ENV 305 Environmental Health

Course Description: This course is designed for students pursuing an environmental science minor or future health professions career. The primary objective of this course is to introduce students to the environment effects upon human health. The ecological position of human populations within the global ecosystem will be presented along with human populations with the local environment. Impacts of natural environmental factors and pollutants on human health will be explored including case studies. Subjects to be addressed will include effects of natural carcinogen, ultra-violet light, invertebrate disease vector, epidemiology, ecotoxicology, density-dependent disease transmission, food supply health, and water supply quantity and quality.   
3.000 Credit hours

Book:

Potential Field Trips: USGS Water Science Center, Phinnizy Swamp (Water Filtration and Water Treatment Tours), NADP Stations at SRS with Dennis Jackson

Places to visit on site: L-Lake, Boyd Pond, Par Pond, D-Area Ash Based

Sample Syllabus: South Carolina State University

Environmental Sciences Field Station at Savannah River

# **COURSE SYLLABUS**

**Summer Session I/II 20\_\_\_, 9am-5pm, M, W, F or T, TH, SAT**

*(Instructor to announce daily dorm departure times)*

# **Instructor’s Name:** TBD

**College:** Science, Mathematics and Engineering Technology

**Department:** Biological & Physical Sciences

**Course Title & Number: ENV 305 – Environmental Health**

**Instructor’s Office:**

**Instructor’s Office Tel.:**

**Office Hours:**

**Email Address:**

**Classroom:**

**Required Textbook:** TBD; Case studies will be used to throughout the course – handouts will be given.

**Teaching Assistant:**

**Dorm Room:**

**Phone:**

**Office Hours:**

**Email Address:**

**I. COURSE DESCRIPTION**

**ENV 305 – Environmental Health 3(3, 0):** This course is designed for students pursuing careers in environmental studies and/or health professions. This course introduces students to environmental affects to human health. The ecological position of human populations within the global ecosystem will be presented along with human populations with the local environment. Impacts of natural environmental factors and pollutants on human health will be explored including case studies. Subjects to be addressed will include effects of natural carcinogen, ultraviolet light, invertebrate disease vector, epidemiology, ecotoxicology, density-dependent disease transmission, food supply health, and water supply quantity and quality.

**Prerequisites:**

1. Instructor permission and sophomore standing; co-requisite ENV 300 or equivalent course
2. All students are required to pass a General Employee Training (GET) multiple choice exam as a condition of retaining your internship. A 3-4 hour training course will precede the exam. Passing the exam is not difficult and only requires your attention during the training course.

**II. COURSE OBJECTIVES**

**Course Objective:** To provide students with an overview of environmental health field

and to recognize environmental health issues in the community.

To educate students how the environment affects human health and how they can prevent or minimize the negative impacts of the environment. To make students proficient in reading research papers in environmental health, and analyze and interpret results.

**III. COURSE COMPETENCIES**

**Student Learning Outcomes:**

Students will learn different environmental factors that affect human health such as,

Food contamination and toxins, Water pollution, Air pollution, and effects of pesticides,

agricultural and hazardous wastes.

**IV. EXPECTED MEASURABLE OUTCOMES**

Students will be given individual or group assignments, projects, reports in which they will be required to explain the applications of the techniques and topics learned.

