Erin Spring

EDUC 535.09/.17/.23: Science Specialization II – Combined Summer, 2024

Land Acknowledgement:
The University of Calgary, located in the heart of Southern Alberta, both acknowledges and pays tribute to the traditional territories of the peoples of Treaty 7, which include the Blackfoot Confederacy (comprised of the Siksika, the Piikani, and the Kainai First Nations), the Tsuut'ina First Nation, and the Stoney Nakoda (including Chiniki, Bearspaw, and Goodstoney First Nations). The City of Calgary is also home to the Métis Nation of Alberta (Districts 5 and 6).

Class Dates: Monday, July 7, 2025 - Friday, July 18, 2025

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: Available after class or by appointment.

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

COURSE DESCRIPTION:

The intent of the Specialization Seminar II is to deepen your understanding of the practical aspects of teaching within the specialization and to connect this practice with specific theoretical concepts. While this second specialization course focuses more on practical knowledge, you will also refine your knowledge of discourse and theory within the discipline and develop a deeper understanding of ways to enact this theory in a classroom context. You will additionally become familiar with any relevant Ministry documents associated with the Alberta Curriculum and draw on practical classroom observation from the field experience to participate in meaningful discussion and to connect these observations with a vision for your own teaching. The emphasis of the course is on designing for student learning (subject-specific; assessment to strengthen student learning and improve instruction; and designing for inclusion, differentiation, and inquiry).

LEARNER OUTCOMES:

Over the course of the semester, students will:

1) Further develop a deeper conceptual understanding of the historical, socio-cultural, political contexts of the *discipline of Science Education*, and relate this to curriculum planning in the specialization area,
2) Identify and critique the *key learning perspectives* (as outlined in the front matter of the Programs of Study) and *intentions* (learning objectives) across the units in a grade from the Alberta Programs of Study,
3) Successfully apply theoretical knowledge to the design of a longer-term unit and assessment plan.

COURSE DESIGN AND DELIVERY:

This course will be delivered face-to-face on campus with some engagement in a D2L environment. This course is delivered through a problem-based and inquiry-focused approach. Student participation is crucial to the knowledge building in this course. While there are readings, they do not "contain" the knowledge of this course.

Your learning will be primarily through applying concepts from the readings while you experience, design, and critique science learning activities. Students are expected to participate in whole-class and small-group discussions conversation and Desire2Learn (D2L) discussion forums that will include postings and responses in small-groups. Assessment is based on rubrics for the three Learning Tasks. For most class activities, you will need a device with reliable internet connectivity to access D2L, the library website, YouTube, etc.

LEARNING TASKS OVERVIEW:
The full assignment descriptions and assessment details will be discussed in class and posted to D2L. The descriptions in this syllabus should be treated as summaries or overviews, not the full and complete assignment requirements.

LEARNING TASKS OVERVIEW

Learning Task	Description of Learning Task	Weight	Group/ Individual	Due Date
LT1	Design a science-based performance task and associated rubric	30%	Pair	Monday, July 14, 1:00 pm
LT2	Creation of a Unit and Assessment Plan	40%		Friday, July 18, 1:00 pm
LT3	Evolving Conceptual Understanding of Science Teaching	30%	Individual	Monday, July 21

Note: A and A+ are both worth 4.0. A+ is given at the instructor's professional discretion based on work of rare and exemplary quality.

Generative AI: Course participants are invited to use artificial intelligence tools, including generative AI, to gather information, review concepts, and/or to help produce assignments. However, (1) it is the student's responsibility to inform the instructor *in writing* of the intention to use such technology *in advance* of its use; (2) the student is ultimately accountable for the work they submit; and (3) any content generated or supported by an artificial intelligence tool must be cited appropriately. Misuse of these tools will be considered academic misconduct and will be treated as such.

