Renewable Energy Emphasis

Construction Technologies Degree

Associate of Applied Science

The creation of a clean, never-ending (renewable) power and fuel supply in the United States will depend on our ability to develop energy sources from wind, solar, biomass, and geothermal resources. The development of these resources will require workers dedicated to leading this country toward a sustainable energy future. A career in renewable energy is a valuable way for individuals with a wide range of skills and interests to help guide the United States toward a secure, environmentally conscious energy future.

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:

- Understand renewable energy resources, especially solar, wind, and geothermal; identify availability; and describe environmental impacts of energy use.
- Demonstrate the ability to design an efficient renewable energy system utilizing the appropriate technology for a specific application.
- Describe the effects of renewable power generation on the power distribution grid and techniques to maintain baseload.

General Education Requirements

Diversity	**(3 credits)**
(May apply to two subject areas.)	
English/Communications	**6 credits**
Human Relations	**3 credits**
Quantitative Reasoning	**3 credits**
Science	**3 credits**
Recommended: PHYS 100	
Social Science/Humanities	**3 credits**
U. S. and Nevada Constitutions	**3 credits**
Total General Education Requirements	**21 Credits**

Core Requirements

AIT 110	General Industrial Safety	1
BI 101	Introduction to Building Codes	3
CONS 120	Print Reading and Specification	3
Total Core Requirements		**7 Credits**

Emphasis Requirements

ADT 120	Introduction to LEED and Sustainable Building	3
ELM 127	Introduction to AC Controls	3
ELM 129	Electric Motors and Drives	3
ELM 134	Programmable Logic Controllers	4
ELM 233	Introduction to Instrumentation	3
ENGR 110	Introduction to Renewable Energy	3
ENRG 110	Basic Electricity	3
ENRG 120	Fundamentals of Energy Efficiency	3
ENRG 130	Introduction to Solar Energy	3
ENRG 150	Introduction to Wind Energy	3
GEOL 206	Geology of Geothermal Energy Resources	3
Total Emphasis Requirements		**34 Credits**

Elective Requirements

Choose three credits from the following:

CONS 290	Internship in Construction	(3)
ENRG 132	Solar Photovoltaic Certification	(3)
Total Elective Requirements		**3 Credits**
Total Degree Requirements		**65 Credits**

Recommended Program Prerequisites:

ENG 090 or 097 or qualifying Accuplacer score

MATH 093 or qualifying Accuplacer score

Suggested Course Sequence

First Year	Course #	Title	Credits
1st Semester			
Core	AIT 110	General Industrial Safety	1
Core	CONS 120	Print Reading and Specification	3
English	Elective		3
Quantitative Reasoning	Elective		3
Emphasis	ENGR 110	Introduction to Renewable Energy	3
Emphasis	ENRG 110	Basic Electricity	3
		Total	**16**
2nd Semester			
Emphasis	ADT 120	Introduction to LEED & Sustainable Building	3
Core	BI 101	Introduction to Building Codes	3
Social Science/ Humanities/Diversity	Elective		3
Emphasis	ELM 127	Introduction to AC Controls	3
Emphasis	ENRG 120	Fundamentals of Energy Efficiency	3
Science	PHYS 100	Introductory Physics	3
		Total	**18**
Second Year	**Course #**	**Title**	**Credits**
1st Semester			
Communications	Elective		3
U.S. and Nevada Constitutions	Elective		3
Emphasis	ELM 129	Electric Motors and Drives	3
Emphasis	ENRG 130	Introduction to Solar Energy	3
Emphasis	ENRG 150	Introduction to Wind Energy	3
		Total	**15**
2nd Semester			
Elective		Choose from list	3
Human Relations	Elective		3
Emphasis	ELM 134	Programmable Logic Controllers	4
Emphasis	ELM 233	Introduction to Instrumentation	3
Emphasis	GEOL 206	Geology of Geothermal Energy Resources	3
		Total	**16**
		Degree Total	**65**