AB

EDUC 520: Interdisciplinary Learning
Fall 2020 (Online)

Course Coordinator: Laurie Tuck			
Section	**Instructor**	**Zoom Time**	**Email**
01	Umit Boz	8:00-9:30	umit.boz@ucalgary.ca
02	Eugene Kowch	12:30-2:00	ekowch@ucalgary.ca
03	Elisa Vandenborn	8:00-9:30	elisa.vandenborn@ucalgary.ca
04	Doug Sewell	12:30-2:00	hdouglas.sewell@ucalgary.ca
05	Kim Lenters	8:00-9:30	kalenter@ucalgary.ca
06	Anthony Hampshire	8:00-9:30	aehampsh@ucalgary.ca
07	Barb Martin	12:30-2:00	bamartin@ucalgary.ca
08	Rose Bene	12:30-2:00	rebene@ucalgary.ca
09	Catherine Burwell	12:30-2:00	cburwell@ucalgary.ca
20	Gina Ko	4:30 – 6:00 pm	gko@ucalgary.ca
30	Ronna Mosher	6:00 – 7:30 pm	rhmosher@ucalgary.ca
32	Christi Harter	4:30 – 6:00 pm	christi.harter@ucalgary.ca
33	Liz McNeilly	6:00 – 7:30 pm	elizabeth.mcneilly@ucalgary.ca

Class Dates: September 8 – October 30, 2020

Zoom class meetings: **Sections 1-09 -** September 9, September 30, October 7, and October 28, 2020
Sections 20-33 – September 10, September 30, October 7, and October 28, 2020
*Please note all Zoom meetings are scheduled in Mountain Time.
What time is it in Calgary? See https://www.timeanddate.com/time/zone/canada/calgary

Last Day to Add/Drop/Swap: Due to the non-standard dates associated with this program, please check your Student Centre for the important dates pertaining to your section.

Pre-requisite: Due to the multiple pathways in the Bachelor of Education, please consult Undergraduate Programs in Education for questions related to pre-requisite courses.

Office Hours: By appointment only

Note: Students are required to use a University of Calgary (@ucalgary.ca) email address for all correspondence.

COURSE DESCRIPTION:
This course will consider what it means for teachers and students to learn to look across disciplines, and to understand knowledge differently as a result of doing so. Interdisciplinary learning generally refers to the combining of two or more disciplines into one activity or study. It involves creating something or solving something that is too complex or challenging to be answered by one discipline alone. The overall intent of this seminar is to build students' orientation and capacities with respect to interdisciplinary knowing and curricular practice, collaborative teaching, and pedagogic excellence in teaching and learning. Particular attention will be paid to how teachers (and/or teams of teachers) have the potential to integrate ideas and to connect learning and knowledge between or among subject areas. It also provides an additional opportunity for future teachers to attend to complex forms of learning and understanding, and to explore how teachers understand their agency and leadership roles.

Three primary emphases will form the basis of this course:
1. Increased conceptual understanding and an educative rationale for interdisciplinary learning;

2. Demonstration of examples of interdisciplinary learning in schools and society;
3. Design of an authentic interdisciplinary study.

LEARNER OUTCOMES:

Students will be knowledgeable about:

- Contemporary conceptualizations of interdisciplinary learning as presented in the research literature;
- Similarities and differences among cross/multi-disciplinary, interdisciplinary, transdisciplinary approaches to learning;
- Possibilities and practices with interdisciplinary learning in schools;
- Rationales for building interdisciplinary learning into teaching practices;
- The design and showcasing of an interdisciplinary study; and
- Critical and collaborative reflection and evaluation of interdisciplinary projects.

COURSE DESIGN AND DELIVERY:

This course is based on research-informed ideas of teaching as a scholarship requiring teachers to take initiative to keep informed about current literature and consider the influences on designing learning. It is also based on the premise that teachers need to participate in learning communities to continually advance personal learning and the learning of colleagues. In this course, you are expected to participate in a classroom-based and/or an online learning community to extend understanding about interdisciplinary learning in the company of your peers.

You are expected to engage fully in the online knowledge building community to demonstrate you have reviewed the assigned readings, reflected critically on what you have read, and that you are engaging with peers in collaborative and supportive dialogue. You are expected to demonstrate your understanding of interdisciplinary learning and its relevance to education throughout the course as well as make contributions to the collective professional capacities and expertise of your peers while co-designing an interdisciplinary study.

You will be provided with class time to support your design of an interdisciplinary study for students and to engage in ongoing feedback loops. Additional time collaborating and communicating with your LT2 and LT3 team outside of scheduled classes will also be necessary.

PROGRAM CONNECTIONS:

In addition to building understanding of complex and interdisciplinary forms of teaching and learning, this course provides students an opportunity to revisit and strengthen (through new applications) concepts and professional capacities developed earlier/concurrently in the BEd program. These program connections include:

- The development of disciplinary expertise (EDUC 460/535) as part of interdisciplinary work;
- The development of formative and summative assessments, including the use of authentic performance tasks and assessment criteria (EDUC 456);
- Approaches and strategies to draw on and advance multiple forms of literacy (EDUC 435), for teaching for diversity and social justice (EDUC 450), and for meeting individual student learning needs (EDUC 445);
- Indigenous epistemologies and ontologies (EDUC 530); and
- The meaningful incorporation of technology in learning experiences (EDUC 427)

The Interdisciplinary Learning course builds on the ideas of practical wisdom and teacher-as-designer (prevalent throughout the BEd program) as they shape both professional identities and instructional planning. It provides experiences students may carry forward into EDUC 546 Design-Based Thinking.

REQUIRED READINGS:

Additional readings may be incorporated by instructors as needed.

