

ANTH 4900.120 - Special Problems: Independent Research

3 credits

Topic: Portable X-Ray Fluorescence (pXRF) Analysis of Obsidian from Actuncan, Belize

Meetings: Wednesdays 1-2 pm, GAB 119C

Instructor



Dr. Kara A. Fulton (**she/her***)

Clinical Professor

Kara.Fulton@unt.edu

**[What are personal pronouns and why do they matter?](#)*

Course Description

Catalog description: 1–3 hours. May be repeated for credit.

Additional info: This independent research course introduces you to collaborative archaeological research through participation in an ongoing geochemical sourcing project. The project uses portable X-ray fluorescence (pXRF) to identify the geological sources of obsidian artifacts from Actuncan, Belize, in order to investigate ancient Maya exchange networks and access to imported materials. You will work closely with me (the instructor) to develop background knowledge of obsidian studies and pXRF methods, clean and analyze geochemical data, interpret results in archaeological context, and prepare research materials for a poster presentation. No prior experience with pXRF or geochemical analysis is required.

This course is about learning how research actually works – including uncertainty, iteration, and collaboration. If something feels messy or confusing, that often means we’re doing real research! 😊

Course Structure

This research experience is designed around structured accountability. The goal is for you to learn how to work independently while still receiving enough guidance to succeed. The semester is structured around a series of research building assignments with weekly check-ins.

Because this is an independent research experience, the expectation is that you will drive the project. I'll provide guidance, feedback, and support, but you'll be responsible for maintaining momentum between meetings. **Come to meetings with specific questions and drafts for review – this is your time, use it.** The more prepared you are, the more productive our time together will be.

Student responsibilities:

- Finding and reading literature
- Drafting all poster sections
- Creating timelines
- Bringing specific questions to meetings

Faculty responsibilities:

- Approve the overall direction
- Review deliverables
- Help troubleshoot major obstacles
- Provide feedback on poster drafts

Course Objectives

1. Develop a scholarly understanding of a research topic through independent review and synthesis of relevant literature.
2. Conduct and interpret research using appropriate analytical methods and evidence-based reasoning.
3. Create and present a professional research poster that clearly communicates the purpose, methods, findings, and significance of a research project.

Being Successful in this Course

- Pay close attention to due dates. Because this course is paced around project milestones, deadlines are firm.
- Take ownership of the project. This is an independent research experience, so you are responsible for maintaining progress between meetings.
- Come prepared to our weekly meetings with updates, questions, and any challenges you are encountering.
- Submit quality work on time and carefully incorporate feedback into future deliverables.
- Cite all sources appropriately and give credit for ideas, data, images, and information used in your project.
- Communicate early if you encounter problems or anticipate difficulty meeting a deadline.
- Maintain organized records of your research, data, analyses, drafts, and sources throughout the semester.
- Commit to spending 6-10 hours per week on the course. Some students may need additional time to meet course expectations and produce a high-quality final poster.

Grading

Assignments

All assignments are submitted via Canvas. Assignment details can be found on the schedule and in Canvas. They fall into the following categories:

- Background/Introduction¹: 20%
- Research Question²: 15%
- Methodology²: 20%
- Data/Results²: 25%
- Poster Evaluations^{2,3}: 5%
- Final Poster & Presentation³: 15%

Grading Scale

Final grades will be determined using percentages. Students are expected to keep up with their grades and point totals by regularly reviewing them on Canvas. You can use [Canvas's What-If feature](#) to calculate your potential total grade by entering hypothetical grades for ungraded assignments.

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

Required Materials

Readings will be drawn from peer-reviewed archaeological literature and provided by the instructor and/or found by the student via the UNT Library. No textbook is required.

Software: Excel and/or SPSS (training provided as needed). Available via UNT.

Communication

Connect with me through email and/or during class time. During busy times, my inbox becomes rather full, so if you contact me and do not receive a response within two business days, please send a follow up email. A gentle nudge is always appreciated.

Managing Life Crisis and Finding Support

I am not just your instructor, but also a fellow human being. I care about your well-being and want to support you outside this class if needed. Should you encounter an unexpected crisis during the semester (i.e., securing food or housing, addressing mental health concerns, managing a financial crisis, and/or dealing with a family emergency, etc.), I strongly encourage you to contact the Dean of Students by submitting a [CARE referral](#) for yourself or a peer in need of support. If you are uncomfortable doing so on your own, please know that I can submit a referral on your behalf – just email me or schedule a meeting with me. To learn more about the Dean of Students, please find their website [here](#).

