REGULAR COURSE SYLLABUS

College of: Professional Studies

Department: Engineering and Engineering Technology

Prefix & Course Number: SSE 4200 Crosslisted With*: ___

Course Title: Sustainable Development Strategy

Transcript course title (30 characters): SUST. DEVELOPMENT STRATEGY

Check All That Apply: Required for Major: X Required for Minor: ___ Specified Elective: ___

Required for Concentration: ___ Elective: ___ Service Course: ___

To receive Title IV financial aid funds, all institutions of higher education must comply with the federal definition of a credit hour. The Higher Learning Commission requires institutions to maintain policies and procedures for verifying compliance with this definition.

Federal Credit Hour Definition: A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally-established equivalency that reasonably approximates not less than:

(I) one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or (2) at least an equivalent amount of work as required in paragraph (1) of this definition for other activities as established by an institution, including laboratory work, internships, practica, studio work, and other academic work leading toward the award of credit hours. 34CFR 600.2 (11/1/2010)

Credit Hours: 3 (3+0)

Face-to-Face or Equivalent Hours per course:

Lecture 45 Lab 0 Internship 0 Practicum 0 Other (please specify type and hours): ___

Additional Student Work Hours per course: 90

Schedule Type: ___ Grade Mode: ___

Variable topics umbrella course: No X Yes ___ If Yes, number of credit hours allowed ___

Specified repeatable course: No X Yes ___

APPROVED:

[Signature]

Department Chair OR Program Director Date 10/14/15

[Signature]

Dean OR Associate Dean Date 1-28-16

[Signature]

Associate VP, Academic and Student Affairs Date

*If crosslisted, attach completed Course Crosslisting Agreement Form
Prefix and Course Number: SSE 4200

Prerequisite(s): None
Corequisite(s):
Prerequisite(s) or Corequisite(s):
Banner Enforced:
Prerequisite(s):
Corequisite(s):
Prerequisite(s) or Corequisite(s):

Registration restrictions: Level _____ Class _____ Program/Major _____ Student attribute Senior

Catalog Course Description:
In this course students will be introduced to the role of engineering in development, and will examine how actions lead to intended and unintended consequences. Emphasis will be placed on sustainability principles with regards to planning and design. Students will study development strategy on large, modern world scale and also for communities where the social, political, and economic systems differ from those most commonly experienced by engineers in the developed world. The students will also be introduced to a framework and guidelines for conducting both large and small scale development projects. The course will address analysis of communities in medium- to high-risk and low resilience environments. The framework combines concepts and tools that have been traditionally used by development agencies and other tools more specifically used in engineering project management. Finally, students will be introduced to the various leadership skills necessary to make decisions in complex and uncertain environments.

Required Reading and Other Materials will be equivalent to:
Handouts

Specific, Measurable Student Behavioral Learning Objectives:
Upon completion of this course the student should be able to:

1. Explain the multidisciplinary nature of engineering and the role that engineering plays in both large and small-scale community projects and human development in general.
2. Apply different steps in conducting projects and to the technical and non-technical components of project management.
3. Create an opportunity for the participants to realize that engineering for developing communities is about the delivery of projects that are done right from a performance (technical) point of view and are also the right projects from a social, environmental and economic (non-technical) point of view.
4. Apply sustainable solutions in community development projects.
5. Apply leadership skills to complex and uncertain conditions.

Detailed Outline of Course Content
I. International development and role of engineers in development
   II. Sustainability and sustainable development
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III. Project life-cycle and project management
IV. Defining and appraising a community
V. Project design, strategy and planning
VI. Appropriate and sustainable technology (WASH, energy, shelter)
VII. Project assessment (monitoring, evaluation), closing and scalability
VIII. Ensuring long term benefits of implemented solutions
IX. Introduction to systems modeling of development projects
X. Leadership skills

Evaluation of Student Performance:
1. Examinations
2. Assignments
3. Class projects and/or presentations and/or reports