Alberta Education (n.d). *Programs of study*. Retrieved from https://www.alberta.ca/programs-of-study.aspx

Alberta Education (2013). *Learning and technology policy framework: Quick guide.* https://education.alberta.ca/media/1045/ltpf-quick-guide-web.pdf

Alberta Education. (2018). *Teaching quality standard*. Edmonton: Alberta Government. https://education.alberta.ca/media/3739620/standardsdoc-tqs-_fa-web-2018-01-17.pdf

Aoki, T. (2005). Teaching as indwelling between two curriculum worlds. In W. Pinar & R. Irwin (Eds.), *Curriculum in a new key: The collected works of Ted T. Aoki* (pp. 159-165). Mahwah, NJ: Lawrence Erlbaum.

U of C library links for *Curriculum in a New Key*:
https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/detail.action?docID=234228
***e-book license permits only six (6) simultaneous online users; a user may print to PDF up to 124 pages*

http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=119269&site=ehost-live&ebv=EB&ppid=pp_159
***e-book license permits only online user at a time; a user may print to PDF up to 60 pages*

Dambekalns, L. (2005). Earth view, Art view. Science Teacher, 72(1), 43-47.

U of C library link:
http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=sch&AN=15627948&site=ehost-live

Donald, D. (2009). Forts, curriculum, and Indigenous Métissage: Imagining decolonization of Aboriginal-Canadian relations in educational contexts. *First Nations Perspectives: The Journal of the Manitoba First Nations Education Resource Centre, 2*(1), 1-24. http://www.mfnerc.org/wp-content/uploads/2012/11/004_Donald.pdf

Education Scotland (2012, September). *CfE briefing 4: Interdisciplinary learning*. https://education.gov.scot/Documents/cfe-briefing-4.pdf

Friesen, S., Saar, C., Park, A., Marcotte, C., Hampshire, T., Martin, B., Brown, B., & Martin, J. (2015). *Focus on Inquiry*. [eBook] http://inquiry.galileo.org/

Galileo Educational Network (n.d.). *Classroom examples*. https://galileo.org/

Grumet, M. (2006). Where does the world go when schooling is about schooling? *Journal of Curriculum Theorizing, 22*(3), 47-54.

U of C library links:
http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=23934546&site=ehost-live

https://link.gale.com/apps/doc/A159508003/AONE?u=ucalgary&sid=AONE&xid=fd6123b8

Jacobsen, M., Lock, J., & Friesen, S. (2013). Strategies for Engagement: Knowledge building and intellectual engagement in participatory learning environments. *Education Canada Magazine.* https://www.edcan.ca/articles/strategies-for-engagement/

Masters, H., Daggett, K., Fonk, A., Geiser, A., Hund, J., Kohlbeck, K., Paterson, A., Smith, J., Zander, Z., & Zaspel, T., (2019). Too many rain showers! Second-grade students build water diversion structures to protect plants. *Science and Children, 57*(1), 36-43.

U of C library link:
https://link.gale.com/apps/doc/A594832298/EAIM?u=ucalgary&sid=EAIM&xid=d5ed15fb

OECD (2017), *Promising Practices in Supporting Success for Indigenous Students*, OECD Publishing, Paris. https://www-oecd-ilibrary-org.ezproxy.lib.ucalgary.ca/education/promising-practices-in-supporting-success-for-indigenous-students_9789264279421-en

Science Education Resource Center (SERC) (n.d.). Pedagogy in action: Why teach with an interdisciplinary approach? https://serc.carleton.edu/sp/library/interdisciplinary/why.html

Strober, M. (2009). *Interdisciplinarity: The four-wheeled drive approach to complex problems*. [Video] http://www.youtube.com/watch?v=Yd0QlFBuZxk

Wolkowicz, T. (2017). Concept-based arts integration: Lesson learned from an application in music and biology. *Music Educators Journal, 103(*4), 40-47. https://doi.org/10.1177/0027432117697004 https://journals-sagepub-com.ezproxy.lib.ucalgary.ca/doi/full/10.1177/0027432117697004

ADDITIONAL READINGS:

Brown, B., Hartwell, A., & Thomas, C. (2018). Interdisciplinary design team of pre-service and in-service teachers: Issues with collaboration. *The Canadian Journal of Action Research*, *19*(1). Retrieved from https://journals.nipissingu.ca/index.php/cjar/article/view/371

http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=131930339&site=ehost-live

Friesen, S. (2009). What did you do in school today? Teaching effectiveness: A framework and rubric. Canadian Education Association. Retrieved from https://www.edcan.ca/articles/what-did-you-do-in-school-today-teaching-effectiveness-a-framework-and-rubric/

Friesen, S., Jacobsen, M., Brown, B., & Alonso Yanez, G. (2015). Highly adaptive learning systems: Research in seven redesigned high schools in Alberta Final Report. Retrieved from http://abhsredesign.ca/wp-content/uploads/2016/05/High-School-Redesign-Research-2016.pdf (Findings & Discussion Section)

Moran, J. (2002). *Interdisciplinarity*. New York, NY: Routledge.

U of C library link: https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/detail.action?docID=166307

notosh (n.d.) the notosh lab. https://notosh.com/lab

RockyView School District (n.d.). RockyDocs. https://www.youtube.com/playlist?list=PLuhDFTEpRQYG-kCMbEakH1c-bDlOOtQuh

University of Calgary, Library – Education – Interdisciplinary Learning
http://libguides.ucalgary.ca/c.php?g=255411&p=1703455

***Over the term, readings found of interest to the class may be added by the instructor.**

APA ONLINE RESOURCE (AVAILABLE FREE OF CHARGE)
Basics of APA (Tutorial): https://apastyle.apa.org/6th-edition-resources/basics-tutorial
Updates for APA 7th edition https://apastyle.apa.org/instructional-aids/reference-guide.pdf
https://www.scribbr.com/apa-style/apa-seventh-edition-changes/