**V. OUTLINE OF COURSE CONTENT**

**COURSE SCHEDULE – Subject to change**

|  |  |  |  |
| --- | --- | --- | --- |
| Week | Topic | Reading Assignment | Field Activity |
| 1 | a. Course Introduction  Environmental Health problems associated with exposures to environmental factors such as air, water, chemicals in work place and home | Chapter reading  and hand-outs for ALL topics covered | Visit to a lab that  Monitors Environmental pollutants – water, chemicals etc. at the field station. Hands-on component: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | b. Effects of Selected  Toxic substances on human health – asbestos, lead, PCB’s etc. |  | Visit an Environmental  Regulatory Lab. At the Field Station. Hands-on component: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 2 | a. Aspects of Air Pollution |  | Visit to Air Pollution Lab. at the field Station. Hands-on component: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | b. Health effects of Air Pollution, cigarette, smog and Ozone |  | Visit a local Power plant. Hands-on component: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 3 | a. Solid and hazardous waste pollution |  | Trip to a landfill. Hands-on component: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | b. Water Pollution  Pollution of ground water, surface water and drinking water |  | Trip to waste water treatment plant  Sampling and testing of water quality from a creek |
| 4 | a. Pesticides:  Various categories of Pesticides |  | Visit an Agricultural farm. Hands-on component: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | b. The toxic effects of pesticides on human and the environment |  |  |
| Final Week | Summary of topics covered during session. Student multi media presentation on Selected Topics |  |  |

**VI. LIBRARY AND INTERNET ASSIGNMENT**

In addition to assignments and projects, students will be given library and internet assignments for which they will be required to submit reports.

**VII. SPECIAL COURSE REQUIREMENTS**

The course is “FIELD ORIENTED”, therefore be prepared to go into the field everyday. Everyday you should bring with you: water, food, a change of clothing, long pants (light weight), field boots, hat, and anything else you think you may need. Each course topic will have a supporting field/hands-on activity scheduled by the instructor.

A. Attendance: Attendance is mandatory. Students are expected to read assignments before class. A lab. write-up will be required after each field-trip / laboratory visit. Leave a message on my phone if an emergency arises. **Absences and tardiness will negatively impact your stipend**.

B. Make-up Exams: Make-up exams will be given only if student presents evidence of being excused officially by instructor. There will be no make up for pop quizzes.

C. Office hours: Instructor will be available during the office hours posted above. However, meeting with the instructor outside of office hours requires an appointment.

D. Equipment Care: Where applicable, each student is expected to exercise extreme caution and care when using any equipment. No piece of equipment is to be operated by any student until he or she has been thoroughly instructed on the equipment’s use and given permission to do so.

E. Academic Integrity: All students shall refer to the most current South Carolina State University Handbook for instructions on Academic Integrity.

The highest standards of academic integrity shall be expected of all students. As such, academic dishonesty is prohibited. Academic dishonesty includes, but is not limited to cheating on examinations, unauthorized collaboration on individual assignments, unauthorized access to examination materials, and plagiarism.

Plagiarism is defined as the unauthorized use of ideas and/or phrases and representing the same as your own, intentionally or unintentionally. As such, a writer may not use in his or her writing the language, ideas, phrases, or sentences taken verbatim from another’s writing unless due credit is given to the writer by quotation and citation.

Students found guilty of plagiarism will fail the course. If any student is unsure whether an act may violate integrity policy, please consult with the instructor before engaging in the act.

**VIII. METHOD OF EVALUATION**

Methods of Evaluation Evaluation will be based upon tests, quizzes, lab reports, term paper, literature reviews, preparedness, participation and field.

There are no make-up lecture exams unless a documented, excusable reason is presented (for example: doctor's bill or statement, tow truck bill, police report, etc). There will be no lab make- ups.

If you have a learning or physical disability which might affect your performance in this class, inform the instructor and Director as soon as possible in order to verify your status and provide you with appropriate assistance.

Nature of Examinations Multiple choice questions, Fill in the blanks, True / False, short answers or any combination of these. All exams will be announced.

Teaching Methods Class instruction will include: lecture, discussion, class work, laboratory demonstrations and field visits.

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**Requirement Date Weight**

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Three (3) one hour lecture tests 25%

Final Exam (Comprehensive) 25%

Lab/Field Reports 25%

Final Comprehensive Presentation & Poster 25%

Participation 0%

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**Total** **100%**

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**Note: All exam dates are tentative and are subject to change at the instructor’s discretion.**

**IX. GRADING SCALE**

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**Score 100-90% 89-80% 79-70% 69-60% Below 60%**