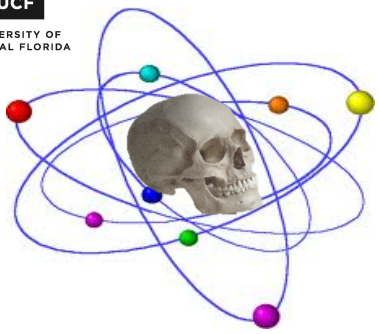
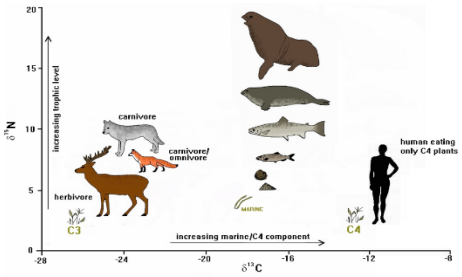
# Integrative Isotopic Sciences
# ANG6189






Department of Anthropology, College of Sciences, University of Central Florida

## Instructor Contact

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| Instructor | Dr. J. Marla Toyne<br>Associate Professor |
| Office | Howard Phillips Hall, 409R |
| Meeting Time & Location | **BIO 209**<br>Monday 3-5:50pm OR ZOOM via WebCourses |

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| Office Hours | ONLINE: Friday 1:00-3:00pm or by apt, ZOOM via WebCourses |
| Phone | (407) 823-1927 |
| E-mail | j.marla.toyne@ucf.edu |

## I. Welcome!

## II. University Course Catalog Description

Theoretical and methodological aspects of stable isotope analysis of contemporary and archaeological materials for the determination of human migration, origins, diet, and physiology.

## III. Course Description

This course focuses on primary literature in stable isotope ecology, which uses naturally occurring variation in $\delta^{13}C$, $\delta^{15}N$, $\delta^{18}O$, and $^{86/87}Sr$ as markers of organismal and ecological processes. The focus will be on human studies (both archaeological and contemporary), including dietary and food web analysis, nutrient allocation, migration, and metabolic processes specific to stable isotope analysis.

## IV. Course Objectives

- To develop an understanding of current methodological and theoretical approaches using stable isotopes in anthropological research.
- Understand isotopes in natural systems and key concepts of stable isotope fractionation.

- Be able to explain how isotopes of carbon and oxygen are used to understand the carbon and hydrological cycles and to reconstruct the Earth's climate history, including recent anthropogenic changes.
- Be able to explain how isotopes of carbon, nitrogen, oxygen, and strontium can be used to reconstruct life history and how they are used to infer paleo/diets and paleo/migration of animals and humans.
- To review comprehensively the literature (original and recent) to develop critical thinking skills in research.

## V. Learning Objectives

With diligent effort, the student should be able to do the following at the completion of this course.

- To develop competency in understanding the basic principles of stable isotope ecology, analysis, and interpretation.
- To learn the history of isotopic studies and summarize current published literature on new advances in the field.
- To develop working knowledge of the mechanics and methods for sample preparation and laboratory protocols.
- To explore data organization, analysis, and interpretation using data sets for a regional survey research.
- To examine the value of isotope studies for studying the human past and present to higher order questions of anthropological interest.

## VI. Course Prerequisites

Acceptance in the MA or PhD in Integrative Anthropological Sciences.

## VII. Course Credits

3 credit hours

## VIII. Course Requirements

- Regular attendance and participation in course lectures and discussions.
- Submission of written summaries, graded assignments, final paper/presentation, and individual in-class discussion of readings.
- Collaboration in the creation of stable isotope bibliographies.
- Each class will include a weekly Discussion lead by a selected student.

### Seminar Structure:

Graduate seminars are discussion-driven and aim to create a forum for interactive in-depth analysis of texts and concepts. Occasionally, short overviews of the week's topic will be provided in a lecture style format, while discussions will focus on specific readings assigned for that week.

