

B.Sc. in Environmental and Conservation Sciences Class Schedule, Fall 2021

Black indicates University of Alberta course code; Blue indicates Yukon University course code or cross-list. Full course names, descriptions and registration numbers appear below table.

Time	Monday	Tuesday	Wednesday	Thursday	Friday
8:30					
9:00	REN R 205 (NOST 201)	BIOL 220 lecture	REN R 205 (NOST 201)	REN R 301 (FNGA 302)	BIOL 220 lecture
9:30					
10:00					
10:30	CHEM 110 lecture	REN R 210 (SOIL 210) lecture	REN R 463	REN R 250 (RRMT 239) lecture	CHEM 110 lecture
11:00					
11:30					
12:00					
12:30					
1:00	REN R 480/570 lecture		REN R 210 (SOIL 210) lab	REN R 480/570 lecture	REN R 250 (RRMT 239) lab
1:30					BIOL 220 lab
2:00					
2:30	REN R 260 (ENST 200)	CHEM 110 lab		REN R 480/570 lab	
3:00					
3:30					
4:00	ECON 100		REN R 401 NEW CIRCUMPOLAR STUDIES COURSE	ECON 100	REN R 401 NEW CIRCUMPOLAR STUDIES COURSE
4:30					
5:00					
5:30					
6:00	REN R 401I Mammals	R SOC 375 (FNGA 301)			
6:30					
7:00					
7:30					
8:00					
8:30					
9:00					
9:30					
10:00					

ADDITIONAL COURSES – see details in course descriptions section on pages below:

REN R 465, A River Runs Through It: August field school, Aug. 16-27. (*3 credit)

NS 200 (HIST 140) - asynchronous online

B.Sc. in Environmental and Conservation Sciences Class Schedule, Fall 2021

Bachelor of Science Courses:

Note that dual-registration is required for these courses, with on-line registration through Bear Tracks for University of Alberta (Class Number in RED), and online registration through Banner for Yukon University (course registration number, CRN, in BLUE) (contact Program Advisor for details).

NS 200 - Aboriginal Canada (cross-listed with YukonU HIST 140) (UA 53712; YU CRN 10050) Instructor: V. Castillo

This course examines Yukon First Nations history, culture and governance. Topics covered include pre-contact cultures of Yukon, subsistence economies, social and political organizations, cultural expressions, and cultural protocols. First Nations' responses to colonialism within the context of major contact and post-contact events are analyzed. Particular emphasis is placed on the history of Yukon land claims and the emergence of First Nations self-governments. Students who have previously taken YukonU's HIST 140 for transfer credit to U of Alberta may not take NS 200 for credit. **Prerequisite:** Registration in the BSc ENCS Program.

REN R 205 - Wildlife Biodiversity and Ecology (cross-listed with YukonU NOST 201) (UA 40464; YU CRN 10163) Instructors: L. Gray

A broad overview of the natural history of circumpolar northern regions. Students study the plants and animals of the North and their adaptations to the environments, and the forces that shape and have shaped the northern landscapes. Mandatory field activities. Additional fees: \$300. Students who have previously taken YukonU's NOST 201 for transfer credit to U of Alberta may not take REN R 205 for credit. NOTE: Bear Tracks lists a lab for this course in the UAlberta registration system – please disregard that (there is no lab in the Yukon offering). **Prerequisite:** Registration in the BSc ENCS program.

REN R 210 - Introduction to Soil Science and Soil Resources (cross-listed with YukonU SOIL 210) (UA 50764; YU CRN 10164) Instructor: M. Samolczyk

Elementary aspects of soil formation, soil occurrence in natural landscapes, soil classification, soil resource inventory, basic morphological biological, chemical, and physical characteristics employed in the identification of soils and predictions of the performance in both managed and natural landscapes. **Students must also register in the mandatory lab section, REN R 210 Lab - Introduction to Soil Science Lab in the YukonU system (cross-listed with SOIL 210 Lab) (UA NA; YU CRN 10165).** Students who have previously taken YukonU's SOIL 210 for transfer credit to U of Alberta may not take REN R 210 for credit. **Prerequisite:** Registration in the BSc ENCS Program. A university-level chemistry course is strongly recommended.

REN R 250 – Water Resource Management (cross-listed with YukonU RRMT 239) (UA 49666; YU CRN 10166) Instructor: D. Otto

This is a two-component course intended to teach students habitat assessment techniques for freshwater ecosystems, as well as the basic elements of hydrology. Applied aspects of limnology are emphasized. Students study how water is distributed, moved and stored on a global scale followed by the study of processes at small scale. Students who have previously taken YukonU's RRMT 239 for transfer credit to U of Alberta may not take REN R 250 for credit. **Students must also register in RENR 250L – Water Resource Management Lab in the YukonU system (cross-listed with RRMT 239L) (UA NA; YU CRN 10167),** mandatory lab component of REN R 250. **Prerequisites:** Registration in the BSc ENCS program and YukonU BIOL 101, UAlberta BIOL 108, or equivalent first-year biology course.