Readings

Reading jigsaw protocol will be discussed during our first class (classes 2, 3 & 9).
The Leganto lists for these readings can be found in D2L under "My Tools".
Furthermore, here is the link:
https://ucalgary.alma.exlibrisgroup.com/leganto/public/01UCALG_INST/lists/25573098550004336?auth=SAML

Be familiar with:

1. **Big Ideas:** Harlen, W. (2015). Working with Big Ideas of Science Education. *Association for Science Education*. (pp 21 - 23). https://www.interacademies.org/publication/working-big-ideas-science-education

2. **5Es:** Bybee, et al., (2006). The BSCS 5E Instructional Model: Origins, Effectiveness, and Applications. *BSCS*, (pp 1–19). https://media.bscs.org/bscsmw/5es/bscs_5e_executive_summary.pdf

3. **Understanding by Design:** Wiggins, G. J. & McTighe, J. (2005). *Understanding by design* (2nd Edition) (Ch. 3 – 10). https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/detail.action?docID=3002118

4. Harlen, W. (Ed.) (2010). *Principles and big ideas of science education*. p.21-23 https://www.ase.org.uk/bigideas

Resources for LT1:
Alberta Assesment Consortium: https://aac.ab.ca/
Username: your Uof C email

Galileo Educational Network. (nd). *Guide to Assessing Critical Thinking.* http://www.galileo.org/tips/rubrics/ct_rubric.pdf

Galileo Educational Network. (nd). *Designing rubrics. Focus on Inquiry* https://inquiry.galileo.org/ch3/designing-rubrics/

Black, P. (2003). The importance of everyday assessment. In J. M. Atkin & J. E. Coffey (2003). *Everyday Assessment in the Science Classroom*. https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/detail.action?docID=355237

Trauth-Nare, A., & Buck, G. (2011). Assessment for learning. *The Science Teacher,* 78(1), 34-39. https://bit.ly/2ZukloI

UMass Boston. (2017, February 17). *Formative assessment practices of science teachers* [video]. https://www.youtube.com/watch?v=O3Uca60nGK0

DAILY COURSE SCHEDULE:

Date	Topic	Readings and Tasks
Day 1	**Essential Question (EQ):** *Framing Science Education* • **What is science all about?** • **What is your philosophy of science?** • **What is an inquiry practice as an organizing principal?** EDUC 535 Course Outline review – LT1, LT2, and LT3 Intro to LT1	**Front Matter** of the Science Programs of Study (PoS) *that supports your grade of interest either* **a.** gd. 1-6: What is science and organization **b.** gd. 7 – 8: p.1 – 10 or any of the gd. 10 – 12 courses: p. 1 – 12. Alberta Education, (nd). *Programs of Study*. https://www.alberta.ca/programs-of-study.aspx

Day 2	**EQ:** *Science as a Human Endeavour* • **How do teachers promote an understanding of inquiry-based science education**? • **How it is experienced, implemented, and supported in classrooms?** Intro to LT3 In class time to work on LT1:	**Readings for LT3** (assigned on day1): Dorfman, B-S., Issachar, H., & Zion, M. (2020). Yesterday's students in today's world – open and guided inquiry through the eyes of graduated high school biology students. *Research in Science Education, 50*, 123-149. https://link-springer-com.ezproxy.lib.ucalgary.ca/article/10.1007/s11165-017-9683-6 Osborne, J., Collins, S., Ratcliffe, M., Millar, R., & Duschl, R. (2003). What "ideas-about-science" should be taught in school science? *Journal of Research in Science Teaching*, 40(2), 607-720. https://doi-org.ezproxy.lib.ucalgary.ca/10.1002/tea.10105 Grueber, D., & Whitin, P. (2012). Valuing little steps toward inquiry. *Science and Children*, 50(3), 41-45. http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=82669917&site=ehost-live *with* Zangori, L., Forbes, C., & Biggers, M. (2012). This Is Inquiry... Right? *Science and Children*, 50(1), 48-53. http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=79310878&site=ehost-live
Day 3	**EQ:** *Scientific Literacy and Inquiry* • **How can practical activities be used in classrooms and how their effectiveness can be assessed and enhanced?** Intro to LT2: whole/part/whole approach In class time to work on LT1	**Readings for LT3** (assigned on day 1): Abrahams, I., & Millar, R. (2008). Does practical work really work? A study of the effectiveness of practical work as a teaching and learning method in school science. *International Journal of Science Education*, 30(14), 1945-1969. http://dx.doi.org.ezproxy.lib.ucalgary.ca/10.1080/09500690701749305 Millar, R. (2009). Analysing practical activities to assess and improve effectiveness: The Practical Activity Analysis Inventory (PAAI). York: Centre for Innovation and Research in Science Education, University of York. https://www.rsc.org/cpd/teachers/content/filerepository/frg/pdf/ResearchbyMillar.pdf

