



# International Indigenous Studies Program

Website: <https://arts.ucalgary.ca/international-indigenous-studies>

(Fall 2022)

## INDG 502.7 (L02)

### Advanced Topic in Canadian Indigenous Studies - Indigenous Science

Pre/Co-Requisites: 60 units.

Instructor: Kori Czuy	Lecture Location: <b>TELUS Spark Science Centre</b>
Phone: 403 607 2807	Lecture Days/Time: Monday 2:00-4:45
Email: <a href="mailto:kori.czuy2@ucalgary.ca">kori.czuy2@ucalgary.ca</a>	Office: N/A
Instructor Email Policy: I will respond to emails within 48 hours. Students must use their ucalgary email address.	

#### **COURSE DESCRIPTION**

Colonization has reinforced a singular objective way of knowing of science, where along the way, the human, spirit, and humility has been discounted and removed. Indigenous science embraces knowings that are experiential, passed on through story and song, and told by the Land. This course takes up these tensions to explore how Indigenous science can tell us about the worlds we inhabit. Note that this course will be held at Telus Spark.

#### **COURSE OBJECTIVES & LEARNING OUTCOMES**

*The International Indigenous Studies Program has a range of capacities and critical thinking skills that our Majors will develop over the course of their degree. This course sets you on the pathway to achieving them.*

*For the full list of program learning outcomes expected at the end of the degree, please see:*

<https://arts.ucalgary.ca/international-indigenous-studies/about/program-statement>

#### **REQUIRED TEXTBOOK(S)**

Readings will be distributed in-class, one week before they will be focused on in class. As this class will be taught through Indigenous Methodologies, readings will change each week depending on class discussions, topics that come up, student interests etc.

#### **-Optional books:**

Cajete, G. (2000). *Native science: Natural laws of interdependence*. Santa Fe, NM: Clear Light Publishers.

Kimmerer, R. (2013). *Braiding sweetgrass: Indigenous wisdom, scientific knowledge and the teachings of plants*. Milkweed editions.

**COURSE COMPONENT WEIGHTS AND DUE DATES**

COMPONENT	WEIGHTING	DUE DATES
Participation	20%	
Midterm Assignment	30%	October 17, 2022
Final Assignment	50%	December 5, 2022
Total	100%	

If a student misses a required course component, please get in touch the instructor as soon as possible (see Late Penalties).

**COURSE SCHEDULE & TOPICS**

DATE	TOPIC	READINGS
Sept 12, '22	Introduction Expectations Review of outline & assignments	<b>Introductions:</b> Please reference the link below, check out the traditional caretakers of the land you were born, grew up on, play etc.. What does this information mean to you? <a href="http://www.Native-Lands.ca">www.Native-Lands.ca</a>  UNDRIP ( <a href="#">here</a> ) Where are the science components in this document?  TRC ( <a href="#">here</a> )
Sept 19, '22	Looking Back in order to Move Forward	Readings handed out in class on September 12  OPTIONAL: Attend "Tipis & Telescopes" Sept 23, 24 (SOLD OUT- if interested in attending, please contact Kori)
Sept 26, '22	What is Indigenous Science?  Protocols  Grounding	Czuy, K. (2021). dear big S Science. <i>Cultural Studies of Science Education</i> , 16(2), 357-372.  Additional readings handed out in class on September 19
Oct 4, '22	Learning from the Land	Cajete, G. (2000). <i>Native Science: Natural Laws of Interdependence</i> . Santa Fe, NM: Clear Light Publishers. - A sense of place pp. 177-214  Hogarth, M. & Czuy, K, (2021). Walking Many

