ASSOCIATE OF APPLIED SCIENCE - ENERGY TECHNOLOGIES - GEOTHERMAL ENERGY EMPHASIS

The geothermal energy program is designed to provide students with the skills necessary to enter the workforce in the renewable energy field as Geothermal Power Plant Operators (GPO). GPOs control and monitor geothermal production for power plants. They regulate and distribute power among generators, monitor instruments to maintain voltage, and regulate electricity current from the plant. GPOs 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:

- Synthesize the design and operational aspects of the operation of a geothermal power plant.
- Identify, analyze, and solve technical problems associated with the operation of a geothermal power plant.
- Identify and apply the appropriate environmental regulations in the operation of a geothermal power plant.

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 [1]		*[3]*
Communications/English		*[6]*
Required:		
ENG 101	Composition I	3
or ENG 113	Composition I for International Students	
ENG 107	Technical Communications I	3
Fine Arts/Humanities/Social Science		*3*
Human Relations		*3*
Recommended:		
CE 201	Workplace Readiness	
Mathematics		*3*
Required:		
MATH 126	Pre-Calculus I (or higher)	
Science		*[3]*
Required:		
GEOL 101	Geology: Exploring Planet Earth	4
U.S. and Nevada Constitutions		*3*
Degree Requirements		
ENGR 100	Introduction to Engineering Design	3
ENGR 110	Introduction to Renewable Energy	3
ENGR 244	Introduction to Engineering Economics	2
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
ENGR 243	Fluid Mechanics, Hydraulics and Hydrology	3
ENRG 171	Well Design, Construction, and Geology	1
ENRG 172	Fluids, Piping, Valves and Pumps	4
ENRG 173	Geothermal Plants, Turbines, and Generators	3
ENRG 174	Environmental Regulations for Geothermal Plant Operators	1
GEOL 206	Geology of Geothermal Energy Resources	3
Total Units		61

[1] Course may also count toward degree requirement. Please consult with Academic Advisement.

Course	Title	Units
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 [3]		3
OSH 222	General Industry Safety	1
	Semester Total	16
2nd semester		
Fine Arts/Humanities/Social Science/Diversity [2]		3
ENG 101	Composition I	3
ELM 127	Introduction to AC Controls	3
ENGR 244	Introduction to Engineering Economics	2
ENRG 171	Well Design, Construction, and Geology	1
ENRG 172	Fluids, Piping, Valves and Pumps	4
	Semester Total	16
3rd semester		
U.S. and Nevada Constitutions [2]		3
ELM 129	Electric Motors and Drives	3
ENG 107	Technical Communications I	3
ENGR 243	Fluid Mechanics, Hydraulics and Hydrology	3
ENRG 174	Environmental Regulations for Geothermal Plant Operators	1

GEOL 101	Geology: Exploring Planet Earth	4
	Semester Total	17
4th semester		
ELM 134	Programmable Logic Controllers I	3
ENRG 173	Geothermal Plants, Turbines, and Generators	3
GEOL 206	Geology of Geothermal Energy Resources	3
Human Relations [3]		3
	Semester Total	12
	Total Units	61

[2] See approved General Education list for the AAS Degree. (http://catalog.tmcc.edu/degrees-certificates/general-education/aas)

[3] See program recommendations or requirements.