University of Calgary Werklund School of Education Office of Undergraduate Programs in Education

EDUC 520 Interdisciplinary Learning Fall 2016

Term Dates: September 12 – November 4, 2016

Note: No classes on Thanksgiving - Monday, October 10th, 2016

Coordinator: Barb Brown, B. Ed., M. Ed., Ph.D.

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Sec#	Instructor	Contact Information	Meeting Time	Location
1	Marie Farrell	mtfarrel@ucalgary.ca	MWF 8:00-9:25	EDC 278
2	Wendy Freeman	wjvanput@ucalgary.ca	MWF 8:00-9:25	EDC 255
3	Jennifer MacDonald	jennifer.macdonald2@ucalgary.ca	MWF 8:00-9:25	EDC 287
4	Cathy Cochrane	ccochran@ucalgary.ca	MWF 9:30-10:55	EDC 278
5	Shirley Pepper	shirley.pepper2@ucalgary.ca	MWF 9:30-10:55	SS 010
6	Barb Brown	babrown@ucalgary.ca	MWF 9:30-10:55	EDC 370A
7	Cathy Cochrane	ccochran@ucalgary.ca	MWF 11:00-12:25	EDC 278
8	Tony Hampshire	aehampsh@ucalgary.ca	MWF 11:00-12:25	EDC 255
9	Barb Martin	bamartin@ucalgary.ca	MWF 11:00-12:25	EDC 287
10	Polly Knowlton Cockett	plknowlt@ucalgary.ca	MWF 2:00-3:25	EDC 278
11	Christy Thomas	cthoma@ucalgary.ca	MWF 2:00-3:25	EDC 255
12	Marie Farrell	mtfarrel@ucalgary.ca	MWF 2:00-3:25	EDC 287
13	Roswita Dressler	rahdress@ucalgary.ca	TBD	online

Instructor Office Hours: by appointment only

<u>Note:</u> 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. 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 forms of team-teaching) 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 an authentic interdisciplinary project.

LEARNING OUTCOMES:

In this course students will:

- Analyze and critique an interdisciplinary project/study found in schools;
- Examine contemporary conceptualizations of interdisciplinary learning as presented in the research literature;
- Distinguish among cross/multi-disciplinary, interdisciplinary, transdisciplinary and subjects;
- Design an interdisciplinary unit of study;
- Formulate a rationale for building interdisciplinary learning into their teaching practices;
- Critically and collaboratively reflect upon and evaluate interdisciplinary projects.

OPTIONAL TEXT - APA 6TH EDITION

American Psychological Association. (2010). Publication manual of the American Psychological Association (6th ed.). Washington, DC: Author.

APA Online resources include http://www.apastyle.org/ and http://www

REQUIRED AND RECOMMENDED READINGS:

Additional readings may be incorporated by instructors as needed.

Bernstein, J. H. (2015). Transdisciplinarity: A review of its origins, development, and current issues. *Journal of Research Practice*, 11(1). Retrieved from http://jrp.icaap.org/index.php/jrp/article/view/510/412

Campbell, C., & Henning, M.B. (2010). Planning, teaching and assessing elementary education interdisciplinary curriculum. *International Journal of Teaching and Learning in Higher Education*, 22(2), 179-86. Retrieved from http://eric.ed.gov/?id=EJ930151

- Carleton College (2010). Why teach with an interdisciplinary approach?

 Retrieved from http://serc.carleton.edu/econ/interdisciplinary/why.html
- Friesen, S. (2009). What did you do in school today? Teaching effectiveness: A framework and rubric. Canadian Education Association. Retrieved from http://www.cea-ace.ca/publication/what-did-you-do-school-today-teaching-effectiveness-framework-and-rubric
- Friesen, S., Saar, C., Park, A., Marcotte, C., Hampshire, T., Martin, B., Brown, B., & Martin, J. (2015). Focus on Inquiry. [eBook] Retrieved from http://inquiry.galileo.org/
- Jacobsen, M., Lock, J., & Friesen, S. (2013). Strategies for Engagement:
 Knowledge building and intellectual engagement in participatory
 learning environments. Education Canada Magazine. Retrieved from
 http://www.cea-ace.ca/education-canada/article/strategies-engagement
- Klein, J. T. (2005). Integrative learning and interdisciplinary studies. *Peer Review*, 7(4), 8-10. Retrieved from http://gallery.carnegiefoundation.org/ilp/uploads/Klein-Interdisciplinary_Studies.pdf
- Mackenzie, J. (2005). Essential questions. *The Question Mark*. Retrieved from http://questioning.org/mar05/essential.html
- Strober, M. H. (2010). Interdisciplinary conversations: Challenging habits of thought. Palo Alto, CA, USA: Stanford University Press. Retrieved from http://bit.ly/1hqcttA

SUPPLEMENTARY APA ONLINE RESOURCE (AVAILABLE FREE OF CHARGE)

Basics of APA Style (Tutorial): http://www.apastyle.org/learn/tutorials/basics-tutorial.aspx

SUPPLEMENTARY RESOURCES FROM THE U OF C LIBRARY:

Scholarly versus Non-Scholarly sources - http://136.159.25.22/Tutorials/ScholarlyVsNonScholarly/ Evaluating Internet Resources -

http://136.159.25.22/Tutorials/EvalInternetSources/

CHANGES TO SCHEDULE:

Please note that changes to the schedule may occur in response to student questions and conversations.

