

# ANT 568 – Quantitative Research Methods

## *Syllabus for Spring 2016*

<b>Professor:</b>	Dr. Britton Shepardson	<b>Class hours:</b>	W 12:40 – 3:10
<b>Department:</b>	Anthropology	<b>Class location:</b>	Bldg #98D, Rm 110
<b>Office hours:</b>	By appt (Mon & Fri are good)	<b>Class website:</b>	<a href="http://www.terevaka.net/nau">www.terevaka.net/nau</a>
<b>Office location:</b>	Bldg #98D, Room 101H	<b>Email:</b>	Britton.Shepardson@nau.edu

### Course Description:

This course emphasizes quantitative theory and method. Explores a variety of techniques and their rationale for designing and evaluating anthropological data with a problem-oriented focus.

### Course Prerequisite:

- Statistics

### Student Learning Expectations and Outcomes:

Upon completion of this course, students will be able to:

- 1) Understand the basic vocabulary of quantitative reasoning and apply it appropriately in both theoretical and empirical contexts.
- 2) Critically read and evaluate textual, mathematical, and graphic representations of quantitative analysis related to anthropological sub-disciplines
- 3) Generate appropriate databases and database structures
- 4) Identify and effectively implement a variety of both descriptive and inferential quantitative analyses
- 5) Critique the theoretical and/or methodological foundations for quantitative analyses
- 6) Design effective research questions and data-collection procedures for problem-oriented research
- 7) Use industry-standard software in both quantitative data analysis and presentation of results
- 8) Present quantitative analytical results in a professional style

### Reading Materials:

- The reading materials will include three main sources. In order of how I would prioritize these for your best learning experience, those three sources are:
  - Salkind, N. 2014. *Statistics for People Who (Think They) Hate Statistics (Fifth Edition)*. Thousand Oaks: Sage Publications, Inc. **{hereafter “Haters”}**
    - Additional resources: <http://www.sagepub.com/salkind5e/study/>
  - Trochim, W. 2005. *Research Methods: The Concise Knowledge Base (First Edition)*. Boston: Atomic Dog Publishing. **{hereafter “KB”}**
  - Bernard, R. 2011. *Research Methods in Anthropology: Qualitative and Quantitative Approaches (Fifth Edition)*. New York: AltaMira Press. **{hereafter “RMA”}**
- You will also read and dissect 8 quantitative anthropological journal articles based on your own interests.

### Course outline:

- This course is designed to help you gain proficiency in three areas of quantitative anthropological research: reading/interpreting, data/analysis, presentation/visualization.
- The reading and assignments are designed roughly around those three concepts, in that order:

All assignments in the table below are DUE BEFORE CLASS ON THE DATE LISTED.

WEEK	DATE	BIBLIO	RESEARCH ARTICLE	TPS REPORTS	HATERS	KB CHAPTERS	RMA CHAPTERS	TOPIC(S)
1	1/20							Introductions, Syllabus, Course Design
2	1/27			1		1	1 & 2	History, Theory, Justification
3	2/3		Prospectus	2	Chapters 1 & 2 (pp33-36: #1, 4, 6)	6	3 & 15	Quantitative Terminology
4	2/10			3	Chapters 3 & 4 (pp48-49: #3, 4, 5, 6, 7) & (pp74-75: #2, 3, 5)	2	5 & 6	Interpreting Variation, Sampling
5	2/17	8 Refs			Chapters 5 & 6 (pp96-100: #1, 3, 4, 6, 7, 8, 10) & (pp123-124: #2, 5, 6)	3 & 11	7	Correlations, Reliability, Validity
6	2/24			4	Chapters 7 & 8 (p139: #2, 4, 5) & (pp158-159: #1, 2, 5, 6)	5	11 & 13	Normal Curve, Hypotheses, Scaling
7	3/2	#1		5	Chapters 9 & 21 (p179: #3, 4)	7 & 8	4	Research Design, Significance
8	3/9	#2	Lit, Data, & Journal		Chapter 10 (p188: #1, 3, 4)	9 & 10	20	Design (cont.), Univariate, Z-test
9	3/16				SPRING BREAK!!!			
10	3/23	#3		6	Chapters 11 & 12 (pp203-205: #1, 2, 5, 7, 8) & (pp218-220: #1, 2, 4, 6)	12		Inferential, t-test
11	3/30	#4		7	Chapter 13 (pp237-238: #1, 3, 4)		16 & 17	Cognitive Anthro, ANOVA
12	4/6	#5		8	Chapter 14 (pp251-252: #1, 4)	4		Factorial ANOVA, Surveys
13	4/13	#6		9	Chapter 15 (pp263-265: #1, 2, 4, 7)		21	Correlation Coefficients
14	4/20	#7	3 Stats		Chapter 16 (pp281-283: #1, 2, 3, 5, 7)			Linear Regression
15	4/27	#8		10	Chapter 17 (p295: #2, 3, 4)		22	Chi-Squared & Nonparametrics
16	5/4		Article		Chapter 18			Multivariates
17	5/11		2 Evals		Chapters 19 & 20			

