

We are a technological species, and our history and survival are predicated on the development (and use or misuse) of that technology. In this course we will explore how that history was shaped by the abundance, distribution, and form of key elements/materials with which tools are/were made and energy is/was harvested, and the geologic processes that determined those. The course will also train students to better read, understand, and produce graphical scientific information (plots). The course will consist of multiple, independent modules, each devoted to one element/material. Each module consists of an introductory lecture and a shared discussion of a paper. Students will be asked to interpret one plot from the relevant literature and construct a plot from existing data. Quizzes will be based on the demonstration of ability to read and interpret plots.

Prerequisites: Passing grade (C or better) in EARTH 301 (Mineralogy) or 333 (Earth Materials). EARTH 325 (Geochemistry) recommended but not required. Access to a computer and ability to make plots using Excel, MATLAB, Python, or similar software. To register, email your name, student ID number, and semester you took the prerequisite to: lilyshao@hawaii.edu

Instructor: Eric Gaidos (gaidos@hawaii.edu)

When: Tuesday and Thursday 1:30-2:45 PM

Where: POST 807

Textbook: None

Grading: 1/3 attendance, 1/3 Presentation, 1/3 Quizzes A/B/C/D=90/80/70/60%

Schedule (tentative):

Jan 9/11 Course orientation (**online asynchronous only**)

Jan 16 Tu Lecture: Composition and chemistry of Earth's crust

Jan 18 Th Lecture: A brief history of our species

===== Flint =====

Jan 23 Tu Introductory lecture

Jan 25 Th Assigned reading discussion

Jan 30 Tu Student presentations

Feb 1 Th Quiz

===== Tin =====

Feb 6 Tu Introductory lecture

Feb 8 Th Assigned reading discussion

Feb 13 Tu Student presentations

Feb 15 Th Quiz

===== Iron =====

Feb 20 Tu Introductory lecture

Feb 22 Th Assigned reading discussion

Feb 27 Tu Student presentations

Feb 29 Th Quiz

===== Carbon =====

Mar 5 Tu Introductory lecture

Mar 7 Th Assigned reading discuss

Mar 12 Tu Student presentations

Mar 14 Th Quiz

Mar 19/21 SPRING RECESS

Mar 26 No class

Mar 28 No class

==== Uranium =====

Apr 2 Tu Introductory lecture

Apr 4 Th Assigned reading discussion

Apr 9 Tu No class

Apr 11 Th Student presentations

Apr 16 Tu Quiz

===== Lithium =====

Apr 18 Th Introductory lecture

Apr 23 Tu Assigned reading discussion

Apr 25 Th Student presentations

Apr 30 Th Quiz

THE STUDENT CODE OF CONDUCT IS IN EFFECT AND EVERY STUDENT IS RESPONSIBLE FOR KNOWING WHAT IT REQUIRES:

http://studentaffairs.manoa.hawaii.edu/policies/conduct_code/

Disability Access: The Earth Sciences Department will make every effort to assist those with disability and related access needs. For confidential services, please contact the Office for Students with Disabilities (known as “Kokua”) located in the Queen Lili’uokalani Center for Student Services (Room 013): 956-7511, kokua@hawaii.edu, www.hawaii.edu/kokua

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