REN R 260 - History and Fundamentals of Environmental Conservation (cross-listed with YukonU ENST 200, formerly ENVS 200) (UA 40468; YU CRN 10049) Instructor: D. Lyness

A philosophical investigation of the moral and conceptual dimensions of environmental problems. Topics to be examined include: the role of ethical theory, anthropocentric, ecocentric, and aesthetic foundations of environmental ethics, deep ecology, sustainability, the ethics of climate change, eco-activism, animal rights, cross-cultural and First Nations perspectives, legal perspectives, and applied ethics of northern issues. Students who have previously taken YukonU ENVS 200, ENVS 201, ENST 200, or ENST 201 for transfer credit to U of Alberta may not take REN R 260 for credit. **Prerequisite:** Registration in the BSc ENCS program.

B.Sc. in Environmental and Conservation Sciences Class Schedule, Fall 2021

REN R 301 Topics in Renewable Resources – Power and Influence (cross-listed with YukonU FNGA 302) (UA 58026; YU CRN 10334) Instructor: D. Landrie-Parker

This course is designed to provide an overview and understanding of the forces and sources of power and influence within Indigenous social, cultural, and political arenas. Power refers to the structurally determined potential for obtaining preferred outcomes. By using Intersectionality (the theory of how race, class, gender, sexuality intersect) as an analytical tool to capture and engage the contextual dynamics of power, this course will explore traditional and modern views of power and influence within Indigenous Nations. It will draw upon a method of ‘two-eyed’ seeing and utilize guest speakers to explore ideological perspectives and the lived experience of Indigenous Nations today and how decision-makers and policymakers may influence individuals or groups exercising power and influence. Sources of power and influence, personal agency and political ideology such as capitalism, activism, globalization, media and technology, legislation and case law and civil disobedience will be identified, and their impacts explored. Finally, this course will provide an understanding of how individuals, communities, citizenries, and Indigenous nations can build power and influence by using tangible and intangible resources. **Prerequisite:** Registration in the BSc ENCS program and permission of an ENCS Program Advisor. Please contact advisor for more details as space is limited.

REN R 401 Topics in Renewable Resources - Directed Study (UA TBD; YU CRN 10342)

Directed study in the multiple aspects of renewable resources. Please contact an ENCS Program advisor for more information on registering in an Individual Study course. **Prerequisite:** Registration in the BSc ENCS program.

REN R 401 New Circumpolar Studies course in development (title and description to be added) (UA 51246; YU CRN 10170) Instructor: P. McCarney

REN R 401I – Evolution and Ecology of Northern Mammals (UA 57560; YU CRN 10171) Instructor: T. Jung

This course provides an overview of mammalogy, the study of mammals. Students will learn about 1) the evolution of mammals and their array of morphological, physiological, and behavioral adaptations, 2) current research and issues in mammal ecology and conservation, 3) methods used by researchers in the field of mammalogy, and 4) identification and enhanced understanding of mammals of northern Canada. Pre-requisite: YukonU BIOL 220, U of Alberta BIOL 208, or equivalent, or permission of an ENCS advisor, and registration in the BSc ENCS program.

REN R 463 – Biological Adaptation to Northern Environments (UA 52350; YU CRN 10172) Instructor: K. Aitken

This course will provide an overview of the study of evolutionary processes in northern environments. Topics from evolutionary biology, such as natural selection and adaptation, will be applied to species living in boreal, arctic, and tundra environments. The course will cover the unique challenges faced by animals and plants in these environments, the ways in which they have adapted to deal with these conditions, and the potential effects of climate change on northern species. **Prerequisites:** Registration in the BSc ENCS program, and U of Alberta BIOL 208, YukonU BIOL 220 or an equivalent 2nd-year Ecology course (or permission of the instructor).

