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**ARKY 515**  
**Palaeoethnobotany: Phytolith and Starch Analysis**  
GFC Hours 3-3

Instructor:	Julio Mercader Florin	Lecture Location:	ES 859
Phone:		Lecture Days/Time:	MoWeFr 11:00AM – 11:50AM
Email:	mercader@ucalgary.ca	Lab Location	ES 859/833/811
Office:	ES 836	Lab Days/Time	MoWeFr 12:00PM – 12:50 PM
Office Hours:	MoWeFr 10:00AM – 10:45AM		
Teaching Assistant:	Siobhán Clarke		
TA Email:	siobhan.clarke@ucalgary.ca		
Office Hours:	W 1:00 – 2:00PM		

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### **COURSE DESCRIPTION**

This course deals with the study of ancient plants for food and other purposes through microbotanical remains and ethnobotanical research. It explores the use of microscopic markers, such as phytogenic silica and starch granules, to reconstruct human ecology, while using ethnobotanical information from traditional knowledge. The emphasis is on the Old World.  
**Prerequisite:** Consent of the Department.

### **READINGS, TEXTBOOKS**

Journal articles: Required  
Textbook: NONE

### **REQUIRED TECHNOLOGY**

- Device that supports internet connectivity to access D2L for assignments and quizzes.  
Software such as Microsoft Word, Excel, PP.

### **LEARNING OUTCOMES**

Upon completion of this course, students should 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

## COURSE ASSESSMENT

Task	Dates	% Final Grade
11 reading sessions (each consisting of several articles) 11 discussion sessions 11 quizzes	Sept 14, 21, 28 Oct 5, 12, 19, 26 Nov 2, 16, 23, 30	Each reading session =2% (x 11 = 22%) Each discussion session =2% (x 11 = 22%) Each quiz =2% (x 11 = 22%)
10 lab attendance + participation + report	Sept 16, 23, Oct 7, 14, 21, 28 Nov 4, 18, 25 Dec 2	Each full lab (attendance + participation + report) = 3.4% (x 10 times = 34%)

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

Lab: These are for-credit assignments. They require WHIMS online training <https://www.ucalgary.ca/safety/programs/whmis> (You miss attendance to this practicum = zero credit on all components of the lab, to include participation and report as well; but see below ‘requesting an accommodation’).

- Quiz 1-11: Short answers / true - false, 10 - 15 questions
- All assignments and quizzes are open book

Reappraisal of Graded Term Work: <http://www.ucalgary.ca/pubs/calendar/current/i-2.html>

Reappraisal of Final Grade: <http://www.ucalgary.ca/pubs/calendar/current/i-3.html>

Missed quizzes automatically receive a score of zero. Students unable to take a test must contact the instructor minimum 24 h in advance to make arrangements for a rewrite, and no requests will be accepted within 24h of examination. If a make-up exam is needed, it has to be scheduled within 5 business days from the scheduled date of the test.

## Department of Anthropology and Archaeology Grading Scheme

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

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

### COURSE POLICIES

Contact TA regarding any questions on assignments, quizzes, and labs

Work hours: 9am-4pm Monday through Friday

Response to emails are within 72h

No reply after hours, weekends, holidays, and 24h before any deadline.

### UNIVERSITY POLICIES

#### 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>.

#### ACADMIC INTEGRITY POLICY

Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. The University Calendar includes a statement on the principles of conduct expected of all members of the university community (including students, faculty, administrators, any category of staff, practicum supervisors, and volunteers), whether on or off university property. This statement applies in all situations where members of the university community are acting in their university capacities. All members of the university community have a responsibility to familiarize themselves with the principles of conduct statement, which is available at: [www.ucalgary.ca/pubs/calendar/current/k.html](http://www.ucalgary.ca/pubs/calendar/current/k.html).

#### ACADEMIC MISCONDUCT

The University of Calgary is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect.