RESOURCES FROM THE U OF C LIBRARY:
Scholarly versus Non-Scholarly sources - http://136.159.25.22/Tutorials/ScholarlyVsNonScholarly/
Evalu Dambekalns, Lydia.The Science Teacher; Washington Vol. 72, Iss. 1, (Jan 2005): 43-47. ating Internet Resources - http://136.159.25.22/Tutorials/EvalInternetSources/

LEARNING TASKS OVERVIEW

LEARNING TASK (DUE DATE)	DESCRIPTION OF LEARNING TASK	PERCENT OF FINAL GRADE
Learning Task 1 Due Sept. 25 and Oct. 16	Understanding of Interdisciplinary Learning in a Knowledge-Building Community (individual task)	30%
Learning Task 2 Due Oct. 26	Designing an Interdisciplinary Study (small group task)	40%
Learning Task 3 Due Oct. 26	Presentation and Artefact (small group task)	30%

WEEKLY COURSE SCHEDULE:

Date	Topic	Readings and Tasks	Due Dates and Reminders
Week 1 Sept. 8-11	Introduction to course Contemporary conceptualizations of interdisciplinary learning Distinguishing among cross/multi/inter/trans disciplinary thinking and subjects	**Video:** Strober, M. (2009). *Interdisciplinarity: The four-wheeled drive approach to complex problems*. [Video] http://www.youtube.com/watch?v=Yd0QlFBuZxk **Readings:** Education Scotland (2012, September). CfE brief 4: Interdisciplinary learning. https://education.gov.scot/Documents/cfe-briefing-4.pdf	Consider the readings and guiding questions provided this week

		Questions to consider as you review the literature: What is your understanding of interdisciplinary learning? How might your prior experiences/skills contribute to contemporary conceptualizations of interdisciplinary learning designs?	
Week 2 Sept. 14-18	Formulating a rationale for designing interdisciplinary learning Interdisciplinary learning and possibilities of/for curriculum	**Readings:** Donald, D. (2009). Forts, curriculum, and Indigenous Métissage http://www.mfnerc.org/wp-content/uploads/2012/11/004_Donald.pdf SERC (n.d.) Why teach with an interdisciplinary approach? https://serc.carleton.edu/sp/library/interdisciplinary/why.html Grumet, M. (2006). Where does the world go when schooling is about schooling? https://link.gale.com/apps/doc/A159508003/AONE?u=ucalgary&sid=AONE&xid=fd6123b8 **Alberta Education: *Programs of Study*** Current programs of study https://www.alberta.ca/programs-of-study.aspx **Questions to consider as you review the literature:** What is your understanding of interdisciplinary learning? How might your prior experiences/skills contribute to contemporary conceptualizations of interdisciplinary learning designs? Where do you see possibilities for concept-based teaching and learning and interdisciplinary design in the Alberta Program of Studies?	Consider the readings and guiding questions provided this week Collaboratively generate ideas for interdisciplinary planning
Week 3 Sept. 21-25	What do models of interdisciplinary teaching and learning look like? Linking an idea to the curriculum, conceptual lens, generalizations, guiding/essential questions, planning and developing an interdisciplinary study.	**Readings:** Friesen, S. et al. (2015). *Focus on inquiry: E-book* (Chapter 2) http://inquiry.galileo.org/ One of: Dambekalns, L. (2005). Earth view, Art view. http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=15627948&site=ehost-live	Consider the readings and guiding questions provided this week. Teams continue forming and generating ideas for interdisciplinary concepts and

	How do designers of learning connect curriculum in an Interdisciplinary learning setting? Classroom examples and guiding questions re interdisciplinary learning	Masters et al (2019). Too many rain showers! http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=137504314&site=ehost-live Wolkowicz, T. (2017). Concept-based arts integration: Lesson learned from an application in music and biology. https://doi.org/10.1177/0027432117697004 Galileo Classroom Examples http://galileo.org **Guiding Questions for Learning Task 1 (Reflection 1):** Drawing on your understanding of interdisciplinary learning, what do you see as important conditions for designing and advancing interdisciplinary learning forward in the field? Why are we seeking interdisciplinarity in teaching and learning in Education? Why do students need opportunities to engage in interdisciplinary learning?	curriculum connections, **LT1 Reflection 1 due Sept. 25**
Week 4 Sept. 28- Oct. 2	How do we co-design authentic learning tasks and inquiry quests that will engage students? How do we sponsor participatory learning environments? Analyze and critically reflect upon interdisciplinary projects/studies	**Required:** Aoki, T. (2005). Teaching as indwelling between two curriculum worlds – Ch. 6 in https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/detail.action?docID=234228 or http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=119269&site=ehost-live&ebv=EB&ppid=pp_357 Jacobsen, M., Lock, J., & Friesen, S. (2013). Strategies for Engagement: Knowledge building and intellectual engagement in participatory learning environments. *Education Canada Magazine.* Retrieved from https://www.edcan.ca/articles/strategies-for-engagement/ See links in D2L under Content for examples of interdisciplinary projects/studies	Consider the examples and guiding questions provided this week. Teams finalize interdisciplinary concepts and curriculum connections.

