</b>		
ENGR 100	Introduction to Engineering Design	3
ENGR 110	Introduction to Renewable Energy	3
ENRG 110	Basic Electricity	3
IS 101	Introduction to Information Systems	3
Mathematics <sup>3</sup>		3
OSH 222	General Industry Safety	1
Semester Total		16
<b>2nd semester</b>		
English <sup>2</sup>		3
ECON 102	Principles of Microeconomics	3
ELM 127	Introduction to AC Controls	3
ENRG 120	Fundamentals of Energy Efficiency	3
ENRG 150	Introduction to Wind Energy	3
Science <sup>2</sup>		3
Semester Total		18
<b>3rd semester</b>		
Communications <sup>2</sup>		3
ELM 129	Electric Motors and Drives	3
ENRG 152	Wind Energy Technologies	3
Humanities/Diversity <sup>2</sup>		3
MT 108	Fluid Power (Pneumatics, Hydraulics, Instrumentation)	3
Semester Total		15
<b>4th semester</b>		
CE 201	Workplace Readiness (Human Relations)	3
ELM 134	Programmable Logic Controllers I	3
ENRG 215	Electrical Distribution Systems	3

## 1st semester

ENGR 100 Introduction to Engineering Design 3

ENGR 110 Introduction to Renewable Energy 3

ENRG 110 Basic Electricity 3

IS 101 Introduction to Information Systems 3

Mathematics<sup>3</sup> 3

OSH 222 General Industry Safety 1

Semester Total 16

## 2nd semester

English<sup>2</sup> 3

ECON 102 Principles of Microeconomics 3

ELM 127 Introduction to AC Controls 3

ENRG 120 Fundamentals of Energy Efficiency 3

ENRG 150 Introduction to Wind Energy 3

Science<sup>2</sup> 3

Semester Total 18

## 3rd semester

Communications<sup>2</sup> 3

ELM 129 Electric Motors and Drives 3

ENRG 152 Wind Energy Technologies 3

Humanities/Diversity<sup>2</sup> 3

MT 108 Fluid Power (Pneumatics, Hydraulics, Instrumentation) 3

Semester Total 15

## 4th semester

CE 201 Workplace Readiness (Human Relations) 3

ELM 134 Programmable Logic Controllers I 3

ENRG 215 Electrical Distribution Systems 3

Human Relations <sup>3</sup>	3
U.S. and Nevada Constitutions <sup>2</sup>	3
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Semester Total	15
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Total Units	64

<sup>2</sup> See approved General Education list for the AA/AS Degree. (<http://catalog.tmcc.edu/degrees-certificates/general-education/aa-as>)

<sup>3</sup> See program recommendations or requirements.