Academic dishonesty is not an acceptable activity at the University of Calgary, and students are strongly advised to read the Student Misconduct section in the University Calendar at:

[www.ucalgary.ca/pubs/calendar/current/k-3.html](https://www.ucalgary.ca/pubs/calendar/current/k-3.html). Often, students are unaware of what constitutes academic dishonesty or plagiarism. The most common are (1) presenting another student's work as your own, (2) presenting an author's work or ideas as your own without adequate citation, and (3) using work completed for another course. Such activities will not be tolerated in this course, and students suspected of academic misconduct will be dealt with according to the procedures outlined in the calendar at: <https://www.ucalgary.ca/legal-services/university-policies-procedures/student-academic-misconduct-procedure>

For students wishing to know more about what constitutes plagiarism and how to properly cite the work of others, the Department of Geography recommends that they attend Academic Integrity workshops offered through the Student Success Centre: <https://www.ucalgary.ca/student-services/student-success/learning/academic-integrity>

#### INSTRUCTOR INTELLECTUAL PROPERTY

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. Information on Instructor Intellectual Property can be found at <https://www.ucalgary.ca/legal-services/university-policies-procedures/intellectual-property-policy>

#### 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.

#### SUPPORTS FOR STUDENT LEARNING, SUCCESS, AND SAFETY

Please visit the Registrar's website at: <https://www.ucalgary.ca/registrar/registration/course-outlines> for additional important information on the following:

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

- Safewalk

**TENTATIVE LECTURE/LAB SCHEDULE (Subject to change without notice)**

<b>Date</b>	<b>Lecture</b>	<b>Lab</b>
W Sep 7	Start of Class	No lab
F Sep 09	Intro to Palaeobotany & Labs	
M Sep 12	Plant Communities, I	Plant Communities
W Sep 14	Reading/Discussion/Quiz	Plant Communities
F Sep 16	Plant Communities, II	Plant Communities, Report due
M Sep 19	Phytoliths from Plants, I	Phytoliths from Plants
W Sep 21	Reading/Discussion/Quiz	Phytoliths from Plants
F Sep 23	Phytoliths from Plants, II	Phytoliths from Plants, Report due
M Sep 26	Phytoliths from Soils I	Phytoliths from Soils
W Sep 28	Reading/Discussion/Quiz	Phytoliths from Soils, Report due
M Oct 3	Phytoliths from Soils II	Phytolith Taxonomy
W Oct 5	Reading/Discussion/Quiz	Phytolith Taxonomy
F Oct 7	Phytolith Taxonomy I,	Phytolith Taxonomy, Report due
W Oct 12	Reading/Discussion/Quiz	Phytolith Taxonomy
F Oct 14	Phytolith Taxonomy II,	Phytolith Taxonomy, Report due
M Oct 17	Residues from Artifacts I	Residues from Artifacts
W Oct 19	Reading/Discussion/Quiz	Residues from Artifacts
F Oct 21	Residues from Artifacts II,	Residues from Artifacts, Report due
M Oct 24	Dental Calculus I	Dental Calculus
W Oct 26	Reading/Discussion/Quiz	Dental Calculus
F Oct 28	Dental Calculus II,	Dental Calculus, Report due
M Oct 31	Starch in Sediments and Artifacts I	Starch in Sediments and Artifacts
W Nov 2	Reading/Discussion/Quiz	Starch in Sediments and Artifacts
F Nov 4	Starch in Sediments and Artifacts II,	Starch in Sediments and Artifacts, Report due
M Nov 14	Starch Taxonomy I	Starch Taxonomy
W Nov 16	Reading/Discussion/Quiz	Starch Taxonomy
F Nov 18	Starch Taxonomy II,	Starch Taxonomy, Report due
M Nov 21	Degradation/Diagenesis I	Phytolith degradation
W Nov 23	Reading/Discussion/Quiz	Phytolith degradation
F Nov 25	Degradation/Diagenesis II,	Phytolith degradation, Report due
M Nov 28	Materials Science approaches I	Starch degradation
W Nov 30	Reading/Discussion/Quiz	Starch degradation
F Dec 2	Materials Science approaches II,	Starch degradation, Report due
M Dec 5	Future prospects I	No lab
W Dec 7	Future prospects II	No lab

## **IMPORTANT DATES**

The last day to drop this course with no “W” notation and still receive a tuition fee refund is Thursday, September 15th, 2022. Last day add/swap a course is Friday, September 16th, 2022. The last day to withdraw from this course is Wednesday, December 7th, 2022.  
<https://www.ucalgary.ca/pubs/calendar/current/academic-schedule.html#fall2017>