LEARNING TASKS AND ASSESSMENT

Learning Task Number	Description of Learning Task	Percent of final grade	Grouping for Task	Due Date
LT#1	Understanding Interdisciplinary Learning in a Community of Inquiry – written posts/responses Posts/Responses Due: Week 1, Week 2, Week 3 Self-Evaluation Due: Sept. 30th	30%	Individual	Sept. 30th
LT#2	Designing an Interdisciplinary Unit Plan – Online Site <u>OR</u> Report Team Evaluation Due – Oct. 28th Online Site or Report Due – Oct. 28th	40%	Group	Oct. 28th
LT#3	Interdisciplinary Unit Plan Showcase on Nov. 2nd Part I: Poster Due – Nov. 4th Part II: Handout Due – Nov. 4th Part III: Oral Presentation – Nov. 4th	30%	Group	Nov. 4th

WEEKLY COURSE SCHEDULE:

The following is an outline of the course topics and readings. In-class activities are at the discretion of the instructor and the schedule below may be adapted to meet the emerging needs and dynamics of the participants in the course.

Date	Topic	Readings and Tasks		Reminders
Week 1 Sept. 12-16	Examine contemporary conceptualizations of interdisciplinary learning as	Required: Strober, M. (2009). Interdisciplinarity: The four-wheeled drive approach to complex problems. [Video] Retrieved from	√	Studio Groups finalized on or before the end of the week.
	presented in the research literature.	http://www.youtube.com/watch?v=Yd0 QIFBuZxk	✓	LT#1 Post-1 due in the Studio forum on or
	Distinguish among cross/multi/inter/tra ns disciplinary thinking and	Friesen, S. et al. (2015). Focus on inquiry: Chapter 2 - The place of interdisicplinary. Retrieved from http://inquiry.galileo.org/ch2/interdiscipli		before the end of the week (individual posts).
	subjects.	nary/ Thomson Klein, J. (2005). Integrative learning and interdisciplinary studies. Peer Review, 7(4), 8-10. Retrieved from http://gallery.carnegiefoundation.org/ilp/uploads/Klein-Interdisciplinary_Studies.pdf	√	Provide peer responses to posts individually.
		Written Response Guiding Questions: What is your understanding of interdisciplinary learning? How might your prior experiences/skills contribute to contemporary conceptualizations of interdisciplinary learning designs?		

Week 2						
Sept.	19-23					

Examine
contemporary
conceptualizations
of interdisciplinary
learning as
presented in the
research literature.
What are some
definitions of
Interdisciplinarity?

Formulate a rationale for building interdisciplinary learning. Why are we moving toward interdisciplinarity in teaching and learning in Education?

Required:

University of Calgary, Library – Education – Interdisciplinary Learning http://libguides.ucalgary.ca/c.php?g=25
5411&p=1703455

Strober, M. H. (2010). Interdisciplinary conversations: Challenging habits of thought. Palo Alto, CA, USA: Stanford University Press. Retrieved from http://bit.ly/1hqcttA

<u>Note:</u> that you only need to read Chapter 2: The calls for more interdisciplinarity.

Carleton College (2010). Why teach with an interdisciplinary approach? Retrieved from

http://serc.carleton.edu/econ/interdiscip linary/why.html

Recommended

Bernstein, J. H. (2015). Transdisciplinarity: A review of its origins, development, and current issues. Journal of Research Practice, 11(1). Retrieved from http://jrp.icaap.org/index.php/jrp/article/view/510/412

Written Response Guiding Questions:

How has your understanding of designing interdisciplinary learning expanded as a result of the readings? What do you see as important conditions for co-designing and advancing conceptualizations of interdisciplinary learning forward in the field? Why are we moving toward interdisciplinarity in teaching and learning in Education?

- LT#1 Post-2 due in the Studio forum on or before the end of the week (individual posts).
- Provide peer responses to posts individually.

Week	3
Sept.	26-30

Analyze and critique interdisciplinary projects/study found in schools.

Critically reflect upon and evaluate interdisciplinary projects.

Required:

Integrating cross-curricular creativity into elementary electrical engineering education. [Video] Retrieved from http://www.youtube.com/watch?v=gH mkf q96yA&feature=share&list=PLU9THSr-OGHkYAvWE3rIJ02VJLd zdcJA

Review classroom examples of interdisciplinary designs and use LT#2 Rubric as lens for your analysis.

Alberta Education Documents (use to help select topic/inquiry) - https://education.alberta.ca/

Recommended:

Examples of interdisciplinary designs & units:

Galileo Classroom Examples http://galileo.org

Webquest.Org http://webquest.org/search/index.php

Centre for Innovation in Engineering and Science Education http://ciese.org/currichome.html

Interdisciplinary Units
http://www.edu.gov.mb.ca/k12/tech/imym/resources/units.html

Interdisciplinary Learning in Your Classroom Workshop http://www.thirteen.org/edonline/conce pt2class/interdisciplinary/index.html

Project Based Learning at High Tech High http://www.hightechhigh.org/projects/

Written Response Guiding Questions:

How has analyzing interdisciplinary learning designs enhanced your understanding? To what extent was the project you critiqued interdisciplinary and how did the interplay of each discipline deepen the understanding of the others? Through your analysis of a classroom example, what type of

