ANG5486: Quantitative Research in Anthropology
Fall 2022 (3 credits)
Thursdays, 12:30-3:20pm
Location: PSY 0107
Mode: P

Instructor Information:
Donovan M. Adams, Ph.D. (Any)
Office: HPH309D
Office Phone Number: 407-823-0951
Office Hours: Mondays, 3:30-5:00pm, or by appointment
E-mail: donovan.adams@ucf.edu

Prerequisites: None

Required Text:
- *Quantitative Methods in Archaeology Using R*. David L. Carlson. ISBN: 978-1-107-65557-7. (Available for complete download through the library.)
- *The Book of R: A First Course in Programming and Statistics*. Tilman M. Davies.
- Additional readings will be provided through Webcourses@UCF.

Required Technology:
- R (https://cran-r-project.org).
- R Studio (https://rstudio.com/products/rstudio/download/).
- Access to Webcourses@UCF

Course Requirements:
- 9 lab assignments
- 8 reading assignments
- 1 final project
    - Data set and research question/hypotheses
    - 1 check-in
    - 1 abstract
    - 1 research poster
    - 1 research poster
    - 1 R results output

Course Description:
Quantitative approaches to problems in anthropology, including multivariate systems, assessment of reliability, and approaches for small sample sizes.
Course Objectives:
Students will:
- Learn how to use the R statistical software for calculating univariate statistics and begin building skills at writing functions for statistical application.
- Learn basic statistical principles.

- Learn univariate statistical techniques for sample summaries, analysis, and data treatment.
- Critically examine methodology, interpretations, and presentation of anthropological research.
- Carry out and present quantitative projects.

Grading: Grades will be posted to Webcourses@UCF based on the following:

1. Homework Assignments: There are 9 assignments throughout the semester, each worth 25 points. These will allow you to practice the material learned in lecture. These will require use of R to answer the questions. You will provide both the answers obtained and the code used to obtain it. These assignments must be completed using R Markdown. Each assignment is due by the beginning of class (12:30 pm) and must be submitted on Webcourses@UCF.
2. Reading Assignments: There will be 8 required reading assignments for each article, with a set of questions that should be addressed ***each week for each article***. These questions should be answered and submitted before class the following week (12:30 pm). How you address these questions is up to you: 1) short notes, like a bulleted list, written into Webcourses@UCF; 2) notated/highlighted pdfs specifying how your notes address each question; 3) flow charts and diagrams; or 4) another method that works well in answering the questions. These will assist in improving critical reading of studies and help to facilitate class discussions.
3. End-of-Semester Project: This will consist of four (4) primary components: abstract (100 points), data analysis (100 points), a research poster presentation (100 points), and a write-up (100 points). You may use either 1) your own data, 2) a dataset provided to you by a faculty member (great opportunity to get involved on research projects; however, the faculty member MUST know and have provided written permission for data to be used as a part of this class), or 3) an open-source dataset. Using the techniques learned in class, you must carry out a research project, consisting of preparing data for analysis, conducting statistical treatments, and carrying out interpretations. The poster (December 1st) will be conducted as if you are at a conference. Additionally, you must submit a write-up formatted as if submitting a journal article (i.e., an abstract, introduction, materials and methods, results, discussion and conclusions, and references) and your R output (December 6th). More detailed instructions for this assignment will be given in class and provided on Webcourses@UCF, along with grading rubrics for each component of the assignment.
    1. You must have a selected dataset by September 8th (10 points) and a chosen research question and hypotheses by September 22nd (10 points).
    2. The week of October 19th there will be a required check-in where, at minimum, you must present your data, questions, hypotheses, plan for analysis, and descriptive statistics.
    3. You must submit an abstract (no longer than 250 words) of your project by November 10th. My comments will be returned to you no later than November 17th. Your revisions will be due November 29th. These abstracts should be an accurate summary of your research and will be collected into "conference proceedings" that will be distributed to the class before posters on the 1st.
    4. You will present your project as a conference-style poster on December 1st.