**Grading:**

<i>Assignment</i>	<i>Pts</i>	<i>×</i>	<i>No.</i>	<i>=</i>	<i>Subtotal</i>
TPS Reports	10	×	10	=	100
Annotations	10	×	8	=	80
Participation					
Biblio Presentation	20	×	1	=	20
Discussion Leader	40	×	2	=	80
Research Article					
Prospectus	5	×	1	=	5
Data/Lit/Journal	10	×	1	=	10
3 Stats	10	×	1	=	10
Final	75	×	1	=	75
Evals	10	×	2	=	20
<i>Total</i>					<i>400</i>

Letter grades will be assigned based on the following scale of total possible points:

90-100% = A      80-89% = B      70-79% = C      60-69% = D+

- Any score below a 60% constitutes a failing grade for this course.
- Incomplete grades will be offered only under extreme circumstances.

**TPS Reports:**

- Encourages students to explore different capabilities of Excel on a weekly basis and produce formal reports to include text, graphics, and equations (but no cover sheet).
- Assignments will be graded on correctness and professionalism.
- All assignments are due in **printed, hard copy at the beginning of class** each Wednesday.

**Annotations:**

- In the fifth week of class (2/17), you will submit a bibliography of 8 anthropological articles that emphasize data and quantitative analysis:
  - two of these articles should pertain to cultural anthropology;
  - two of these articles should pertain to linguistic anthropology;
  - two of these articles should pertain to biological anthropology; and
  - two of these articles should pertain to archaeology
- Beginning in the eighth week of class (3/3), you will submit a brief (200 words max.) annotation for one of the articles assigned to you each week. Your annotation should reflect a deep understanding of the article and address the following:
  - What is the objective or research question addressed by the article?
  - What type of data does the article draw upon?
  - How does the article analyze the data?
  - What conclusions does the article draw from data analysis?
  - In your opinion, what are the particular strengths and/or weaknesses of the article?
- Bibliography and annotations are due in **printed, hard copy at the beginning of class**.

**Bibliographic Presentation:**

- You will be required to give one in-class presentation on any one article that you have selected for your bibliography. This will give you a chance to not only dissect the article, but to practice your presentation skills. Your presentation should last approximately 15-20 minutes, employ the digital presentation media of your choice (PowerPoint, Prezi, etc.), and address the questions listed above.
- 50% of the grade for your bibliographic presentation will come from peer evaluations, and 50% of the grade will come from the instructor's evaluation of your presentation.

**Discussion & Activity Leader:**

- Twice during the semester, you will be asked to be a discussion leader (either alone or with a partner).
- Your job will be to read all assigned materials for that particular week carefully and identify or create a variety of topics, questions, or activities that you feel will facilitate a group discussion and a better understanding of the assigned reading materials for the rest of the group.
- Additional details will be provided one week before you are to manage the class activity.
- 50% of the grade for your performance as a Discussion Leader will come from peer evaluations, and 50% of the grade will come from the instructor's evaluation of your performance.

**Research Article:**

- In the third week of class (2/3), you will submit a brief prospectus (200 words max.) regarding the research topic of your choice in anthropology and how you envision quantitative analysis addressing your research topic.
- Prior to Spring Break (3/10), you will submit a comprehensive bibliography on your research topic, an Excel file containing data that you have acquired as a result of your literature review, and your selection of the most appropriate academic journal where you would like to publish your findings.
- In week 14 (4/21), you will submit a brief written description of at least 3 statistics you will use in your research article (minimum 2 descriptive and 1 inferential).
- In the last week of class (5/5), you will submit your polished research article formatted according to your selected academic journal's formatting guidelines.
- 50% of the grade for your final Research Article will come from peer evaluations, and 50% of the grade will come from the instructor's evaluation of your article.

**Peer Evaluations:**

- As would be the case in the professional world, you will be required to critically evaluate two research articles written by your peers.
- An online form will be provided for you to complete your evaluations.

**Data Visualization Showdown:**

- On a weekly basis, students will be provided with a data set for which they must create a unique, compelling and aesthetically-pleasing visualization (image). Each member of the class (including the professor) will vote for one winning visualization each week. The single student who racks up the most wins will receive an automatic 100% on her/his research article (a tiebreaker assignment will be implemented if necessary).

**Expectations and Class Meetings:**

- In taking this class, we enter a contract to treat each other with professional respect. This means arriving to class on time, attending class regularly, and turning in assignments by their due dates. You can expect the course to follow the format and schedule provided in this syllabus unless otherwise notified. Our class meetings will generally consist of lectures, small-group discussions or activities, and student presentations. I encourage questions and comments during class lecture. If you are confused about something, chances are someone else in the class is too, so don't be shy about asking questions.

**Late work:**

- No late work will receive credit without explicit prior permission from the professor.

**Classroom behavior:**

- I consider any use of cell phones, tablets, iPods, laptops, or other electronic devices in class to be disrespectful to both myself and to your classmates, unless you are using them *only* for note-taking.

