AB

EDUC 460.09: Specialization I – Elementary Science
Winter 2024

Class Dates: January 8 – March 8
Term Break: February 18-24 (No Classes)

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: After class or by appointment.

Email:

- Students are required to use an <@ucalgary.ca> email address for all correspondence.
- Use 'Spec I:' and a pertinent subtitle in the subject line of any email to your Instructor.

COURSE DESCRIPTION:

The intent of the Specialization I Seminar is to introduce students to the concepts, theory, and design planning related to teaching within the specialization of Elementary Science. Theory as connected to an understanding of practical classroom experiences will particularly inform the course curriculum and will be explored through course readings, analysis of teaching/learning artifacts, and through the design of discipline-based learning and assessment plans. Topics in teaching and learning will include teaching inclusively and addressing the needs of diverse learners, effective integration of technology, and discipline-based inquiry. Assignments will present the opportunity for students to develop an understanding of short-term instructional designs and to begin to examine curriculum shifts in the province.

LEARNER OUTCOMES: Students will be knowledgeable about:

1) Developing a foundational understanding of the nature of discourse in the discipline, as related to teaching and learning, including specialized language, concepts, and terminology;
2) Understanding teacher as designer of learning and assessment plans, and use of the resources available for designing learning and assessment;
3) Exploring and applying introductory theory related to the teaching of the discipline with an emphasis on designing discipline-based tasks and assessment processes and creating an adaptive classroom learning environment to better meet the needs of today's diverse learners;
4) Successfully designing short-term learning and assessment plans to deepen understanding of key ideas/concepts within the discipline.

COURSE DESIGN AND DELIVERY:
This course will be delivered face-to-face on campus* – along with engagement in a D2L environment, through a problem-based and inquiry-focused approach. Student participation is crucial to the knowledge building in this course. While there are, of course, readings, they don't "contain" the knowledge of this course. Your learning will be primarily through applying concepts from the readings while you experience, design, deliver, and critique science learning activities. Students are expected to participate in all synchronous meetings and in asynchronous conversations through Desire2Learn (D2L) discussion forums that will include blog posts and small-group discussions. Assessment is based on the detailed task descriptions and rubrics for the three Learning Tasks, which will be provided in class and on D2L – which will also be used to post class information and for submitting assignments. Each week of the course, there will be a detailed outline of the following week posted in D2L that will guide you through the next week's activities, such as what to prepare for class, and what to post in the discussions. This might include videos, links to activities, notes on the topics of the readings, suggestions for assignments, etc. For many class activities, you will need a device with reliable internet connectivity to access D2L, the library website, Google Docs, YouTube, etc.
*There is also the very special opportunity for our section (during class time) to deliver two small-group lessons to Grade 4/5/6 children at a nearby school. See descriptions for Learning Tasks 2 & 3.

REQUIRED READINGS AND RESOURCES:
The readings and resources below are recommended for continued professional learning and development well beyond this course and into your first years of teaching. *Please refer to the detailed weekly plan for a listing of required LT1 reading assignments.*

Alberta Education. (n.d.). *Competencies: Descriptions and indicators*. https://education.alberta.ca/competencies/descriptions-indicators/
Alberta Education. Programs of Study https://www.alberta.ca/programs-of-study.aspx
Science K-6 https://education.alberta.ca/science-k-6/program-of-studies/
Science 7-9 https://education.alberta.ca/science-7-9/programs-of-study/
Science 10-12 https://education.alberta.ca/science-10-12/programs-of-study/
Alberta Education. (2019). *Health and safety in the science classroom*. https://open.alberta.ca/publications/9781460133989
Alberta Education (2016). *Program of Study: Mathematics Kindergarten to Grade 9*. Edmonton: Government of Alberta. https://education.alberta.ca/media/3115252/2016_k_to_9_math_pos.pdf
Alberta Education (2020). *The guiding framework for the design and development of kindergarten to grade 12 provincial curriculum.* https://open.alberta.ca/publications/guiding-framework-design-development-k-12-curriculum
Alberta Education. (2020). Ministerial Order on Student Learning. https://open.alberta.ca/dataset/270e1a34-3338-461d-b761-c761f943fa2d/resource/5a510797-645e-419f-acbd-6a9dfdb41cd0/download/edc-mo-28-2020-student-learning.pdf
Alberta Assessment Consortium. *What's all the fuss about performance assessment?* https://aac.ab.ca/whats-all-the-fuss-about-performance-assessment/
Association for Science Education. https://www.ase.org.uk/resources/big-ideas/
Authentic Education. Understanding by Design. https://authenticeducation.org/whatisubd/
Connect2Learning. *Goal setting*. https://connect2learning.com/2020/12/31/blog-year-end-2020-goal-setting/