		<p>Paths, Our Research Journey to (re)present Multiple Knowings: Creating our own Spaces. <i>Engaged Scholar Journal: Community Engaged research, Teaching and Learning</i>, 7(1), 159-182.</p> <p>Additional readings handed out in class on October 4th</p>
<b>Oct 10, '22</b>	<b>THANKSGIVING HOLIDAY</b>	<hr/> <p>Optional:                      -Attend "Quantum Talks" at TELUS Spark Science Centre October 12<sup>th</sup>                      (for free tickets, contact Kori)</p>
Oct 17, '22	<ul style="list-style-type: none"> <li>-Learning from one another</li> <li>-Taking risks</li> <li>-Making mistakes together</li> <li>-supporting one another</li> </ul>	<p style="text-align: center;"><b>MIDTERM</b></p> <p style="text-align: center;">Group Presentations</p>
Oct 24, '22	"Methods of Indigenous Science"	<p>Additional readings handed out in class on October 17th</p> <p>Quantum Sandbox, Spark Science Centre (<a href="#">here</a>)                      Attend BEFORE October 19<sup>th</sup>.</p>
Oct 31, '22	"Biomimicry & Cultural Mimicry"	<p>Additional readings handed out in class on October 24th</p>
Nov 7, '22	Spirit & Science	<p>Additional readings handed out in class on October 31st</p> <p>Guest Speaker: <b>Hal Eagletail</b>, Tsuutina Nation</p>
Nov 14, '22	Looking Forward: Indigenous Science Fiction	<p>Additional readings handed out in class on November 14<sup>th</sup></p>
Nov 21, '22	Weaving Together multiple ways of knowing, being, doing, Science	<p>Kimmerer, R. W. (2013). <i>Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the teachings of Plants</i>. Milkweed Editions.                      - Three Sisters, pp. 128-140.</p>

		<p>Kimmerer, R. W. (2013). <i>Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the teachings of Plants</i>. Milkweed Editions.          -Mishkos Kenomagmen: The teachings of Grass          pp. 156-166.</p> <p>Czuy, K. (2020). <i>Awakening the Mind: Indigenizing mathematics through local story</i>.          University of Calgary.          - Chapter 6 , pp. 180-198</p>
Nov 28, '22		FINAL PRESENTATIONS
Dec 5, '22		FINAL PRESENTATIONS

Please note that the above schedule is tentative and may change as the need arises.

**ASSIGNMENT(S)**

**MIDTERM ASSIGNMENT:**  
*"Learning from the Land"*

Go to a place that has less (or no) direct human interference (Nose Hill, a river or stream, Kananaskis/mountains, non-agricultural field etc...) and connect with the Land. Go alone (if you are comfortable to do so). You are encouraged to just "be" for at least 30 minutes!

Focus on your senses (5 common senses, temperature, air pressure etc..) and the 7 directions (East, South, West, North, Above, Below, Heart) to first ground and orient yourself, then think about the below questions:

What are you beginning to "learn" about your surroundings as you focus more deeply on your senses and directions?  
 What is grabbing your attention?

a) if you were to explore/learn more about \_\_\_\_\_ through **academic/global scientific processes**, what would you do?

b) if you were to explore/learn more about \_\_\_\_\_ through **Indigenous scientific process**, what would you do?

**Class Presentation: 5 mins**  
 Feel free to be creative with how you present

**Assignment objectives:** to think critically about how we learn from the Land, to be critical of processes of scientific knowledge, explore OUR OWN processes of learning and engaging with science.

Due Date/presentations- **October 17, 2022**  
**30%**

**FINAL ASSIGNMENT:**

“Exploring scientific topics through multiple perspectives”

There have been many doctrines, policies, laws, processes, methods, and theories that are embedded deep within or directly effect science, many of which reinforce Euro-centric histories and knowledge. The intention of this assignment is to explore the depth of Euro-centric influence on science, and open up perspectives, worldviews, methods, and knowledges that are often dismissed or defined as irrelevant.

Choose a scientific topic or issue (past, present).

Explore the *many* perspective/stakeholders/knowledge keepers that effect or are effected by that topic/issue. (choose at least 4)

For each “persona(s),” explore the doctrines, policies, laws, processes, methods, theories, etc. that protect and support them.

**Presentation:**

present the scientific topic/issue through the various related/effected perspectives/personas. (BE CREATIVE IN YOUR PRESENTATION)

Explore the below questions (some may not be relevant to your topic/persona), and add a few that are specifically relevant to your topic.

**Hand-in Assignment:**

-connect the above questions to the class readings and in-class conversations (2000-2500 words or the equivalent in an alternate form of knowledge mobilization)

**Assignment objectives:** to open your mind and heart to diverse perspectives, think critically, and empathasize with less recognized perspectives/histories/experiences.

