INTEG 475: Special Topics
Interdisciplinary Collaboration

NOTE: This course is being taught remotely due to the COVID pandemic

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Class meeting times: Mondays & Thursdays, 2:30-4pm

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Course Description

"Interdisciplinary collaboration" is a popular term these days, but what does it mean, exactly, and what makes it successful? In this course, we will examine the nature of interdisciplinarity (and collaboration more generally) by addressing the following questions:

- What is the difference between multi-, inter- and trans-disciplinarity?
- When are interdisciplinary approaches appropriate and what benefits do they bring?
- What are the barriers and challenges to working across disciplines?
- How can we foster and evaluate the success of interdisciplinary collaboration?
- How might we teach others how to 'make collaboration work'?

To address these questions, we will read key work in Interdisciplinary Studies (IS), Philosophy of/as Interdisciplinarity (PIN), the Science of Team Science (SciTS), and other related areas.

This course will be taught using collaborative learning techniques that give students significant opportunities to shape the direction of the course and co-create course assignments. In the past, the majority of the work done in the course was aimed at producing publically available materials and resources on interdisciplinary collaboration (e.g., podcast interviews, handouts, and interactive guides to student collaboration). Student might also undertake a research project on a topic of their choosing, such as the role of design in interdisciplinary problem solving, how to evaluate integrative work, or how to foster interdisciplinary education.

Course Objectives

By the end of this course, you should be able to do the following:

Comprehension	• Explain differences between, multi-, inter-, and trans-disciplinarity
Applying & analyzing:	• Identify barriers to interdisciplinary research and/or collaboration, and discuss how they might be overcome
Evaluating, creating, & synthesizing:	• Articulate and justify your own views regarding course topics • Create useful resources related to interdisciplinary collaboration
Transferrable skills:	• Improve your critical thinking and written/oral communication skills • Help to create a respectful and engaging learning community by collaborating with others and providing constructive feedback

Land Acknowledgement: On What Traditional Territory is This Course "Located"?

While this course is not being physically taught at the University of Waterloo, we are using university resources, and I (will be located in Kitchener-Waterloo while teaching this course. Thus, it is still important to acknowledge that **this course is being taught on the traditional territory of the Neutral, Anishinaabeg, and Haudenosaunee peoples**. As I'm sure most of you know, the University of Waterloo is situated on the Haldimand tract, land promised to the Six Nations that includes ten kilometres on each side of the Grand River.

If you would like to know more about the role of land acknowledgements, and/or more about the particular Indigenous peoples on whose land many of us live, work, and study, see: http://www.lspirg.org/knowtheland. For information about steps that UW is taking related to Indigenization, see https://uwaterloo.ca/faculty-association/information-faculty/faculty-guide-working-waterloo/indigenization-waterloo.

I have also created a Discussion forum on LEARN where you can share a land acknowledgement for the area where you're residing this fall. If you're in Canada, here is a useful resource for finding that information: https://native-land.ca/. If you're in Kitchener-Waterloo, I invite you to create a land acknowledgement in your own words and/or share information, ideas, or resources with other students that might be useful in further educating ourselves about Indigenous issues and/or taking steps towards Reconciliation.

Course Information & Expectations

Opportunities and Expectations for Students

This course will be taught using highly collaborative learning techniques. This means you will be given opportunities to help shape the course, *and* that you will be expected to do so. Many of the overarching course topics have already been set (such as the difference between multi-, inter-, and trans-disciplinarity; challenges to interdisciplinary collaboration; and ways of fostering interdisciplinarity); however, there is still room for new topics, and flexibility regarding how we approach topics that have already been set. You will also contribute to course content by working in a small group to teach a class session on a topic of your choosing, as well as offering ideas for additional or alternative topics or readings. You will also be asked to offer suggestions for in-class activities and assignments, both in their form and their evaluation.