Driver, R., Asoko, H., Leach, J., Mortimer, E., Scott, P. (1994). Constructing Scientific Knowledge in the Classroom. *Educational Researcher*, *23*(7), 5-12. https://journals-sagepub-com.ezproxy.lib.ucalgary.ca/doi/abs/10.3102/0013189X023007005

Friesen, S. (2009). What did you do in school today? *Teaching Effectiveness: A Framework and Rubric*. http://www.galileo.org/cea-2009-wdydist-teaching.pdf School partnerships. *Urban Environmental Education Review*, Chapter 14. [Video file]. Ithaca, NY: Cornell University Civic Ecology Lab and EECapacity. https://www.youtube.com/watch?v=69kqCP7Ql4s&list=PL4LUX34gvz9NdWaCqg6TxKBFP_2spWx3t&index=15

Knowlton Cockett, P. (various). Whispering Signs articles: e.g. Right here: Embedding geoscience in place-based interpretive signage. *Extended Abstracts of the GeoCanada 2010 Convention: Working with the Earth*. Calgary, Canada. https://www.dropbox.com/sh/bl04kxw646v2s3b/AAA1gjIrWpF5I-rekjW6-pkNa?dl=0

Leahy, S., Lyon, C., Thompson, M., & Wiliam, D. (2005). Classroom assessment: Minute by minute and day by day. https://ezproxy.lib.ucalgary.ca/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=18772694&site=ehost-live

LearnAlberta https://curriculum.learnalberta.ca/home/en
Science K-6 https://curriculum.learnalberta.ca/curriculum/en/s/sci

McTighe, J., & Wiggins, G. (2012). *Understanding by Design® framework.* Alexandria, VA: ASCD. http://www.ascd.org/ASCD/pdf/siteASCD/publications/UbD_WhitePaper0312.pdf

McTighe, J. & Associates. (n.d.). https://jaymctighe.com/resources/

Natureground. (n.d.). www.natureground.org

Wals, A. (2017, December). *UN sustainable development goal number 4: Quality education.* [Video file]. Gothenburg Centre for Sustainable Development, Sweden. https://www.youtube.com/watch?time_continue=8&v=AycUPRNiblE

Wals, A. (n.d.). *NatureWise: Dutch children's learning in, about, for, and by nature*. Global Environmental Education Partnership. https://thegeep.org/learn/case-studies/naturewise-dutch-childrens-learning-about-and-nature

Wals, A., Pinar, W., Macintyre, T., Chakraborty, A., Johnson-Mardones, D., Waghid, Y., Tusiime, M., Le Grange, L. LL, Razak, D.A., Accioly, I., Xu, Y., Humphrey, N., Iyengar, R., Chaves, M., Herring, E., Vickers, E.A., Santamaria, R.D.P., Korostelina, K.V., & Pherali, T. (2022). Chapter 8: Curriculum and pedagogy in a changing world, 520-582, in E.A. Vickers, K. Pugh, & L. Gupta (Eds.). *Education and context in reimagining education: The international science and evidence based education assessment*. [A.K. Duraiappah, N.M. van Atteveldt, et al. (Eds.)]. UNESCO MGIEP. https://unesdoc.unesco.org/ark:/48223/pf0000380982

Wild Pedagogies Touchstones. (n.d.). https://wildpedagogies.com/

White, P. (2023). Activist. In N. Wallenhorst & C. Wulf. (Eds.). *Handbook of the Anthropocene: Humans Between Heritage and Future*. Part XXII, The Challenge of Peace, 1671-1675. https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/reader.action?docID=30717231&ppg=1542 (*E-book licence permits only one online user at a time; please download/print ahead of schedule to avoid access issues.)