		Questions to consider as you review examples of interdisciplinary projects/studies this week: How did the studies you analyzed represent ideas of interdisciplinary learning? How did the interplay of each discipline deepen the understanding of the others? How has analyzing interdisciplinary learning designs enhanced your understanding? **Recommended:** View other examples of interdisciplinary design thinking to help with planning • notosh learning, digital, design thinking https://notosh.com/lab RockyDocs https://www.youtube.com/playlist?list=PLuhDFTEpRQYG-kCMbEakH1c-bDlOOtQuh	
Week 5 Oct. 5-9	Design interdisciplinary studies and critically reflect on your understanding of how to meet the needs of all learners through interdisciplinary learning.	**Required:** Alberta Education (2018). Teaching quality standard https://education.alberta.ca/professional-practice-standards/teaching-quality-standard/everyone/teaching-quality-standard-document/ Alberta Education (n.d.) Supporting English language learners http://www.learnalberta.ca/content/eslapb/ OECD (2017). *Promising practices in supporting success for Indigenous students*. https://doi.org/10.1787/9789264279421-en (Chapter 1) Alberta Education (2013). *Learning and technology policy framework: Quick guide* https://education.alberta.ca/media/1045/ltpf-quick-guide-web.pdf (Policy Direction 1: Student-centred learning)	Teams develop plans for LT2 & LT3.
Week 6 Oct. 12-16 University closed on	Co-design and critically reflect on interdisciplinary planning and plans.	**Guiding Questions for Learning Task 1 (Reflection 2):** • How can the design of interdisciplinary study (and specifically your design work) support student-centered,	Teams draft LT2 & LT3 and engage in feedback loops. **LT1 Reflection 2 due Oct. 16**

Thanksgiving Mon. Oct. 12		personalized, authentic learning and help create academic and social success for all students? • What interdisciplinary learning strategies and supports can address students' strengths, existing understandings and experiences, learning needs, and areas for growth?	
Week 7 Oct. 19-23	Co-design and critically reflect on interdisciplinary planning and plans.	Students will be revising designs and engaging in peer feedback loops. Instructors will be offering feedback to teams as well.	Teams continue refining LT2 & finalize LT3.
Week 8 Oct. 26-30	Co-design and critically reflect on interdisciplinary planning and plans.	Students will finalize and share their interdisciplinary plans. Oct. 28 – Final Zoom Session – Each group will have an opportunity to discuss their project and shared understanding of interdisciplinary learning.	**LT2 and LT3 Interdisciplinary Study and Presentation/ Artefact due Oct. 26.**

Please note that changes to the schedule may occur to meet the emerging needs and dynamics of the participants in the course.

LEARNING TASKS AND ASSESSMENT

There are three (3) required Learning Tasks for this course.

1. **LEARNING TASK 1: Understanding of Interdisciplinary Learning in a Knowledge-Building Community (30%) - DUE: Sept. 25 and Oct. 16, 2020**

In this learning task, you will have opportunities to demonstrate scholarly and professional thinking about the theoretical principles that underpin interdisciplinary thinking and its role in education. You will also have opportunities to reflect upon the scholarship and practicalities of design decisions that contribute to interdisciplinary teaching and learning on behalf of student success.

The instructor will organize students into studio groups (~3-4 members) for online discussions. Please check the weekly schedule for assigned readings. Studio group members will individually respond to the class readings (and other resources and experiences), and provide original discussion posts that generously and critically respond to the readings and consider their implications and possibilities for K-12 teaching and learning.

Students will then respond to the ideas posted by their studio group members (at least two peers each week), building and extending upon their ideas and dialoguing about key questions/ideas. Students are expected to post original responses to the readings/topic no later than the end of the week as outlined in the weekly schedule (posted in D2L). The timeline for responses to peers will be communicated by the instructor.

Twice during the term, on Sept 25th and Oct 16th students will provide a reflective response to the instructor using the Dropbox in D2L.

The first submission will provide both students and instructors with **formative assessment information and feedback** about students' learning in relation to the topic of interdisciplinary learning. The second submission offers an opportunity to extend and deepen those ideas, and to connect them to specific teaching and learning designs. The **summative evaluation** of this assignment will follow the submission of the second reflection on October 16 and will be based on the accumulated evidence of both reflections.

Reflection 1 – due Sept. 25 – focuses on your understanding of the idea of interdisciplinarity and its role in educational environments.

There are loose distinctions in the literature among the terms multidisciplinarity, cross-disciplinarity, interdisciplinarity, and transdisciplinarity. The adjective "interdisciplinary" is most often used in educational circles when researchers and professionals from two or more disciplines pool their approaches and modify them so that they are better suited to the problem at hand and the learning it requires. The course readings provide further information and distinction among the terms as a means to develop understanding and define interdisciplinary learning. Class activities and K-12 examples of interdisciplinary learning will further explore the concepts and their practical possibilities and challenges.

Guiding questions for Reflection 1

- Drawing on your understanding of interdisciplinary learning, what do you see as important conditions for designing and advancing interdisciplinary learning forward in the field?
- Why are we seeking interdisciplinarity in teaching and learning in Education?
- Why do students need opportunities to engage in interdisciplinary learning?

Reflection 2 – due Oct. 16 – focuses on your understanding of how design decisions within interdisciplinary learning can create opportunities for success for all students.

As you move from looking at and learning from classroom examples of interdisciplinary learning to taking on the role of designer of an interdisciplinary study, it becomes increasingly important to critically reflect on the ways in which design decisions can fulfill the potential of interdisciplinary learning and welcome and respond to student diversity in contemporary classrooms.

Guiding Questions for Reflection 2

- How can the design of interdisciplinary study (and specifically your design work) support student-centered, personalized, authentic learning and help create academic and social success for all students?
- What interdisciplinary learning strategies and supports can address students' strengths, existing understandings and experiences, learning needs, and areas for growth?

Format: For each reflection, students may choose the format that best allows them to respond to the guiding questions and provide evidence of their thinking and understanding.

Option 1: Students may provide a curated collection of their Discussion Board contributions (original post, replies to a studio group member, or a snippet of back and/or forth dialogue) to demonstrate evidence of their thinking in response to the guiding questions. New thoughts or insights may also be added. Instructors will provide a Word document/template into which students can place their responses to the guiding questions. The Word document will then be submitted to the D2L Dropbox by Sept. 25 and/or Oct. 16.

Option 2: Students may create a separate, synthesized reflection. The reflections should be succinct: approximately 400-600 words or brief in length when using another media format (i.e. podcast, video, interview, etc.).