## IX. Recommended Texts

**Main books: (Available at UCF BOOKSTORE or alternative sources as PDFs)**

- Fry, B. (2006). *Stable isotope ecology*. New York: Springer.
- Sharp, Z. (2007). *Principles of Stable Isotope Geochemistry*. Upper Saddle River, NJ: Pearson Education.
- Meier Augenstein, W. (2018). *Stable isotope forensics an introduction to the forensic application of stable isotope analysis*. 2nd edition. Hoboken, NJ: Wiley-Blackwell.

Other Recommended Resources: (Available as PDFs on Webcourses)

- Michener, R.H., & Lajtha, K., (Ed.). (2007). *Stable isotopes in ecology and environmental science*. Malden, MA Blackwell Publishers.
- Grupe, G., & McGlynn, G.C. (2016). *Isotopic landscapes in bioarchaeology*. New York: Springer.
- Hoefs, J. (2018). *Stable isotope geochemistry*. New York: Springer Science Media.

### Weekly Supplemental Readings

- **Required Articles**: these will be available for download as PDFs on Canvas or you can locate them yourself via the UCF library databases. Specific article citations and their scheduled times during the semester are listed in the SCHEDULE and READING LIST. In addition to these required articles, I may post "Supplements" – these are texts that are provided as additional reading for students wishing to expand on and better understand particular topics.
- Additional important website or news reports will be linked to the course Webcourses.
- Students will also be expected to independently find resources and present new materials to the class.

## X. Evaluation

Grades will be based on a student's scores weighted in the following:

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| Article Discussion and Participation: | 10% |
| Bring/Find Discussion leadership: | 10% |
| Written Summaries: | 20% |
| Activity 1 through 3: | 25% (see Webcourses) |
| Research Proposal/Outline: | 5% (Outline and prelim bibliography) |
| Regional Research Paper: | 20% (10-15 page literature review) |
| Final Research Presentation: | 10% (10 min summary) |
| Total | 100% |

### Grading Scale (%)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 100-95 | A | 86-84 | B | 76-74 | C | 66-64 | D |
| 94-90 | A- | 83-80 | B- | 73-70 | C- | 63-60 | D- |
| 89-87 | B+ | 79-77 | C+ | 69-67 | D+ | 59-0 | F |

**Reminder**: Graduate Students should be aware that a minimum of a B is required to demonstrate adequate progress in a graduate level course and for this course to count towards your degree and graduation.

## XI. Grade Dissemination

Grades and feedback will be made available via Webcourses.

## XII. Learning Assessment

### Participation:

Regular attendance and participation in class and assignments are required. Attendance will be considered. The broad variety of topics discussed in this course makes regular attendance critical in achieving an exemplary grade in this course. We will also take time to discuss our research paper ideas as topics come up. I also expect students to participate in the collaborative bibliography pages.

### Weekly Seminar Discussions:

There is a lot of reading in this course. Each week will include a topical discussion of a series of 4-5 assigned readings. Everyone will be responsible for reading and summarizing (see below) each article or chapter and participating in the class discussion with questions and comparisons. Each student will be responsible for 1 Bring/Find week and will be evaluated on their selection and discussion leadership. On weeks that we have a Bring/Find, 2 students will sign up to add 1 article each (posted to Discussion Board minimum the week before). ALL students must read the new Bring/Find articles in addition to the required readings. They will also contribute a brief summary and LEAD a critical discussion with the class of all the weekly articles including what they found and contributed to the broader discussion. Since it is meant to be a conversation among scholars – Powerpoints or handouts are not necessary unless there is some relevant diagram or model that you would like to share.
See **Webcourses** for more information about formatting and suggestions for Bring/Find.

### Topical Summaries:

10 short written topical summaries (2 pages single-spaced) will be submitted weekly during this course. These directed and referenced annotation-like summaries are based on required weekly readings and additional sources are designed to provide a student with critical thinking and synthesizing skills. You may use diagrams/illustrations to support your answers, but they must be necessary and correctly sourced and referenced. All bibliographic referencing must follow AJPA style (separate page after summary). Assignments will be due online by **Monday by noon** before the class discussion.
See **Webcourses** for more information about formatting and suggestions for Summaries.