ADDITIONAL RESOURCES:

Alberta Education. (n.d.). *Benchmarks, strategies and resources for teachers of English language learners.* http://www.learnalberta.ca/content/eslapb/

Alberta Education. (2010). *Making a difference: Meeting diverse learning needs with differentiated instruction*. https://education.alberta.ca/media/384968/makingadifference_2010.pdf
Alberta Assessment Consortium. https://aac.ab.ca/
University of Calgary Research Guides. Education – Lesson planning Resources: https://libguides.ucalgary.ca/guides/lesson_planning_resources
Utah Education Network. K-12 Core Lesson Plans. https://www.uen.org/k12educator/corelessonplans.shtml
APA (American Psychological Association) style Manual: https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_style_introduction.html

LEARNING TASKS OVERVIEW:

Completion of all assigned tasks is required for a passing grade in the course. All tasks should follow the American Psychology Association (APA) style 7th Edition for citations and references. Full assignment descriptions and assessment details will be posted to D2L and further discussed in class. The descriptions in this course outline should be treated as summaries or overviews, not necessarily the full and complete assignment requirements.

Regular and active participation is an essential aspect of any community knowledge building. Participation means interacting during class conversations and discussions, engaging in class tasks and activities, and contributing to threaded discussions. Assessment is based on the detailed task descriptions and rubrics for the three Learning Tasks, and will also include participation in formative activities such as class presentations and peer feedforward rounds, self-assessment opportunities, and midpoint check ins and exit slips.

You are expected to engage fully in the knowledge building community, demonstrating that you have reviewed the assigned weekly readings, reflected critically on what you have read and what you have contributed to knowledge building, and that you are engaging with peers in collaborative and supportive dialogue.

**Please note that all assignments are expected to be the original work of the student, and students are not to employ text generation software (for example, ChatGPT).*

#	LEARNING TASK DESCRIPTION	GROUP/ INDIVIDUAL	VALUE	DUE DATES
LT1	Community Knowledge Building: Inquiry into Teaching Through Elementary Science	Individual	35%	Weekly
LT2	Analysis of a Learning Design and Assessment Plan: *Design, Implementation, and Analysis of Formative Conversations & Follow Up Engagements*	Group	25%	February 16
LT3	Creation of Short-term Learning and Assessment Plan: *Design, Implementation, and Summative Reflections*	Individual (in Groups)	40%	March 4, 8

Note: Both an A and an A+ have a Grade Point Value of 4.0; an A+ is an exceptional and rare grade to be given at the Instructor's discretion only to consistently outstanding work of the highest quality.

Note: *Assignments will be submitted through D2L and via class presentations and participation.* Please contact the instructor right away if you are unable to meet an assignment deadline. The weekly deadlines for posts and responses for LT1 are necessary for the group work context, as are the scaffolded

deadlines within the development components of LTs 2 & 3. However, short term flexibility (e.g. extensions of 1-3 days) may be accommodated when discussed before the due dates. In more extensive situations, a deferral of up to 30 days may be granted at the discretion of the Associate Dean of Undergraduate Programs with accompanying written evidence. A deferral of term work form can be obtained from the UPE office to request this deferral if needed.

WEEKLY COURSE SCHEDULE:

Dates	Topics/Themes	Class Tasks, DUE Dates, and Readings
Week 1 Jan 8-12	Welcome & Introduction Emergent Conceptual Understanding of the Discipline: "Learning science, learning about science and doing science"	**CLASS:** Form various LT Groupings; Begin LT1 – Monday **CLASS:** Begin LTs 2 & 3 – Friday **DUE:** LT1 Introductory Post – Monday **DUE:** LT1 Week 1 Readings – Wednesday & Friday **DUE:** LT1 Friday Fun A – Friday **Readings:** Fitzgerald, A., & Smith, K. (2016). Science that matters: Exploring science learning and teaching in primary schools. *Australian Journal of Teacher Education*, *41*(4), 4. http://ro.ecu.edu.au/cgi/viewcontent.cgi?article=2892&context=ajte Alberta Education. Programs of Study https://www.alberta.ca/programs-of-study.aspx Science K-6 https://education.alberta.ca/science-k-6/program-of-studies/ LearnAlberta https://curriculum.learnalberta.ca/home/en Science K-6 https://curriculum.learnalberta.ca/curriculum/en/s/sci Project Zero: https://pz.harvard.edu/ Lessons and Activities, e.g. http://www.pz.harvard.edu/sites/default/files/SimpleCircuits.pdf