Day 4	**EQ:** *Designing Units with Purpose*
	• **What does it mean to be a "designer" of learning?**
	
	LT2
	• Stage 1. Identify Desired Results:
	  • Sci. Inquiry & Prob. Solving through Technology or
	  • STS/NoS, Knowledge, Skills, and Attitudes (KSAs).
	• Design thinking & Big Ideas
	
	In class time to work on LT1
		Resources for LT2:
		Wiggins, G. & McTighe, J. (2005). *Understanding by design* (2nd Edition). Alexandria, VA: Association for Supervision & Curriculum Development. https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/reader.action?docID=3002118 *** see Ch. 3, 4, 5, & 6**
		
		Harlen, W. (2015). *Working with Big Ideas of Science Education.* Hatfield, UK: Association for Science Education. Chapter 3-4 (pp 11-33{15-17}) https://www.interacademies.org/sites/default/files/publication/working_with_big_ideas_of_science_education_-_online_july_final.pdf

Day 5	**EQ: What does it mean to be a "designer" of learning?** LT2: Stage 1. Identify Desired Results Last day to work on LT#1 In class time to work on LT2, Stage 1	**LT#1 Due: Monday, 1:00 pm** **Resources LT2**: Grady, J. (2010). The inquiry matrix; A tool for assessing and planning inquiry in biology and beyond. *Science Teacher*, (November), 32–37. https://bit.ly/2zwdDiK New York Science Teacher Common Science Misconceptions https://newyorkscienceteacher.com/sci/pages/miscon/subject-index.php
Day 6	**EQ: What will you accept as evidence that student understanding took place?** LT2: Stage 2. Performance-Based Assessment & Assessment for Learning LT#1: Workshops In class time to work on LT2, Stage 2	**Resources for LT2:** *Understanding by design:* ***see Ch. 7 & 8**

Day 7	**EQ: How do you shift the responsibility of learning from the teacher to the students?** Stage 3: Planning the appropriate learning activities. LT#1: Workshops In class time to work on LT2, Stage 3	**Resources for LT2:** *Understanding by design*: ***see Ch. 9 & 10** Alberta Education. (2019). *Health and safety in the science classroom: Kindergarten to grade 12*. https://education.alberta.ca/media/3795623/health-and-safety-in-the-science-classroom.pdf Bybee, et al., (2006). The BSCS 5E Instructional Model: Origins, Effectiveness, and Applications. BSCS, 1–21. https://media.bscs.org/bscsmw/5es/bscs_5e_full_report.pdf
Day 8	**EQ: What does it mean to be a teacher of diversity?** Stage 4: Learner differentiation LT#1: Workshops In class time to work on LT2, Stage 4	**Resources for LT2:** Alberta Education. (2010). *Making a difference: Meeting diverse learning needs with differentiated instruction*: Chapter 13 (Science) http://education.alberta.ca/media/1234045/makingadifference_2010.pdf Alberta Education. (nd). Benchmarks, strategies, and resources for teachers of English language learners. http://www.learnalberta.ca/content/eslapb/

Day 9	**EQ: How can I design science lessons that respectfully integrate Indigenous and Western ways of knowing to support meaningful learning for all students?** Stage 4: Learner differentiation LT#1: Workshops In class time to work on LT2, Stage 4	**Reading** (assigned on day 1): Cirkony, C., et al. (2023). A Two-Eyed Seeing Teaching and Learning Framework for Science Education. *Canadian Journal of Science, Mathematics and Technology Education*, 23 (2) 340–364. https://doi.org/10.1007/s42330-023-00276-z. Kimmerer, R. (2013). *Braiding sweetgrass: Indigenous wisdom, scientific knowledge and the teaching of plants.* 216- 240. https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/detail.action?docID=1212658#
Day 10	EQ: *Visioning Science Teaching Practice* • **What does it mean to be a reflective practitioner?** Peer review of LT2	**LT#2: Due: Friday, July 19, 1:00 pm (for peer review). Final draft Monday, July 21** **LT#3: Due Monday, July 21**

CHANGES TO SCHEDULE:
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 3 required Learning Tasks for this course. Completion of all tasks is required to pass this course.