- ✓ LT#1 Post-3 due in the Studio forum on or before the end of the week (individual posts).
- Provide peer responses to posts individually.
- ✓ Individually Submit LT#1 self-assessment using grading rubric for LT#1 in D2L dropbox on or before Oct.3.
- ✓ Groups select
 Unit Topic /
 Inquiry
 Question and
 declare by end
 of the week (as
 a team).

		questions provoked thinking about co- designing interdisciplinary learning experiences? How might the design you analyzed be improved in future iterations?		
Week 4 Oct.3 – Oct. 7	How do I design authentic learning tasks and inquiry quests that will engage students?	Required Friesen, S. et al. (2015). Focus on inquiry: Chapter 2 - Developing and Working with a Great Idea. Retrieved from: http://inquiry.galileo.org/ch2/developing -and-working-with-a-great-idea/	√	Groups discuss wicked problems and begin developing plans for LT#2 & LT#3 using the
	What do models of interdisciplinary teaching and learning look like?	Jacobsen, M., Lock, J., & Friesen, S. (2013). Strategies for Engagement: Knowledge building and intellectual engagement in participatory learning environments. Education Canada Magazine. Retrieved from http://www.cea-ace.ca/education-canada/article/strategies-engagement An Educational Journal Devoted to Questions and Questioning. Website by Jamie Mackenzie (See Essential Questions) http://questioning.org/mar05/essential.html Recommended: View other examples of interdisciplinary design thinking to help with planning:	✓	rubrics. Instructor reviews and approves plan. Instructor provides summative assessment for LT#1.
		notosh learning, digital, design thinking http://notosh.com/lab/		

Week 5 Oct. 11-14 Oct. 10th – Thanksgivin g Day (no classes)	Design and critically reflect on interdisciplinary unit of study. How do designers of learning connect curriculum in an Interdisciplinary learning setting? Meeting the needs of all learners.	Required: Friesen, S. et al. (2015).Focus on inquiry: Chapter 2 - Working with programs of study Retrieved from: http://inquiry.galileo.org/ch2/working- with-programs-of-study/ Alberta Education: Programs of Study. Retrieved from https://education.alberta.ca/teachers/p rogram/ Supporting English Language Learners http://www.learnalberta.ca/content/esl apb/ Alberta Regional Consortia: First Nations, Metis, Inuit http://learning.arpdc.ab.ca/ Learning and Technology Policy Framework Toolkit http://galileo.org/ltpf/	✓	Groups draft LT#2 and engage in peer feedback loops. Peers and instructor provide formative feedback.
Week 6 Oct 17 - 21	Design and critically reflect on interdisciplinary unit of study. Linking the idea to the curriculum, planning and developing a Unit of Study.	Recommended: Campbell, C., & Henning, M.B. (2010). Planning, teaching and assessing elementary education interdisciplinary curriculum. International Journal of Teaching and Learning in Higher Education, 22(2), 179-86. Retrieved from http://eric.ed.gov/?id=EJ930151 University of Calgary, Library – Research Posters http://libguides.ucalgary.ca/researchpos ters During this week students will be revising designs and engaging in peer feedback loops. Instructors will be offering feedback to groups as well.	✓	Groups draft LT#3 and engage in peer feedback loops. Peers and instructor provide formative feedback.

Week 7 Oct. 24 - 28	Design and critically reflect on interdisciplinary unit of study.	During this week students will continue refining designs and engaging in peer feedback loops. Instructors will be offering feedback to groups as well. Groups will have an opportunity to	✓	Groups continue refining LT#2 & LT #3.
	reflect on their work and complete a team evaluation.	✓	Complete a group evaluation using criteria from the grading rubric for LT#2.	
			✓	Peers and instructor continue providing formative feedback.
			✓	Submit Final LT#2 & Team Evaluation in dropbox on or before Oct. 28th.
Week 8 Oct. 31 – Nov. 4	Showcase & Class presentations LT#3 Critically reflect	Showcase scheduled for Nov 2 nd , 2016 Mac Hall LT#3 - Part I, II & III In-class/online presentation – Nov. 4 th	√	Group Presents LT#3 - Poster and Handout at Showcase on Nov. 2 nd .
	upon and evaluate interdisciplinary project.	LT#3 - Part I, II & III Teams will have an opportunity to reflect on their work and complete a group evaluation for LT#3.	✓	Group Presents LT#3 - Poster and Handout In-class/online on Nov. 4 th .
			✓	Complete a Group Evaluation for LT#3 using the grading rubric for LT#3.
			✓	Instructor provides summative assessment for LT#2.

Last Day of Classes	Submit Final Versions for LT#3 & Group Evaluation	LT#3 - Part I & Part II & Group Evaluation	✓	Group Submits LT#3 (Part I & Part II) & Group Evaluation in dropbox on or
			✓	before Nov. 4 th . Instructor provides
				assessment for LT#3 following week.

LEARNING TASKS AND ASSESSMENT

There are three (3) required learning tasks for this course.

