

Course ID:	Course Title:	Fall 2021
BIO 498	Integrated Science Capstone Seminar	Prerequisite: 90 credits or permission of department
		Credits: 3

Class Information		Instructor Information		Important Dates	
Delivery:	Blended	Instructor:	Matthew Morris, PhD, MSc, BSc (Hnrs Co-op), BRE	First Day of Classes:	September 8, 2021
Days:	Tuesdays	Email:	Matthew.Morris@ambrose.edu	Last Day to Add/Drop:	September 19, 2021
Time:	1:00-2:15 pm	Phone:	403-410-2000 ext 6932	Last Day to Withdraw:	November 22, 2021
Room:		Office:	A2158	Last Day to Apply for Extension:	November 23, 2021
Lab/Tutorial:		Office Hours:	Wed 9:00 am - 12:00 pm	Last Day of Classes:	December 13, 2021
Final Exam:	NA				

Important Dates and Information

For a list of all important dates and information regarding participating in classes at Ambrose University, please refer to the Academic Calendar at <https://ambrose.edu/academic-calendar>.

Course Description

An examination of a current science or societal problem. Each topic will have three components: an historical exploration of the problem or issue, an integrated science based exploration of the issue, and spiritual reflection of the problem or issue. Students will be encouraged to integrate the various disciplines within science to come to an understanding of what is known, what is thought, and what needs to be investigated in the problem under study in order to provide direction to society.

Expected Learning Outcomes

- Integrate knowledge from different disciplines to address a question of societal relevance
- Conduct literature reviews and assemble a reading list on the topic
- Assess multiple viewpoints and come to a reasoned conclusion
- In this particular iteration, the student will:
 - Define basic terms associated with indigenous science (western science(s), indigenous science(s), place-based knowledge, traditional ecological knowledge, two-eyed seeing, decolonization of science)

- Provide examples/case studies of indigenous science(s) and its interaction with western science(s)
- Develop an awareness as to why western science may need to be decolonized
- Assess criticisms of western science as discussed by proponents of indigenous science
- Explore how a Christian theology of creation may interact with indigenous science
- Provide recommendations to the Ambrose biology program in light of the TRC

Textbooks

Robin Wall Kimmerer, *Braiding Sweetgrass*, 2015

Gloria Snively and Wanosts'a7 Lorna Williams, *Knowing Home: Braiding Indigenous Science with Western Science*, 2016

Course Schedule

Date	Topic	Reading	Assignment due
Sept 14	Setting the stage	https://www.macleans.ca/society/how-western-science-is-finally-catching-up-to-indigenous-knowledge/ https://thenarwhal.ca/meet-scientists-embracing-traditional-indigenous-knowledge/	
Sept 21	Setting the stage	Aikenhead and Ogawa "Indigenous Knowledge and Science Revisited" (2007) D. McGregor "Traditional Ecological Knowledge" (2006) https://www.youtube.com/watch?v=Cy-iGduw5c	
Sept 28	Why this matters	TRC Calls to Action https://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/indigenous-people/aboriginal-peoples-documents/calls_to_action_english2.pdf L. N. Gillman, S. D. Wright, "Restoring Indigenous Names in Taxonomy" (2020)	2-4 pg Defining Terms: Western science(s) Indigenous science(s) Place-Based Knowledge Traditional Ecological Knowledge Two-Eyed Seeing
Sept 29	Downey Lecture, 7:30-9:30 pm		
Sept 30	Downey Lecture, 7:30-9:30 pm		
Oct 5	Indigenous Science	Kimmerer, "Asters and Goldenrod" Kimmerer, "The Three Sisters" Kimmerer, " <i>Mishkos Kenomagwen: The Teachings of Grass</i> "	1-2 pg Response to Downey

