The syllabus, which acts as a contract with your students, presents an overview of the course description, goals, and objectives; lists required materials; describes the schedule, assignments, and assessments; clarifies policies (including grading criteria) and expectations. All fields must be included.

UCONN ECE COURSE SYLLABUS TEMPLATE

ERTH 1000E The Human Epoch: Living in the Anthropocene
Credits: 3
Every Semester

Instructor: Insert Name
Email: Insert Email
To Be Determined
High School's Name

This course is given in cooperation with UConn Early College Experience
ece.uconn.edu

UCONN COURSE DESCRIPTION

Introduction to geoscience focusing on human activities as agents of geologic change. Examines human planetary processes in our current epoch, the Anthropocene. Provides a novel frame for contemporary environmental issues such as climate change, sustainability, mass extinctions, land use, and waste disposal.

PREREQUISITES

None

COURSE GOALS/ OBJECTIVES

After successful completion of this course, you should know how and why humanity has become the dominant geological agency on Earth's surface and how that agency is impacting our atmosphere, oceans, surface geography, and biota. Climate change and ecosystem collapse are but two examples of this truly global transformation. Specifically, you are expected to:

- Understand how intelligence, leading to science, leading to technology, gave humans the power to transform the surface of the Earth --it's land, oceans, glaciers, and climates.
- Realize why Earth's human makeover requires the naming of a new geological epoch, the Anthropocene, with a start date of the mid-20th century.
- Be able to link the naming of this new epoch to a global paradigm shift in our environmental consciousness. Wilderness is gone, whereas wildness is increasing.
- Appreciate that if humans had the power to push the Earth system into a new state, they also have the power to adapt and restore that system to fit human needs, provided we work cooperatively at the global scale.
- Be able to provide specific examples of how humans, as Earth's most potent geological agency, has transformed the planet.
- Identify how the geological time scale is organized as a hierarchy: Eon, Era, Period, and Epoch, and what the naming of a new epoch signifies.
- Describe how the Earth System works, being powered by geothermal heat from below, by solar radiation from above, and by complex processes at the surface.

- Realize the significance of the Anthropocene by looking back from the future, an outcome that will depend on solar, geothermal, cosmic, and evolutionary processes.

COURSE MATERIALS

The textbook for this course is an online coursebook authored by Robert M. Thorson and undated each semester. That coursebook links to a free, online, public-domain introductory geology textbook. *An Introduction to Geology: Free Textbook for College-Level Introductory Geology Courses* by Chris Johnson, Matthew D. Affolter, Paul inkebrant, and Cam Moser. avaukabke at Creative Commons: https://creativecommons.org/licenses/by-nc-sa/4.0/

No other materials are required, though many readings and other media can be recommended.

Instructors will have access to the course template, which contains all materials needed. Including explanations, recordings, videos, texts, tests, takeaways, prompts, quizzes, etc.

COURSE REQUIREMENTS AND GRADING

The course requirements follow a hierarchy in which four learning objectives are built into every unit, units are embedded in modules, and modules sum up to the whole course. At the beginning and ending....

- the **course** is bracketed by a pair of personal reflections, both short essays.
- each **module** ends with a self-guided field trip stop called a *Viewpoint* (high school instructors can create their own, or use the online ones available), a posting to a *Discussion Forum*, and a *Test.*
- each of 22 u**nits** follows a daily pattern (on a semester schedule) of reading/watching/hearing an *introduction*, reading an *assignment (*usually a single chapter) in the coursebook, taking a *quiz* designed to help with reading comprehension, and a writing an open-ended *prompt* to stimulate an opening discussion.

The grading scheme is flexible, depending on the instructor and student pool. For a sample, these are suggested percentages for different means of assessment.

22	Quizzes - daily, strictly on the assigned reading
22	Writing Prompts - daily, impromptu, to prime discussion.
24	Tests (4 short tests at 6 points each)
16	Viewpoint Reports - (4 at 5 points each)
8	Discussion Posts - (4 at 2 points each)
8	Reflections (2 at 4 points each)

ASSIGNMENTS AND REVISION PROCESS

The assignments are listed under requirements above. The Viewpoint (field trip) Reports, Discussion Posts, and Reflections are submitted only once, but students are encouraged to get help in order to revise. There is no regrading. This is flexible.

COURSE OUTLIFE: SCHEDULE/TOPICS/CALENDAR/READING LISTS

SCHEDULE

The schedule below is based on a twice-per-week schedule for a one semester UConn Course consisting of 30 sessions including the final exam period. Leaving room for reviews, tests and course closure, there are 22 units, labeled 1-22. Each unit corresponds to a short hapter to read.