LT1: *Design a science-based performance task and associated rubric.*

(Individual or Group submission)

Due Date: Monday, July 14 @ 1:00 pm
Percentage of the Final Grade: 30%

Purpose: Your goal is to design a performance-based assessment that effectively measures students' understanding and application of *science knowledge and skills*. This task should replace traditional tests with an engaging, hands-on opportunity for students to demonstrate learning in an authentic context. Your assessment must be aligned with a specific grade level, science course (e.g., Science 10-4, Biology 20), and unit from the Alberta Program of Studies.

***Note**: This task can be incorporated into Learning Task 2: Creation of a Unit and Assessment Plan.*

Assignment Overview:

1. You will create a summative performance task rooted in the Alberta Science curriculum.

Your task must:

- Be explicitly linked to the Alberta Program of Studies.
- Align with at least one general outcome and two specific outcomes from a selected unit.
- Describe a task that is a meaningful, real-world challenge requiring students to show deep understanding and practical application of key science concepts.
- Provide opportunities for student choice or creative expression.
- Include elements of scientific inquiry or problem-solving.
- Be inclusive and accessible for diverse learners.

Your submission must include:

- Task Description: Purpose, context, and what students are expected to do.
- Curriculum Alignment: Identify the general and specific outcomes from the Alberta Program of Studies addressed by the task.
- Student Rubric: A clear, student-friendly rubric that matches the task and curriculum outcomes.
- Differentiation Strategies: Suggestions for how the task can be adapted to support a range of learners.
- *(Optional)* Visuals or Student Materials: Any handouts, visuals, or instructions you would provide to students

2. Professional Development Workshop: During the course, you will lead a 20–30-minute PD workshop for your peers.

Your workshop must include:

- Performance Task Overview
- Assessment Rationale: Explain how this task provides meaningful insight into student learning through inquiry or problem-based learning.
- How the task enables students to meaningfully engage with and apply scientific knowledge, skills, and/or processes.

3. Resources for the actual task, including the task descriptor, rubric and student handouts must be submitted to both D2L-Discussion (to share with peers) and D2L-Dropbox (for assessment).

CRITERIA FOR ASSESSMENT OF LEARNING TASK 1

Criteria	A to A+ Meets all and exceeds some requirements	B+ to A- Meets all requirements	B- to B Meets most requirements.	C to C+ Limited in meeting requirements
Clarity and Completeness of Task Description	Task purpose, context, and expectations are clearly and thoroughly articulated; easy to understand and implement.	Most elements are clear and complete; minor details may be underdeveloped.	Description is somewhat unclear or missing important details.	Task description is incomplete or confusing.
Alignment with Program of Studies	Clearly identifies appropriate general and specific outcomes; task is fully aligned and integrated.	Identifies appropriate outcomes; alignment is generally strong with minor gaps.	Identifies outcomes, but alignment is inconsistent or underdeveloped.	Little to no alignment with relevant outcomes; outcomes not clearly identified.
Authenticity & Relevance: Scientific Inquiry or Problem-Based Design	Task is highly relevant to real-world situations and meaningfully integrates inquiry or problem-solving processes; promotes critical thinking.	Task is relevant and somewhat reflects real-world situations and includes inquiry/problem-solving but with limited depth.	Task has limited real-world relevance, inquiry or problem-solving is minimally present or underdeveloped.	Task lacks authenticity and inquiry or problem-solving components.
Rubric Design and Alignment	Rubric is clear, well-structured, student-friendly, and tightly aligned to outcomes and task.	Rubric is mostly clear and aligned; may need refinement for clarity or usability.	Rubric is present but lacks clarity or has weak alignment to task or outcomes.	Rubric is missing or largely ineffective in supporting assessment.
Inclusion and Differentiation	Strong, thoughtful accommodations and modifications included.	Some accommodations or differentiation strategies are included and appropriate.	Limited accommodations included, needs greater attention to learner diversity.	No clear attempt at inclusion or differentiation.
Presentation for PD Workshop	Workshop clearly communicates task purpose and value; effectively engages audience in understanding the design and assessment process.	Presentation communicates task and assessment reasonably well.	Presentation is somewhat unclear or underdeveloped.	Presentation lacks clarity or does not communicate key elements.
Assessment Rationale	Rationale clearly explains how the task provides authentic assessment of student learning through inquiry or problem-solving.	Rationale is clear but may lack depth in explaining assessment value.	Rationale is vague or underdeveloped.	Rationale is minimal or missing; unclear justification for task design.