Oct 12	Indigenous Science(s)	Ch 1, 2, 6, and 7 of <i>Knowing Home</i>	
Oct 19	Critiquing western science	<i>Indigenous Research</i> Introduction	4-5 case studies of Indigenous Science
Oct 26	Critiquing western science	TBA	
Nov 2	Indigenous spirituality and science	Kimmerer, "Skywoman Falling" Kimmerer, "Allegiance to Gratitude"	8-10 pg paper: A critique of Western vs Indigenous Science
Nov 9	READING WEEK – NO MEETING		
Nov 16	Indigenous spirituality and science	Kimmerer, "The Honorable Harvest" Kimmerer, "In the Footsteps of Nanabozho" John A. Grim, "Indigenous Traditions: Religion and Ecology"	
Nov 23	Ambrose and the biology program	TBA	8-10 pg paper: Christian Theology and Indigenous Science
Nov 30	Ambrose and the biology program	TBA	
Dec 7	Ambrose and the biology program	TBA	3-5 pg Biology Program's Proposed Response to TRC Full reading list

Requirements:

This is largely a self-directed class. Although select readings have been assigned, the student will also conduct literature reviews and propose key papers for discussion. Weekly meetings will involve discussing those readings.

Participation – 15%

Paper 1 – indigenous science case studies – 15%

Paper 2 – critiquing western science –18%

Paper 3 – Christian stewardship and indigenous science – 15%

Paper 4 – recommendations to Ambrose – 12%

Brief papers:

Defining terms – 10%

Downey lecture response – 10%

Reading list – 5%

Attendance:

Attendance is mandatory. Any reason for missing should be communicated with the instructor in advance and an alternate meeting time arranged.

Grade Summary:

The available letters for course grades are as follows:

Grade	Interpretation	Grade Points
A+	Excellent	4.00
A		4.00
A-		3.70
B+	Good	3.30
B		3.00
B-		2.70
C+	Satisfactory	2.30
C		2.00
C-		1.70
D+	Poor	1.30
D	Minimal Pass	1.0
F	Failure	0.00
P	Pass	No Grade Points

Because of the nature of the Alpha 4.00 system, there can be no uniform University-wide conversion scale. The relationship between raw scores (e.g. percentages) and the resultant letter grade will depend on the nature of the course and the instructor's assessment of the level of each class, compared to similar classes taught previously.

Please note that final grades will be available on student registration system. Printed grade sheets are not mailed out.

Ambrose University Important Information:

Communication

All students have received an Ambrose e-mail account upon registration. It is the student's responsibility to check this account regularly as the Ambrose email system will be the professor's instrument for notifying students of important matters (cancelled class sessions, extensions, requested appointments, etc.) between class sessions.

Exam Scheduling

Students who find a conflict in their exam schedule must submit a Revised Examination Request form to the Registrar's Office by the deadline date; please consult the Academic Calendar. Requests will be considered for the following reasons only: 1) the scheduled final examination slot conflicts with another exam; 2) the student has three final exams within three consecutive exam time blocks; 3) the scheduled final exam slot conflicts with an exam at another institution; 4) extenuating circumstances. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

Standards of Behaviour in the Classroom Setting

Learning is an active and interactive process, a joint venture between student and instructor and between student and student. Some topics covered within a class may lead to strong reactions and opinions. It is important that Students understand that they are entitled to hold contradictory beliefs and that they should be encouraged to engage with these topics in a critical manner. Committing to this type of "active learning" significantly increases the learning experience for both teacher and student, and reflects the Christian imperative to pursue truth, which lies at the heart of the Ambrose educational experience. However, active discussion of controversial topics will be undertaken with respect and empathy, which are the foundations of civil discourse in the Classroom Setting. Primary responsibility for managing the classroom rests with the instructor. The instructor may direct a student to leave the class if the student engages in any behaviour that disrupts the classroom setting. If necessary, Ambrose security will be contacted to escort the student from class. Please refer to your professor regarding their electronic etiquette expectations.

Academic Integrity

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to acknowledge to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university. Students are expected to be familiar with the policies in the current Academic Calendar that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are

reported to the Academic Dean and become part of the student's permanent record.

Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. The academic calendar can be found at <https://ambrose.edu/content/academic-calendar-2>.

Privacy

Personal information (information about an individual that may be used to identify that individual) may be required as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at privacy@ambrose.edu.

Coursework Extensions

Should a request for a time extension on coursework exceed the end of the term, a *Coursework Extension Application* must be completed and submitted to the Office of the Registrar. The extension (if granted) will be recorded on the student record. Extensions are granted at the discretion of the instructor and are normally granted for 30 days beyond the last day of the term.

Normally, Course Extension Applications will be considered only when all of the following conditions are met:

- the quality of prior course work has been satisfactory;
- circumstances beyond your control, such as an extended illness or death of a family member, make it impossible for you to complete the course work on time; and
- you submit *Coursework Extension Application* to the Office of the Registrar on or before the deadline specified in the Academic Schedule.

If granted, time extensions do not excuse you from a final examination where one has been scheduled for the course.

A temporary grade of TX will be assigned until a final grade is submitted in accordance with the new deadline. A final grade of F will apply to:

- all course work submitted after the end of the semester unless a coursework extension has been granted; and all course work submitted after the revised due date provided by an approved extension to coursework.

Academic Success and Supports

Accessibility Services

Academic accommodation is provided to Ambrose students with disabilities in accordance with the Alberta Human Rights Act and the Canadian Charter of Rights and Freedoms. Provision of academic accommodation does not lower the academic standards of the university nor remove the need for evaluation and the need to meet essential learning outcomes. Reasonable accommodations are tailored to the individual student, are flexible, and are determined by considering the barriers within the unique environment of a

postsecondary institution. It can take time to organize academic accommodations and funding for disability-related services. Students with a disability who wish to have an academic accommodation are encouraged to contact Accessibility Services as early as possible to ensure appropriate planning for any needs that may include accommodations. Staff can then meet with students to determine areas to facilitate success, and if accommodations are required, ensure those accommodations are put in place by working with faculty.

Ambrose Writing Services

Ambrose Writing services provides academic support in the four foundational literacy skills—listening, speaking, reading, and writing. It also assists students with critical thinking and the research process. Throughout the academic year, students can meet with a writing tutor for personalized support, or they can attend a variety of workshops offered by Academic Success. These services are free to students enrolled at Ambrose University. Academic Success serves all students in all disciplines and at all levels, from history to biology and from theatre to theology. To learn more, please visit <https://ambrose.edu/writingcentre>

Ambrose Tutoring Services

Ambrose Tutoring Services provides support in specific disciplinary knowledge, especially in high-demand areas such as chemistry, philosophy, math and statistics, and religious studies. These tutors also coach students in general study skills, including listening and note-taking. During the academic year, Ambrose Tutoring Services offers drop-in tutoring for courses with high demand; for other courses, students can book a one-to-one appointment with a tutor in their discipline. These services are free to students enrolled at Ambrose University. To learn more, please visit <https://ambrose.edu/tutoring>.

Mental Health Support

All of us need a support system. We encourage students to build mental health supports and to reach out when help is needed.

On Campus:

- Counselling Services: ambrose.edu/counselling
- Peer Supportive Listening: One-to-one support in Student Life office. Hours posted at ambrose.edu/wellness.
- For immediate crisis support, there are staff on campus who are trained in Suicide Intervention and Mental Health First Aid. See ambrose.edu/crisissupport for a list of staff members.

Off Campus:

- Distress Centre - 403-266-4357
- Sheldon Chumir Health Care Centre - 403-955-6200
- Emergency - 911

Sexual Violence Support

All staff, faculty, and Residence student leaders have received *Sexual Violence Response to Disclosure* training. We will support you and help you find the resources you need. There is a website with on and off campus supports – ambrose.edu/sexual-violence-response-and-awareness.

Off Campus:

- Clinic: Sheldon Chumir Health Centre - 403-955-6200
- Calgary Communities Against Sexual Abuse - 403-237-5888

Note: Students are strongly advised to retain this syllabus for their records.