REN R 465 – “A River Runs Through It” Field School (UA TBD; YU CRN TBD) Instructors: P. McCarney, G. Rivest

This course provides students from northern and southern locations opportunities to explore the natural and cultural history of the Yukon through experiential learning that incorporates interdisciplinary approaches to environmental, social and economic challenges in this region. The course is field-based, built around a canoe trip in central Yukon, on the Stewart and Yukon Rivers. In addition to the academic curriculum, students will gain substantial backcountry/canoe travel and team-work experience. **Prerequisite:** 3rd year university standing and registration in the BSc ENCS Program, and permission of the ENCS program advisor. Additional course fees of \$900 apply, in addition to tuition. Course runs Aug. 16-27, 2021, with additional reading assigned before the course start, and an assignment due afterwards. For more information, contact Gabriel Rivest: rivest@ualberta.ca and visit <https://alesnorth.ualberta.ca/summer-field-school/>. Note that while the course runs in August, it is set up as a 3-credit fall registration.

REN R 480 – Applied Statistics for Environmental Sciences (formerly Experimental Design and Data Analysis in Env Sciences) (UA 49120; YU CRN 10173) Instructor: K. Aitken

Focuses on problem formulation, method selection, and interpretation of statistical analysis. Covers data management and data visualization, statistical tests for parametric, non-parametric and binomial data, linear and non-linear regression approaches. Participants will gain general statistical literacy and learn how to visualize and analyze data with open-source software packages. **Prerequisites:** Registration in the BSc

B.Sc. in Environmental and Conservation Sciences Class Schedule, Fall 2021

ENCS program, and U of A STAT 151, or YukonU MATH 105 or RRMT 202, or an equivalent introductory statistics course. **Students must also register in REN R 480L – Applied Statistics for Environmental Sciences Lab in the YukonU system (UA NA; YU CRN 10174)**, mandatory lab component of RENR 480.

R SOC 375 Public Participation and Conflict Resolution (cross-listed with YukonU FNGA 301 Conflict Resolution, Mediation and Negotiation) (UA 53562; YU CRN 10188) Instructor: TBD

This course will introduce students to theoretical concepts about negotiation, together with practical applications of these concepts. Emphasis will be placed on an interest-based approach to negotiation, and understanding this approach within the broader theoretical context. First Nations cultural approaches to negotiations and dispute resolution will be explored, along with tools for improving cross-cultural awareness in negotiation situations. The role of mediation in resolving disputes will be considered, including its place in the Yukon Umbrella Final Agreement. **Prerequisites:** Registration in the BSc ENCS program, and U of A NS 200 or YukonU HIST 140 or equivalent, or permission of a program advisor.

Other Courses Offered by Yukon University (minimum grade of C- required for transfer to UAlberta):

BIOL 220 – Ecology (YU CRN 10127) Instructor: S. Gilbert

This introduction to the science of ecology focuses on the interrelations between individual organisms, their populations and communities. It begins by reviewing the factors that limit distributions and then considers population demography, life tables and managing harvested populations. After a review of the mathematical models to explain interspecific competition and predation, we review community ecology looking at succession, species diversity gradients, energy flow, biogeochemistry, and the role of predation, competition and disturbance in structuring communities. We conclude by considering the prospects for global change and the ecological processes that may shape these changes. Additional lab fee: \$40. NOTE: This course is the required prerequisite for several 3rd- and 4th-year courses in the ENCS program and fills the requirement for UAlberta BIOL 208. **Students must also register in the mandatory lab component of the course, BIOL 220L (YU CRN 10128).** **Prerequisites:** YukonU BIOL 101 (and BIOL 102 recommended), or equivalent first-year biology course.

CHEM 110 - The Structure of Matter (YU CRN 10129) Instructor: K. Wright

This course covers both the common practical aspects of chemistry as well as the theoretical principles that describe this science. Topics of study include the structure of the atom, electron configuration, the nature of chemical bonding and a look at liquids, solids and gases at a molecular level. Other topics of study include reaction stoichiometry and an introduction to organic chemistry and biochemistry. Lab sessions illustrate and reinforce most of the topics presented in the lectures. NOTE: This course is the prerequisite for REN R 210 and fills the requirement for UAlberta CHEM 101. **Students must also register in the mandatory lab component, CHEM 110L (YU CRN 10130).** Additional lab fee: \$50. **Prerequisite:** Chemistry 11. CHEM 12 is recommended. YukonU MATH 060 is a co-requisite if student has not previously completed Pre-calculus 12/MATH 060. MATH 120/ALES 291A Math for the Life Sciences may also be used to fill the Pre-calculus 12/Math 060 requirement.

ECON 100 - Introduction to Microeconomics (YU CRN 10222) Instructor: K. Halliday

This course discusses the terminology, concepts, theory, methodology and limitations of current microeconomic analysis. The course provides students with a theoretical structure to analyze and understand economics as it relates to individuals and businesses. In addition, it seeks to provide students with an understanding of how political, social and market forces determine and affect the Canadian economy. NOTE: This course is the required prerequisite for AREC 365 and fills the requirement for UAlberta ECON 101.