LT2: Designing a Unit and Assessment Plan *(Individual or Group submission)*

Due Date: Friday, July 19, 1:00 pm (for peer editing), Final submission, Monday, July 22
Percentage of the Final Grade: 40%

Intent of LT2: The intent of LT2 is to design a unit and assessment plan. We will be using a Whole-Part-Whole learning model over the 2 weeks of the course to develop the unit plan. The framework for evaluating your unit plan is based on the principles of Understanding by Design (UbD), focusing on the clarity of learning goals, alignment with enduring understandings, validity of assessment methods, clarity of rubrics/criteria, engagement and differentiation in learning experiences, and alignment with UbD principles/

Expectations of LT2:

- The unit plan will be comprised of one unit covering:
  - 4 weeks with 80-minute classes for a Senior High class, or
  - 7 weeks with 45 - 60 minutes classes for a Middle/Junior High class.
  - 7 weeks with 30 – 45 minutes classes for an Elementary class.
- The unit plan must follow a clear and comprehensive **design for learning focused template (in D2l Content)** that promotes deep understandings of a key concepts and competency of the discipline.
- **Use the following rubric to guide your unit design and assessment.**

CRITERIA FOR ASSESSMENT OF LEARNING TASK 2

Criteria	A to A+ Meets all and exceeds some requirements	B+ to A- Meets all requirements	B- to B Meets most requirements
Stage 1 - Lesson Rationale: To what extent does the design focus on building understanding of targeted content based on an Alberta Education Program of Study?			
Big Ideas & Enduring Understandings	Clearly and consistently reflect deep, transferable understandings central to the discipline.	Address important understandings, though some may be underdeveloped or unevenly integrated.	Contain basic or vague understandings with limited alignment to big ideas.
Clarity of Learning Goals	Learning goals are specific, measurable, aligned with Alberta PoS, and emphasize understanding over coverage.	Goals are aligned with PoS and mostly clear, with minor gaps in specificity or emphasis on understanding.	Goals lack clarity, specificity, or strong alignment with PoS; may emphasize content coverage over understanding.
Essential Questions	Thought-provoking, open-ended, and tightly linked to enduring understandings; promote deep inquiry.	Relevant and linked to understandings but may lack depth or clarity to fully provoke sustained inquiry.	Overly broad or closed; may not clearly support inquiry or enduring understandings.
Addressing Misconceptions	Anticipates and addresses common misconceptions through targeted instruction.	Identifies some misconceptions but with partial integration into instruction.	Mentions misconceptions but does not effectively target them.
Curricular Alignment (Alberta PoS)	Unit outcomes are deeply integrated with relevant science strands (NoS, ST, STS, STSE); shows curriculum fluency.	Outcomes are generally addressed but may overlook some PoS emphases.	Alignment is partial or inconsistent; significant curriculum areas may be omitted.