5. You will submit your R results output and your journal manuscript/final paper (4,000-5,000 words) on December 6th.

Assignment	**Percentage of Grade (Points)**
9 Assignments	26.32% (25 points each)
8 Article Discussions	18.71% (20 points each)
Data Selection	1.17% (10)
Research Question Selection	1.17% (10)
Check-in	5.85% (50)
Abstract	11.70% (100)
Research Poster	11.70% (100)
Research Paper	11.70% (100)
R Output	11.70% (100)
Total	**100.00% (855)**

A: 92.51-100	B-: 80-82.49	D+: 67.5-69
A-: 90-92.5	C+: 77.5-79	D: 62.5-67.49
B+: 87.5-89	C: 72.5-77.49	D-: 60-62.49
B: 82.5-87.49	C-: 70-72.49	F: 59 and below

Classroom Policies:

- Classroom periods are designed to allow for instruction on statistical concepts, critical discussion regarding the readings, and connection of these topics to broader anthropological questions. Therefore, questions, abstract thinking, and critical analysis is encouraged. Critical evaluation of the implications of these statistics, the appropriateness and ethical considerations are also important for robust methodologies.
- We will discuss a range of topics that may involve critical and important sociopolitical issues. This means that while evidence-based ideas may be expressed, it is expected that evidence supports your arguments, and that discussion is held *appropriately and respectfully. Appropriate and respectful discussion means that no disparaging, insulting words, slurs, or attacks (any hate speech) are to be directed at other individuals (or to oneself) and will result in ejection from the class*. The value, equality, and respectful treatment of human life and variation are embraced in and fundamental to anthropology.
- There is a significant amount of work to be done in this class both outside and inside the classroom, weekly and throughout the semester. Success in this class requires significant commitment, including working on your weekly assignments, watching recorded lectures, and working on your semester-long project. I recommend beginning working on your assignments early so if you have questions or it takes you longer than anticipated to run your statistics, you have time to complete everything before the following class. I recommend using office hours to their fullest potential.

- Classes in which there are recorded lectures will be run with the assumption that you have, in fact, watched the recorded lectures. We will not cover the material in those lectures in-depth, instead doing a general recap of what is in the lectures. Questions regarding this material should ask for more in-depth explanation or clarification, not just repeating information that is in there. We have a lot to cover in a short amount of time and to maximize the time please make sure you engage with those lectures.
- Recorded lectures are available on YouTube. Links will be provided for the appropriate week. Links and videos may not be shared outside of this class. Lecture videos may not be downloaded from YouTube or recorded through an alternative means.
- All communication will be done either through Webcourses@UCF and Webcourses announcements or directly to your UCF e-mail address. Be sure to have these on set up and that you are checking these consistently.

Financial Aid Requirement:

Federal regulations require that federal aid awards be based on courses in which students demonstrate academic engagement.

All students must complete the "Introduce Yourself" assignment on Webcourses@UCF by the end of the day on Friday, August 26th (11:59 pm). This will be used to assess your academic engagement as compliant to federal regulations.

POLICIES

Academic Integrity:

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.
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.
8. Soliciting assistance with academic coursework and/or degree requirements.

Responses to Academic Dishonesty, Plagiarism, or Cheating
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 respond to academic misconduct when necessary. Penalties for violating rules, policies, and instructions within this course can range from a zero on the exercise to an "F" letter grade in the course. In addition, an Academic Misconduct report could be filed with the Office of Student Conduct, which could lead to disciplinary warning, disciplinary probation, or deferred suspension or separation from the University through suspension, dismissal, or expulsion with the addition of a "Z" designation on one's transcript.

Being found in violation of academic conduct standards could result in a student having to disclose such behavior on a graduate school application, being removed from a leadership position within a student organization, the recipient of scholarships, participation in University activities such as study abroad, internships, etc.

Let's avoid all of this by demonstrating values of honesty, trust, and integrity. No grade is worth compromising your integrity and moving your moral compass. Stay true to doing the right thing: take the zero, not a shortcut.

Course Accessibility:

The University of Central Florida is committed to providing access and inclusion for all persons with disabilities. Students with disabilities who need access to course content due to course design limitations should contact the professor as soon as possible. Students should also connect with Student Accessibility Services (SAS) <http://sas.sdes.ucf.edu/> (Ferrell Commons 185, sas@ucf.edu, phone 407-823-2371). 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:

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:

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.

Make-Up Assignments for Authorized University Events or Co-curricular Activities:

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 <https://policies.ucf.edu/documents/4-401.pdf>

You will have the semester to make up a missing assignment for at least a 10% late penalty. No make-ups will be allowed beyond December 1st at 3:20pm. No make-ups for the final project will be allowed.

Religious Observances:

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>.