Presentations: **Nov 28 & Dec 5, 2022**

Hand in assignment due: **December 5, 2022**

**50%** (Presentation 80%, Hand-in work 20%)

**ESSAYS/RESEARCH PAPER(S)**

**PARTICIPATION**

This professional class has been created and designed with expectations that everyone will be in attendance (with exception of personal or family illness, or religious or cultural requiremens), and prepared for each class.

Everyone’s contribution in each class is valued, bringing together, when comfortable and open, each student’s ideas, history, experiences, and culture, thereby strengthening diversity, critical thinking, and challenging self and systemic oversights. Please open your mind and heart to knowing science in ways we may not know, we do not know.

There will be a lot of class and group discussions. If you find you are uncomfortable sharing, or experiencing difficulties collaborating as a group, please inform the instructor.

**MID-TERM ASSIGNMENT**

**FINAL EXAMINATION**

Final Exam	No
Length	Take home assignment (2000-2500 words or equivalent)
Format	<i>Presentations &amp; Take-home assignment</i>
Type	
Aids	N/A

**WRITING STATEMENT**

Written assignments are often required in International Indigenous Studies courses, and the quality of writing skills, including but not limited to such elements as grammar, punctuation, sentence structure, clarity, citation, and organization, will be taken into account in the determination of grades. Students are encouraged to make use of the services offered through Writing Support Services in the Student Success Centre by contacting them at <http://www.ucalgary.ca/ssc/writing-support>.

**GRADING SCALE:** The following grading scale will be used:

The International Indigenous Studies Program uses the percentage conversion scale below. Your final grade will be converted to the University's official 4-point scale at the end of term. The interpretation of the undergraduate university grading system can be found at

<http://www.ucalgary.ca/pubs/calendar/current/f-1.html>.

A+ (96-100)	B+ (80-84.99)	C+ (65-69.99)	D+ (53-54.99)
A (90-95.99)	B (75-79.99)	C (60-64.99)	D (50-52.99)
A- (85-89.99)	B- (70-74.99)	C- (55-59.99)	F (0-49)

These are the grade ranges and specific numeric values I assign to letter grades on D2L. An A+ is solely honorific, meaning that its grade point amount is the same as an A (4.0). I will use this mark to distinguish superlative work that exceeds expectations in style, intellectual depth and breadth, sophistication, creativity and originality.

**LATE PENALTIES**

*Provide a statement outlining how, if at all, penalties will be imposed on late submissions.*

**INSTRUCTOR GUIDELINES**

Students requiring assistance are encouraged to speak to the instructor during class or their office hours. Should you wish to meet outside of office hours, please telephone or email to make an appointment. It is to the student's advantage to keep such appointments.

Email is a common form of communication but it is not always the most effective way of answering student questions. If you cannot make office hours, please request a one on one meeting outside of these hours.

Students are welcome to use laptops and other electronic note-taking devices in this course. Please be considerate of others and switch off all cell phones when you enter the classroom. Sending/receiving texts and browsing the Web is disruptive to others and will not be tolerated.

**COURSE-SPECIFIC INFORMATION**

This course will be held off campus at:

**TELUS Spark Science Centre**

220 St. George's Drive NE Calgary, AB T2E 5T2

**Parking:** free parking code provided

**Public Transportation:**

C-Train- 10-15 min. walk from Calgary Zoo Station/Bridgeland Memorial Station

Bus- 17, 19, 302, 90

More information [here](#)

**MENTAL HEALTH SUPPORTS**

International Indigenous Studies covers topics that can have elements that are emotionally difficult to talk about. The INDG website contains supports and resources for students that can be accessed both on and off campus.

Please see:

- ◆ <https://arts.ucalgary.ca/international-indigenous-studies/contact/indigenous-supports-campus>
- ◆ <https://arts.ucalgary.ca/international-indigenous-studies/contact/indigenous-supports-campus-0>

**IMPORTANT POLICIES AND INFORMATION**

**Supporting Documentation and the Use of a Statutory Declaration**

As stated in the University Calendar:

Students may be asked to provide supporting documentation for an exemption/special request. This may include, but is not limited to, a prolonged absence from a course where participation is required, a missed course assessment, a deferred examination, or an appeal. Students are encouraged to submit documentation that will support their situation. Supporting documentation may be dependent on the reason noted in their personal statement/explanation provided to explain their situation. This could be medical certificate/documentation, references, police reports, invitation letter, third party letter of support or a statutory declaration etc. The decision to provide supporting documentation that best suits the situation is at the discretion of the student. Students cannot be required to provide specific supporting documentation, such as a medical note.