Attendance and Participation

Research has shown that students who attend class are more likely to be successful. Additionally, because we only meet once a week, every class meeting is essential to your success. I expect for you to arrive on time and stay for the entirety of the session.

You should attend every class unless you have a university excused absence such as active military service, a religious holy day, or an official university function as stated in the [Student Attendance and Authorized Absences Policy \(PDF\)](#) (<https://policy.unt.edu/policy/06-039>). If you cannot attend a class due to an emergency, please let me know. Your safety and well-being are important to me.

Use of Artificial Intelligence (AI)

You may use AI programs (e.g., ChatGPT) to help generate ideas, brainstorm, and better understand course content. However, you should note that the material generated by these programs may be inaccurate, incomplete, or otherwise problematic. Beware that use of AI tools may also stifle your own independent thinking and creativity.

You may not submit any work generated by an AI program as your own. If you include material generated by an AI program, it should be cited like any other reference material (with due consideration for the quality of the reference, which may be poor), otherwise, it will be considered cheating and dealt with according to UNT policy.

If any part of this is confusing or you're uncertain whether you can use a source, please reach out to me for a conversation before submitting your work.

Getting Help (technology, personal, or academic)

Technical Assistance

Part of working in an online environment involves dealing with the inconveniences and frustration that can arise when technology breaks down or does not perform as expected. Here at UNT, we have a Student Help Desk that you can contact for help with Canvas or other technical issues.

UIT Help Desk

Email: helpdesk@unt.edu

Phone: 940-565-2324

In Person: Sage Hall, Room 130

For additional support, visit [Canvas Technical Help](#).

Student Support Services

UNT provides mental health resources to students to ensure there are outlets to turn to that wholeheartedly care for and are there for students in need, regardless of the nature of an issue or its severity. Listed below are several resources on campus that can support your academic success and mental well-being:

- [Student Health and Wellness Center](#)
- [Counseling and Testing Services](#)
- [UNT Care Team](#)
- [UNT Psychiatric Services](#)
- [Individual Counseling](#)

Academic Support Services

- [Academic Resource Center](#)
- [Academic Success Center](#)
- [UNT Libraries](#)
- [Writing Lab](#)

Other student support services offered by UNT include:

- [Registrar](#)
- [Financial Aid](#)
- [Student Legal Services](#)
- [Career Center](#)
- [Counseling and Testing Services](#)
- [UNT Food Pantry](#)

Appendix 1: Course Policies

Assignment Policy

Copies of the syllabus, assignments, instructor contact information, the course calendar, other important documents, and grades can be found on Canvas. **Assignments will be submitted via Canvas unless otherwise noted.** Official due dates can be found on the course schedule, Canvas calendar, and Canvas modules. Assignments and assignment instructions can be found in Canvas. **Assignments should be submitted as .pdf, .doc, or .docx files unless otherwise noted.**

The university is committed to providing a reliable online course system to all users. However, in the event of any unexpected **university** server outage, the instructor will extend the time windows and provide an appropriate accommodation based on the situation. Any problems should be reported to the UNT Student Help Desk: helpdesk@unt.edu or 940.565.2324.

Individual technical issues are the responsibility of the student. Students are responsible for all devices (i.e., computers, printers, iPads, cell phones, scanners) and reliable internet connection during all required work in this class. **Late assignments, retakes, and/or make-ups will not be granted due to electronic malfunctions.** Plan ahead to ensure you have reliable internet service and addressed any Canvas compatibility issues.

Canvas Calendar

While the Canvas calendar with alerts is an additional organizational tool, it is not always accurate. **In other words, students should not rely solely on the Canvas calendar and/or alerts to complete assignments.** Rather, students are expected to meet deadlines according to the provided course schedule.

Extra Credit

If an opportunity for extra credit presents itself, it will be announced and available to the entire class at the discretion of the instructor. There will be no individual opportunities for extra credit.

Late Work

I will not accept late work in this course. All work turned in after the deadline will receive a grade of “0” unless the student has a [university-excused absence](#) and provides documentation within 48 hours of the missed deadline.