Required Reading Material and Submitting Assignments: LEARN & Perusall

There are no required textbooks for this course; instead, all readings will be posted on LEARN and Perusall. Perusall is a free online platform for collaborative reading and annotation. Students can access Perusall through the course LEARN site. *Note: changes may be made to the schedule of topics or readings based on student interest; any changes will be announced in class and on LEARN.*

Grading/Evaluation

All graded work will be evaluated out of 100 points in 5-point increments (e.g., 75, 80, 85), though "in-between" grades (e.g., 75/80) will be assigned where appropriate. Each assignment carries a different weight in your course grade. *Note: there is no final exam for this course.*

Course Engagement (including readings)	**25%**	Throughout the term
Collaborative teaching (small group)	**20%**	Due Weeks 5-7
Creative content (small group)	**30%**	Due Week 11
Final project (e.g., reflection, or research paper)	**25%**	Due after Week 12

Course Engagement (25%)

- *Live Class Sessions*: Given the collaborative nature of this course, it is important that we are all able to meet together synchronously from time to time. If you can't make it to class, please make sure you check the Collaborative Class Notes to see what you missed.

- *Readings*: Students will be asked to read several papers (articles, chapters, etc.) and annotate them with comments and questions on Perusall.

- *Discussion*: Students are expected to actively participate in discussions by commenting on readings and replying to others' comments and questions, by being an active listener, and by offering thoughtful, relevant and respectful contributions. You may also post comments, questions or replies on the course website or on Teams; this can improve your participation grade but cannot completely make up for a lack of participation on Perusall and in live sessions.

- *Contributions on Teams:* Substantive contributions in the course Teams group will also count towards your participation grade.

- *In-class roles*: Signing up for particular roles (e.g., facilitator, note taker, time keeper)

- *Peer feedback:* You will be asked to provide feedback on other students' assignments and teaching activities, noting what was done well and how it could be improved; you will also be required to evaluate yourself and each of your group members for your two group projects using PEAR. Due dates will be posted on Teams

- *Other*: There may be other ways you are participating (e.g., adding reminders on Teams); be sure to summarize these in your end-of-term self-evaluation for your participation.

- You will be asked to submit a short evaluation of your own participation after the end of the course, with a suggested mark and a brief summary of your contributions, strengths, and areas for improvement. You will have access to the PEAR feedback from members of both of your groups (the creative group project and the teaching activity), which you should look at and take into account when writing this self-evaluation.

Collaborative Teaching (20%)

During the last part of the course, you will teach one of the class sessions with a small group of your peers. Your group will choose a topic related to interdisciplinary collaboration that you would like to learn more about and discuss with the class. You must have your topic approved by the instructor one week in advance (I strongly encourage you to meet with me to discuss your topic and lesson plan once you've had your topic approved). In addition, you will need to turn in a "teaching module", consisting of a description of the topic, reading material, a lesson plan, and a reflection on the teaching experience, within one week of having taught the course. These teaching modules will eventually be shared with others outside the class, likely via a website.

Creative Content (30%)

Work together in small groups to design and develop broadly accessible material related to the course topics. This material can take a variety of forms, such as a popular article on interdisciplinarity, a visual representation, a video explaining a concept or topic, or a game that one can play to help with understanding the concept or topic. You will be expected to work with your group to create this content, to solicit feedback from your peers, and to work together revise your work in response to the feedback you receive. Your content will be made available on Teams, and may eventually be uploaded to a public website (where credit will be given to you as one of the content creators, with your permission). In addition, you will be asked to hand in a short written assignment to accompany your content.

Individual Portfolio & Reflection (25%)

Complete a portfolio of your collaborative/human skills and write a formal reflection on the collaborative experience of co-designing and co-developing this course.

Late Policy

The due dates and late policy will be decided together by the instructor and the students enrolled in the course.

University Resources: What Supports are Available to Help Me Succeed?

The University of Waterloo provides several resources and support services to help students achieve the academic success they are truly capable of. Most students access some of these services at some point in their degree. I strongly encourage you to make use of any and all services that might be beneficial to you.