Stage 2 - Assessment Evidence: To what extent do the assessments provide fair, valid, reliable, and sufficient measures of the desired results?			
Balanced Assessment	Uses varied, formative and summative assessments embedded in instruction; aligns with goals and student needs.	Includes both formative and summative assessments with moderate integration.	Heavily summative; limited or irregular formative assessment.
Alignment of Assessments to Goals	Assessments directly measure the learning goals and achievement indicators from PoS.	Assessments mostly align with goals but may lack precision in targeting desired results.	Assessments show weak or inconsistent alignment with intended goals.
Authentic Performance Task Integration	The task clearly builds on key ideas from each lesson, requiring students to apply concepts in a logical and meaningful way.	The task includes most key ideas from lessons but may need some adjustments for clarity or flow.	The task has weak or unclear links to lesson concepts, making it hard to see how ideas connect.
Student Self and Peer Assessment	Includes clear structures and frequent opportunities for meaningful reflection and peer feedback.	Includes occasional opportunities for self or peer assessment.	Little to no student involvement in assessment or reflection.
Stage 3: Plan Learning Experiences and Instruction: To what extent is the learning plan effective and engaging?			
5Es Learning Model	Fully and coherently implements all 5 phases (Engage, Explore, Explain, Elaborate, Evaluate); learning flows logically.	Most 5Es phases are evident and function well, with minor gaps or uneven sequencing.	Few phases are implemented, or phases are fragmented, limiting conceptual coherence.
Pedagogical Content Knowledge	Demonstrates strong integration of scientific content with sound pedagogy (e.g., inquiry, real-world relevance).	Sound pedagogy and content knowledge are evident, though may be somewhat generic or uneven.	Shows limited pedagogical integration or superficial treatment of science content.
Support for Deep Understanding	Lessons foster deep thinking, transfer, and application of scientific ideas in novel contexts.	Lessons support understanding but may over-emphasize knowledge acquisition.	Lessons focus on recall and low-level tasks, lacking opportunities for critical application.
Authenticity of Tasks	Tasks reflect authentic scientific practices and contexts; encourage critical thinking and real-world problem-solving.	Tasks are somewhat authentic, with partial alignment to real-world practices.	Tasks are abstract, disconnected from real-life science, or focus on rote learning.
Differentiated Instruction	Learning is personalized through varied strategies, scaffolding, and challenge levels; all learners are supported.	Some evidence of differentiation based on learner needs.	Little or no attention to diverse learners' readiness, interests, or styles.
Stage 4: **Alignment**			
UbD Coherence & Alignment	All three stages are tightly aligned; clear evidence of backward design; learning is meaningful and purposeful.	General alignment among stages with minor disconnects; design follows UbD logic.	Stages show misalignment or a task-first approach; understanding and assessment are not clearly connected.

LT3: Evolving Conceptual Understanding of Science Teaching *(Individual submission)*

Due Date: Monday, July 21
Percentage of the Final Grade: 30%

Assignment Purpose:
This assignment challenges you, as a pre-service science teacher, to critically articulate and synthesize your evolving philosophical stance, pedagogical content knowledge, and practical teaching experience. You will reflect on how your beliefs about science education are enacted in your planning, instruction, and assessment, drawing on theory, curriculum, and field experience.

Assignment Instructions:
Write a reflective narrative that addresses the following five core pedagogical dimensions of science teaching:

1. Purpose of Science Education
2. Teaching of Science
3. Learning of Science
4. Planning for Science Teaching and Learning
5. Assessment of Science Learning

For each dimension, include:

- Belief Statement: A concise, well-articulated belief grounded in the nature of science and supported by relevant theoretical frameworks.
- Classroom Enactment: A description of how this belief is reflected in your unit or lesson planning, instructional strategies, or assessment practices.
- Evidence of Practice: Specific examples from your coursework, field experience, or professional readings that illustrate your understanding and application.

You are encouraged to integrate references to:

- Alberta's Programs of Study
- Front matter learning perspectives
- Inclusive and inquiry-based pedagogy
- Assessment for learning principles

You may choose a format that best allows you to respond to each issue and provide evidence of your thinking and understanding. Format of presentation may be a succinct individual written composition, an imagined Socratic dialogue, an illustrated story, an animation, or a podcast. Length: max: 1500 words or 8 minutes.

CRITERIA FOR ASSESSMENT OF LEARNING TASK 3

Criteria	A to A+ Meets all and exceeds some requirements	B+ to A- Meets all requirements	B- to B Meets most requirements
Philosophical Depth	Belief statements are deeply reflective, grounded in the nature of science, and supported by theory	Belief statements are clear and mostly grounded in theory and the nature of science	Belief statements are general or lack theoretical grounding
Integration of Theory and Practice	Demonstrates sophisticated integration of theory, curriculum, and classroom practice	Demonstrates clear connections between theory and practice	Demonstrates limited or surface-level integration
Use of Evidence	Rich, specific, and relevant examples from coursework and field experience support each belief	Adequate examples support most beliefs	Few or vague examples; limited connection to practice
Critical Reflection	Demonstrates critical insight into challenges, growth, and implications for future practice	Demonstrates thoughtful reflection with some critical insight	Reflection is descriptive rather than analytical
Organization and Communication	Clear, coherent, and engaging structure; format enhances communication	Mostly clear and organized; minor issues with flow or clarity	Disorganized or unclear; format hinders communication

