

Term Information

Effective Term Spring 2016

General Information

Course Bulletin Listing/Subject Area Anthropology
Fiscal Unit/Academic Org Anthropology - D0711
College/Academic Group Arts and Sciences
Level/Career Graduate
Course Number/Catalog 7800
Course Title We are what we eat: Applications of biogeochemistry
Transcript Abbreviation Isotope Arch
Course Description Students will study both current and classic geochemical methodological developments and case studies from throughout the globe. This class will provide an introductory understanding of common methods in archaeochemistry and biogeochemistry, while emphasizing how these studies have pushed the epistemological boundaries of archaeological knowledge. Undergrads may enroll with instructor permission.
Semester Credit Hours/Units Fixed: 3

Offering Information

Length Of Course 14 Week
Flexibly Scheduled Course Never
Does any section of this course have a distance education component? No
Grading Basis Letter Grade
Repeatable No
Course Components Laboratory, Lecture
Grade Roster Component Lecture
Credit Available by Exam No
Admission Condition Course No
Off Campus Never
Campus of Offering Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites
Exclusions

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code 45.0201
Subsidy Level Doctoral Course
Intended Rank Masters, Doctoral, Professional

Requirement/Elective Designation

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- Course discussions, lectures, and homework will provide the student with the means to assess geochemical methods in archaeological literature and strengthen the student's capability to successfully apply these methods in their own research.

Content Topic List

- Isotope
- Archaeology
- Chemistry
- Methodology
- Method
- Geochemistry
- Biochemistry

Attachments

- Dr Larsen letter 10 07 14.doc: Chair's Letter

(Cover Letter. Owner: Freeman, Elizabeth A.)

- 7800 Syllabus2.docx: 7800 Syllabus

(Syllabus. Owner: Freeman, Elizabeth A.)

Comments

- -See e-mail to B. Piperata & E. Freeman. *(by Vankeerbergen, Bernadette Chantal on 01/30/2015 11:49 AM)*
- Elizabeth to revise. *(by McGraw, William Scott on 10/07/2014 10:17 AM)*

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Freeman, Elizabeth A.	09/12/2014 11:00 AM	Submitted for Approval
Revision Requested	McGraw, William Scott	10/07/2014 10:17 AM	Unit Approval
Submitted	Freeman, Elizabeth A.	10/07/2014 05:14 PM	Submitted for Approval
Approved	McGraw, William Scott	10/23/2014 08:52 AM	Unit Approval
Approved	Haddad, Deborah Moore	10/23/2014 12:45 PM	College Approval
Revision Requested	Vankeerbergen, Bernadette Chantal	11/03/2014 11:06 AM	ASCCAO Approval
Submitted	Freeman, Elizabeth A.	11/03/2014 01:43 PM	Submitted for Approval
Approved	McGraw, William Scott	11/03/2014 01:49 PM	Unit Approval
Approved	Haddad, Deborah Moore	11/03/2014 01:55 PM	College Approval
Revision Requested	Vankeerbergen, Bernadette Chantal	01/30/2015 11:49 AM	ASCCAO Approval
Submitted	Freeman, Elizabeth A.	05/13/2015 01:59 PM	Submitted for Approval
Approved	McGraw, William Scott	05/13/2015 03:36 PM	Unit Approval
Approved	Haddad, Deborah Moore	05/13/2015 04:11 PM	College Approval
Pending Approval	Nolen, Dawn Vankeerbergen, Bernadette Chantal Hanlin, Deborah Kay Jenkins, Mary Ellen Bigler Hogle, Danielle Nicole	05/13/2015 04:11 PM	ASCCAO Approval



Department of Anthropology

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7 October 2014

Dear Curriculum Panel Members,

I am pleased to submit this curricular bundle for your review. This bundle includes a number of new courses, courses for General Education consideration, and several course changes. These submissions reflect the evolving profile of our teaching mission and what we have to offer our students and the institution generally. The Department of Anthropology has taken on one of its biggest curriculum revisions, involving both undergraduate majors (Anthropological Sciences, Anthropology) and graduate program, in its recent history. I am excited to endorse all of these submissions, and look forward to implementing the revisions to the Anthropology curriculum.

Best regards,

A handwritten signature in blue ink that reads "Clark S. Larsen".

Clark Spencer Larsen
Distinguished Professor of Social and Behavioral Sciences and Chair

Anthropology 7800
We are what we eat: Applications of biogeochemistry

Seminar/lecture: Thursdays from 11:15 – 2:00, Smith 4094

Instructor: Deanna N. Grimstead, Ph.D.

