



UNIVERSITY OF
ALBERTA

**RENr 401H/BIOL 290
BERINGIAN PALAEOBIOLOGY/BERINGIA: ITS PLEISTOCENE ENVIRONMENTS
AND PALAEOECOLOGY**

In Winter 2017, BIOL 290, *Beringia: Its pleistocene environments and paleoecology*, is being offered at Yukon College concurrent with the University of Alberta's RENr 401H, *Beringian palaeobiology*, as part of the Northern Environmental and Conservation Sciences, B.Sc. Program. All students registered in BIOL 290 or RENr 401H must adhere to requirements outlined in this course syllabus. University of Alberta students must also be aware of, and adhere to, the University's Code of Student Behaviour, referenced in the outline; Yukon College students must be aware of, and adhere to, Yukon College's Academic Regulations, also referenced in the outline.

INSTRUCTOR: TYLER KUHN
OFFICE HOURS: by appointment
OFFICE LOCATION: TBD
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FAX: 668-8828

DAYS & TIMES: Monday, 6:00-9:00 pm (room A2202)

COURSE DESCRIPTION

This course presents a natural history overview of the subcontinent of Beringia—the unglaciated landmasses of eastern Siberia, Alaska and the Yukon that were connected via the Bering Land Bridge during glacial periods. We will cover a variety of topics ranging from the geologic formation of Beringia and the evolution of its flora and fauna to the history of human inhabitation. The objective of lectures will be to synthesize a variety of primary data and scientific theory so students can develop an understanding of the physical, climatological, ecological and biogeographical mechanisms shaping Beringia's landscapes and ecosystems.

Upon successful completion of the course, students will:

- 1) *understand the geologic formation of Beringia and its place in the world*
- 2) *better understand the evolution and ecology of Beringia's animals, plants, and ecosystems, including their history of extinctions and appearances*
- 3) *be able to define and explain major geological, climatological, biological, and archaeological events in Beringia prehistory*
- 4) *understand and critically evaluate the types of data and analyses used by paleo-scientists to reconstruct events in the past and to test paleo-hypotheses*
- 5) *be able to explain the forces shaping Beringia's modern landscapes*
- 6) *be able to use their knowledge of Beringia's prehistory as context to better understand and evaluate current issues facing Yukon and the north, especially resource management issues*

DELIVERY METHODS/FORMAT:

Lectures are 3 hours long, on Monday evenings. Each 3 hour lecture will be divided into 2 class-segments related to a particular topic. The first class-segment will introduce students to the background, concepts and theories related to the weeks topic. The second class-segment will consist of a discussion related to assigned course readings relevant to the weeks topic. NB: Each topic will be introduced during the second 1.5 hours of a class, with discussion of that topic occurring during the first 1.5 hours of the following class.

PREREQUISITES:

For students taking the course as BIOL 290: Second year standing in Science or permission of instructor.

For students taking the course as RENR 401H: Registration in Yukon College/University of Alberta BSc in Northern Environmental and Conservation Sciences degree program, and successful completion of: U of A BIOL 108, or Yukon College BIOL 101 and 102, or an equivalent first-year biology course, or permission of an NECS Program Advisor.

REQUIRED TEXTBOOKS/MATERIALS:

There is no textbook for this course. Each week, students will receive digital copies of 1-2 assigned readings (papers) relevant to the following week's lecture.

COURSE REQUIREMENTS/EVALUATION:

Assignments and exams

Unless otherwise specified, assignments are due by 11:59 pm PST on the date that they are due. Late assignments will lose 5% of their mark per day that they are late.

Class Readings & Related Assignments

Each week will be composed of a lecture class discussing a particular topic, and a discussion

class of assigned readings related to the lecture topic.

Students enrolled in the course as RENR 401H:

The majority of the readings will be drawn from the primary literature, although general syntheses or review papers may also be assigned. Class readings will be chosen such that students will develop a feeling for the methods and data used in Beringian palaeobiology research. RENR 401H class readings will be chosen to allow for a deeper exploration of topics addressed in BIOL 290 assigned readings. Some papers will be a challenge to read, and rather than getting bogged down in an intense study of each paper, students are advised to do their best to read through each one to gain familiarity with the broader questions, approaches (methods), types of data, and conclusions being discussed.