LEARNING TASK #1 (30%)
UNDERSTANDING INTERDISCIPLINARY LEARNING IN A COMMUNITY OF INQUIRY WRITING
WRITTEN POSTS/RESPONSES – END OF WEEK 1, 2, & 3
SELF-ASSESSMENT DUE SEPT. 30TH

Description:

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 from two or more disciplines pool their approaches and modify them so that they are better suited to the problem at hand, including the case of the teamtaught course where students are required to understand a given subject in terms of multiple traditional disciplines. The required readings in the course provide further information and distinction among the terms as a means to develop understanding and define interdisciplinary learning.

Teaching is a scholarship requiring teachers to take initiative to keep informed about current literature and consider how this influences designing learning. Teachers also need to participate in learning communities for professional learning to continually advance personal learning and learning of colleagues (Friesen, 2009). In this learning task, students are invited to participate in classroom-based/online learning community to extend understanding about interdisciplinary learning in the company of their peers. The instructor will help organize students into studio groups (~4-5 members) for in-class/online discussions. The studio groups will remain the same for the duration of the course. Check the weekly schedule for assigned readings. The studio group members are expected to post a weekly synthesis of the ideas from the readings/sources and respond to peers (similar to blogging posts/responses). At

the end of week 3 students will each provide a self-assessment to the instructor using the dropbox in D2L.

Students are expected to engage fully in the in-class/online community of inquiry through original posts that clearly reflect 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 post your responses and demonstrate your understanding of interdisciplinary learning and its relevance to education no later than the end of the week as outlined in the weekly schedule and posted in D2L. Responses to peers can take place the same week (or as suggested by your instructor).

In this learning task, students will have opportunities to demonstrate deep levels of scholarly discourse and to deepen their mastery of interdisciplinary learning and the theoretical principles that underpin interdisciplinary thinking. It is also expected students will describe and critically analyze examples of interdisciplinary learning projects/studies used in schools or in society. Posts should clearly demonstrate that knowledge building, and evidence of putting new ideas and questions forward. Students are expected to be pro-active in finding and citing additional sources to enrich the discussion and increase idea diversity. It is expected students will respond to peers about the work they share, build and extend upon their ideas and dialogue with peers about their questions/ideas posted in relation to the readings.

In the first three weeks of the course, students will be engaging with assigned readings and viewing recommended sources as determined by the instructor. Each week will require students to provide a written and reflective response using the following guiding questions:

- WEEK 1 POST/RESPONSE (DUE END OF WEEK 1) ~300 TO 500 WORDS

 TOPIC: CONTEMPORARY CONCEPTUALIZATIONS OF INTERDISCIPLINARY LEARNING

 Guiding Questions: What is your understanding of interdisciplinary
 learning? How might your prior experiences/skills contribute to

 contemporary conceptualizations of interdisciplinary learning designs?
- WEEK 2 POST/RESPONSE (DUE END OF WEEK 2) ~300 TO 500 WORDS TOPIC: DESIGNING INTERDISCIPLINARY LEARNING

Guiding Questions: How has your understanding of designing interdisciplinary learning expanded as a result of the readings? What do you see as important conditions for co-designing and advancing conceptualizations of interdisciplinary learning forward in the field? Why

are we moving toward interdisciplinarity in teaching and learning in Education?

• WEEK 3 POST/RESPONSE (DUE END OF WEEK 3) ~300 TO 500 WORDS TOPIC: ANALYZING INTERDISCIPLINARY LEARNING

Guiding Question: How has analyzing interdisciplinary learning designs enhanced your understanding? To what extent was the project you critiqued interdisciplinary and how did the interplay of each discipline deepen the understanding of the others? Through your analysis of a classroom example, what type of questions provoked thinking about codesigning interdisciplinary learning experiences? How might the design you analyzed be improved in future iterations?

Format:

The weekly posts (first three weeks) should be approximately 300-500 words. The references provided at the end of the post are not included in the word count. A critical understanding of both theory and practice related to interdisciplinary learning knowledge must be proven and demonstrated within the posts and responses to peers. In all posts/responses include accurate citations of works (such as articles, on-line resources, etc.) and references referred to in the document following American Psychological Association (APA), 6th edition, style guidelines.

Use the grading rubric for LT#1 and criteria for assessment to help guide your weekly written posts/responses. At the end of Week 3 you will submit a self-evaluation using the grading rubric for LT#1 including evidence/excerpts from posts/responses. The self-assessment should include a copy of the rubric with highlights and ~ one-page document with evidence of meeting the criteria in the rubric (i.e. citing dates of posts or providing excerpts of responses provided to peers). Instructors will review the self-assessment provided by the student and will also assess this learning task using the grading rubric for learning task #1. The final assessment will be provided by the instructor based on the evidence of learning provided through scholarly sophistication of contributions, as well as a demonstration of actively engaging with others through timely responses to create an online community of ongoing, researchinformed dialogue.

GRADING RUBRIC LEARNING TASK #1 (30%)

Understanding Disciplinary Learning in a Community of Inquiry Self-Assessment Due Sept. 30^{TH}

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 interdisciplinary learning; little evidence of having engaged with the course material to understand interdisciplinary learning. Readings are not clearly summarized with limited analysis in posts/responses; does not advance the understanding of interdisciplinary learning for the group.	Demonstrates some understanding of interdisciplinary learning; some evidence of having engaged with course material to understand interdisciplinary learning. Readings are mostly summarized with some analysis in posts/responses; advances some understanding of interdisciplinary learning for the group.	Demonstrates sufficient understanding of interdisciplinary learning; evidence of having engaged with course material to understand interdisciplinary learning. Readings are analyzed and interpreted in posts/responses; advances understanding of interdisciplinary learning for the group.	Demonstrates evidence of deep understanding of interdisciplinary learning and provides thoughtful insights; exceptional evidence of having engaged with course material to understand interdisciplinary learning. Readings are critically analyzed and thoughtfully interpreted in posts/responses; clearly helps advance understanding of interdisciplinary learning for the group.