Office Hours: T & R 10:00 – 11:00 and by appointment.

Email: grimstead.1@osu.edu

** I will do my best to respond to emails within 24 hours of receiving them, but please allow up to 72 hours for a response.

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Students will study both current and classic geochemical methodological developments and case studies from throughout the globe. This class will provide an introductory understanding of common methods in archaeochemistry and biogeochemistry, while emphasizing how these studies have pushed the epistemological boundaries of archaeological knowledge. Course discussions, lectures, and homework will provide the student with the means to assess geochemical methods in archaeological literature and strengthen the student's capability to successfully apply these methods in their own research.

Course Website:

We will utilize Carmen for distribution of articles, assignments, and class information (<https://carmen.osu.edu>). If you experience a problem with Carmen, please let me know as soon as possible so that I can make sure you have the necessary materials before you need them.

Text Book and Course Material:

Course material will utilize journal articles and book chapters that can be accessed via CARMEN. Refer to the course schedule for details on these materials. There is not a required text book, although the following books will be useful references for the course:

Clarke, Ian and Peter Fritz. 1999. *Environmental Isotopes in Hydrogeology*. CRC Press LLC, U.S.A.

Faure, Gunther and Teresa M. Mensing. 2004. *Isotopes: Principles and Applications*, SECOND & THIRD edition. John Wiley & Sons, Inc., New Jersey.

Class Absence:

You are responsible for the material you miss if you are absent from class. This includes obtaining notes from other students, obtaining assignments that were discussed/handed out, and turning in any assignments that were due the day of your absence. Please email me as soon as you can for absences that are excused (e.g. sick, death in the family, etc.). These absences will not cause you to have your assignments deemed as late. You will not be allowed to make-up in-class assignments for unexcused absences. All holidays or special events observed by organized

religions will be honored for the students who show affiliation with that particular religion. Absences pre-approved by the OSU Dean of Students (or designee) will be honored.

Late or Incomplete Assignments:

Late assignments will not be accepted. Incomplete assignments will be accepted, but graded accordingly.

Course Requirements and Grading:

The requirements for the course, and their respective percentage values are below, followed by descriptions of each assignment:

Homework	40%
Weekly Student Presentations	20%
<u>Final Paper</u>	<u>40%</u>
Total	100%

Final letter grades will be determined using the following criteria:

- A: 90%+
- B: 80-89%
- C: 70-79%
- D: 60-69%
- E: 59% and below

Class Structure:

There will be biweekly homework assignments, in addition to weekly student presentations of case study and detailed reading assignments. You are also expected to complete a final term paper. Details for these assignments can be found below.

Case Study/detailed readings: You are responsible for reading and understanding the content in these readings. If you are unclear about this material, then I expect you to come see me. I expect these supplemental readings to be completed by the date they appear in our schedule. Classmates will provide a 20 – 30 minute summary of the articles and book chapters, but this does not excuse you from completing the readings. We will discuss the articles after their presentations, and to participate fully you must have read the articles in detail. The presentations must summarize in detail the important aspects of the paper. In addition to this summary I expect you to comb through data, equations, theory, etc., and to recreate figures and tables, in the attempt to detect errors or an alternative viewing can lead to different interpretations of the data. A portion of your student presentation grade will come from your ability to answer my questions as it relates to the application of isotopes and the data/interpretations presented within. It is

advisable to read your paper multiple times, and be sure to access on-line content where applicable.

Term Paper: The *term paper* should be scholarly and academic. In academia you publish or perish. Thus, it is my expectation that you will produce a paper that you will submit to a journal by the end of the semester. Alternatively, you may write your dissertation proposal or a chapter of the actual dissertation, but it must be equally as ready for presentation as an article for submission. **Please use 1” margins, Times New Roman 12 point font, and double spacing.** The page limits do not include your references cited, tables, figures, etc. The page requirement refers to actual text pages. The “A” paper will be well thought out, follow the American Antiquity style guide, have less than 10 spelling/grammar errors, lack problems in logic and flow, and show a solid grasp of academic writing. Please refer to the term paper grading rubric while preparing your term paper.