### Written Assignments/Activities:

There will be 4 analytical activities. 1) Sample and method selection, 2) Using $\delta^{13}C$ and $\delta^{15}N$ for data organization and dietary analysis, 3) Using $\delta^{18}O$ and Sr ratio data for data organization

and mobility analysis; 4) Final regional research activity. The Final Regional Research summary project will require a meeting with the professor to identify a topic, a proposal, and outline review, and the final presentation in class during final exams.
See **Webcourses** for more information about formatting and suggestions for each activity.

ALL written assignments for this course must be word-processed and fulfill the basic requirements for **AJPA** (American Journal of Physical Anthropology) referencing and formal academic papers (12-point Times New Roman or Calibri font, single-spaced, 1 inch margins, always include page numbers, even if only a single page). Spelling and grammar are also very important and will be taken into consideration.

## XIII. Course Policies: Grades

**Grading and Evaluation**: Graded materials will be returned to you within two weeks of their due date, unless you are informed otherwise through a class-wide announcement. The grading scale used in this course is on the "Evaluation" page of this syllabus. You can access your scores at any time using the Grades section of Webcourses@UCF.

**Late Work Policy**: You also should note that late assignments, reports, and term papers will be penalized by one percent of Final Grade per day unless an extension is legitimately warranted and approved by the course instructor in advance of the assignment due date. Major extensions will not be given except in the most extenuating circumstances or with medical paperwork. Assignments submitted later than 7 days after due date without instructor approval will not be graded and a zero will be assigned for that assignment.

**Grades of "Incomplete"**: The current university policy concerning incomplete grades will be followed in this course. Incomplete grades are given only in situations where unexpected emergencies prevent a student from completing the course and the remaining work can be completed the next semester. Your instructor is the final authority on whether you qualify for an incomplete. Incomplete work must be finished by the end of the subsequent semester or the "I" will automatically be recorded as an "F" on your transcript.

## XIV. Required Statement Regarding COVID-19

**University-Wide Face Covering Policy for Common Spaces and Face-to-Face Classes**
To protect members of our community, everyone is required to wear a facial covering inside all common spaces including classrooms (https://policies.ucf.edu/documents/PolicyEmergencyCOVIDReturnPolicy.pdf. Students who choose not to wear facial coverings will be asked to leave the classroom by the instructor. If they refuse to leave the classroom or put on a facial covering, they may be considered disruptive (please see the Golden Rule for student behavior expectations). Faculty have the right to cancel class if the safety and well-being of class members are in jeopardy. Students will be responsible for the material that would have been covered in class as provided by the instructor.

**Notifications in Case of Changes to Course Modality**
Depending on the course of the pandemic during the semester, the university may make changes to the way classes are offered. If that happens, please look for announcements or messages in Webcourses@UCF or Knights email about changes specific to this course.

**COVID-19 and Illness Notification**
Students who believe they may have a COVID-19 diagnosis should contact UCF Student Health Services (407-823-2509) so proper contact tracing procedures can take place. Students should not come to campus if they are ill, are experiencing any symptoms of COVID-19, have tested positive for COVID, or if anyone living in their residence has tested positive or is sick with COVID-19 symptoms. CDC guidance for COVID-19 symptoms is located here: (https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html)
Students should contact their instructor(s) as soon as possible if they miss class for any illness reason to discuss reasonable adjustments that might need to be made. When possible, students should contact their instructor(s) before missing class.

**In Case of Faculty Illness**
If the instructor falls ill during the semester, there may be changes to this course, including having a backup instructor take over the course. Please look for announcements or mail in Webcourses@UCF or Knights email for any alterations to this course.

**Course Accessibility and Disability COVID-19 Supplemental Statement**
Accommodations may need to be added or adjusted should this course shift from an on-campus to a remote format. Students with disabilities should speak with their instructor and should contact sas@ucf.edu to discuss specific accommodations for this or other courses.

## XV. Course Policies: Technology and Media

**Email**: In order to protect your private information and keep everything in one place, communication between the students and the professor will take via Webcourses. Please observe appropriate netiquette and use professional language when emailing your professor.