A critical understanding of both theory and practice related to interdisciplinary learning knowledge must be demonstrated within the submissions. In all submissions, use scholarly and professional writing/dialogue; include accurate citations of work such as articles, on-line resources, etc. and format your references following American Psychological Association (APA), 7th edition, style guidelines. Note: references are not included in the word count.

Use the criteria for assessment for LT1 to help guide your reflections. Instructors may ask you to provide a self-assessment in relation to the criteria in the rubric. Instructors may review the self-assessment provided by the student to provide formative feedback during the course. Instructors may also assess the learning task by drawing on anecdotal notes or other evidence of learning gathered during online interactions.

CRITERIA FOR ASSESSMENT OF LEARNING TASK 1

Criteria	Unsatisfactory Fails to meet requirements (C- or lower)	Satisfactory Meets Some Requirements (C to B-)	Good Meets all Requirements (B to B+)	Excellent Meets all and Exceeds Some Requirements (A- to A)
Understanding of Contemporary Conceptualizations of Interdisciplinary Learning	Demonstrates limited or misunderstandings of the features and conditions of interdisciplinary learning; little evidence of having engaged with the course material to understand interdisciplinary learning.	Demonstrates some understanding of the features and conditions of interdisciplinary learning; some evidence of having engaged with course material to understand interdisciplinary learning.	Demonstrates sufficient understanding of the features and conditions of interdisciplinary; evidence of having engaged with course material to understand interdisciplinary learning.	Demonstrates rich/thoughtful understanding of the features and conditions of interdisciplinary learning through; evidence of having critically engaged with course material to understand interdisciplinary learning.
Rationale for Designing a Dynamic Interdisciplinary Learning Environment	Formulates a rationale with no or limited ideas and arguments; offers limited identification of relevant problems and possibilities for dynamic interdisciplinary learning environments.	Formulates a rationale by putting forward some ideas and arguments; identifies some problems and possibilities for dynamic interdisciplinary learning environments.	Formulates a rationale by putting forward ideas and arguments; identifies relevant problems and possibilities for dynamic interdisciplinary learning environments.	Formulates a rationale by putting forward critical ideas and arguments; clearly identifies relevant problems and possibilities for dynamic interdisciplinary learning environments.
Critical Reflection on Design Decisions	Uses exposure to interdisciplinary studies and initial design thinking to provide a general consideration of enacting the strengths, and limitations of interdisciplinary learning. References non-authoritative sources.	Uses analysis of interdisciplinary studies, initial design thinking, and relevant authoritative sources to provide examples of the design decisions that enact strengths and minimize limitations of interdisciplinary learning.	Uses analysis of interdisciplinary studies, initial design thinking, and relevant authoritative sources to formulate reasoned judgments about the design decisions that enact strengths and minimize limitations of interdisciplinary learning.	Uses analysis of interdisciplinary studies, initial design thinking, relevant authoritative sources, and different viewpoints to formulate critical and reasoned judgments about the design decisions that enact strengths and minimize limitations of interdisciplinary learning.

2. LEARNING TASK 2: Designing an Interdisciplinary Study (40%) – DUE: Oct. 26, 2020 as a link to an online site or collaborative work space; post in D2L Discussion Forum

You are beginning your teaching careers in a time of international, national, provincial, and local educational innovation and redefinition. Thus, you are entering your career at a time where you will have a role in evolving teaching and learning practices and will experience the tensions that arise during times of questioning and change. This learning task invites you to work with peers to explore the possibilities, and wrestle with the tensions, of working as part of an interdisciplinary teaching team. This will provide you with an opportunity to conceptualize teaching and learning as a collaborative interdisciplinary practice, focused on real-world problems and/or issues that are salient and relevant to current and future learners.

The focus of this assignment is to co-design, in a group of 3-5 people, an interdisciplinary study for students in a K-12 setting. Interdisciplinary learning refers to learning designs where several disciplines and disciplinary experts are involved. Teaching is a scholarship and requires teachers to work in collaboration with others to develop instructional plans with rich learning designs (Friesen, 2009). As you design robust, interdisciplinary learning, it is important to provide/receive feedback from peers and the instructor. The intent of Learning Task # 2 is to engage in a collaborative group to design an interdisciplinary study based upon a "wicked" (ill-defined) or real-world problem or issue that draws upon a series of multiple disciplinary ways of knowing and questioning knowledge. This inquiry needs to draw upon relevant Alberta Programs of Study and may include supporting details, such as strategies for establishing inclusive learning environments, considerations for cultural and linguistic backgrounds, and providing learning experiences and using resources that accurately reflect the strength and diversity of First Nations, Métis and Inuit students and ways of knowing.

In consultation with the instructor, teams will prepare a plan for the collaborative assignment outlining the roles and responsibilities for each team member. Professional standards for working in teams and providing consistent and quality contributions is necessary to meet or exceed requirements for this collaborative interdisciplinary project. Note: Teams are asked to consult with the instructor to seek additional supports for team management or for clarifying individual roles/contributions to the project.

Format: The design for an interdisciplinary study will be submitted as: online web site or other digital collaborative work space. APA style (7th ed.) should be used for all in-text citations and a reference list.

Formative Assessment: Throughout the design phases, all class members will be expected to contribute to the whole class learning community by providing critical (as in constructive) peer feedback and to incorporate feedback from others into their own work. You will be encouraged to use the criteria for the learning task to guide feedback and questions provided to peers. It is expected you will demonstrate an openness to receiving/providing peer review feedback and show how the feedback was incorporated to improve the work. The instructor will organize how the formative feedback loops will be organized.

Summative Assessment: The learning task will be assessed as a team assignment. However, the instructor will assess each student individually if there are any changes to the team plan or uncertainties about individual roles and responsibilities during the course and up to and including the last day of classes. The grading rubric draws on the extensive body of literature informing the principles of the Teaching Effectiveness Framework (Friesen, 2009), and discipline-based inquiry studies (Friesen at al., 2015). The rubric will be used for peer feedback loops and instructor reviews of draft work and final assessment of this assignment.