Formulate a	Formulates a	Formulates a	Formulates a	Formulates a
Rationale for Designing Interdisciplinary Learning through Idea Diversity/ Knowledge Building	rationale by putting forward no new ideas or limited ideas and arguments; limited identification of relevant or shared problems to create a dynamic learning environment. Demonstrates limited understanding or misunderstanding of topics; does not take a meaningful role in fostering idea diversity and a knowledge building community.	rationale by putting forward some ideas and arguments; identifies some problems to create a dynamic learning environment. Demonstrates understanding of many topics and provides some contributions to idea diversity and the knowledge building community.	rationale by putting forward ideas and arguments; identifies relevant problems and gaps in understanding to create a dynamic learning environment. Demonstrates sufficient understanding of all topics and contributes to idea diversity and the knowledge building community.	rationale by putting forward critical ideas and arguments; clearly identifies relevant problems and negotiates gaps in understanding to create a dynamic learning environment. Demonstrates deep and proficient understanding of all topics, and takes a meaningful role in fostering idea diversity and a knowledge building community.
Analysis of Interdisciplinary Learning Designs	Analyzes interdisciplinary designs and provides a simplistic or cursory analysis with references to non- authoritative sources.	Analyzes interdisciplinary designs and provides some analysis using some references to authoritative sources.	Analyzes interdisciplinary designs and formulates reasoned judgment for the analysis using relevant authoritative sources.	Analyzes interdisciplinary learning designs, thoroughly and critically. Formulates well-reasoned judgment using relevant authoritative sources and different viewpoints.
Scholarly Writing/ APA Format	Writing requires significant editing to achieve clarity and significant edits needed in writing conventions (spelling/grammar). APA style for in-text citations and references requires significant editing for accuracy and to meet APA standards.	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.	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.	Writing is clear and consistent in using a scholarly format with little to no edits needed in 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.

LEARNING TASK #2 INTERDISCIPLINARY UNIT OF STUDY (40%) DUE OCT. 28TH

You are beginning your careers in a time of system-wide international, national, provincial, and local educational innovation and change. Thus, you are entering your career at a time where you, at once, have a central role in evolving current practices into 21st Century practices of teaching and learning and will experience resultant tensions that naturally arise during times of significant change. As future educational leaders, Assignment 2 welcomes you individually and as an interdisciplinary group of educators - into this tension and provides you with an opportunity to re-conceptualize teaching and learning as a collaborative interdisciplinary practice, which is focused on real-world problems and/or issues that are salient and relevant to current and future learners not only specifically within the K-12 system, but also across educational sectors.

The focus of this assignment is to co-design an interdisciplinary learning design referring to learning designs where several disciplines and disciplinary experts (studio group members) are involved. Teaching is a scholarship and requires teachers to work in collaboration with others to develop units of study with rich learning designs (Friesen, 2009). As teachers design robust interdisciplinary learning designs, 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 unit plan based upon a clearly defined real-world problem or issue that draws upon a series of multiple disciplinary ways of knowing and questioning knowledge (NOTE: number of group members subject to change, depending upon the final class numbers). This inquiry needs to draw upon the Alberta Program of Studies and needs to reference one or more key concepts or directions from current Alberta Education documents (https://education.alberta.ca/) including attention to diverse learner needs(i.e. English Language Learners (ELL), develop a knowledge and understanding of, and respect for, the First Nations, Métis and Inuit) and integrating technology meaningfully to support learning outcomes.

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

Format:

The unit plan will be submitted as either:

- OPTION A: Online site/collaborative work space
- **OPTION B:** Unit Plan Report ~ 15-to 30-page Word document, in 12-point font, 1" margins, including a table of contents (students are encouraged to work in online collaborative spaces)

Use the criteria in the grading rubric for Learning Task #2 to help organize your Site or Unit Plan Report. APA style (version 6) should be used for all in-text citations and a reference list.

Formative Assessment: Throughout the development phases of the unit plan, 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. Students will be encouraged to use the criteria for the learning task to guide feedback and questions provided to peers. It is expected students 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 in-class/online and will also provide formative feedback.

Summative Assessment: The learning task will be assessed as a group 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. The grading rubric draws on the body of literature informing the principles of the Teaching Effectiveness Framework (Friesen, 2009), and the rubric for discipline-based and inter-disciplinary inquiry studies (galileo.org). The rubric will be used for peer feedback loops and instructor reviews of draft work and final assessment of this assignment.

