

PALAEOETHNOBOTANY: PHYTOLITH AND STARCH ANALYSIS

ARCHAEOLOGY 515

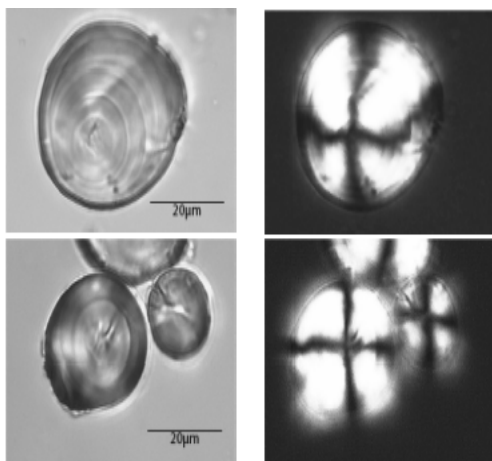
FALL 2019

MWF 11:00 – 11:50 AM, LECTURE

MWF 12:00 – 12:50 PM, LAB

ES 859

Prerequisite: Consent of Instructor



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*

Staff Information

Professor: Dr. Julio Mercader, Department of Anthropology and Archaeology

Email: mercader@ucalgary.ca

TA #1: Mr. Makarius Itambu

Email: makarius.peter@ucalgary.ca

Office Rm: ES 720

TA #2: Mr. Nathan Parrott

Email: nathan.parrott@ucalgary.ca

Office Rm: --

Journal articles: Required

Textbook: NONE

Evaluation Tools and Credits

	Date	Percentage (%)	Format
Midterm 1	October 4	20%	50 MC Questions
Midterm 2	November 8	30%	50 MC Questions
Midterm 3	December 4	10%	20 MC Questions
In-Class Reading		10%	40%
Leading Discussion		10%	
Written Exercises		10%	
Practicum		10%	
There is no Final Exam scheduled for this class.			

Students do not have to pass all components of the class to receive a passing grade in the course.

(For graduate credit, additional laboratory work that includes processing of multiple samples and microscopy will apply.)

Evaluation methods

In-class readings: These are for-credit assignments restricted to the classroom (you miss class = zero credit; but see below 'requesting an accommodation').

In-class discussion: These are for-credit assignments assigned to the student and delivered in class (you miss class = zero credit; but see below 'requesting an accommodation').

In-class exercises: These are for-credit assignments restricted to the classroom (you miss class = zero credit; but see below 'requesting an accommodation').

In-Lab Practicum: These are for-credit assignments restricted to ES 811 and ES 833. They require WHIMS online training <https://www.ucalgary.ca/safety/programs/whmis> (You miss this practicum = zero credit; but see below 'requesting an accommodation').

Grading Scale

99 - 100%	=	A+
96 - 98.99%	=	A
90 - 95.99%	=	A-
83 - 89.99%	=	B+
75 - 82.99%	=	B
67 - 74.99%	=	B-
58 - 66.99%	=	C+
50 - 57.99%	=	C

45 - 49.99% = C-

40 - 44.99% = D

0 - 39.99% = F

GRADE BEGGING WILL NOT BE CONSIDERED

Missed exams automatically receive a score of zero. Students who are unable to take a scheduled exam must contact the instructor in advance of the scheduled exam if possible to make necessary arrangements for a rewrite. If a make-up exam is necessary, it is to be written within one business week (5 weekdays) from the scheduled date of the missed exam. Exams grades will be posted on D2L as soon as possible. Midterms will not be returned to students, but if you wish to review your exams, please make an appointment with the TA.