Mental Health & Counseling Services

The University of Waterloo, the Faculty of Environment, and the Department of Knowledge Integration consider students' well-being to be extremely important. We recognize that throughout the term students may face health challenges – physical and/or emotional. **Please note that help**

is available. Mental health is a serious issue for everyone and can affect your ability to do your best work. Counselling Services is an inclusive, non-judgmental, and confidential space. They offer confidential counselling for a variety of areas including anxiety, stress management, depression, grief, substance use, sexuality, relationship issues, and much more.

- I also encourage you to take a look at the online workshops offered by Counseling Services, which are designed to assist you with areas like stress management, managing your mood, procrastination, mindfulness, depression, etc. Most workshops are free. (I took two of these workshops several years ago, when UW was offering workshops for faculty, and I found them to be incredibly helpful.)

AccessAbility Services

AccessAbility Services collaborates with academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the Accessibility Services at the beginning of each academic term.

- **NOTE from the course instructor:** AccessAbility Services can offer support for a variety of disabilities such as ADHD, chronic pain, etc. If you think you might benefit from accommodations, even for temporary issues, I strongly encourage you to contact Accessibility Services ASAP. Whether or not they can offer you academic accommodations, Accessibility Services advisors can connect you with other support resources on campus.
- Also, **note that INTEG 475 has no exams**. I will also ask for volunteers to contribute to collaborative class notes, which will be useful to all students, including those who need a note-taking accommodation.

Academic Support Services

- The Writing and Communication Centre (WCC) at UW offers writing workshops, online resources, and virtual appointments to assist students with all aspects of the writing process. They also facilitate PJ-friendly undergraduate writing groups if you'd like company while you write!
- UW's Student Success Office (SSO) has created several resources to help students develop good learning strategies, including advice for improving time management, note-taking, and reading critically.

University Policies

Religious Observances

Please inform the instructor at the beginning of term if special accommodation needs to be made for religious observances that are not otherwise accounted for in the scheduling of classes and assignments. Again, note that **there are no exams in this course**.

Intellectual Property

Students should be aware that this course contains the intellectual property of the instructor, TA, and/or the University of Waterloo. Intellectual Property, or 'IP', includes items such as lecture content, both spoken and written (including any audio/video recordings of such content); lecture notes and other materials prepared for the course (e.g., PowerPoint slides); and assignment instructions. [Sharing IP without the owner's explicit permission is a violation of IP rights](). For this reason, it is necessary to ask for permission from the instructor before uploading and sharing course materials with anyone not currently enrolled in the course. If you would like to do so, please email the course instructor to ask for written permission.

Recording Class Sessions

Due to the remote format of this course, the instructor may record live class sessions and share those recordings with students currently enrolled in the course. Students are not permitted to record sessions themselves without explicit and written permission from the course instructor. If students participate in separate video sessions with other students, they must receive explicit permission from all students involved in the session if they wish to record. Posting of videos, or links to videos, on social media or other websites is strictly prohibited.

Academic Integrity

In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. For more information, check the website for the [Office of Academic Integrity]().

Discipline

A student is expected to know what constitutes academic integrity, to avoid committing academic offence, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course instructor, academic advisor, or the undergraduate associate dean. For information on categories of offences and types of penalties, students should refer to [Policy 71, Student Discipline](). For a list of penalties, check [Guidelines for Assessment of Penalties]().

- NOTE: Students who plagiarize or cheat on an assignment will typically receive a 0 on the affected course assignments and a further 5 marks off the final course grade, and will be placed on probation; students who impersonate others, distribute confidential academic materials, or receive and use such materials, will typically receive a 0 on the affected course assignment and suspension. Penalties become more severe after the first offence and can eventually lead to expulsion.

Respectful Behavior

Policy 33, Ethical Behavior, addresses expectations for all members of the university, including faculty, staff, and students. The general principle of Policy 33 is that "each member of the University endeavor to contribute to the existence of a just and supportive community based on

equality and respect for individual differences." Disrespectful or offensive behavior will not be tolerated. Policy 33 specifically prohibits "a poisoned environment (or one that is intimidating, hostile, or offensive)." For more information about what constitutes discrimination, harassment, or a poisoned environment, see [Policy 33, Ethical Behavior](#).