A description of each module and unit is below the list.

MODULE A - COURSE OPENING
- 1 - Introduction
- 2 - The Human Epoch

MODULE B - FIVE BIG IDEAS
- 3 - Human Emergence
- 4 - Human Potency
- 5 - Reference Points
- 6 - Environmental Chauvinism
- 7 - Climate Realism

MODULE C - HOW THE EARTH WORKS
- 8 - Earth System Science
- 9 - Minerals and Rocks
- 10 - Geothermal-Tectonic Processes
- 11 - Solar-Meteoric Processes
- 12 - Surface Geographies
- 13 - Surface Phylogenies

MODULE D - THE HUMAN MAKEOVER
- 14 - Ancient Impacts
- 15 - Land & Soil
- 16 - Rivers & Aquifers
- 17 - Oceans & Coasts
- 18 - Energy & Air

MODULE E - HUMAN FUTURES
- 19 - Solar
- 20 - Geothermal
- 21 - Cosmic
- 22 - Evolutionary

MODULE F - COURSE CLOSURE
- Course Summary
- Final Exam

EXPLANATION OF SCHEDULE

Module A – GETTING STARTED – Two Sessions

After getting oriented (U1), greeting each other, and learning the nuts and bolts of course management, you will get a forecast of the big ideas to be covered in the course, and have the Anthropocene formally defined (U2).

Module B – FIVE BIG IDEAS – Six Sessions

This part of the course links geoscience to societal issues. It's deliberately provocative, with the goal of stimulating student interest, and getting them to ask hard questions about what it means to "live" in this new epoch. In a series of three lectures, we will explore: (U3) the emergence of our species of human beings (the others are extinct), (U4) the fossil-fueled potency of humans as a geological agent, and (U5) the value of shifting our frames of reference. U6 explores the primacy of geoscience over bioscience with respect to planetary affairs. U7 puts the modern concerns about climate change in the perspective of deep time, arguing that the apocalyptic scenarios are greatly exaggerated.

Module C – HOW THE EARTH WORKS – Seven sessions

At this point we take a deep dive into geoscience, examining how the earth system actually works. We start with, Earth System Science (U8), which treats earth as one big thing. After this introduction, we examine what the so-called solid earth is made of(U9), the deep geothermal processes coming at us from below (U10), and the solar-driven meteorology coming at us from above (U11). This module ends with a view of the earth's surface, where these two domains converge, examining the spatial geography (U12) and evolution (U13) that has taken place.

Module D – THE HUMAN MAKEOVER – Six sessions

Knowing how the earth came to be and how it works, we can then put in context the impacts of human beings on planet earth. The first unit (U14) deals with humans up through the Neolithic Revolution, the origin of agriculture and the rise of the first cities. The next four lectures detail mainly with the Control of Nature, the ways in which humans haves changed the land & soil (U15), rivers & aquifers (U16), oceans & coasts (U17) , and energy & air (U18).

Module E – HUMAN FUTURES– Five sessions

A deeper love for the planet, combined with fears of being vulnerable upon it, is a proven recipe for motivating significant change. Hence, the lasts four lectures will deal with the vulnerabilities facing us as a species. First we consider those created by geothermal heat (U19), the seismic and volcanic power we have no control over. Next we examine climatic vulnerabilities U20), emphasizing the inevitable systems changes heading our way. Cosmic vulnerabilities (U21) are external. The final lecture on evolutionary vulnerabilities (U22), examines the end of the human epoch via the new eugenics and the cyborg robots of artificial intelligence.

Module F – ENDINGS – Three sessions

The final two class periods are set aside for the students to take over. The penultimate class will be a special one featuring students. The default will be a press-conference style interview of the professor involving the most provocative topics of the course. The last session is a review of the class prior to the optional final exam.

COURSE POLICIES

- Students are expected to attend daily and to notify the instructor in advance if they will be absent. Attendance is captured through the daily writing prompts.
- The final exam is worth no more and no less than the other tests. It is optional for anyone pleased with their grade. A good score on the final will replace a previous test.
- Make up work is accepted for extenuating circumstances. Late work will be increasingly docked as time goes by.
- Academic Integrity Statement: We expect the highest standards, per university policies below.
- Other policies: *The Student Code, the Policy Against Discrimination, Harassment and Related Interpersonal Violence, and other university policies may be found here, provost.uconn.edu/faculty-and-staff-resources/syllabi-references.*

Disclaimer: I reserve the right to make changes to this syllabus as the semester progresses. To the extent possible, students will be consulted if changes are to be made.