**Plagiarism and cheating:**

- You are expected to be able to think for yourselves, do your own work, and ***use your own words***.
- Using someone else's ideas without acknowledgement is plagiarism and is a serious violation of academic ethics.
- In this class, **quotes of more than a couple words are considered plagiarism (except in the research article)**.
- Cheating or any other form of academic dishonesty in any fashion will not be tolerated, and disciplinary actions will be taken in accordance with the guidelines outlined in the Student Handbook.

### **SAFE ENVIRONMENT POLICY**

NAU's Safe Working and Learning Environment Policy seeks to prohibit discrimination and promote the safety of all individuals within the university. The goal of this policy is to prevent the occurrence of discrimination on the basis of sex, race, color, age, national origin, religion, sexual orientation, disability, or veteran status and to prevent sexual harassment, sexual assault or retaliation by anyone at this university.

The Director of the Office of Affirmative Action & Equal Opportunity (AA/EO) serves as the university's compliance officer for affirmative action, civil rights, and Title IX, and is the ADA/504 Coordinator. AA/EO also assists with religious accommodations. You may obtain a copy of this policy from the college dean's office or from the NAU's Affirmative Action website.

If you have questions or concerns about this policy, it is important that you contact the departmental chair, dean's office, the Office of Student Life (928-523-5181), or NAU's Office of Affirmative Action (928) 523-3312 (voice), (928) 523-9977 (fax), (928) 523-1006 (TTD) or [aaeonau.edu](http://aaeonau.edu).

### **STUDENTS WITH DISABILITIES**

If you have a documented disability, you can arrange for accommodations by contacting Disability Resources (DR) at 523-8773 (voice) or 523-6906 (TTY), [drnau.edu](mailto:drnau.edu) (e-mail) or 928-523-8747 (fax). Students needing academic accommodations are required to register with DR and provide required disability related documentation. Although you may request an accommodation at any time, in order for DR to best meet your individual needs, you are urged to register and submit necessary documentation 8 weeks prior to the time you wish to receive accommodations. DR is strongly committed to the needs of student with disabilities and the promotion of Universal Design. Concerns or questions related to the accessibility of programs and facilities at NAU may be brought to the attention of DR or the Office of Affirmative Action and Equal Opportunity (523-3312).

### **ACADEMIC CONTACT HOUR POLICY**

Based on the Arizona Board of Regents Academic Contact Hour Policy (ABOR Handbook, 2-224), for every unit of credit, a student should expect, on average, to do a minimum of three hours of work per week, including but not limited to class time, preparation, homework, studying.

### **ACADEMIC INTEGRITY**

The university takes an extremely serious view of violations of academic integrity. As members of the academic community, NAU's administration, faculty, staff and students are dedicated to promoting an atmosphere of honesty and are committed to maintaining the academic integrity essential to the education process. Inherent in this commitment is the belief that academic dishonesty in all forms violates the basic principles of integrity and impedes learning. Students are therefore responsible for conducting themselves in an academically honest manner.

Individual students and faculty members are responsible for identifying instances of academic dishonesty. Faculty members then recommend penalties to the department chair or college dean in keeping with the severity of the violation. The complete policy on academic integrity is in Appendix G of NAU's Student Handbook.

### **RESEARCH INTEGRITY**

The Responsible Conduct of Research policy is intended to insure that NAU personnel including NAU students engaged in research are adequately trained in the basic principles of ethics in research. Additionally, this policy assists NAU in meeting the RCR training and compliance requirements of the National Science Foundation (NSF)-The America COMPETES Act (Creating Opportunities to Meaningfully Promote Excellence in Technology, Education and Science); 42 U.S.C 18620-1, Section 7009, and the National Institutes of Health (NIH) policy on the instruction of the RCR (NOT-OD-10-019; "Update on the Requirement for Instruction in the Responsible Conduct of Research"). For more information on the policy and the training activities required for personnel and students conducting research, at NAU, visit: <http://nau.edu/Research/Compliance/Research-Integrity>.

### **SENSITIVE COURSE MATERIALS**

University education aims to expand student understanding and awareness. Thus, it necessarily involves engagement with a wide range of information, ideas, and creative representations. In the course of college studies, students can expect to encounter-and critically appraise-materials that may differ from and perhaps challenge familiar understandings, ideas, and beliefs. Students are encouraged to discuss these matters with faculty.

### **CLASSROOM DISRUPTION POLICY**

Membership in the academic community places a special obligation on all participants to preserve an atmosphere conducive to a safe and positive learning environment. Part of that obligation implies the responsibility of each member of the NAU community to maintain an environment in which the behavior of any individual is not disruptive. Instructors have the authority and the responsibility to manage their classes in accordance with University regulations. Instructors have the right and obligation to confront disruptive behavior thereby promoting and enforcing standards of behavior necessary for maintaining an atmosphere conducive to teaching and learning. Instructors are responsible for establishing, communicating, and enforcing reasonable expectations and rules of classroom behavior. These expectations are to be communicated to students in the syllabus and in class discussions and activities at the outset of the course. Each student is responsible for behaving in a manner that supports a positive learning environment and that does not interrupt nor disrupt the delivery of education by instructors or receipt of education by students, within or outside a class. The complete classroom disruption policy is in Appendices of NAU's Student Handbook.