In-class Recording:

Students may record video or audio of a class lecture for a class in which the student is enrolled for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject. Recording classroom activities other than class lectures, including but not limited to lab sessions, student presentations (whether individually or part of a group), class discussion (except when incidental to and incorporated within a class lecture), clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations is prohibited. It will be made explicit when lectures have begun and ended. Recordings may not be used as a substitute for class participation and class attendance, and may not be published or shared without the written consent of the faculty member. Failure to adhere to these requirements may constitute a violation of the University's Student Code of Conduct as described in the Golden Rule. The instructor may also record lecture (only lecture) periods of the class.

Classroom Discussion of Ideas:

Fundamental to University of Central Florida's mission is support for an environment where divergent ideas, theories, and philosophies can be openly exchanged and critically evaluated. Consistent with these principles, this course may involve discussion of ideas that you find uncomfortable, disagreeable, or even offensive. These ideas are intended to be presented in an objective manner and not as an endorsement of what you should personally believe. Objective means that the idea presented can be tested by critical peer review and rigorous debate, and that the idea is supported by credible research. Not all ideas can be supported by objective methods or criteria. Regardless, you may decide that certain ideas are worthy of your personal belief. In this course, however, you may be asked to engage with complex ideas and to demonstrate an understanding of the ideas. Understanding an idea does not mean that you are required to believe it or agree with it.

Turnitin:

In this course we will utilize turnitin.com, an automated system which instructors can use to quickly and easily compare each student's assignment with billions of web sites, as well as an enormous database of student papers that grows with each submission. Accordingly, you will be expected to submit assignments through the Canvas Assignment Tool in electronic format. After the assignment is processed, as an instructor I receive a report from turnitin.com that states if and how another author's work was used in the assignment. For a more detailed look at this process, visit http://www.turnitin.com.

UCFCARES:

During your UCF career, you may experience challenges including struggles with academics, finances, or your personal well-being. UCF has a multitude of resources available to all students. Please visit UCFCares.com if you are seeking resources and support, or if you are worried about a friend or classmate. Free services and information are included for a variety of student concerns, including but not limited to alcohol use, bias incidents, mental health concerns, and financial challenges. You can also e-mail ucfcares@ucf.edu with questions or for additional assistance. You can reach a UCF Cares staff member between 8 a.m. and 5 p.m. by calling 407-823-5607. If you are in immediate distress, please call Counseling and Psychological Services to speak directly with a counselor 24/7 at 407-823-2811, or please call 911.

University Writing Center:

University Writing Center
Trevor Colbourn Hall 109
Satellite Locations: Main Library, Rosen Library, Online
407-823-2197
http://uwc.cah.ucf.edu/

The University Writing Center (UWC) offers writing support to students from first-year to graduate in every discipline. Tutors provide help at every stage of the writing process, including understanding assignments, researching, drafting, revising, incorporating sources, and learning to proofread and edit. The UWC's purpose is not merely to fix or edit papers, but to teach writing strategies that can be applied to any writing situation. Consultations are available for individuals and small groups. You may schedule a 45-minute appointment by clicking the *Success Resources* tab on Webcourses, calling the UWC at 407-823-2197, or through the UWC website.

The UWC seeks graduate and undergraduate tutors from all majors. To learn more about becoming a writing tutor, please contact us.

Diversity and Inclusion:

The University of Central Florida considers the diversity of its students, faculty, and staff to be a strength and critical to its educational mission. UCF expects every member of the university community to contribute to an inclusive and respectful culture for all in its classrooms, work environments, and at campus events. Dimensions of diversity can include sex, race, age, national origin, ethnicity, gender identity and expression, intellectual and physical ability, sexual orientation, income, faith and non-faith perspectives, socio-economic class, political ideology, education, primary language, family status, military experience, cognitive style, and communication style. The individual intersection of these experiences and characteristics must be valued in our community.

Title IX prohibits sex discrimination, including sexual misconduct, sexual violence, sexual harassment, and retaliation. If you or someone you know has been harassed or assaulted, you can

find resources available to support the victim, including confidential resources and information concerning reporting options at www.shield.ucf.edu and http://cares.sdes.ucf.edu/.

If there are aspects of the design, instruction, and/or experiences within this course that result in barriers to your inclusion or accurate assessment of achievement, please notify the instructor as soon as possible and/or contact Student Accessibility Services.