The *final draft* (One electronic and one hard copy) should be of a quality that with some minor editing could be submitted to a journal. The paper must comply with the American Antiquity Style Guide (<http://www.saa.org/StyleGuideText/tabid/985/Default.aspx>). Papers that fail to attempt the style will receive zero credit. Your peers will be required to review your work, edit, and make suggestions. As a reviewer please note that no paper is perfect and every paper can be improved in some way. In the interest of reciprocal altruism please pay special attention to grammatical mistakes, format, and spelling errors. Also, look for the presence or absence logic and/or flow of the manuscript. Author’s, do not blame your reviewers for your poor work. It is in your best interest to not only edit the paper yourself, but to also seek the assistance of a third party reviewer. **Your final draft will be due on Thursday, December 5th.**

Special Needs and Accommodations Statement:

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>.

Academic Honesty and Classroom Etiquette: 99% of students are very honest and very considerate of other students and the professor. But most of us at some point in our lives are tempted to take an unethical or illegal short cut. Academic misconduct will not be tolerated in this class. It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. I shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct (<http://studentlife.osu.edu/csc/>).

Confidentiality of Student Records:

http://registrar.osu.edu/policies/privacy_release_student_records.pdf

Course Schedule: Readings and assignments are due when they are listed.

August 22nd, 2013 – Course introduction

Readings: None

Homework: None

Class activities: Review syllabus

August 29th, 2013 – Introduction to isotopes

Readings: Peterson and Fry (1987); Faure (1998), Chapter 6; Kohn and Cerling (2002)

Homework: None.

Class activities: Lecture

September 5th, 2013 – $^{87}\text{Sr}/^{86}\text{Sr}$

Readings: Bentley (2006)

Homework: Title and abstracts; HWK #1 – *intro to the atomic structure of ions*

Class activities: Lecture

September 12th, 2013 – $^{87}\text{Sr}/^{86}\text{Sr}$

Readings: Bentley (2006); Reynolds et al. (2005); Benson et al. (2006); Price et al. (2007)

Homework: None

Class activities: Student led presentations

September 19th, 2013 – $\delta^{18}\text{O}$

Readings: Clark and Fritz (1997), Chapter 2 and 3; Grossman and Ku (1986);

Homework: HWK #2 - $^{87}\text{Sr}/^{86}\text{Sr}$

Class activities: Lecture

September 26th, 2013 – $\delta^{18}\text{O}$

Readings: Luz et al. (1984); Ehleringer et al. (2008); Kennett and Voorhies (1996); Koch et al. (1998)

Homework: None

Class activities: Student led presentations

October 3rd, 2013 – $\delta^{13}\text{C}$

Readings: Clark and Fritz (1997), Chapter 5; Passey et al. (2005)

Homework: HWK #3 - $\delta^{18}\text{O}$

Class activities: Lecture

October 10th, 2013 – $\delta^{13}\text{C}$

Readings: Tieszen (1991); Coltrain et al. (2007); Cerling (1997); Ambrose et al. (2003)

Homework: None

Class activities: Student led presentations

October 17th, 2013 – $\delta^{15}\text{N}$

Readings: Schoeninger et al. (1983)

Homework: HWK #4 – $\delta^{13}\text{C}$

Class activities: Lecture

October 24th, 2013 – $\delta^{15}\text{N}$

Readings: Balasse (2001); Katzenberg et al. 1993; Schurr et al (1997)

Homework: None

Class activities: student led presentations, in class review of outlines

October 31st, 2013 – $\delta^{34}\text{S}$

Readings: Richards et al. (2003); Nehlich et al. (2009)

Homework: HWK #5 – $\delta^{15}\text{N}$

Class activities: Lecture

November 7th, 2013 – $\delta^{34}\text{S}$

Readings: Craig et al. (2009); Nehlich et al. (2010); Richards et al. (2001)

Homework: None

Class activities: Student led presentations

November 14th, 2013 – Diagenesis & Mixing

Readings: Faure and Mensing (2005); Koch et al (1991); Nelson et al. (1986); Sillen and Sealy (1995)

Homework: HWK #6 – $\delta^{34}\text{S}$

Class activities: Lecture, student led presentations of Nelson, then Sillen and Sealy

November 21st, 2013 – Pb, Field sampling or Flex week

Readings: Clark and Fritz (1997), Chapter 10; Bower et al. (2005)

Homework: HWK #7 – *Mixing*

Class activities: Lecture

November 28th, 2013 – Thanksgiving Break!!!!

December 5th, 2013 – Final Papers Due

**** This syllabus is subject to change ****