Grading Rubric Learning Task #2 (40%) Unit Plan Due Oct. 28, 2016

Criteria	Unsatisfactory	Satisfactory	Good	Excellent
	Fails to meet	Meets Some	Meets all	Meets all and Exceeds
	requirements	Requirements	Requirements	Some Requirements
	(C- or lower)	(C to B-)	(B to B+)	(A- to A)

Interdisciplinary Design Overview & Rationale	Demonstrates limited understanding or misunderstandings how students learn, disciplinary concepts and curricular outcomes in interdisciplinary designs. Provides irrelevant learning goals or links to Program of Studie(s)/directions; demonstrates limited understanding of interdisciplinary learning;		Demonstrates sufficient understanding of how students learn, disciplinary core concepts and curricular outcomes in interdisciplinary designs. Provides some relevant learning goals and links to Program of Studies/directions; demonstrates sufficient understanding of	Demonstrates exceptional understanding of how students learn, disciplinary core concepts and connections, and curricular outcomes in interdisciplinary designs. Provides relevant learning goals and links to Program of Studies/directions; clearly demonstrates proficient and deep understanding of interdisciplinary learning;
Interdisc	neglects to cite relevant sources.	cites some relevant sources.	interdisciplinary learning; cites relevant sources.	cites draws upon relevant sources.
Authenticity	The problem/issue solving quest used to frame the design of the learner inquiry is vague and/or poorly articulated. The work designed for students to undertake merely requires them to acquire and recall facts and not recognizable as meaningful to those working within the discipline(s).	The problem/issue solving quest 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 is a real-world problem/issue solving quest which frames the design of the learner inquiry. The work designed for students to undertake requires them to engage in collaboration with each other and with discipline experts around matters that are central; recognized as meaningful to those working within the disciplines.	The problem/issue is a worthwhile, clearly stated real-world problem/issue solving quest which frames the design of the learner inquiry. The work designed for students to undertake requires them to engage in productive collaboration with each other and with discipline experts around matters that are of real concern and central; recognized as meaningful to those working within the disciplines.

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Assessment plans are not included or are included with confusing formative and summative assessment plans and how they are woven into the learning design; unclear alignment with learning outcomes; unclear opportunities for students 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 unclear sources of summative assessment that would provide an accurate picture of student learning and competencies.

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.

The design includes limited formative assessment 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 very limited sources of summative assessment data that would provide an accurate picture of student learning and competencies.

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.

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; opportunities to contribute to the learning of peers.

The design includes summative assessment that would provide an accurate picture of student learning and competencies.

Assessment plans include comprehensive formative and summative assessments integral to the learning and woven into the learning design; clearly aligns with learning outcomes; frequent and meaningful opportunities for students to reflect upon and improve their learning.

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; frequent and meaningful opportunities to contribute to the learning of their peers.

The design includes summative assessment that would provide an accurate, comprehensive, defensible picture of student learning and competencies.

Instructional Design Fosters Deep Understanding, Meets Diverse Learner Needs (i.e. ELL, Indigenous Outcomes) & Incorporates Digital Technologies

The work designed for students does not conforms 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 design does not involve students working in collaboration or interacting with others for strengthening collective understanding and knowledge building.

The design includes unclear plans for how to meet diverse learner needs.

Digital technologies are used in ways that are not appropriate to their use in the discipline(s) and the world beyond the school; used in ways that add no value to student learning.

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 design has limited opportunity for student collaboration and interaction that promotes collective understanding and knowledge building.

The design incorporates few plans/resources to meet diverse learner needs.

Digital technologies are used in ways that may not be used in the discipline(s) and the world beyond the school; add limited value to student learning.

The work designed for students conforms to disciplined ways of knowing and working; the work is engaging and promotes thoughtful habits of mind, innovation and creativity

The design has some opportunity for student collaboration and interaction that promotes collective understanding and knowledge building.

The design incorporates plans/resources to meet diverse learner needs.

Digital technologies used in ways that are appropriate to their use in the discipline(s) and the world beyond the school; used to add value to student learning.

The work designed for students to undertake fosters disciplined ways of knowing and working; the work is intellectually engaging and clearly fosters strong habits of mind, innovation and creativity.

The design clearly has opportunity for meaningful student collaboration and interaction that promotes improved collective understanding and collective knowledge building.

The design explicitly supports the learning experiences of all students by using a range of appropriate plans/resources deliberately chosen to meet various diverse learner needs.

Digital technologies purposefully used in ways that mirror their use in the discipline(s) and the world beyond the school; intentionally used to extend, expand and deepen student learning.

Coherence & Scholarly Writing/ APA Format	The organization and scope and sequence of the learning design is incomplete and/or has confusing linkages between the elements in the plan. Writing requires significant editing to achieve clarity and significant edits needed in 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 is simplistic and/or difficult to follow the 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 intext citations and references and requires editing to meet APA standards.	The organization and scope and sequence of the learning design is somewhat clear and linked to most elements throughout 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 is logical, coherent and clearly linked to all elements throughout 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.
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LEARNING TASK #3 INTERDISCIPLINARY UNIT PLAN SHOWCASE (30%) DUE WEDNESDAY, NOVEMBER 2, 2016 – MAC HALL 9:30-4:00 PM CLASS PRESENTATION – NOV. 4, 2016 DROPBOX SUBMISSION – NOV.4, 2016

There are times in your professional career where you will engage the community in a particular space with set limits unlike those in classroom settings. Very often, you and your team have a few minutes to communicate a lot of good information to community members - and not more time than that is offered. In these settings, often connections are made among professionals that lead to the development of learning networks. This assignment helps you build those skills.

