Geology Program, Department of Natural Sciences

Course Syllabus

Environmental Science

GEOL 1305

Summer I 2017 Environmental Science (GEOL 1305 CRN 11810)

Instructor contact information (Dr. Peter Azah Abanda, peter.abanda@hccs.edu)

Office Location and Hours: Spring Branch campus RM 203 M-F 12:00 – 1:00 PM

Course Location/Times: Spring Branch campus Rm 203 MTWTh 1:00-3:30 PM

Course Semester Credit Hours (SCH) (lecture, lab)

Credit Hours: 3
Lecture Hours: 3

Total Course Contact Hours

47.5 +0.5 hrs of alternative instruction

Course Length = 5 weeks

Type of Instruction

Lecture

Course Description:

A survey of the forces, including humans, that shape our physical and biologic environment, and how they affect life on Earth. Introduction to the science and policy of global and regional environmental issues, including pollution, climate change, and sustainability of land, water, and energy resources.

Course Prerequisite(s). Must qualify to enroll in INRW 0420 or ESOL 0360

FREQUENT REQUISITES

- Qualify to take GUST 0342 (9th -11th Grade Reading) or higher – and -
- Qualify to take ENGL 0310 or 0349 or INRW 0420

Academic Program Learning Outcomes

1. Students will recognize scientific and quantitative methods. Students will evaluate the differences of scientific approaches and communicate these findings, analyses, and interpretations in oral and written communication.
2. Students will demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, religion, and public policies.
3. Students will demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.
4. Students will identify and recognize the differences in competing scientific theories.

Course Student Learning Outcomes (SLO):

1. Recognize, describe, and quantitatively evaluate earth systems, including the land, water, sea, and atmosphere, and how these function as interconnected ecological systems.

2. Assess environmental challenges facing humans caused by their interaction with the physical and biological environment (e.g., population growth, energy resources, food production, pollution, water and resource use).
3. Acquire a scientific vocabulary and critical thinking skills related to environmental science.
4. Assess the effectiveness and feasibility of environmental policy and its impact.

Learning Objectives:

1.1 List the four categories of limiting factors for organisms in an ecological system (raw materials, energy, waste products and interactions among organisms).

1.2 Interpret environmental trends from data (graphs or histograms or tables)

2.1 Utilize population data (e.g., from the US Census Bureau at http://www.census.gov/) to determine population growth rate, and analyze impact on resource demand and waste production.

2.2. Calculate personal energy or resource consumption (e.g., via household electric meter readings or water usage).

2.3. Compare the use of fossil fuel, nuclear, and renewable energy consumption (wind, solar, biomass and hydroelectric).

2.4. Discuss current events related to environmental science as reported by news media.

3.1. Discuss the reliability of science through the Scientific Method in resolving environmental problems.

3.2. Discuss the chemical behavior of matter and states of matter (solid, liquid, or gas) in relation to kinetic and potential energy.

3.3. Support the notion that energy cannot be created nor destroyed, but when energy is converted from one form to another, some energy is converted into a less useful form.

4.1 Explore how the political process impacts environmental decision making.

4.2 Evaluate significant environmental policies (e.g., clean air act, recycling nuclear fuel rods) related to what procedures are actually in place.

Core Curriculum Objectives:

This course is in the Life and Physical Science Core Curriculum “functional component area” and meets the objectives of:

- **Critical Thinking Skills** - to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
- **Communication Skills** - to include effective development, interpretation and expression of ideas through written, oral and visual communication
- **Empirical and Quantitative Skills** - to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
- **Teamwork** - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

Tentative Course Calendar. This calendar is subject to modification. Students will be notified of any changes to the calendar.

Week	Lecture and discussion topics including chapter readings	Assignments/Exams
06/05	Introductions, course overview, connect registration and navigation, Environmental Interrelationships. Chapter 1	Connect reading exercise and quiz
06/06	Environmental Interrelationships and Environmental Ethics, Chapters 1 & 2.	Connect reading exercise and quiz
06/07	Risk, Economics and environmental Concerns. Chapter 3	Connect reading exercise and quiz