For each assigned reading, students will receive a set of key questions related to the assigned reading. Students will submit typed answers to the questions at the start of the next class. Typically, this will entail 3 to 4 questions that should be answered in 1 or 2 pages (total). There will be one assignment each week.

At the beginning of the term, each RENR 401H student will be assigned one of the weekly topics. For this topic, they will present a 15 minute class presentation discussing the context for the topic, as well as linking their assigned class reading(s) to the more general review papers assigned to BIOL 290 students. Following the class presentation, the student will lead the discussion with a series of questions drawn from both the RENR 401H and BIOL 290 class readings.

NECS students will be expected to contribute to all class discussions. As a result students enrolled in RENR 401H will also be evaluated on class participation and discussion.

Students enrolled in the course as BIOL 290:

Most of the readings will be general syntheses or review papers chosen for readability, but a few come from the primary literature, so students will develop a feeling for the methods and data used in Beringian research. Some papers will be a challenge to read, and rather than getting bogged down in an intense study of each paper, students are advised to do their best to read through each one to gain familiarity with the broader questions, approaches (methods), types of data, and conclusions being discussed.

For each assigned reading, students will receive a set of key questions related to the assigned reading. Students will submit typed answers to the questions at the start of the next class. Typically, this will entail 3 to 4 questions that should be answered in 1 or 2 pages (total). There will be one assignment each week. Assignments will be graded mostly to determine whether students are reading the papers and can extract key points from these readings. Students will be expected to provide analyses and discussions at a level consistent with topics covered during the lecture class.

Term Paper

Students enrolled in the course as RENR 401H only:

Students completing the course as RENR 401H will complete a literature review term paper. This term paper must be formatted, including proper citations, consistent with the style outlined for *Viewpoint Articles* in the journal *Quaternary Science Reviews*. The term paper should not exceed 2,000 words. All topics must be approved by the instructor no later than February 13th, 2017. A first draft will be submitted by March 13th, 2017. A review, with edits and comments will be returned to students on March 20th, 2017. This draft will not be graded, however students ability to address comments in the review will be considered when grading the final version. The final version will be due on April 3rd, 2017.

Exams

There will be one midterm examination (February 13th, 2017) and a final exam written during the final exam period (TBD). The exams will be a combination of short and long essay questions based on materials presented in lectures and emphasized in the assigned readings. The final exam will focus on subject matter presented after the midterm, but will build on all concepts discussed in class. Students will be allowed ample time to write their essays. **Separate midterm and final exams will be administered, depending on which course students are enrolled in.**

Evaluation

The course grade will be determined as follows:

Students enrolled in the course as RENR 401H:

Assignment	Percent
Class Presentation and Discussion Lead	10%
Weekly Assignments (choice 5 of 7)	20%
Term Paper (due April 3)	30%
Midterm exam (in class Feb 13)	20%
Final exam (during exam period)	20%

Students enrolled in the course as BIOL 290:

Assignment	Percent
Weekly assignments (choice 5 of 7)	40%
Midterm exam (in class Feb 13)	30%
Final exam (during exam period)	30%

Assignment of grades

Grades will NOT be adjusted to fit a predetermined distribution. The total numerical score will be converted to a grade on the University of Alberta's letter grading system (for students enrolled in RENR 401H) or on Yukon College's letter grading system (for students enrolled in BIOL 290).

UNIVERSITY OF ALBERTA ACADEMIC INTEGRITY AND CODE OF STUDENT BEHAVIOUR

The University of Alberta 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. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at <http://www.governance.ualberta.ca/CodesofConductandResidenceCommunityStandards/CodeofStudentBehaviour.aspx>) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

Key components of the code include the following statements regarding Inappropriate Academic Behaviour:

30.3.2 Inappropriate Academic Behaviour

30.3.2(1) Plagiarism

No Student shall submit the words, ideas, images or data of another person as the Student's own in any academic writing, essay, thesis, project, assignment, presentation or poster in a course or program of study.