Week 2 Jan 15-19	Nature of science and scientific processes What is inquiry in science learning?	**CLASS:** Work on LTs 2 & 3 – Monday & Friday **DUE:** LT1 Week 2 Readings – Wednesday & Friday **DUE:** LT1 Friday Fun B – Friday **DUE:** LT2 Planning for Visit 1 – Friday **Readings:** Crowther, D.T., Lederman, N.G., & Lederman, J.S. (2005). Understanding the true meaning of nature of science. *Science and Children, 43*(2), 50-52. http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=sch&AN=19226986&site=ehost-live Hanuscin, D., & Park Rogers, M. (Eds.). (2013). *Perspectives: Research and tips to support science education, K-6.* National Science Teachers Association. https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/detail.action?docID=1416110 • Ch. 1 Hanuscin, D.L. & Lee, E.J. (2013) Helping students understand the nature of science. https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/reader.action?docID=1416110&ppg=16 • Ch. 2 Hanuscin, D.L. & Park Rogers, M. (2013) Learning to observe and infer. https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/reader.action?docID=1416110&ppg=20 • Ch. 5 Brown, P.L., & Abell, S.K. (2013). Examining the learning cycle. https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/reader.action?docID=1416110&ppg=32
Week 3 Jan 22-26	Science Technology Society Problem Solving through Technology Concept Statements	**January 22: Visit 1 to a local school** – Monday **DUE**: LT1 Week 3 Readings – Wednesday & Friday **DUE:** LT1 Friday Fun C – Friday **DUE:** LTs 2 & 3 Post-School Visit Debrief 1 – Friday **Readings:** Lachapelle, C.P., Sargianis, K., & Cunningham, C.M. (2013). Engineer it, learn it: science and engineering practices in action. *Science and Children*, *51*(3), 70-76. http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=91710125&site=ehost-live Holub, J., Kruse, J., & Menke, L. (2020). Deconstructing solids. *Science and Children*, *57*(8), 28-33. http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=142075457&site=ehost-live

		Keeley, P. (2020). "Doing" science vs. "doing" engineering. *Science and Children, 57*(6), 16-18. https://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=141705443&site=ehost-live Robertson, B. (2018). Q: How do we best teach and learn science concepts? *Science and Children, 55*(9), 69-75. http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=130365445&site=ehost-live
Week 4 Jan 29-Feb 2	Lesson Analysis: Teaching Science for Understanding Wild Pedagogies & Quality Education Natureground & Whispering Signs	**CLASS:** Introduction to Round Table Session – Monday **CLASS:** LTs 2 & 3 Planning for Visit 2 – Monday & Friday **DUE:** LT1 Round Table Panel Week 4 Readings – Friday **DUE:** Midpoint Check In – Friday **Readings For Round Table Panel Session:** Knowlton Cockett, P. (2016, December). School partnerships. *Urban Environmental Education Review*, Chapter 14. [Video file]. Ithaca, NY: Cornell University Civic Ecology Lab and EECapacity. https://www.youtube.com/watch?v=69kqCP7Ql4s&list=PL4LUX34gvz9NdWaCqg6TxKBFP_2spWx3t&index=15 Natureground: www.natureground.org United Nations. (n.d.). *Sustainable development goals*. https://sdgs.un.org/goals Whispering Signs articles: https://www.dropbox.com/sh/bl04kxw646v2s3b/AAA1gjIrWpF5I-rekjW6-pkNa?dl=0 Wals, A. (2017, December). *UN sustainable development goal number 4: Quality education.* [Video file]. Gothenburg Centre for Sustainable Development, Sweden. https://www.youtube.com/watch?time_continue=8&v=AycUPRNiblE Wals, A. (n.d.). *NatureWise: Dutch children's learning in, about, for, and by nature*. Global Environmental Education Partnership. https://thegeep.org/learn/case-studies/naturewise-dutch-childrens-learning-about-and-nature Wals, A., Pinar, W., Macintyre, T., Chakraborty, A., Johnson-Mardones, D., Waghid, Y., Tusiime, M., Le Grange, L. LL, Razak, D.A., Accioly, I., Xu, Y., Humphrey, N., Iyengar, R., Chaves, M., Herring, E., Vickers, E.A., Santamaria, R.D.P., Korostelina, K.V., & Pherali, T. (2022). Chapter 8: Curriculum and pedagogy in a changing world, 520-582, in E.A. Vickers, K. Pugh, & L. Gupta