Students can make a Statutory Declaration as their supporting documentation (available at [ucalgary.ca/registrar](https://ucalgary.ca/registrar)). This requires students to make a declaration in the presence of a Commissioner for Oaths. It demonstrates the importance of honest and accurate information provided and is a legally binding declaration. Several registered Commissioners for Oaths are available to students at no charge, on campus. For a list of locations to access a Commissioners for Oaths, visit [ucalgary.ca/registrar](https://ucalgary.ca/registrar)).

The University of Calgary does not require documentation of student illness or absence **for the Fall 2022 semester**, including Statutory Declarations.

Falsification of any supporting documentation will be taken very seriously and may result in disciplinary action through the Academic Discipline regulations or the Student Non-Academic Misconduct policy.

This statement is accessible at: <https://www.ucalgary.ca/pubs/calendar/current/m-1.html>

### **Absence From a Mid-term Examination**

Students who are absent from a scheduled term test or quiz for legitimate reasons are responsible for contacting the instructor via email within 48 hours of the missed test to discuss alternative arrangements. A copy of this email may be requested as proof of the attempt to contact the instructor. Any student who fails to do so forfeits the right to a makeup test.

**Deferred Term Work Form:** Deferral of term work past the end of a term requires a form to be filled out by the student and submitted, along with any supporting documentation, to the instructor. The form is available at:

<https://live-ucalgary.ucalgary.ca/sites/default/files/teams/14/deferral-of-term-work-2020.pdf>

Once an extension date has been agreed between instructor and student, the instructor will email the form to the Faculty of Arts Program Information Centre ([ascarts@ucalgary.ca](mailto:ascarts@ucalgary.ca)) for approval by the Associate Dean.

### **Deferral of a Final Examination**

Deferral of a final examination can be granted for reasons of illness, domestic affliction, and unforeseen circumstances, as well as to those with three (3) final exams scheduled within a 24-hour period. Deferred final exams will not be granted to those who sit the exam, who have made travel arrangements that conflict with their exam, or who have misread the examination timetable. The decision to allow a deferred final exam rests not with the instructor but with Enrolment Services. Instructors should, however, be notified if you will be absent during the examination. The Application for Deferred Final Exam, deadlines, requirements and submission instructions can be found on the Enrolment Services website at

<https://www.ucalgary.ca/registrar/exams/deferred-exams>.

### **Reappraisal of Grades:**

*For Reappraisal of Graded Term Work, see Calendar 1.2*

<http://www.ucalgary.ca/pubs/calendar/current/i-2.html>

*For Reappraisal of Final Grade, see Calendar 1.3*

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

### **Academic Misconduct:**

Academic Misconduct refers to student behavior that compromises proper assessment of students' academic activities and includes: cheating; fabrication; falsification; plagiarism; unauthorized assistance; failure to comply with an instructor's expectations regarding conduct required of students completing academic assessments in their courses; and failure to comply with exam regulations applied by the Registrar.

Student committing academic misconduct during the final exam will not receive a passing grade for the course.

For information on the Student Academic Misconduct Policy, Procedure and Academic Integrity, please visit: <https://www.ucalgary.ca/pubs/calendar/current/k-3.html>

### **Plagiarism And Other Forms Of Academic Misconduct**



Academic misconduct in any form (e.g. cheating, plagiarism) is a serious academic offence that can lead to disciplinary probation, suspension or expulsion from the University. Students are expected to be familiar with the standards surrounding academic honesty; these can be found in the University of Calgary calendar at <http://www.ucalgary.ca/pubs/calendar/current/k.html>. Such offences will be taken seriously and reported immediately, as required by Faculty of Arts policy.