For more information on diversity and inclusion, Title IX, accessibility, or UCF's complaint processes contact:

- Title IX – OIE – http://oie.ucf.edu/ & askanadvocate@ucf.edu
- Disability Accommodation – Student Accessibility Services – http://sas.sdes.ucf.edu/ & sas@ucf.edu
- Diversity and Inclusion Training and Events – www.diversity.ucf.edu
- Student Bias Grievances – Just Knights response team – http://jkrt.sdes.ucf.edu/
- UCF Compliance and Ethics Office – http://compliance.ucf.edu/ & complianceandethics@ucf.edu
- Ombuds Office – http://www.ombuds.ucf.edu

Course Schedule (Dates, assignments, and readings may change as needed. Any changes will be announced in class and through e-mail/Webcourses).

Each week, beginning on September 29th, a reading assignment is due. These are based on the non-italicized readings listed for the week. For example, the assignment due on September 29th is to be done on Heath-Stout (2019) and Beyin (2022).

Week	Day	Topic	Reading			Assignment
			C*	D**	Articles	
1	Aug 25	Introduction to course and R		Introduction, A, B		
2	Sept 1	R code; Working in R	2, 3.1	1, 2, 4		
3	Sept 8	More R code and data management	4, 5.1	3, 5, 8, 11		Dataset Due in class
4	Sept 15	Ethical considerations			*ASA (2018)* *Turner and Mulligan (2019)* *Boyer et al. (2020)* *Tsosie et al. (2020)* *Juutilainen et al. (2020)* *Stull et al. (2021)*	Lab #1 Due 15th
5	Sept 22	Introduction to statistics and research design	Intro	13.1, 15, 16	*Agbe-Davies (2009)* *Smith (2019)*	Project Topic Due in class
6	Sept 29	Descriptive statistics	3.3-3.4	13.2, 17	Heath-Stout (2019) Beyin (2022)	Lab #2 and Readings #1 Due 29th
7	Oct 6	Parametric Assumptions	3.2, 6	19.1.1, 22.3	Algee-Hewitt (2017) Thayer and Gildner (2022)	Lab #3 and Readings #2 Due 6th
8	Oct 13	Basic Figures and Tables	5.2-5.7	7, 4	de la Cova (2010) Sousa et al. (2020) *Webpage links*	Lab #4 and Readings #3 Due 13th
9	Oct 20	Tests for statistical significance; Hypothesis testing	8.2-8.4	18	Nelson (2016) Paez et al. (2022)	Lab #5 and Readings #4 Due 20th Check-in Due Week 9
10	Oct 27	Correlations and Error Testing	9.1-9.2	22.4	Lawrence et al. (2018) Shinde et al. (2018)	Lab #6 and Readings #5 Due 27th

11	Nov 3	Hypothesis Testing for 3+ Groups	8.5	19	Paul et al. (2016) Tallman (2019)	Lab #7 and Readings #6 Due 3rd Abstracts Due in class
12	Nov 10	Missing data; Imputation	7		*Kenyhercz and Passalacqua (2016)* *Kenyhercz et al. (2019)* Lasisi et al. (2016) Eng and Aldenderfer (2017)	Lab #8 and Readings #7 Due 10th
13	Nov 17	Research presentation: manuscripts, posters, and podiums			Stojanowski et al. (2007) Rathmann et al. (2022)	Lab #9 and Readings #8 Due 17th
14	Nov 24	**THANKSGIVING BREAK – NO CLASS**				
15	Dec 1	PRESENTATIONS				Abstract Edits Due Nov 29th
16	Dec 6	**FINAL EXAM DAY (1:00-3:50pm) – Results Output and Final Paper Due**				

*Assignments are due before class the following week (e.g., Assignment #1 is due before class on September 14th.

**Readings in italics are more informational/supplemental in nature and do not need to be critiqued as a part of your reading assignment. Having said this, there will still be discussions specifically regarding these papers and material learned in class will under the assumption that you have done these readings.

IMPORTANT DATES:

- Aug 26: Introduce Yourself Assignment Due
- Sept 8: Dataset Due
- Sep 15: Lab #1 Due
- Sep 29: Lab #2 and Readings #1 Due; Project Topic Due
- Oct 6: Lab #3 and Readings #2 Due
- Oct 13: Lab #4 and Readings #3 Due
- Oct 20: Lab #5 and Readings #4 Due; Project Dataset Due
- Oct 27: Lab #6 and Readings #5 Due
- Oct 29: Check-ins Due

- Nov 3: Lab #7 and Readings #6 Due
- Nov 10: Lab #8 and Readings #7 Due; Abstracts Due
- Nov 17: Lab #9 and Readings #8 Due
- Nov 29: Abstract Edits Due
- Dec 1: Presentations
- Dec 6: Paper and Results Due