Topics

Phylogenetic considerations

Anatomy

Silicification

Starch biochemistry

Why plants produce phytoliths

Why plants produce starch granules

Present-day Phytolith Influx

Present-day Starch Influx

Extraction techniques, phytoliths

Extraction techniques, starch granules

Reference collection, phytoliths

Reference collection, starch granules

Contamination

Field sampling

Phytolith classification

Starch taxonomy

Vertical mobility of microbotanical proxies in soils

Preservation

Microbotanical particles in dental calculus

Decontamination protocols for dental calculus research

Phytolith analysis in the New World

Phytolith analysis in the Old World

Starch grain analysis: Case Study New World

Starch: Case Study Old World

Additional Content

Writing across the Curriculum

Writing skills are not exclusive to English courses and, in fact, should cross all disciplines. The University supports the belief that throughout their University careers, students should be taught how to write well, so that when they graduate, their writing abilities will be far above the minimal standards required at entrance. Consistent with this belief, students are expected to do a substantial amount of writing in their University courses and, where appropriate, instructors can and may use writing and the grading thereof as a factor in the evaluation of student work. The services provided by the Writing Centre in the Effective Writing Office can be utilized by all undergraduate and graduate students who feel they require further assistance.

Instructor intellectual property

Lectures, demonstrations, performances, and any other course material provided by an instructor includes copyright protected works under the Copyright Act and all forms of electronic or mechanical recording of lectures, laboratories, tutorials, presentations, performances, electronic (computer) information, the duplication of course material, and to the translation of recordings or transcriptions of any of these materials to another form by electronic or mechanical means by students is not permitted, except.

- As a formal accommodation as assessed by the Student Accessibility Services and only for individual private study and only at the discretion of the instructor.
- With the permission of the instructor, students without a formal accommodation may audio record lectures, provided that the student and instructor sign a release form available from departmental and faculty offices. A copy of the Release form shall be retained by the instructor and by the department in which the course is offered. Any audio recording by students is permitted only for the purposes of private study by the individual student. Students may not distribute, email or otherwise communicate these materials to any other person.
- For any other use, whether by duplication, transcription, publication, sale or transfer of recordings, written approval must be obtained from the instructor for the specific use proposed.
- Any use other than that described above (e.g. distributing, emailing or otherwise communicating these materials to any other person, constitutes academic misconduct and may result in suspension or expulsion.
- Students are encouraged to make notes of classroom discussions, lectures, demonstrations etc.

Academic Accommodation Policy

It is the student's responsibility to request academic accommodations according to the University policies. Students requesting an Accommodation on the basis of Disability are required to register with Student Accommodation Services (SAS) by submitting a Request for Accommodation in accordance with the Procedure for Accommodations for Students with Disabilities (<https://www.ucalgary.ca/policies/files/policies/procedure-for-accommodations-for-students-with-disabilities.pdf>). SAS will issue a Letter of Accommodation, which must be presented, to either designated contact person within the Department or the appropriate Instructors within 10 days of the beginning of term. Students needing an Accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to their Instructor or the Department Head/Dean or to the designated contact person in their Faculty.

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Freedom of Information and Protection of Privacy Act

The University of Calgary is committed to protecting the privacy of individuals who work and study at the University or who otherwise interact with the University in accordance with the standards set out in the Freedom of Information and Protection of Privacy Act. The Department of Anthropology and Archaeology keeps exams and any term work not picked up for a minimum of one year after which it is destroyed.

Please refer to the following link for detailed information:

<http://www.ucalgary.ca/legalservices/foip>

Academic Misconduct

The University expects Students to conduct Academic Activities with integrity and intellectual honesty and to recognize the importance of pursuing and transmitting knowledge ethically. "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. Academic Misconduct is a serious form of intellectual dishonesty with significant consequences. 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 detailed information on what constitutes academic misconduct, please refer to the following link:

<https://www.ucalgary.ca/policies/files/policies/student-academic-misconduct-policy.pdf>

Acceptable Use of Material Protected by Copyright

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf) 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.

Faculty of Arts Program Advising and Student Information Resources

Have a question, but not sure where to start? The new Faculty of Arts Program Information Centre (PIC) is your information resource for everything in Arts! Drop in at SS110, call us at 403-220-3580 or email us at artsads@ucalgary.ca. You can also visit the Faculty of Arts website at <http://arts.ucalgary.ca/undergraduate>, which has detailed information on common academic concerns.

Information in regards to the following details can be located on - <https://www.ucalgary.ca/registrar/registration/course-outlines>

- Emergency Evacuation/Assembly Points
- Wellness and Mental Health Resources
- Student Success Centre
- Student Ombuds Office
- Student Union (SU) Information
- Safewalk