**Contacting the professor:** In this class our official mode of communication is through the email located inside Webcourses or through UCF email – J.marla.toyne@ucf.edu . All communication between student and instructor and between student and student should be respectful and professional. It is the student's responsibility to check the "coursemail" tool and announcements frequently.

Please REMEMBER: Professors have multiple duties including teaching, research, and service, and while I may not be in my office or online, I am likely working. I value professor-student contact and I have dedicated 2 contact hours for meetings. I can better address questions about course material and assignments in class or other questions of biological anthropology during these ZOOM office hours. Email is NOT a substitute and I CANNOT engage in lengthy discussion about course material or assignments over email. If you cannot make office hours, please contact me to schedule an appointment providing at least 2 other time slots you are available.

If you choose to email me at j.marla.toyne@ucf.edu (instead of through Webcourses), you must use your knights.ucf.edu account. If you send an email, include ANG 6189 in the subject heading and do not forget to include your name in the email so I know who you are. You can generally expect a response within 48 hrs. I may only check email once during the weekend. If you do not receive a response over the weekend, you can then expect a response Monday morning.
Also check Webcourses for common questions asked and their answers via the discussion boards

**Webcourses@UCF**: This is a Face to Face course, but some live synchronous meetings may also take place via ZOOM during our schedule class time. In additional, course materials and assignments can be accessed through the UCF on-line software, Webcourses@UCF.
Additional readings may be assigned to supplement the textbook. You will be advised of any additional reading assignments in weekly module introduction pages, and they will be available electronically on Webcourses. Other course materials will also be posted on Webcourses, including this syllabus, schedule, link to the University Policies, assignment and lab guidelines, weekly outlines and Powerpoint slides (AFTER Lectures). Occasional films may be incorporated into lectures to highlight and illustrate different subjects. Please check Webcourses on a daily basis for announcements, updates, information on student resources, posted grades, and questions. You are expected to complete assignments on-time regardless of technological difficulties.

## XVI. Course Policies: Student Expectations

**Attendance Policy**: **Attendance** is important for your success in this course. If you must miss class, please discuss planned absences with the instructor. For unplanned absences, please contact the instructor as soon as you are able. **Participation** is an important component of this class. While debate and differing opinions are encouraged in this class, remember that this is a professional setting: please be respectful and polite to your classmates

- Course Etiquette: **Be on time.**
- **Cell phones will be turned off** and put away during class. No texting. No messaging. No internet. UNLESS we determine that specific apps are necessary for class use.
- While computers/laptops may be useful for notes or necessary for ONLINE class, they are for **taking notes**. **Turn OFF notifications**. Please refrain from surfing the web, checking your email, FaceBooking, or instant messaging as this is very distracting and disrespectful to your professor and those around. Remember, your classmates can see everything on your screen! Improper behavior will not be tolerated and may result in a referral to the Office of Student Conduct. Please, do not ruin everyone's learning experience.
- **Be polite, please**. This class will be conducted in a way that respects all aspects of diversity. It is expected that everyone show respect for one another, their opinions, and the diverse issues and topics that will be presented.
- **Do NOT hesitate to ask questions**, make comments, and bring in additional materials that relate to the topics we are covering in class during a given week – this is what makes the class interesting and engaging! If you hear about a relevant event or news story, let us know and we can post it on the course Webcourses and discuss it on the message board.
- Please note that **we will not tolerate language and behavior** in class that is offensive, hateful, abusive and/or exclusive in this class; this applies to online assignments, discussions, and exams as well.

Zoom Policy: ***Meeting Expectations:*** Since we may be using Zoom for this course, you are still expected to follow proper classroom etiquette. Think of the weekly Zoom meetings as face-

to-face meetings and conduct yourself as you would if the whole class was in the same room. Improper behavior will not be tolerated during Zoom meetings and may result in a referral to the Office of Student Conduct.
In addition, here are some useful tips for ensuring that the meetings go smoothly for everyone:

