SS 2320 ENVIRONMENTAL FIELD METHODS

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Catalog Course Description

This course will cover topics related to environmentally relevant field work in the developing world. Specifically, field and lab practical experiences supplemented with necessary lecture will be the core of the course. Surface water and groundwater collection will be addressed as well as the analysis of coliform bacteria, basic water quality parameters, and inorganic contaminants. Topics will also include soil collection and analysis, sanitation and water systems in the field, mapping, basic GIS, and systems planning.

Prerequisites

Sophomore standing or above is required. Concurrent enrollment in SS 23XX Engineering and Design for the Developing World is required. Enrollment is by application and therefore requires instructor approval.

Textbook and Other Related Material

There is no assigned textbook for this course; however, multiple readings will be provided from various sources at the beginning of the term.

Course Objectives

Analyzing and addressing environmental problems often requires field study and implementation. This course will provide students with exposure and specific training in water and soil collection and analysis in a field setting. Results will be analyzed and integrated to develop complete assessments of given environmental systems. Throughout the course and effort will be made to utilize current techniques and tools. The course has an integrated lab component that requires hiking and physical activity on a near daily basis. The course will further have a theme of addressing such problems while in a developing world setting. Addressing such problems in impoverished areas with limited resources provides a unique set of challenges.

atmosphere of academic honesty by being certain that students are aware of the value of it, that they understand the regulations defining it, and that they know the penalties for departing from it. The faculty should, as far as is reasonably possible, assist students in avoiding the temptation to cheat. Faculty must be aware that permitting dishonesty is not open to personal choice. A professor or instructor who is unwilling to act upon offenses is an accessory with the student offender in deteriorating the integrity of the University. Students must share the responsibility for creating and maintaining an atmosphere of honesty and integrity. Students should be aware that personal experience in completing assigned work is essential to learning. Permitting others to prepare their work, using published or unpublished summaries as a substitute for studying required materials, or giving or receiving unauthorized assistance in the preparation of work to be submitted are directly contrary to the honest process of learning. Students who are aware that others in a course are cheating or otherwise acting dishonestly have the responsibility to inform the professor and/or bring an accusation to the Honor Council.

Students and faculty must mutually share the knowledge that any dishonest practices permitted will make it more difficult for the honest students to be evaluated and graded fairly, and will damage the integrity of the whole University. Students should recognize that their own interest, and their integrity as individuals, suffers if they condone dishonesty in others.

Topics Covered

<u>Labs</u>

July 26	Lab I: GPS, GIS, & Mapping
July 31	Lab II: Field Water Quality Testing
Aug 2	Lab III: Water Sampling and Lab Testing
Aug 7	Lab IV: Soil Sampling and Field Characterization
Aug 9	Lab V: Soil Lab Testing
Aug 14	Final Project Prep
Aug 16	Final Project

<u>Lectures</u>

July 23	Intro to the Program
July 25	GPS, Mapping, Computing
July 30	Water Quality Parameters & Sanitation
Aug 1	Water Chemistry & Sampling Techniques
Aug 6	Soil Science & Characterization
Aug 8	Soil Mineralogy and Chemistry
Aug 13	Combined Lecture on Systems
Aug 15	Final Project Prep