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

MISSING OR LATE SUBMISSIONS

All late submissions of assignments must be discussed with the instructor prior to the due date. A deferral of up to 30 days may be granted at the discretion of the Associate Dean of Undergraduate Programs prior to the end of the course 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: https://calendar.ucalgary.ca/pages/fc4adb8643f84441ab32300237b80df1

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

Academic Misconduct

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

For information on the Student Academic Misconduct Policy and Procedure please visit:

https://www.ucalgary.ca/legal-services/university-policies-procedures/student-academic-misconduct-policy

https://www.ucalgary.ca/legal-services/university-policies-procedures/student-non-academic-misconduct-policy

Additional information is available on the Academic Integrity Website at: https://ucalgary.ca/student-services/student-success/learning/academic-integrity

Academic Accommodation

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at: https://ucalgary.ca/student-services/access/prospective-students/academic-accommodations.

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf

Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to the designated contact person in their faculty. The course outline should clearly list the appropriate Faculty contact person(s) and their contact details. For further information see E.1 C. Course Policies and Procedures https://calendar.ucalgary.ca/pages/a89ecfbf758841b5983c4b67746e7846

Research Ethics

Students are advised that any research with human participants – _including any interviewing (even with friends and family), opinion polling, or unobtrusive observation – _must have the approval of the Conjoint Faculties Research Ethics Board (https://research.ucalgary.ca/conduct-research/ethics-compliance/human-research-ethics/conjoint-faculties-research-ethics-board-cfreb) or the Conjoint Health Research Ethics Board https://research.ucalgary.ca/conduct-research/ethics-compliance/human-research-ethics/conjoint-health-research-ethics-board-chreb)

In completing course requirements, students must not undertake any human subjects research without discussing their plans with the instructor, to determine if ethics approval is required. Some courses will include assignments that involve conducting research with human participants; in these cases, the instructor will have applied for and received ethics approval for the course assignment. The instructor will discuss the ethical requirements for the assignment with the students.

For further information see E.5 Ethics of Human Studies
https://calendar.ucalgary.ca/pages/627ed88eb4b041b7a2e8155effac350

Instructor Intellectual Property

Course materials created by instructors (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the instructor. These materials may NOT be reproduced, redistributed or copied without the explicit consent of the instructor. The posting of course materials to third party websites such as note-sharing sites without permission is prohibited. Sharing of extracts of these course materials with other students enrolled in the course at the same time may be allowed under fair dealing.

Freedom of Information and Protection of Privacy
Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary. For more information, please see: https://www.ucalgary.ca/hr/work-compensation/working-ucalgary/freedom-information-and-privacy-act

Copyright Legislation
All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (https://www.ucalgary.ca/legal-services/university-policies-procedures/acceptable-use-material-protected-copyright-policy) and requirements of the copyright act (https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy https://www.ucalgary.ca/legal-services/university-policies-procedures/student-non-academic-misconduct-policy.

Sexual and Gender-Based Violence Policy
The University recognizes that all members of the University Community should be able to learn, work, teach and live in an environment where they are free from harassment, discrimination, and violence. The University of Calgary's sexual violence policy guides us in how we respond to incidents of sexual violence, including supports available to those who have experienced or witnessed sexual violence, or those who are alleged to have committed sexual violence. It provides clear response procedures and timelines, defines complex concepts, and addresses incidents that occur off-campus in certain circumstances. Please see the policy available at https://www.ucalgary.ca/legal-services/university-policies-procedures/sexual-and-gender-based-violence-policy

Other Important Information
Please visit the Registrar's website at: https://www.ucalgary.ca/registrar/registration/course-outlines for additional important information on the following:

- Wellness and Mental Health Resources
- Student Success
- Student Ombuds Office
- Student Union (SU) Information
- Graduate Students' Association (GSA) Information
- Emergency Evacuation/Assembly Points
- Safewalk

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 Tracy Dinh, esa@ucalgary.ca.

Werklund SU Representative is Siena Yee, educrep@su.ucalgary.ca.