

EGY 143 - SOLAR THERMAL TECHNOLOGY I

Course Description

This course provides an introduction to solar hot water heating systems. Through structured classroom and hands-on skill building, the student will learn the history of solar thermal heating systems, components, drainback systems, glycol systems, start up and maintenance procedures, savings and performance estimates, system control, monitoring and testing and solar space heating design. Group 2 course.

Credit Hours

3

Contact Hours

4

Lecture Hours

2

Lab Hours

2

Required Prerequisites

PLU 101

Recommended Prerequisites or Skills Competencies

MTH 23 or placement into MTH 111, ENG 111

Course Learning Outcomes

Knowledge:

- Explain solar thermal concepts and history.
- Identify major components.
- Recognize system control, monitoring, and testing.
- Describe a site assessment.

Application:

- Conduct a site survey for viable use areas.
- Design a solar thermal system under specific parameters.
- Produce a savings and performance estimate.

Integration:

- Compare the use of Solar Thermal to other heating methods.
- Assemble and test a live system.

Human Dimension:

- Judge the functionality of Solar Equipment in Northern Michigan.
- Illustrate the value and use of solar thermal technology.

Caring - Civic Learning:

- Estimate the value of 'free' hot water systems.
- Justify independence from the gas or electrical utility.

Learning How to Learn:

- Evaluate various applications of solar thermal equipment to real-life.