Requests for an Incomplete

Students may request a grade of incomplete (“I”) only if he/she meets all of the following conditions:

- The request occurs on or after the date designated by the university for the given semester (see the “Important Dates” section of this syllabus);
- The student is passing the course;
- There is a justifiable and documented reason beyond the control of the student (i.e., serious illness or military service) for not completing the course on schedule; and
- The student has the approval of the instructor and the faculty director.

Students meeting these criteria must arrange with the instructor to finish the course at a later date (no longer than 12 months after the “I” grade was reported) by completing specific requirements outlined by the instructor. These requirements must be listed on a “Request for Grade of Incomplete” form signed by the instructor, student, and faculty director. More information on UNT’s incomplete grade policy is available at registrar.unt.edu/grades/incompletes.

Dropping the Class

I want you to succeed in this class and at UNT! If you are concerned about your progress in the course or believe you need to drop for other reasons, it is important that you contact me as soon as possible. I want to help you make sure that dropping the course is your best or only option. There are consequences to dropping classes that extend beyond losing your invested time, money, and effort. Dropping one or more classes may make you ineligible for financial aid. There are also limits on the number of courses you can drop. You can learn more about this at registrar.unt.edu/dropping-courses. If you absolutely must drop a course, you may do so through my.unt.edu.

Syllabus Change Policy

Due dates for assignments can be found in the course schedule and Canvas. In the rare case that a date is changed for an assignment or another syllabus change is made, the instructor will notify students through an announcement in Canvas.

Appendix 2: UNT Policies

Academic Integrity Policy

Academic integrity emanates from a culture that embraces the core values of trust and honesty necessary for full learning to occur. As a student-centered public research university, UNT promotes the integrity of the learning process by establishing and enforcing academic standards. Academic dishonesty breaches the mutual trust necessary in an academic environment and undermines all scholarship.

According to [UNT Policy 06.003](#), Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to, cheating, fabrication, facilitating academic dishonesty, forgery, **plagiarism (including the use of AI programs to pass off work as your own)**, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the university.

ADA Policy

UNT makes reasonable academic accommodations for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide the student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time; however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member before implementation in each class. For additional information see the [ODA website](#).

Emergency Notification & Procedures

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Canvas for contingency plans for covering course materials.

Course Safety Procedures

Students enrolled in this course are required to use proper safety procedures and guidelines as outlined in UNT Policy 06.038 Safety in Instructional Activities. While working in laboratory sessions, students are expected and required to identify and use proper safety guidelines in all activities requiring lifting, climbing, walking on slippery surfaces, using equipment and tools, and handling chemical solutions and hot and cold products. Students should be aware that UNT is not liable for injuries incurred while students are participating in class activities. All students are encouraged to secure adequate insurance coverage in the event of accidental injury. Students who do not have insurance coverage should consider Standard Syllabus Statements Related Policy 06.049 Course Syllabi Requirements obtaining Student Health Insurance. Brochures for student insurance are available in the UNT Student Health and Wellness Center. Students who are injured during class activities may seek medical attention at the Student Health and Wellness Center at rates that are reduced compared to other medical facilities. If students have an insurance plan other than Student Health Insurance at UNT, they should be sure that the plan covers treatment at this facility. If students choose not to go to the UNT Student Health and Wellness Center, they may be transported to an emergency room at a local hospital. Students are responsible for expenses incurred there.

Retention of Student Records

Student records pertaining to this course are maintained in a secure location by the instructor of record. All records, such as exams, answer sheets (with keys), and written papers submitted during the duration of the course, are kept for at least one calendar year after course completion. Coursework completed via the Canvas online system, including grading information and comments, is also stored in a safe electronic environment for one year. Students have the right to view their records; however, information about students' records will not be divulged to other individuals without proper written consent. Students are encouraged to review the Public Information Policy and the Family Educational Rights and Privacy Act (FERPA) laws and the university's policy. See UNT Policy 10.10, Records Management and Retention for additional information.

Acceptable Student Behavior

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The university's expectations for student conduct apply to all instructional forums, including university and electronic classrooms, labs, discussion groups, field trips, etc. Visit UNT's [Code of Student Conduct](#) to learn more.