- **Join early**. Signing on 5 minutes before class time will ensure that you do not miss any activities or information shared at the beginning of class. If you are late entering the ZOOM meeting or need to leave during ZOOM, please do so quietly with the least amount of disruption as possible. Consistent lateness or disappearance will be noted and could impact your performance.
- **Find a quiet place to attend class**, with limited background noise. Best practice is to use headphones with audio/micro features if possible to cut down on ambient noise.
- ***Enable video***. Have your video on unless you truly are experiencing connection issues.
- ***You're on camera!*** Be aware that you are on camera, and try to avoid doing other tasks during class, such as checking emails, scrolling through Instagram, looking at your phone, etc.
- **Avoid using zoom backgrounds**. Unless you are in a very busy or distracting location. These backgrounds can be just as busy and distracting for all of us. They add to Zoom fatigue.
- ***Lighting***. Avoid backlight from bright windows and have good lighting on your face so that you can be seen clearly.
- ***Camera level***. Adjust your camera to be around your eye level, if possible. In particular, take note of the angle of your laptop screen if you are using a built-in camera.
- ***Microphone***. Mute your microphone when not talking.
- ***Raising your hand.*** If you have a question or comment, use Zoom's "Raise Hand" function so that Dr. Toyne can call on you. This will prevent you from speaking over / speaking at the same time as other participants. Chat can be used to set up questions if we have time to discuss them. But live questions are best.

**Deadlines and Make-ups:** Only students who have serious extenuating circumstances will be given the opportunity to make up missed work. University activities and religious holidays (See UCF Policy 4.401.1 and Regulation 5.020) are included. You will be required to provide **written documentation** of said circumstance. You will have **one week** to make up an assignment once you contact the professor after missing a deadline. Students who represent the university in an authorized event or activity (for example, student-athletes) and who are unable to meet a course deadline due to a conflict with that event must provide the instructor with documentation in advance to arrange a make-up. No penalty will be applied. For more information, see the UCF policy at <http://policies.ucf.edu/documents/4-401.2MakeUpAssignmentsorAuthUnivEventsorCocurricularActivities.pdf>.
Students must notify their instructor in advance if they intend to miss class for a religious observance. For more information, see the UCF policy at
<http://regulations.ucf.edu/chapter5/documents/5.020ReligiousObservancesFINALJan19.pdf>.
An alternative assignment or make up exam may be offered.

**Late Work Policy and Grades of 'Incomplete'**: Assignments turned in late will be assessed a penalty: a half-letter grade if it is one day late, or a full-letter grade for 2-7 days late. Essays will not be accepted if overdue by more than seven days. The current university policy concerning incomplete grades will be followed in this course. Incomplete grades are given only in situations where unexpected emergencies prevent a student from completing the course and the remaining work can be completed the next semester. Your instructor is the final authority on whether you qualify for an

incomplete. Incomplete work must be finished by the end of the subsequent semester or the "I" will automatically be recorded as an "F" on your transcript.

**Professionalism Policy**: Per university policy and classroom etiquette; mobile phones, iPods, *etc*. **must be silenced** during all classroom and lab lectures. Those not heeding this rule may be asked to leave the classroom immediately so as not to disrupt the learning environment. Please arrive on time for all class meetings. Students who habitually disturb the class by talking, arriving late, *etc*., and have been warned may suffer a reduction in their final class grade.

**Academic conduct:** Students should also familiarize themselves with the procedures for academic misconduct in UCF's student handbook, *The Golden Rule* <http://goldenrule.sdes.ucf.edu/docs/goldenrule.pdf>. UCF faculty members have a responsibility for students' education and the value of a UCF degree, and so seek to prevent unethical behavior and when necessary respond to academic misconduct. Academic dishonesty in any form will not be tolerated in this course. If you are uncertain as to what constitutes academic dishonesty, please consult the UCF Golden Rule for further details. As in all University courses, the Golden Rule Rules of Conduct will be applied. Violations of these rules will result in a record of the infraction being placed in your file and at a minimum you will receive zero grade for the work in question. At the discretion of the instructor, you may also receive an 'F' or 'Z' grade for the course. Confirmation of such incidents may also result in expulsion from the University. For more information about the Z Designation, see <http://goldenrule.sdes.ucf.edu/zgrade>.