06/08	Interrelated Principles: Matter, Energy, and Environment. Chapter 4.	Connect reading exercise and quiz
06/12	Interactions: Environment and Organism. Chapters 5. Re	Connect reading exercise and quiz. Review 1, 2, 3, 4, 5 for Exam 1
06/13	*Exam #1*	*Chapters 1, 2, 3, 4, and 5.*
06/14	Kinds of Ecosystems and Communities	Connect reading exercise and quiz.
06/15	Population: Characteristics and Issues. Chapter 7.	Connect reading exercise and quiz.
06/19	Energy and Civilization: Patterns of Consumption Chapter 8. Nonrenewable Energy Sources. Chapter 9. Renewable energy sources Chapter 10.	Connect reading exercise and quiz
06/20	Energy and Civilization: Patterns of Consumption Chapter 8. Nonrenewable Energy Sources. Chapter 9. Renewable Energy Sources Chapter 10.	Connect reading exercise and quiz
06/21	Energy and Civilization: Patterns of Consumption Chapter 8. Nonrenewable Energy Sources. Chapter 9. Renewable Energy Sources Chapter 10.	Connect reading exercise and quiz. Review chapters 6, 7, 8, 9, 10 for Exam 2.
06/22	Exam #2	Chapters 6, 7, 8, 9, and 10.
06/26	Soil and its uses, chapter 13	Connect reading exercise and quiz.
06/27	Water management. Chapter 15	Connect reading exercise and quiz
06/28	Solid and hazardous waste management and disposal. Chapters 18 & 19	Connect reading exercise and quiz
06/29	Air quality issues. Chapter 16	Connect reading exercise and quiz
07/03	Climate Change: A Twenty first century issue. Chapter 17.	Term project due 07/03/2017.
07/05	Review chapters 13, 15, 16, 17, 18, and 19.	Review chapters 13, 15, 16, 17, 18, and 19.
07/06	Final Exam	Final exam.

Instructional Methods

Face to Face with supplemental online instruction using McGraw-Hill Connect.

Student Assignments

See above course outline table including tentative course outline. Assignment calendar will be updated weekly.

Student Assessment(s)/grading

TYPE OF ASSESSMENT	# OF ASESSMENTS	POINTS	TOTAL POINTS
Unit exams	**2**	**100 x 2**	**200**
Final Exam	**1**	**200**	**200**
Term project	**1**	**100**	**100**
Presentation (environment in the news)	**1**	**50**	**50**
Discussion	**Various**	**50**	**50**
Reading assignments, In-class	**Various**	**250**	**250**

and online quizzes and homework		
	Total	**850**

Description of Exams and Assignments

- **Homework**: Homework is vital to success in any class! Therefore, it is important that you do your homework regularly and get help immediately when you have questions. Homework will be regularly assigned throughout the semester. A majority of the assignments will be online on McGraw-Hill Connect. Due dates will be given in class.
- **Quizzes**: Quizzes will be administered regularly throughout the semester. They can be given either online or in class. The in-class quizzes may be announced or unannounced and cannot be made up. Should a student miss class, it is the student's responsibility to get a copy of the assignment from the instructor or consult with a classmate and turn it in on time. Late assignments will be penalized. Online quizzes will be posted on Connect. Their deadline will be announced in class.
- **Research Paper and Presentation**: The paper will be about a geoscience topic of the student's interest. The length of the paper should be 3–5 pages, typed, and double-spaced with references. At least one of the references should come from the HCC library. The student may be expected to give an approximately 5-minute presentation to the class, sharing information about their topic.
- **Exams**: There will be 2 unit exams and a final exam. A make up exam will be given ONLY if the student has a legitimate reason and notifies the instructor within 24 hours of the exam date. In addition, the exam must be made up by the next class period. Only one major exam may be made up. The final exam cannot be made up.

Instructor's Requirements

Regular and prompt classroom attendance is a critical component of the educational experience because it prepares you the student to be effective and responsible citizen. Students are expected to contact the instructor regarding any absence before class, or within 24 hours in case of an emergency, just as they would contact an employer regarding any absence from their jobs. With proper notification, the student may be given the opportunity to make up missed work by the next class period. Students are responsible for any material covered in class during their absence. Regardless of the reason or excuse, excessive absences, tardiness, or early departures from class will negatively affect course grades. Attend class regularly and be prepared to engage in classroom discussions.

