BY THE END OF THIS COURSE YOU WILL BE ABLE TO:

- Understand why some plants silicify and others store energy in the form of starch granules
- Discuss how archaeologists use microbotanical particles
- Compare extraction methods
- Evaluate caveats in the interpretation of ancient phytoliths and starches
- Apply taphonomic criteria to archaeological inferences
- Examine academic papers

Office hours are via Zoom exclusively by appointment confirmed by email at least 48 h before

Required readings: These are weekly assignments due every Wednesday, along with guided questions for each set of readings. Assignments are posted one week prior to due date.

Mandatory reading discussion: Online board to critically discuss readings. Due every week on Wednesdays with the Reading Assignments.

Labs: Theoretical/Practical assignments (see topics below) reviewing videos, papers, protocols, etc. These materials will be examined via a weekly quiz / report due every Friday. Assignments are posted one week prior to due date.

A+ 94.9–100 %
A 89.9–94.8 %
A- 84.9–89.8 %
B+ 79.9–84.8 %
B 74.9–79.8 %
B- 70.9–74.8 %
C+ 66.9–70.8 %
C 62.9–66.8 %
C- 58.9–62.8 %
D+ 54.9 %– 58.8%
D 49.9–54.8 %
F 49.8 AND BELOW

Note: Students need to see the course components (visually) in order to get ALL the information. In addition, students are expected to have:
- A computer with a supported operating system, as well as the latest security, and malware updates
- A current and updated web browser
- Webcam/Camera (built-in or external)
- Microphone and speaker (built-in or external), or headset with microphone
- Current antivirus and/or firewall software enabled
- Stable internet connection.

ALL ASSESSMENTS ARE OPEN BOOK
Permitted aids:
- Electronic devices
- Notes
LAB TOUR
- Prep room, cleanroom
- Safety procedures
- Protocols
- Do's and don'ts

PLANT COMMUNITIES
- Phylogenetic considerations
- Building reference collections
- Databases

EXTRACTING PHYTOLITHS FROM BOTANICAL SAMPLES
- Targeting parts of the ecosystem
- Separating plant tissues
- Cleaning
- Chemical extraction

PHYTOLITHS FROM SOILS/SEDIMENTS
- How to sample sediments and soils
- Sample prep
- Protocol to follow
- Physical and chemical extraction

MICROBOTANICAL REMAINS FROM CALCULUS
- Dental materials
- Extraction of calculus
- Contamination and decontamination

PHYTOLOGICAL TAXONOMY
- Nomenclature
- 2-D / 3-D shapes
- Classification

STARCH IN SEDIMENTS AND ARTIFACTS
- Protocols
- Controls
- Rules

STARCH TAXONOMY
- Nomenclature
- 2-D / 3-D morphologies

RESIDUES FROM ARTIFACTS
- Protocols
- Step by step guide to locating and plotting residues on artifacts
- Not everything stuck to a rock is cultural residue

QUALITATIVE/QUANTITATIVE DESCRIPTION
- Normality
- Means and medians
- Prominent contributors
- PCA

DEGRADATION/DIAGENESIS
- Myths and realities of preservation
- Preservation pathways
- Chemical conservation
- Microbial degradation

3 HOUR PRACTICUMS
- PHYTOLITH AND STARCH LABS
ACADEMIC ACCOMMODATIONS
Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit https://live.ucalgary.ucalgary.ca/student-services/access. Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor or the Department Head. The full policy on Student Accommodations is available at https://www.ucalgary.ca/legal-services/university-policies-procedures/accommodation-students-disabilities-procedure.

ACADEMIC MISCONDUCT
“Academic Misconduct” includes such things as cheating, falsification, plagiarism, unauthorized assistance, and failure to comply with exam regulations or an Instructor’s expectations regarding conduct required of Students completing academic assessments. Students who participate in, or encourage the commission of, Academic Misconduct will be subject to disciplinary action which could include Probation, Suspension, or Expulsion from the University. For information on academic misconduct and its consequences, please see the University of Calgary Calendar at https://www.ucalgary.ca/pubs/calendar/current/k-3.html

Further support on academic integrity is available at: https://ucalgary.ca/student-services/student-success/learning/academic-integrity

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Course materials created by professor(s) (including course outlines, presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the professor(s). These materials may NOT be reproduced, redistributed or copied without the explicit consent of the professor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT
Student information will be collected in accordance with typical (or usual) classroom practice. Students’ assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary.

COPYRIGHT LEGISLATION
All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (https://ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy) and requirements of the copyright act (https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html) to ensure they are aware of the consequences of unauthorized sharing of course materials (including instructor notes, electronic versions of textbooks, etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

SUPPORT AND RESOURCES:
Please visit the Registrar’s website at: https://www.ucalgary.ca/registrar/registration/course-outlines for additional important information on the following:
- Emergency Evacuation/Assembly Points
- Wellness and Mental Health Resources
- Student Success Centre
- Student Ombuds Office
- Student Union (SU) Information
- Safewalk