

Sustainability Technologies

Sustainability Technology Certificates (C40370)

- Sustainability Technologies Certificate – Specialization in Renewable Energy (C40370-C1) (p. 1)
- Sustainability Technologies Certificate – Specialization in Energy and the Environment (C40370-C5) (p. 1)
- Sustainability Technologies Certificate - Specialization in Design and Modeling (C40370-C6) (p. 1)

Sustainability Technologies Certificate – Specialization in Renewable Energy (C40370-C1)

Major Requirements

SST 110	Introduction to Sustainability	3.0
SST 120	Energy Use Analysis	3.0
SST 130	Modeling Renewable Energy	3.0
ELC 220	Photovoltaic System Technology	3.0
ALT 120	Renewable Energy Technologies	3.0
Total Credits		15

Sustainability Technologies Certificate – Specialization in Energy and the Environment (C40370-C5)

Major Requirements

SST 110	Introduction to Sustainability	3.0
SST 120	Energy Use Analysis	3.0
ALT 120	Renewable Energy Technologies	3.0
ENV 110	Environmental Science	3.0
ENV 110A	Environmental Science Laboratory	1.0
ENV 226	Environmental Law	3.0
Total Credits		16

Sustainability Technologies Certificate - Specialization in Design and Modeling (C40370-C6)

Major Requirements

SST 130	Modeling Renewable Energy	3.0
ARC 114	Architectural CAD	2.0
GIS 111	Introduction to GIS	3.0
GIS 121	Georeferencing & Mapping	3.0
SST 110	Introduction to Sustainability	3.0
Total Credits		14

SST 110. Introduction to Sustainability. 3.0 Credits. Class-3.0.

Clinical-0.0. Lab-0.0. Work-0.0

This course introduces sustainability issues and individual contributions toward environmental sustainability. Topics include management processes needed to maximize renewable/non-renewable energy resources, economics of sustainability, and reduction of environmental impacts. Upon completion, students should be able to discuss sustainability practices and demonstrate an understanding of their effectiveness and impacts.

SST 120. Energy Use Analysis. 3.0 Credits. Class-2.0. Clinical-0.0.

Lab-2.0. Work-0.0

This course introduces the principles of analyzing energy use, energy auditing tools and techniques, conservation techniques, and calculating energy savings. Topics include building system control theory, calibrating digital controls, energy loss calculations, and applicable conservation techniques. Upon completion, students should be able to demonstrate an understanding of energy use, audits, and controls in the analysis of energy consumption.

SST 130. Modeling Renewable Energy. 3.0 Credits. Class-2.0.

Clinical-0.0. Lab-2.0. Work-0.0

This course introduces software and other technologies used for modeling renewable energy systems. Topics include renewable energy modeling software applications, data analysis, renewable energy sources, and cost of renewable energy systems. Upon completion, students should be able to use appropriate technology to model the effectiveness of renewable energy systems.

SST 140. Green Building and Design Concepts. 3.0 Credits. Class-3.0.

Clinical-0.0. Lab-0.0. Work-0.0

This course is designed to introduce the student to sustainable building design and construction principles and practices. Topics include sustainable building rating systems and certifications, energy efficiency, indoor environmental quality, sustainable building materials and water use. Upon completion, students should be able to identify the principles and practices of sustainable building design and construction.

SST 210. Issues in Sustainability. 3.0 Credits. Class-3.0. Clinical-0.0.

Lab-0.0. Work-0.0

This course introduces the long-term impacts and difficulties of applying sustainability concepts in an organization, business, or society. Topics include the application of sustainable technologies and the analysis of affordability, efficiencies, recycling, and small and large-scale design. Upon completion, students should be able to recognize the possible limitations of sustainable technologies and be prepared to reconcile such conflicts.

Prerequisites: Take SST 110

SST 250. Sustainability Capstone Project. 3.0 Credits. Class-1.0.

Clinical-0.0. Lab-6.0. Work-0.0

This course introduces an integrated team approach to a sustainability topic of interest to students, faculty, or professional community. Topics include problem identification, proposal preparation, conceptual design, and an effective project work schedule. Upon completion, students should be able to integrate the many facets of a topic based on environmental sustainability into a completed project.

Prerequisites: Take SST 110