Course Title: SUST 1311: Introduction to Sustainability

Semester Credit Hours: 3(3,0)

Course Description

This course familiarizes students to the theory, principles, and practices of sustainability. It will include discussions on sustaining ecological and environmental wellbeing, creating economic prosperity, and safeguarding social justice.

Overview of the Course

a. Develop student's understanding of the interconnectedness of human and natural systems.

b. Develop learning environment that provides student the ability to freely explore how sustainability ideas can supplement existing values.

c. Develop student's scientific and social literacy, information management, interpersonal expression, environmental problem solving and critical thinking while providing skills for identifying and solving problems objectively.

PMU Competencies & Learning Outcomes

1. Define and understand the concept of sustainability.
2. Identify the key characteristics of human and natural systems as they pertain to sustainability.
3. Communicate how the key characteristics of human and natural systems interact with one another.
4. Identify measurable collective and individual actions.
5. Analyze sustainability from a multidisciplinary perspective and understand main doctrines of diversity.

Topics to be covered

Week 1: An introduction to the concept of sustainability (its roots, and history of development) and global Sustainable Development Goals (SDGs).

Week 2: Understanding the natural systems, the water cycle, the nutrient cycle…

Week 3: Detailed look at the indicators of Human Fingerprint on the Earth and how human activity can affect the climate change.

Week 4: The reasons and consequences of pollution and the different technologies for treatment of waste water and solid waste.

Week 5: Sustainable food, agriculture and water security

Week 6: Analysis of the sustainability problems caused by transportation and the strategies to achieve sustainable transport

Week 7: introduction to the Renewable Energy sources. The advantages and the problems of using Renewable Energy

Week 8 & 9: Identification of the available tools for sustainability assessment which is the key element for advancing sustainable development

Week 10: Description of the elements of green building standards and models and an explanation how each reduces resources uses

Week 11: The tools that we can use to attain sustainability such as policy, law, communication, marketing, research advocacy, and international treaties.

Week 12: A summary about the recent actions that have been taken to achieve sustainable development and the perspectives

Week 13 & 14: Projects/Field Reports; Community volunteering/ outreach.

Week 15: Oral Presentations and evaluations

ASSESSMENT STRATEGY (will be announced to students at the beginning of semester)

- **Written exam (Final)**

Weighting of final grade: 30 %

- **Oral presentation/project/assignment at the end of the semester & participation to the Sustainability fair that we can organize.**

Weighting of final grade: 50 %

Assignment:

Service Project/Field Study: Students are required to complete two or three field studies and/or service projects. Dates and a summary of the qualifying projects or field studies will be provided as they are scheduled. To receive full credit, students are required to submit a short written analysis of the opportunity that specifically discusses how what was learned during the field study or service project relates to sustainability. This summary must include accurately applied terminology and concepts learned in the classroom. A list of possible service projects and field studies will be provided.

- **Attendance, class works.**

Weighting of final grade: 20 %

Requirements Fulfilled

SUST 1311 satisfies three hours of the Social Science Elective of College Core Curriculum requirement.

Required Prerequisites

This course does not have a prerequisite.

Laboratory Exercises

This course does not require a separate lab.

Technology Component

Students are expected to have a computer account on the University's BLACKBOARD system to communicate. Students should immediately sign up for the online discussion group for the class. Students are also expected to become familiar with the use of the Internet & library resources. All assignments and projects are submitted online. Assignments focus on guided collaborative learning, media-assisted instruction, research projects, and laboratory and computer exercises. Students should check with their instructor in order to obtain the specific methods to be used in the course.

Study materials:

1. Text Book, Introduction to Sustainability, Robert Brinkmann

2. Supplementary Materials: Sustainability Principles and Practice

by Margaret Robertson.

3. Web Resources: www.chemistryworld.com/sustainability