Post the interdisciplinary learning presentation or the link to the presentation (LT#3) and the link to the unit plan site (LT#2) in the discussion forum by Oct. 26, 2020.

CRITERIA FOR ASSESSMENT OF LEARNING TASK 2

Criteria	Unsatisfactory Fails to meet requirements (C- or lower)	Satisfactory Meets Some Requirements (C to B-)	Good Meets all Requirements (B to B+)	Excellent Meets all and Exceeds Some Requirements (A- to A)
Interdisciplinarity	Demonstrates limited understanding or misunderstandings how students learn, disciplinary concepts and curricular outcomes in interdisciplinary designs. Provides irrelevant learning goals or links to Programs of Study/directions; demonstrates limited understanding of interdisciplinary learning; neglects to cite relevant sources.	Demonstrates general or surface understanding of how students learn, disciplinary core concepts and curricular outcomes in interdisciplinary designs. Provides limited relevant learning goals and links to Programs of Study/directions; demonstrates general or surface understanding of interdisciplinary learning; cites some relevant sources.	Demonstrates sufficient understanding of how students learn, disciplinary core concepts and curricular outcomes in interdisciplinary designs. Provides some relevant learning goals and links to Programs of Study/directions; demonstrates sufficient understanding of interdisciplinary learning; cites relevant sources.	Demonstrates exceptional understanding of how students learn, disciplinary core concepts and connections, and curricular outcomes in interdisciplinary designs. Provides relevant learning goals and accurately reflects links to Programs of Study/directions; clearly demonstrates proficient and deep understanding of interdisciplinary learning; cites draws upon relevant sources.
Authenticity	The problem/issue/concept used to frame the design of the learner inquiry is vague and/or poorly articulated. The work designed for students to undertake primarily requires them to acquire and recall facts and would not be recognizable as meaningful to those working within the discipline(s).	The problem/issue/concept is contrived and/or is too complex to frame the design of the learner inquiry. The work designed for students to undertake has a tangential connection to the world outside of the classroom and may not be recognizable as meaningful to those working within the discipline(s).	The problem/issue/concept is which frames the design of the learner inquiry is clear and connected to student experiences. The work designed for students to undertake requires them to engage in collaboration with each other and with discipline experts around matters of interest to those working within the disciplines.	The problem/issue/concept which frames the design of the learner inquiry is clear and connected to student experiences and community concerns. The work designed for students to undertake requires them to engage in productive collaboration with each other and with discipline experts around matters of interest and concern to those working within the disciplines.

Assessment	Assessment plans are not included or are confusing in terms of how formative and summative assessment are woven into the learning design; unclear alignment with learning outcomes; unclear opportunities for students to reflect upon and improve their learning.	Assessment plans include vague plans for how formative and summative assessments are woven into the learning design; shows some alignment with learning outcomes; provides limited opportunities for students to reflect upon and improve their learning.	Assessment plans include some detail about how formative and summative assessments are woven into the learning design; aligns with learning outcomes; some opportunities for students to reflect upon and improve their learning.	Assessment plans include comprehensive information about how formative and summative assessments are integral to the learning and woven into the learning design; clearly aligns with learning outcomes; frequent and meaningful opportunities and a variety of methods for students demonstrate learning and to reflect upon and improve their learning.
	The design includes few opportunities for teachers and students to work together to gather formative assessment data; thinking is not made visible; unclear how formative assessment will inform instructional decisions or improve students learning; no opportunities to contribute to the learning of their peers.	The design includes limited opportunities for teachers and students to work together to gather formative assessment data; limited in making thinking visible; informing instructional decision and for improving student learning; limited opportunities to contribute to the learning of peers.	The design includes some formative assessment opportunities for teachers and students to work together to gather formative assessment data; makes some thinking visible; informs some instructional decisions and can improve student learning; provides opportunities to contribute to the learning of peers.	The design includes a range of formative assessment opportunities for teachers and students to work together and gather a variety of formative assessment data; clearly makes thinking visible; informs instructional decisions and can clearly improve student learning; provides frequent and meaningful opportunities to contribute to the learning of their peers.
	The design includes unclear sources of summative assessment that would provide an accurate picture of student learning and competencies.	The design includes limited sources of summative assessment data that would provide an accurate picture of student learning and competencies.	The design includes some criteria and some sources for summative assessment that would provide an accurate picture of student learning and competencies.	The design includes clear criteria and sources for summative assessment that support the use of reasoned judgements and would provide an accurate, comprehensive, defensible picture of student learning and competencies.

Design	The work designed for students does not conform to disciplined ways of knowing and working; the work is not engaging and it is unclear how the work will promote thoughtful habits of mind, innovation and creativity.	The work designed for students minimally conforms to disciplined ways of knowing and working; the work may not be engaging and may not promote thoughtful habits of mind, innovation and creativity.	The work designed for students somewhat conforms to disciplined ways of knowing and working; the work is engaging and promotes thoughtful habits of mind, innovation and creativity.	The work designed for students clearly conforms to and fosters disciplined ways of knowing and working; the work is intellectually engaging and clearly fosters strong habits of mind, innovation and creativity.
	The design does not involve student collaboration or interaction in ways that strengthen collective understanding and knowledge building.	The design has limited opportunity for student collaboration and interaction that promotes collective understanding and knowledge building.	The design has some opportunity for student collaboration and interaction that promotes collective understanding and knowledge building.	The design clearly has opportunity for meaningful student collaboration and interaction that promotes improved collective understanding and collective knowledge building.
	The design includes unclear plans for the learning context and to meet diverse learner needs.	The design incorporates few plans/resources for the learning context and to meet diverse learner needs.	The design incorporates plans/resources that consider the learning context and meet diverse learner needs.	The design incorporates a range of plans/resources that consider the unique affordances and constraints of the learning context and are thoughtfully chosen to meet various diverse learner needs.
	The design includes digital technologies in ways that are not appropriate to the discipline(s) and the world beyond the school; add no value to student learning.	The design includes digital technologies in ways that may not be used in the discipline(s) and the world beyond the school; add limited value to student learning.	The design includes digital technologies in ways that are appropriate to their use in the discipline(s) and the world beyond the school and add value to student learning.	The design includes digital technologies in ways that mirror their use in the discipline(s) and the world beyond the school and are intentionally used to extend, expand and deepen student learning.