### **Recording of Lectures:**

Recording of lectures is prohibited, except for audio recordings authorized as an accommodation by SAS or an audio recording for individual private study and only with the written permission of the instructor. Any unauthorized electronic or mechanical recording of lectures, their transcription, copying, or distribution, constitutes academic misconduct. See <https://www.ucalgary.ca/pubs/calendar/current/e-6.html>.

### **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. 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. The full policy on Student Accommodations is available at <https://www.ucalgary.ca/legal-services/university-policies-procedures/accommodation-students-disabilities-procedure>

### **Research Ethics**

Students are advised that any research with human subjects – including any interviewing (even with friends and family), opinion polling, or unobtrusive observation – must have the approval of the Conjoint Faculties Research Ethics Board. In completing course requirements, students must not undertake any human subject research without discussing their plans with the instructor, to determine if ethics approval is required.

### **Instructor Intellectual Property**

Course materials created by instructors (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the instructor. These materials may NOT be reproduced, redistributed or copied without the explicit consent of the instructor. 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.

### **Freedom of Information and Protection of Privacy (FOIP) Act:**

Personal information is collected in accordance with FOIP. Assignments can only be returned to the student and will be accessible only to authorized faculty and staff. For more information, see <https://www.ucalgary.ca/legal-services/access-information-privacy>

### **Copyright Legislation:**

See the University of Calgary policy on Acceptable Use of Material Protected by Copyright at <https://www.ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy> Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

Course materials created by instructors (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the instructor. These materials may NOT be reproduced, redistributed or copied without the explicit consent of the instructor. 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.

### **Evacuation Assembly Points**

In the event of an emergency evacuation from class, students are required to gather in designated assembly points. Please check the list found at <https://www.ucalgary.ca/risk/emergency-management/evac-drills-assembly-points/assembly-points> and note the assembly point nearest to your classroom.

### **Important Dates:**

Please check: <http://www.ucalgary.ca/pubs/calendar/current/academic-schedule.html>.

### **Faculty of Arts Program Advising and Student Information Resources**

- Have a question, but not sure where to start? The Arts Students' Centre is your information resource for everything in Arts! Drop in at SS102, call them at 403-220-3580, or email them at [artsads@ucalgary.ca](mailto: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, including program planning and advice.
- For registration (add/drop/swap), paying fees and assistance with your Student Centre, contact Enrolment Services at 403-210-ROCK [7625] or visit them in the MacKimmie Tower.

### **Important Contact Information**

Campus Security and Safewalk (24 hours a day/7 days a week/365 days a year)  
Phone: 403-220-5333

Faculty of Arts Undergraduate Students' Union Representatives  
Phone: 403-220-6551  
Email: [arts1@su.ucalgary.ca](mailto:arts1@su.ucalgary.ca), [arts2@su.ucalgary.ca](mailto:arts2@su.ucalgary.ca), [arts3@su.ucalgary.ca](mailto:arts3@su.ucalgary.ca),  
[arts4@su.ucalgary.ca](mailto:arts4@su.ucalgary.ca)  
Students' Union URL: [www.su.ucalgary.ca](http://www.su.ucalgary.ca)

Graduate Students' Association  
Phone: 403-220-5997  
Email: [askgsa@ucalgary.ca](mailto:askgsa@ucalgary.ca)  
URL: [www.ucalgary.ca/gsa](http://www.ucalgary.ca/gsa)

Student Ombudsman  
Phone: 403-220-6420  
Email: [ombuds@ucalgary.ca](mailto:ombuds@ucalgary.ca)

### **Campus Mental Health Resources**

The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus

## INDG 502.7 L02 F2022

community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the excellent mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the following resources:

*SU Wellness Centre:* <http://www.ucalgary.ca/wellnesscentre/>

*Student Wellness Services:*

<https://www.ucalgary.ca/wellness-services/services/mental-health-services>

*Campus Mental Health Strategy website:* <https://www.ucalgary.ca/mentalhealth/>.

*Facebook Group for Indigenous Studies Program:* <https://www.facebook.com/groups/UC.IIST/>

*INDG Program Website:* <http://www.ucalgary.ca/indg/>

*Writing Symbols Lodge (Native Centre) Website:* <https://www.ucalgary.ca/nativecentre>

*Library and Resource Website :* <http://www.ucalgary.ca/library>