**Academic Integrity:** UCF faculty members have a responsibility for your education and the value of a UCF degree, and so seek to prevent unethical behavior, notably plagiarism and cheating. When necessary, I will respond to infringements of academic integrity. Penalties can include a failing grade on an assignment or in the course, suspension or expulsion from the university, and/or a "Z Designation" on a student's official transcript indicating academic dishonesty, where the final grade for this course will be preceded by the letter Z. For more information about the Z Designation, see http://z.ucf.edu/.
Students should familiarize themselves with UCF's Rules of Conduct at <http://osc.sdes.ucf.edu/process/roc>.
According to Section 1, "Academic Misconduct," students are prohibited from engaging in

1. Unauthorized assistance: Using or attempting to use unauthorized materials, information or study aids in any academic exercise unless specifically authorized by the instructor of record. The unauthorized possession of examination or course-related material also constitutes cheating.
2. Communication to another through written, visual, electronic, or oral means: The presentation of material which has not been studied or learned, but rather was obtained through someone else's efforts and used as part of an examination, course assignment, or project.
3. Commercial Use of Academic Material: Selling of course material to another person, student, and/or uploading course material to a third-party vendor without authorization or without the express written permission of the university and the instructor. Course materials include but are not limited to class notes, Instructor's PowerPoints, course syllabi, tests, quizzes, labs, instruction sheets, homework, study guides, handouts, etc.
4. Falsifying or misrepresenting the student's own academic work.
5. **Plagiarism**: Using or appropriating another's work without any indication of the source, thereby attempting to convey the impression that such work is the student's own. The UCF definition of Plagiarism is available here (https://www.fctl.ucf.edu/TeachingandLearningResources/ClassroomManagement/AcademicIntegrity/PlagiarismStatement.php) and YOU are responsible for understanding it.
6. Multiple Submissions: Submitting the same academic work for credit more than once without the express written permission of the instructor.
7. Helping another violate academic behavior standards.

For more information about **Academic Integrity**, consult the International Center for Academic Integrity <http://academicintegrity.org>.
For more information about **plagiarism** and misuse of sources, see "Defining and Avoiding Plagiarism: The WPA Statement on Best Practices" <http://wpacouncil.org/node/9>

**Turinitin.com**: In this course we will utilize turnitin.com. All assignments are automatically scanned by turnitin.com when they are submitted via Webcourses.

**University Writing Center**: This is a **graduate-level seminar**. My expectation is that you are already a **strong writer**. However, if you need it, the University Writing Center (UWC) is a free resource for UCF undergraduates and graduates. For more information or to make an appointment, visit the UWC website at http://www.uwc.ucf.edu, stop by MOD 608, or call 407.823.2197.

**Accessibility Statement**: The University of Central Florida is committed to providing access and inclusion for all persons with disabilities. It is my goal that this class be an accessible and welcoming experience for all students, including those with disabilities that may impact learning in this class. If anyone believes the design of this course poses barriers to effectively participating and/or demonstrating learning in this course, please meet with me as soon as possible (with or without a Student Accessibility Services (SAS) accommodation letter) to discuss reasonable options or adjustments. During our discussion, I may suggest the possibility/necessity of your contacting SAS <http://sas.sdes.ucf.edu/> (Ferrell Commons 185; 407-823-2371; sas@ucf.edu) to talk about academic accommodations.

For students connected with SAS, a Course Accessibility Letter may be created and sent to professors, which informs faculty of potential course access and accommodations that might be necessary and reasonable. Determining reasonable access and accommodations requires consideration of the course design, course learning objectives and the individual academic and course barriers experienced by the student. Further conversation with SAS, faculty and the student may be warranted to ensure an accessible course experience.

**Campus Safety Statement:** Emergencies on campus are rare, but if one should arise during class, everyone needs to work together. Students should be aware of their surroundings and familiar with some basic safety and security concepts.