30.3.2(2) Cheating

30.3.2(2) a No Student shall in the course of an examination or other similar activity, obtain or attempt to obtain information from another Student or other unauthorized source, give or attempt to give information to another Student, or use, attempt to use or possess for the purposes of use any unauthorized material.

30.3.2(2) b No Student shall represent or attempt to represent him or herself as another or have or attempt to have himself or herself represented by another in the taking of an examination, preparation of a paper or other similar activity. See also misrepresentation in 30.3.6 (4).

30.3.2(2) c No student shall represent another's substantial editorial or compositional assistance on an assignment as the Student's own work.

30.3.2(2) d No Student shall submit in any course or program of study, without the written approval of the course Instructor, all or a substantial portion of any academic writing, essay, thesis, research report, project, assignment, presentation or poster for which credit has previously been obtained by the Student or which has been or is being submitted by the Student in another course or program of study in the University or elsewhere.

30.3.2(2) e No Student shall submit in any course or program of study any academic writing, essay, thesis, report, project, assignment, presentation or poster containing a statement of fact

known by the Student to be false or a reference to a source the Student knows to contain fabricated claims (unless acknowledged by the Student), or a fabricated reference to a source.

30.3.2(3) Misuse of Confidential Materials

No Student shall procure, distribute, or receive any confidential academic material such as pending examinations, laboratory results or the contents thereof from any source without prior and express consent of the Instructor.

YUKON COLLEGE ACADEMIC STANDARDS AND REGULATIONS

Yukon College students are expected to be familiar with academic standards and regulations as outlined in Yukon College's Academic Regulations, at http://www.yukoncollege.yk.ca/downloads/Academic_Regulations_2004.pdf.

Plagiarism

Plagiarism involves representing the words of someone else as your own, without citing the source from which the material is taken. If the words of others are directly quoted or paraphrased, they must be documented according to standard procedures. The resubmission of a paper for which you have previously received credit is considered a form of plagiarism. Plagiarism is academic dishonesty, a serious academic offence, and will result in you receiving a mark of zero (F) on the assignment or the course. In certain cases, it can also result in dismissal from the College. Do not underestimate the impact such a situation will have on your reputation.

STUDENTS WITH DISABILITIES OR CHRONIC CONDITIONS:

Reasonable accommodations are available for students with a documented disability or chronic condition. It is the student's responsibility to seek these accommodations. If a student has a disability or chronic condition and may need accommodation to fully participate in this class, he/she should contact the Learning Assistance Centre (LAC) at (867) 668-8785 or lassist@yukoncollege.yk.ca.

EQUIVALENCY/TRANSFERABILITY:

UBC Eosc 1st yr (3)

UNBC Nors 2xx (3)

UAF Biol Fin

UAS Biol S2 Elec. (3)

SFU Geog 1xx (3)

UR Non-science elec. (3)

UVIC Biol 200L (1.5)

TENTATIVE LECTURE SCHEDULE (please note that this schedule is subject to modification during the term)

January 9	Course introduction Geologic Setting—Building Early Beringia The Mesozoic Era
January 16	Evolution of the Arctic Ocean
January 23	Glacial Cycles and Ice Age Geography
January 30	Pleistocene Vegetation and Ecosystems
February 6	The “ <i>Mammoth Steppe</i> ”
February 13	<i>midterm exam</i>
February 18	<i>Beringia Centre tour Saturday, 10:30am to noon (optional)</i>
<i>No classes February 20th for Reading Week</i>	
February 27	Klondike Paleontology
March 6	<i>{no class – Tyler away}</i>
March 13	Telling Time—Beringia Style <i>RENR 401H Term paper first draft due (not marked)</i>
March 20	Beringian Mammals
March 27	Humans in Beringia & Colonization of the Americas
April 3	Late-Quaternary Extinctions <i>RENR 401H Term paper due</i>
Final exam	TBD