In your career you may publish work at professional conferences, for example as a 'poster session' contribution. In these moments and spaces, a limited amount of information is presented in a very thoughtful format when participants (community) walk by and (may) engage you to see your project design, thinking and purpose. It is also possible community members may wish to gather further detail and adopt/adapt your project in their own setting.

These are short, meaningful exchanges and the quality of your media (poster) and the associated handout (take-away) matters, so preparation counts. In this assignment, you have two pieces of media - a handout and a poster - whereby you can discuss the depth and breadth of this professional project (interdisciplinary unit plan). NOTE: It is necessary to consult with your instructor if

considering other media formats. Instructors will need to ensure appropriate space/set-up needs at the Showcase.

Representing complex team-based interdisciplinary unit design is an art. This final assignment will be a culmination of your Studio Group's work – the foundational understanding developed in Learning Task #1 and as developed in collaboratively designing an interdisciplinary unit in Learning Task #2. This presentation serves to strengthen your professional capacity as teachers through the sharing of your projects with others in a public forum.

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

Building upon your Group's interdisciplinary project designed in Learning Task #2, you will showcase your work to your classmates, students, faculty and potentially other professionals from the field (teachers and school leaders). The interdisciplinary learning showcase should include three parts:

- 1. Part I: A visual (poster) representation of the project that was collaboratively designed and professional printed;
- 2. Part II: A succinct one page, double sided (handout) summary that explains your project in a one-page handout for distribution at the showcase event; and
- 3. Part III: All members of the studio group need to be prepared with a planned and organized oral articulation of the rationale for the project that you developed for those present when they visit your poster/location. NOTE: Presentations will also occur in-class/online prior to OR following the Showcase event. See the grading rubric for the oral presentation criteria.

Formative Assessment: Throughout the development phases of the showcase products (Part I, II & III), 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. Students will be encouraged to use the criteria for the learning task to guide feedback and questions provided to peers. It is expected students 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 in-class/online and will also provide formative feedback.

Summative Assessment: The learning task will be assessed as a group 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 for the showcase (Part 1, II or III). The grading rubric will be used for ongoing peer and instructor reviews of draft work and final assessment of this assignment.

Submit digital copies of the poster and handout (or other media as approved by your instructor) in the D2L dropbox for assessment on or before the last day of classes.

GRADING RUBRIC LEARNING TASK #3 (30%) INTERDISCIPLINARY UNIT PLAN SHOWCASE SHOWCASE DATE: Nov. 2, 2016 DROPBOX DUE DATE: Nov. 4, 2016

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)
Part I: Poster	Poster is disorganized and does not include relevant or visually appealing graphics (i.e. tables, figures) and text details. Poster provides insufficient and confusing information about the scope and sequence; insufficient and confusing ideas from the unit plan (i.e. the literature-informed rationale, authenticity, learning outcomes, interdisciplinary connections/approach, assessments or references).	Poster is somewhat organized and includes some relevant graphics (i.e. tables, figures) and text details. Poster provides insufficient information about the scope and sequence; insufficient ideas from the unit plan (i.e. literature-Informed rationale, authenticity learning outcomes, interdisciplinary connections/approach, assessments or references).	Poster includes organized and relevant graphics (i.e. tables, figures) and text details. Poster provides some information about the scope and sequence; identifies key ideas from the unit plan (i.e. literature-Informed rationale, authenticity learning outcomes, interdisciplinary connections/approach, assessments, references).	Poster is clear, logically organized and includes relevant and visually appealing graphics (i.e. tables, figures) and text details. Poster provides clear information about the scope and sequence; clearly identifies key ideas from the unit plan (i.e. literature-Informed rationale, authenticity learning outcomes, interdisciplinary connections/approach, assessments, references).

	Handout is not organized	Handout may not include	Handout is organized and	Handout is organized and
Part II: Handout	and provides insufficient information about interdisciplinary learning from the unit; leaves audience with too many questions to adopt/adapt the interdisciplinary project in their own context or share with others.	key information about interdisciplinary learning from the unit; leaves audience with questions in order to adopt/adapt the interdisciplinary project in their own context or share with others.	includes a summary of the key information about interdisciplinary learning from the unit; provides audience with some information to adopt/adapt the interdisciplinary project in their own context or share with others.	a well-developed summary with key information about interdisciplinary learning from the unit; provides audience with sufficient information to adopt/adapt the interdisciplinary project in their own context or share with others.
Part III: Oral Presentation	Presentation is not professional with few signs of team work and planning; members are challenged in gaining audience attention/interest. Key points missing from the presentation causing confusion or misinterpretation about interdisciplinary learning; disorganized without transitions among speakers. Questions were not handled or handled with a lack of knowledge.	Presentation is professional where team work and planning may not be clear; members gain limited audience attention/interest. Key points may not promote understanding of interdisciplinary learning; limited organization with transitions provided among speakers. Questions minimally handled with some confidence and in a knowledgeable way.	Presentation is professional where team work and some planning is clear; members gain some audience attention/interest. Key points included promoting some understanding of interdisciplinary learning; organized with transitions provided among speakers. Questions handled adequately and with confidence and in a knowledgeable way.	Presentation is professional where teamwork and exceptional advance planning is clear; members establish the focus of the presentation by immediately gaining audience attention/interest. Key points are clearly stated and explained promoting understanding about interdisciplinary learning; logical smooth organization and transitions among speakers. Questions exceptionally handled and with superior confidence and in knowledgeable way.
Scholarly Writing/ APA Format	The poster and handout requires major editing and revisions to achieve clarity and significant edits needed in writing conventions (spelling/grammar). APA style for in-text citations and references requires significant editing for accuracy and to meet APA standards.	The poster and handout requires editing to achieve clarity and adhere to writing conventions (spelling/grammar). APA style is used accurately for some intext citations and references and requires editing to meet APA standards.	The poster and handout 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 poster and handout 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.