Program/Discipline Requirements: If applicable

All HCC policies regarding attendance, withdrawal, academic honesty, students with disabilities, grading, and student rights will be followed in this course. Refer to syllabus section titled "Instructor's Requirements", "HCC Policy Statements", and "Grading" for more details as well as the Student Handbook http://www.hccs.edu/district/students/student-handbook/

HCC Grading Scale:

A = 100- 90:	4 points per semester hour
B = 89 - 80:	3 points per semester hour
C = 79 - 70:	2 points per semester hour
D = 69 - 60:	1 point per semester hour
59 and below = F	0 points per semester hour
FX (Failure due to non-attendance)	0 points per semester hour
IP (In Progress)	0 points per semester hour
W (Withdrawn)	0 points per semester hour
I (Incomplete)	0 points per semester hour
AUD (Audit)	0 points per semester hour

IP (In Progress) is given only in certain developmental courses. The student must re-enroll to receive credit. COM (Completed) is given in non-credit and continuing education courses.

FINAL GRADE OF FX: Students who stop attending class and do not withdraw themselves prior to the withdrawal deadline may either be dropped by their professor for excessive absences or be assigned the final grade of "FX" at the end of the semester. Students who stop attending classes will receive a grade of "FX", compared to an earned grade of "F" which is due to poor performance. Logging into a DE course without active participation is seen as non-attending. Please note that HCC will not disperse financial aid funding for students who have never attended class.

Students who receive financial aid but fail to attend class will be reported to the Department of Education and may have to pay back their aid. A grade of "FX" is treated exactly the same as a grade of "F" in terms of GPA, probation, suspension, and satisfactory academic progress.

To compute grade point average (GPA), divide the total grade points by the total number of semester hours attempted. The grades "IP," "COM" and "I" do not affect GPA.

Health Sciences Programs Grading Scales may differ from the approved HCC Grading Scale. For Health Sciences Programs Grading Scales, see the "Program Discipline Requirements" section of the Program's syllabi.

Instructor Grading Criteria

See student assessment/grading above.

Instructional Materials

Required Textbook: *Environmental Science: A Study of Interrelationships, 14th ed.,* by Enger and Smith; McGraw-Hill, 2016 (ISBN 9781259298448). Students will purchase an access code to *Connect* either at the HCC bookstores or directly from McGraw-Hill. Students will have the option to order a loose-leaf printed copy of the textbook once they are registered in Connect if they desire. This is not a requirement. Access to the Connect website is mandatory as the reading assignments and quizzes will be on this platform. Information on how to register for connect can be found on the following website:

http://bit.ly/StudentRegistration

HCC Policy Statement:

Please familiarize yourself with campus policies in the HCC Student Handbook:
http://www.hccs.edu/district/students/student-handbook/

Student with Disabilities (ADA):

If you have any special needs or disabilities, which may affect your ability to succeed in college classes or participate in college programs/activities, please contact the office of disability support services at the college. Upon consultation and documentation, you will be provided with reasonable accommodations and/or modifications. Please contact the DSS office as soon as you begin the term.
http://www.hccs.edu/district/students/disability-services/ada-counselors/

Central College
713.718.6164
Coleman College
713-718-7376
Northeast College
713-718-8322
Northwest College
713-718-5667
713-718-5408
Southeast College
713-718-7053
Southwest College
713-718-7909
Adaptive Equipment/Assistive Technology
713-718-6629
713-718-5604
Interpreting and CART services
713-718-6333

Academic Honesty: "Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Disciplinary proceedings may be initiated by the college system against a student accused of scholastic dishonesty. Penalties can include a grade of "0" or "F" on the particular assignment, failure in the course, academic probation, or even dismissal from the college. Scholastic dishonesty includes, but is not limited to, cheating on a test, plagiarism, and collusion." **Cheating** includes looking at or copying from another student's exam, orally communicating or receiving answers during an exam, having another person take an exam or complete a project or assignment, using unauthorized notes, texts, or other materials for an exam, and obtaining or distributing an unauthorized copy of an exam or any part of an exam. **Plagiarism** means passing off as his/her own the ideas or writings of another (that is, without giving proper credit by documenting sources). Plagiarism includes submitting a paper, report or project that someone else has prepared, in whole or in part. **Collusion** is inappropriately collaborating on assignments designed to be completed independently. These definitions are not exhaustive. When there is clear evidence of cheating, plagiarism, collusion or misrepresentation, a faculty member will take disciplinary action including but not limited to: requiring the student to retake or resubmit an exam or assignment, assigning a grade of zero or "F" for an exam or an assignment; or assigning a grade of "F" for the course. Additional sanctions, including being withdrawn from the course/program or expelled from school, may be imposed on a student who violates the standards of academic integrity. See the Student Handbook for additional details.