- In case of an emergency, **dial 911 for assistance**.
- Every UCF classroom contains an emergency procedure guide posted on a wall near the door. Students should make a note of the guide's physical location and review the online version at <http://emergency.ucf.edu/emergency_guide.html>.
- Students should know the evacuation routes from each of their classrooms and have a plan for finding safety in case of an emergency.
- If there is a medical emergency during class, students may need to access a first-aid kit or AED (Automated External Defibrillator). To learn where those are located, see <http://www.ehs.ucf.edu/AEDlocations-UCF> (click on link from menu on left).
- To stay informed about emergency situations, students can sign up to receive UCF text alerts by going to <https://my.ucf.edu> and logging in. Click on "Student Self Service" located on the left side of the screen in the toolbar, scroll down to the blue "Personal Information" heading on the Student Center screen, click on "UCF Alert", fill out the information, including e-mail address, cell phone number, and cell phone provider, click "Apply" to save the changes, and then click "OK."
- Students with special needs related to emergency situations should speak with their instructors outside of class.
- To learn about how to manage an active-shooter situation on campus or elsewhere, consider viewing this video (<https://youtu.be/NIKYajEx4pk>)

**Deployed Active Duty Military Students Statement**: Students who are deployed active duty military and/or National Guard personnel and require accommodation should contact their instructors as soon as possible after the semester begins and/or after they receive notification of deployment to make related arrangements.

**Discrimination**: I am committed to encouraging a caring and supportive atmosphere on campus and to promoting a campus climate that understands and respects the needs of a culturally, ethnically, physically, and socially diverse student body. There will be no discrimination in this class. No discrimination will be tolerated whether it is against a protected class of individuals, or not, and there will be no discrimination based on ideas

or opinions either. Please let me know as soon as possible if you feel that you have been treated unjustly; I will listen to your concerns and take appropriate action.

**Religious Observances:** Students are expected to notify their instructor in advance if they intend to miss class to observe a holy day of their religious faith. For a current schedule of major religious holidays, see the Faculty Center's main web page under "Calendars," and for additional information, contact the Office of Diversity Initiatives at 407-823-6479.

## XVII. Copyright

This course may contain copyright protected materials such as audio or video clips, images, text materials, etc. These items are being used with regard to the Fair Use doctrine in order to enhance the learning environment. Please do not copy, duplicate, download or distribute these items. The use of these materials is strictly reserved for this online classroom environment and your use only. All copyright materials are credited to the copyright holder.

## XVIII. Third-Party Software and FERPA

During this course you might have the opportunity to use public online services and/or software applications sometimes called third-party software such as a blog or wiki. While some of these could be required assignments, you need not make any personally identifying information on a public site. Do not post or provide any private information about yourself or your classmates. Where appropriate you may use a pseudonym or nickname. Some written assignments posted publicly may require personal reflection/comments, but the assignments will not require you to disclose any personally identity-sensitive information. If you have any concerns about this, please contact your instructor.

# XIX. Important Dates to Remember

The FALL Academic calendar can be found online at: http://calendar.ucf.edu/2020/fall

Drop/Swap Deadline: August 28th
Withdrawal Deadline: October 20th
Thanksgiving and online afterwards: November 25th

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| **Disclaimer** | Every effort has been made to provide an accurate outline of course topics, requirements, and expectations; however, changes may occur throughout the semester and these will be announced during lectures and in announcements. If absent from class, it is the student's responsibility to inform him- or herself of any changes. Check Webcourses before class for any announcements or changes posted on the course homepage. |

**SCHEDULE (Outline)** (May be subject to minor changes as required) ON WEBCOURSES

| Week | Date | Assigned | Topic | REQUIRED Readings (to be finished before class) |
|---|---|---|---|---|
| 1 | Aug 24 | **INTRO QUIZ** | Introduction<br>What are stable isotopes? Fractionation and Distribution. | • Fry (2006) Chapter 1 and Chapter 2<br>• Meier-Augenstein – Section I<br>• Katzenberg/Waters-Rist (2019) |
| 2 | Aug 31 | **Topic 2** | Basics of Plant Ecology and Environmental Factors | • Fry (2006) Chapter 3<br>• Koch (2007)<br>• Marshall et al. (2007)<br>• TBD?? |