Grading scheme

Grade	GPA Value	%	Description per U of C Calendar
A+	4.0	95-100	Outstanding
А	4.0	90-94	Excellent – Superior performance showing comprehensive understanding of the subject matter
A-	3.7	85-89	
B+	3.3	80-84	
В	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	
С	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 BEd must have an overall GPA of 2.5 in the semester to continue in the program without repeating courses.

It is strongly recommended that students complete and submit each assignment on or before the day it is due. Late work will be accepted without penalty only if special arrangements are made with the instructor prior to the assignment due date. Students must pass each assignment in order to successfully complete the course. Writing proficiency will be considered in the assessment of the assignments.

Academic Accommodation: Students with a disability, who require academic accommodation, need to register with the Disability Resource Centre http://www.ucalgary.ca/UofC/Others/DRC MC 295, telephone 220-8237. Academic accommodation letters need to be provided to course instructors no later than fourteen (14) days after the first day of class. It is a student's responsibility to register with the Disability Resource Centre and to request academic accommodation, if required. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation.

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.

Intellectual honesty/Plagiarism:

Intellectual honesty is the cornerstone of the development and acquisition of knowledge and requires that the contribution of others be acknowledged. As a result, cheating or plagiarism on any assignment or examination is regarded as an extremely serious academic offence, the penalty for which may be an F on the assignment and possibly also an F in the course, academic probation, or requirement to withdraw.

The University of Calgary Calendar states that plagiarism involves submitting or presenting work as if it were the student's own work when it is not. Any ideas or materials taken from another source written, electronic, or oral must be fully and formally acknowledged. Plagiarism includes but is not limited to:

- (a) The work submitted or presented was done, in whole or in part, by an individual other than the one submitting or presenting the work (this includes having another impersonate the student or otherwise substituting the work of another for one's own in an examination or test),
- (b) Parts of the work are taken from another source without reference to the original author,
- (c) The whole work (e.g., an essay) is copied from another source, and/or,
- (d) A student submits or presents work in one course which has also been submitted in another course (although it may be completely original with that student) without the knowledge of or prior agreement of the instructor involved.

While it is recognized that scholarly work often involves reference to the ideas, data and conclusions of other scholars, intellectual honesty requires that such references be explicitly and clearly noted. Plagiarism is an extremely serious academic offence. Plagiarism occurs not only when direct quotations are taken form a source without specific acknowledgement, but also when original ideas or data form the source are not acknowledged. A bibliography is insufficient to establish which portions of the students' work are taken form external sources; footnotes or other recognized forms of citation must be used for this purpose.

Cheating is an extremely serious academic offence. Cheating at tests or examinations includes but is not limited to dishonest or attempted dishonest conduct such as speaking to other candidates or communicating with them under any circumstances whatsoever; bringing into the examination room any textbook, notebook, memorandum, other written material or mechanical or electronic device not authorized by the examiner; writing an examination or part of it, or consulting any person or materials outside the confines of the examination room without permission to do so, or leaving answer papers exposed to view, or persistent attempts to read other students' examination papers.

Other Academic Misconduct includes, but is not limited to, tampering or attempts to tamper with examination scripts, class work, grades and/or class records; failure to abide by directions by an instructor regarding the individuality of work handed in; the acquisition, attempted acquisition, possession, and/or distribution of examination materials or information not authorized by the instructor; the impersonation of another student in an examination or other class assignment; the falsification or fabrication of clinical or laboratory reports; the non-authorized tape recording of lectures.

Any student who voluntarily and consciously aids another student in the commission of one of these offences is also guilty of academic misconduct.

Emergency Evacuation/Assembly Points: For the Education Block and Education Tower: Scurfield Hall [Primary Assembly Point]; Atrium Professional Faculties Food Court [Alternate Assembly Point]

Safewalk: Promoting Campus Safety and Awareness: Twenty four hours a day, seven days a week, Safewalk volunteers walk people safely to their destination on campus. This service is free and available to students, staff and campus visitors. Safewalks are done in male/female pairs. The volunteers walk anywhere on campus (including McMahon Stadium, Health Sciences, Student Family Housing, the Alberta Children's Hospital and the University LRT station). To request a Safewalk volunteer to walk with you,

- Call 403-220-5333 (24 hours a day/seven days a week, 365 days a year)
- Use the Help Phones (they are not just for emergencies)
- Approach an on-duty Safewalker and request a walk.

Student Union Representative: The Werklund School of Education representative, 2016 – 2017, **is Carson Reveen**, careveen@ucalgary.ca, educrep@su.ucalgary.ca

Education Students Association (ESA) President: Christopher Klune, cmklune@ucalgary.ca

Student Ombuds Office:

http://www.ucalgary.ca/ombuds/