Access to Information - Eagle Connect

Students' access point for business and academic services at UNT is located at my.unt.edu. All official communication from the university will be delivered to a student's Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward e-mail to [Eagle Connect](#).

Student Evaluation Administration Dates

Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The survey provides students with an opportunity to evaluate how this course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with the survey link. Students should look for the email in their UNT email inbox. Simply click on the link and complete the survey. Once students complete the survey, they will receive a confirmation email that the survey has been submitted. For additional information, please visit the [SPOT website](#) at or email spot@unt.edu.

Sexual Assault Prevention

UNT is committed to providing a safe learning environment free of all forms of sexual misconduct, including sexual harassment, sexual assault, domestic violence, dating violence, and stalking. Federal laws (Title IX and the Violence Against Women Act) and UNT policies prohibit discrimination based on sex and therefore prohibit sexual misconduct. If you or someone you know is experiencing sexual harassment, relationship violence, stalking, and/or sexual assault, there are campus resources available to provide support and assistance. UNT's Survivor Advocates can assist a student who has been impacted by violence by filing protective orders, completing crime victims' compensation applications, contacting professors for absences related to an assault, working with housing to facilitate a room change where appropriate, and connecting students to other resources available both on and off campus. The Survivor Advocates can be reached at SurvivorAdvocate@unt.edu or by calling the Dean of Students Office at 940-

565-2648. Additionally, alleged sexual misconduct can be non-confidentially reported to the Title IX Coordinator at oeo@unt.edu or at (940) 565-2759.

Use of Student Work

A student owns the copyright for all work (e.g. software, photographs, reports, presentations, and email postings) he or she creates within a class and the university is not entitled to use any student work without the student's permission unless all of the following criteria are met:

- The work is used only once
- The work is not used in its entirety
- Use of the work does not affect any potential profits from the work
- The student is not identified
- The work is identified as student work

If the use of the work does not meet all of the above criteria, then the university office or department using the work must obtain the student's written permission. Download the UNT System Permission, Waiver, and Release Form found at

https://dlit.untDallas.edu/sites/default/files/approval_form_permission_waiver_and_release.pdf

Campus Carry

By state law and UNT policy, students who are licensed may carry a concealed handgun on campus premises except in locations and at any function, event, and program prohibited by law or by this policy. Students may learn more about UNT's concealed handgun policy at <https://campuscarry.unt.edu>.

Important Dates

Important dates for the semester are available on UNT's Registration Guides:

<https://registrar.unt.edu/registration-guides-by-semester>.

Appendix 3. Course Schedule

The course schedule is subject to change. Any changes will be posted on Canvas.

DATE	MODULE WITH TOPIC	ASSIGNMENTS
WEEK 1 Aug. 17-23	Research Poster Planning	➤ Project Planning Sheet
WEEK 2 Aug. 24-30	Background/Introduction	➤ Annotated Bibliography
WEEK 3 Aug. 31-Sep. 6	Background/Introduction, cont.	➤ Poster-ready Background section
WEEK 4 Sep. 7-13	Research Question	Sep 9 – Society for American Archaeology abstracts due
WEEK 5 Sep. 14-20	Research Question, cont.	➤ Poster-ready Research Question section
WEEK 6 Sep. 21-27	Methodology	
WEEK 7 Sep. 28-Oct. 4	Poster Evaluations	Oct 1 – UNT Research Day Oct 2-4 – Texas Archaeological Society Meeting ➤ Poster Evaluations
WEEK 8 Oct. 5-11	Methodology, cont.	➤ Poster-ready Methodology section
WEEK 9 Oct. 12-18	Data Organization & Exploration	➤ Data Analysis Plan
WEEK 10 Oct. 19-25	Preliminary Analysis	
WEEK 11 Oct. 26-Nov. 1	Preliminary Analysis, cont.	➤ Preliminary Results Draft
WEEK 12 Nov. 2-8	Data & Results	
WEEK 13 Nov. 9-15	Data & Results, cont.	➤ Poster-ready Data/Results Section
WEEK 14 Nov. 16-22	Conclusions & Poster Assembly	➤ Complete Poster Draft
Nov. 23-29	🍁 Fall Break – no classes 🍁	
WEEK 15 Nov. 30-Dec. 6	Final Poster & Presentation	➤ Final Poster & Presentation
WEEK 16 Finals Week	Congratulations – you made it! 	