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|---|---|---|---|---|
| 3 | Sept 7<br>HOLIDAY | **NO CLASS reading ahead to discuss next week** | Human Biological Tissues, Archaeological Materials and Stable Isotope Analysis - diagenesis | • Fry (2006) Chapter 4 (discussion)<br>• Fahy et al. (2017)<br>• Dupras/Tocheri (2007)<br>• Bell et al. (2001)<br>• Nelson et al. (1986) |
| 4 | Sept 14<br><br><br>Sept 18 | **Topic 3/4**<br><br><br>**Assign#1** | Sample Preparation & Instrumentation | • Meier-Augenstein – Section II Longin (1971)<br>• Ambrose (1990)<br>• Pestle (2010)<br>• Garvie-Lok et al. (2004)<br>• Shemesh (1990) |
| 5 | Sept 21<br><br><br>Sept 25 | **Topic 7**<br><br><br>**TOPIC DUE** | Carbon Isotopes – Distribution | • Meier-Augenstein – Section I<br>• Deniro & Epstein (1978)<br>• Ambrose & Norr (1993)<br>• von Caemmerer (1992)<br>• Ambrose (1993) |
| 6 | Sept 28 | | Carbon Isotopes - Interpretation | • Meier-Augenstein – Section I<br>• Tieszen & Fagre (1993)<br>• Metcalfe et al. 2008<br>• Walter & Leslie (2009)<br>• BRING/FIND x2 |
| 7 | Oct 5 | **Topic 8** | Nitrogen Isotopes – Distribution | • Meier-Augenstein – Section I<br>• Schoeninger et al. (1983)<br>• Ambrose (1991)<br>• Fuller et al. (2006)<br>• Hedges et al. (2007) |
| 8 | Oct 12<br><br><br>Oct 16 | <br><br>**Assign #2** | Nitrogen Isotopes – Interpretations | • Olsen et al. (2014)<br>• Fuller et al. (2005)<br>• Szpak et al. (2014)<br>• BRING/FIND x2 |
| 9 | Oct 19 | **Topic 9** | Oxygen Isotopes – Distribution | • Meier-Augenstein – Section I<br>• Luz & Kolodny (1985)<br>• Daux et al. (2006)<br>• Schoeninger et al. (2002)<br>• Knudson (2009) |
| 10 | Oct 26 | | Oxygen Isotopes – Interpretations | • Pollard et al. (2012)<br>• White et al. (2004)<br>• Gagnon et al. (2015)<br>• TBA<br>• BRING FIND x2 |
| 11 | Nov 2 | **Topic 10** | Strontium Isotopes - Distribution | • Meier-Augenstein – Section I |

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| | | **PROP OUTLINE** | | • Bentley (2006)<br>• Evans et al. (2009)<br>• Sealy et. Al (1991)<br>• TBA |
| 12 | Nov 9 | **Assign #3** | Strontium Isotopes – Interpretations | • Wright (2005)<br>• Barbarena et al. (2017)<br>• Richards et al. (2008)<br>• Nowell & Horstwood (2009)<br>• BRING FIND x2 |
| 13 | Nov 16 | **Topic 12** | Archaeological Considerations: Foodwebs and baselines | • Fry (2006) Chapter 5<br>• Szpak et al. (2013)<br>• Casey/Post (2007)<br>• Bowen (2010)<br>• BRING FIND x2 |
| 14 | Nov 23 | **Topic 13** | Archaeological Considerations: New sources and Data comparisons | • Knudson/Price (2007)<br>• Salesse (2018) Isoarch<br>• Tsutaya (2017)<br>• Jauoen/Pons (2017)<br>• BRING FIND x2 |
| 15 | Nov 30 | **Topic 14** | Forensic & contemporary contexts and issues | • Meier-Augenstein – Section III<br>• Bartelink et al. (2014)<br>• Reitsema (2013)<br>• D'Ortenzio et al. (2015)<br>• Eerkens et al. (2011)<br>• BRING FIND x2 |
| 16 | Dec 7 4pm | **Assign #4 FINAL QUIZ** | Final Research Presentations | |