Coherence & Scholarly Writing/ APA Format	The organization and scope and sequence of the learning design are incomplete and/or has confusing linkages between the elements in the plan. Writing requires significant editing to achieve clarity and adhere to writing conventions (spelling/grammar). APA style for in-text citations and references requires significant editing for accuracy and to meet APA standards.	The organization and scope and sequence of the learning design are simplistic and/or has difficult to follow linkages in some sections of the plan. Writing requires editing to achieve clarity and adhere to writing conventions (spelling/grammar). APA style is used accurately for some in-text citations and references and requires editing to meet APA standards.	The organization and scope and sequence of the learning design are somewhat clear and linked to most elements of the plan. Writing is mostly in a scholarly format with minor edits needed in writing conventions (spelling/grammar). APA style is used for most in-text citations and references and requires minor editing to meet APA standards.	The organization and scope and sequence of the learning design are logical, coherent, and clearly linked to all elements of the plan. Writing is clear and consistent in using a scholarly format with little to no edits needed in writing conventions (spelling/grammar). APA style is accurately used for all in-text citations and references with little to no edits required for APA.

3. LEARNING TASK 3: Presentation and Artefact (30%) – DUE: Oct. 26, 2020

There are times in your professional career where you will engage the community outside of classroom settings. Very often, you and your colleagues will only have a few minutes to communicate what and how students will be learning, and/or research information to community members. In these settings, connections are often made among community members/professionals that lead to the development of learning networks. This assignment helps you strengthen your professional capacity as teachers through the sharing of your projects with others in a public forum.

Building upon your team interdisciplinary project designed in Learning Task 2, your group will choose how to showcase your work so that interested parties can asynchronously engage with your presentation. You may choose to create a video, a screen capture walk-through of your website, or another media format you select in consultation with your instructor. Your presentation should provide clear information about the interdisciplinarity of the planned study and its scope and sequence. It should clearly identify the study's key ideas (i.e. literature-informed rationale, concept, authenticity, learning outcomes, interdisciplinary connections/approach, assessments); and provide the audience with a clear sample of the artefact you developed during the design of the study.

Representing the design of a complex, team-based interdisciplinary study is an art. This final assignment will be a culmination of your foundational understanding developed throughout Learning Task 1 and the interdisciplinary study in Learning Task 2.

The interdisciplinary learning presentation should include:

1. Presentation: A collaboratively created media presentation that explains the designed study and the important decisions it represents on behalf of interdisciplinary learning and planning for student success.
2. Artefact: Something students or teachers might create as part of undertaking this work in a classroom setting (e.g. an example of work that students might produce or a communication to parents or administrators or community members garnering their support or contribution for the work – please consult with your instructor to identify an artefact during your design process).

Formative Assessment: Throughout the design and development phases of the presentation and artefact, all members will be expected to contribute to the whole class learning community by providing critical (as in constructive) peer feedback and incorporate feedback into one's own work. You will be encouraged to use the criteria for the learning task to guide feedback and questions provided to peers. It is expected you will demonstrate an openness to receiving/providing peer review feedback and show how the feedback was incorporated to improve the work. The instructor will organize how the formative feedback loops will be organized online.

Summative Assessment: Learning Task 3 will be assessed as a team assignment. However, the instructor will assess each student individually if there are any changes to the team plan or uncertainties about individual roles and responsibilities during the course and up to and including the last day of classes. The grading rubric will be used for ongoing peer and instructor reviews of draft work and final assessment of this assignment.

Post the interdisciplinary learning presentation or the link to the presentation (LT#3) and the link to the unit plan site (LT#2) in the discussion forum by Oct. 26, 2020.

CRITERIA FOR ASSESSMENT OF LEARNING TASK 3

Criteria	Unsatisfactory Fails to meet requirements (C- or lower)	Satisfactory Meets Some Requirements (C to B-)	Good Meets all Requirements (B to B+)	Excellent Meets all and Exceeds Some Requirements (A- to A)
Presentation Design	Presentation is disorganized in communicating information and does not guide the viewer to attend to key features of the design.	Presentation offers the viewer some information and guidance in attending to key features of the design.	Presentation offers the viewer clear and important information about, and guidance in attending to, key features of the design.	Presentation uses the affordances of the chosen media to communicate insightfully about, and guide the viewer to attend to, key features of the design.
Interdisciplinarity	Presentation provides insufficient and/or confusing information about the interdisciplinarity of the study and its scope and sequence. It provides insufficient and/or confusing information about the study's key ideas (i.e. the literature-informed rationale, concept, authenticity, learning outcomes, interdisciplinary connections/approach, assessments).	Presentation provides insufficient information about the interdisciplinarity of the planned study and its scope and sequence. It provides partial information about the study's key ideas (i.e. literature-informed rationale, concept, authenticity, learning outcomes, interdisciplinary connections/approach, assessments).	Presentation provides some information about the interdisciplinarity of the planned study and its scope and sequence. It mostly identifies the study's key ideas (i.e. literature-informed rationale, concept, authenticity, learning outcomes, interdisciplinary connections/approach, assessments).	Presentation provides comprehensive information about the interdisciplinarity of the planned study and its scope and sequence. It clearly identifies the study's key ideas (i.e. literature-informed rationale, concept, authenticity, learning outcomes, interdisciplinary connections/approach, assessments).