Attendance:
You are expected to attend all lecture classes and labs regularly. You are also responsible for materials covered during your absences. Instructors may be willing to consult with you for make-up assignments, but it is your responsibility to contact the instructor. Class attendance is monitored daily. Although it is your responsibility to drop a course for nonattendance, the instructor has the authority to drop you for excessive absences. *You may be dropped from a course after accumulating absences in excess of 12.5 percent of the total hours of instruction* (lecture and lab). For this 3 credit-hour lecture class meeting 10 hours per week (48 hours of instruction), you can be dropped after 6 hours of absence i.e maximum 2 classes..

Withdrawal Policy: **The last date to withdraw is Monday June 26, 2017.**

Other important dates include:

June 9th, 2017 – Last day for 70 % refund

June 12th, 2017 – Last day for 25 % refund.

The State of Texas imposes penalties on students who withdraw/drop courses excessively. Students are limited to no more than SIX total course withdrawals throughout their educational career at a Texas public college or university. Students are encouraged to review the HCC 6 Drop Policy.
Students who repeat a course three or more times face significant tuition/fee increases at HCC and other Texas public colleges and universities. If you are considering course withdrawal because you are not earning passing grades, confer with your instructor/counselor as early as possible about your study habits, reading and writing, homework, test-taking skills, attendance, course participation, and opportunities for tutoring or other assistance that might be available.

Religious Holidays: If you observe a religious holiday and miss class, you must notify your instructor in writing two weeks in advance to arrange to take a test or make up an assignment. A religious holiday is "a holy day observed by a specific religion and the place of worship is exempt from property taxation under Section 11.20 of the Tax Code."

Policy on Electronic Devices: The use of electronic devices by students in the classroom is up to the discretion of the instructor. Any use of such devices for purposes other than student learning is strictly prohibited. If an instructor perceives such use as disruptive and/or inappropriate, the instructor has the right to terminate such use. If the behavior continues, the student may be subject to disciplinary action to include removal from the classroom or referral to the Dean of Student Services.
Students with disabilities who need to use a recording device as a reasonable accommodation should contact the Office for Students with Disabilities for information regarding reasonable accommodations.

HCC Sexual Harassment Policy: HCC shall provide an educational, employment, and business environment free of sexual harassment. Sexual harassment is a form of sex discrimination that is not tolerated at HCC. Any student who feels that he or she is the victim of sexual harassment has the right to seek redress of the grievance. HCC provides procedures for reviewing and resolving such complaints through its Grievance Policy. Substantiated accusations may result in disciplinary action against the offender, up to and including termination of the employee or suspension of the student. In addition, complainants who make accusations of sexual harassment in bad faith may be subject to equivalent disciplinary action.

Student Rights and Responsibilities:

http://www.hccs.edu/district/about-us/policies/d-student-services/d4-student-rights--responsibilities/
and in the Student Handbook

$EGLS_3$ -- Evaluation for Greater Learning Student Survey System

At Houston Community College, professors believe that thoughtful student feedback is necessary to improve teaching and learning. During a designated time near the end of the term, you will be asked to answer a short online survey of research-based questions related to instruction. The anonymous results of the survey will be made available to your professors and department chairs for continual improvement of instruction. Look for the survey as part of the Houston Community College Student System online near the end of the term.

TITLE IX OF THE EDUCATION AMENDMENTS OF 1972, 20 U.S.C. A§ 1681 ET. SEQ. Title IX of the Education Amendments of 1972 requires that institutions have policies and procedures that protect students' rights with regard to sex/gender discrimination. Information regarding these rights are on the HCC website under Students-Anti-discrimination. Students who are pregnant and require accommodations should contact any of the ADA Counselors for assistance. It is important that every student understands and conforms to respectful behavior while at HCC. Sexual misconduct is not condoned and will be addressed promptly. Know your rights and how to avoid these difficult situations. Log in to: www.edurisksolutions.org. Sign in using your HCC student e-mail account, then go to the button at the top right that says Login and enter your student number.