Also, note that Policy 71, Student Discipline, covers both academic and non-academic offenses, such as disrupting other students' learning. In particular, Policy 71 prohibits "disruptive, dangerous, aggressive or threatening behavior, including by electronic means."

I am committed to creating a safe, respectful, and supportive learning environment. If you have been the target of hostile or disrespectful behavior, or you think you have witnessed another student engaging in such behavior towards other students in class, please **email me immediately**.

Grievance

A student who believes that a decision affecting some aspect of their university life has been unfair or unreasonable may have grounds for initiating a grievance. See [Policy 70, Student Petitions and Grievances, Section 4](#) for details. When in doubt, contact your Undergraduate Advisor who will provide further assistance.

Appeals

A decision made or penalty imposed under Policy 70, Student Petitions and Grievances (other than a petition) or Policy 71, Student Discipline may be appealed if there is a ground. A student who believes they have a ground for an appeal should refer to [Policy 72, Student Appeals](#).

Possible Course Schedule: Topics, Readings, and Assignments

Day	Date	Topics/Activities	Readings	Assignments
Mon	Jan 11	Course overview/planning		
Thurs	Jan 14	Discussion of course design		Learn posts
Mon	Jan 18	What is interdisciplinarity?	Repko; Nissani	
Thurs	Jan 21	What is transdisciplinarity?	Leavy, chap. 1	(Form groups)
Mon	Jan 25	The Science of Team Science	Hall et al.	
Thurs	Jan 28	Disciplinarity diversity in teams	O'Rourke et al.	
Mon	Feb 1	Making collaboration work	Epstein?	
Thurs	Feb 4	Expertise in research integration	Bammer?	
Mon	Feb 8	Choice of topics	I2I Blog posts?	
Thurs	Feb 11	*Student-led teaching activity (A)*	*TBD*	
		<< Reading Week Break >>		
Mon	Feb 22	*Student-led teaching activity (B)*	*TBD*	
Thurs	Feb 25	*Student-led teaching activity (C)*	*TBD*	*Module due (A)*
Mon	Mar 1	Barriers to interdisciplinarity	Siedlok & Hibbert	*Module due (B)*
Thurs	Mar 4	Toolbox Project	O'Rourke & Crowley	*Module due (C)*
Mon	Mar 8	Psychological safety in teams		(Form groups)
Thurs	Mar 11	Psychological safety in teams		
Mon	Mar 15	*Break*		
Thurs	Mar 18	Discuss creative group projects		Proposals due
Mon	Mar 22	Diversity in teams		
Thurs	Mar 25	Diversity in teams		
Mon	Mar 29	TBD		
Thurs	Apr 1	Feedback on draft projects?		
Mon	Apr 5	Discuss portfolios?		
Thurs	Apr 8	Present deliverables		**Final content due**
Mon	Apr 12	Wrap up		**Portfolio due 4/19**

IMPORTANT NOTE REGARDING THIS (DRAFT) SYLLABUS:

This course will be co-designed by the instructor and the students taking this class. Thus, most of the course content, assignments, and grading rubric are subject to change.

- During the first week of term, we will discuss the goals of the course, both in terms of the instructor's own aims and the students' individual objectives and interests.
- Based on those goals, together we will discuss and create/modify the assignments for the course (most of which will likely be collaborative and which will draw from different disciplinary norms and perspectives, given the topic of the course), as well as possible content that we might add.
- (Note that I've already included some suggestion for course content and assignments, above, based on what we did in a previous offering of the course.)
- We will then finalize the syllabus so that we have an agreed-upon set of expectations for the course.
- We will also discuss if and how changes may be made to the nature of assignments, the due dates, and grading criteria/weights.
- However, as the course instructor, I reserve the right to make all final decisions based on what I deem to be best for the course as a whole (e.g., I will work to make sure that the workload is appropriate), based on my observations, teaching experience, and the feedback I receive from the students enrolled in this course.