Presentation Content	Presentation leaves audience with too many questions to adopt/adapt the interdisciplinary project in their own context or to share with others.	Presentation leaves audience with some questions in order to adopt/adapt the interdisciplinary project in their own context or to share with others.	Presentation provides audience with sufficient information to adopt/adapt the interdisciplinary project in their own context or to share with others.	Presentation provides audience with in-depth information to adopt/adapt the interdisciplinary project in their own context or to share with others.
Artefact	Artefact is unclear or does not provide a sample of a product that could be created by students or teachers during the study. The artefact does not demonstrate links to the outcomes or purposes of the study.	Artefact provides a limited or contrived sample of a product that could be created by students or teachers during the study. The artefact partially demonstrates links to the outcomes or purposes of the study.	Artefact provides a somewhat realistic sample of a product that could be created by students or teachers during the study. The artefact demonstrates links to the outcomes or purposes of the study.	Artefact provides a highly realistic and meaningful sample of a product that could be created by students or teachers during the study. The artefact clearly demonstrates links to, or advances, the outcomes or purposes of the study.
Scholarly Language	Work requires major revision to achieve clarity. Significant editing is needed with language conventions (vocabulary/grammar).	Work requires some revision to achieve clarity and adhere to language conventions (vocabulary/grammar).	Work is clear and scholarly with minor revisions needed to adhere to language conventions (vocabulary/grammar).	Work is clear, scholarly, and polished, with little to no revisions needed to adhere to language conventions (vocabulary/grammar).

THE EXPECTATION OF EXCELLENCE IN PROFESSIONAL WORK

Please review the Academic Calendar carefully. It describes the program and provides detailed schedules and important dates. It contains information on expectations for student work and professional conduct. In addition, procedures are described regarding concern about student performance in the program. Please pay especially careful attention to details and descriptions in the following topic areas:

- *The Importance of Attendance and Participation in Every Class*

As this is a professional program, experiences are designed with the expectation that all members will be fully involved in all classes and in all coursework experiences. As you are a member of a learning community your contribution is vital and highly valued, just as it will be when you take on the professional responsibilities of being a teacher. We expect that you will not be absent from class with the exception of documented instances of personal or family illness or for religious requirements.

- *Engagement in Class Discussion and Inquiry*

Another reason for the importance of attendance and participation in every class is that the course involves working with fellow students to share ideas and thinking. For example, each class you will work with a small group to engage fellow students in discussions on work being considered in class. You will also help other groups by providing ideas for scholarly inquiry in assignments. If you find that you are experiencing difficulties as a group collaborating, please inform the instructor.

EXPECTATIONS FOR WRITING

All written assignments (including, to a lesser extent, written exam responses) will be assessed at least partly on writing skills. Writing skills include not only surface correctness (grammar, punctuation, sentence structure, etc.) but also general clarity and organization. Sources used in research papers must be properly documented. If you need help with your writing, you may use the writing support services in the Learning Commons. For further information, please refer to the official online University of Calgary Calendar, Academic Regulations, E. Course Information, E.2: Writing Across the Curriculum: http://www.ucalgary.ca/pubs/calendar/current/e-2.html

LATE SUBMISSIONS

All late submissions of assignments must be discussed with the instructor **prior to the due date.** Students may be required to provide written documentation of extenuating circumstances (e.g. statutory declaration, doctor's note, note from the University of Calgary Wellness Centre, obituary notice). A deferral of up to 30 days may be granted at the discretion of the Associate Dean of Undergraduate Programs with accompanying written evidence.

ISSUES WITH GROUP TASKS

With respect to group work, if your group is having difficulty collaborating effectively, please contact the instructor immediately. If a group is unable to collaborate effectively or discuss course materials online in a timely manner, the instructor may re-assign members to different groups or assign individual work for completion.

GRADING

Grade	GPA Value	%	Description per U of C Calendar
A+	4.0	95-100	Outstanding
A	4.0	90-94	Excellent – Superior performance showing comprehensive understanding of the subject matter
A-	3.7	85-89	
B+	3.3	80-84	
B	3.0	75-79	Good - clearly above average performance with knowledge of subject matter generally complete
B-	2.7	70-74	
C+	2.3	65-69	
C	2.0	60-64	Satisfactory - basic understanding of the subject matter
C-	1.7	55-59	
D+	1.3	52-54	Minimal pass - Marginal performance
D	1.0	50-51	
F	0.0	49 and lower	Fail - Unsatisfactory performance

Students in the B.Ed. program must have an overall GPA of 2.5 in the semester to continue in the program without repeating courses.

Academic Accommodation
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. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/. 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 http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf.

Academic Misconduct
For information on academic misconduct and its consequences, please see the University of Calgary Calendar at http://www.ucalgary.ca/pubs/calendar/current/k.html

Attendance/ Prolonged Absence
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.

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.

https://www.ucalgary.ca/pubs/calendar/current/n-1.html

The Freedom of Information Protection of Privacy Act prevents instructors from placing assignments or examinations in a public place for pickup and prevents students from access to exams or assignments other than their own. Therefore, students and instructors may use one of the following options: return/collect assignments during class time or during instructors' office hours, students provide instructors with a self-addressed stamped envelope, or submit/return assignments as electronic files attached to private e-mail messages.

For additional resources including, but not limited to, those aimed at wellness and mental health, student success or to connect with the Student Ombuds Office, please visit https://www.ucalgary.ca/registrar/registration/course-outlines

Education Students Association (ESA) President for the academic year is Jonah Secreti, jonah.secreti@ucalgary.ca, esa@ucalgary.ca.

Werklund SU Representative is Naomi Shaw, educrep@su.ucalgary.ca.