		(Eds.). *Education and context in reimagining education: The international science and evidence based education assessment*. [A.K. Duraiappah, N.M. van Atteveldt et al. (Eds.)]. UNESCO MGIEP. https://unesdoc.unesco.org/ark:/48223/pf0000380982 Direct link to pdf of Chapter 8: https://arjenwals.files.wordpress.com/2022/04/chapter_8_curriculumpedagogychangingworld-iseea.pdf https://doi.org/10.56383/YUDJ7139 Wild Pedagogies Touchstones: https://wildpedagogies.com/
Week 5 Feb 5-9	Lesson Analysis: Evidence, Explanation and Conceptual Change	**February 5: Visit 2 to a local school** – Monday **DUE:** LT1 Week 5 Readings – Wednesday & Friday **DUE:** LTs 2 & 3 Post-School Visit Debrief 2 – Friday **Readings:** Ansberry, K.R., & Morgan, E. (2013). *Picture perfect science lessons*. Arlington, VA: NSTA Press. • Ch. 4 BSCS Instructional model https://ezproxy.lib.ucalgary.ca/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=39747850&site=ehost-live • Ch. 8 Rice is life https://ezproxy.lib.ucalgary.ca/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=39747854&site=ehost-live Holub, J., Kruse, J., & Menke, L. (2020). Deconstructing solids. *Science and Children*, *57*(8), 28-33. http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=142075457&site=ehost-live Lachapelle, C. P., Sargianis, K., & Cunningham, C. M. (2013). Engineer it, learn it: science and engineering practices in action. *Science and Children*, *51*(3), 70-76. http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ehh&AN=91710125&site=ehost-live
Week 6 Feb 12-16	Creation of Short-term Learning Plan (aka lesson planning)	**CLASS:** LT2 Presentations & Peer Feedforward Rounds – Monday **CLASS: Pedagogical Potluck Fika!** – Friday **DUE:** LT1 Week 6 Readings – Wednesday & Friday **DUE:** LT2 – Monday & Friday **DUE:** LT2 Group Self-Assessment – Friday **Readings:** Each person in a discussion group will read 1 of the following:

		Cross, A., & Board, J. (2014). *Creative ways to teach primary science*. McGraw-Hill Education (UK). • Ch. 5 Using children's literature, stories, poetry and songs https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/reader.action?docID=1920720&ppg=63 • Ch. 6 Models and analogies https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/reader.action?docID=1920720&ppg=78 • Ch. 8 Demonstrations https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/reader.action?docID=1920720&ppg=106 • Ch. 9 Dance and drama https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/reader.action?docID=1920720&ppg=120 • Ch. 10 Playground science https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/reader.action?docID=1920720&ppg=132 • Ch. 11 Thinking frames https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/reader.action?docID=1920720&ppg=143
Feb 19 Feb 19-24	Alberta Family Day Term Break (No classes)	
Week 7 Feb 26-Mar 1	Formative Assessment	**CLASS: Alberta Science Network Workshop** – Monday **DUE:** LT1 Week 7 Readings – Friday **Readings:** Hanuscin, D., & Park Rogers, M. (Eds.). (2013). *Perspectives: Research and tips to support science education, K-6.* National Science Teachers Association. https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/detail.action?docID=1416110 • Ch. 16 Lee, M.H., & Abell, S.K. (2013). Assessing for science Learning. https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/reader.action?docID=1416110&ppg=78 Keeley, P. (2017). Embedding formative assessment into the 5E instructional model. *Science and Children, 55*(4), 28-31. http://ezproxy.lib.ucalgary.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=sch&AN=126367653&site=ehost-live

		Kelly, O., White, P., Butera, F., Illingworth, S., Martens, P., Huynen, M., Bailey, S., Schuitema, G., & Cowman, S. (2023). *Sustainability Science*. A transdisciplinary model for teaching and learning for sustainability science in a rapidly warming world. https://link.springer.com/article/10.1007/s11625-023-01407-z White, P. (2023). Activist. In N. Wallenhorst & C. Wulf. (Eds.). *Handbook of the Anthropocene: Humans Between Heritage and Future*. Part XXII, The Challenge of Peace, 1671-1675. https://ebookcentral-proquest-com.ezproxy.lib.ucalgary.ca/lib/ucalgary-ebooks/reader.action?docID=30717231&ppg=1541 **ALSO**, bring in connections to a) your LTs 2 & 3 lesson plans, and b) a related current events article and/or storybook of your choice.
Week 8 Mar 4-8	Course Completion	**DUE:** LT3 Presentations & Peer Feedforward Rounds – Monday **DUE:** LT3 Group Self-Assessment – Monday DUE: LT3 PeerEval-GroupWork – Monday **DUE:** LT3 Summative Reflections – Friday **DUE:** LTs 1 & 3 Self-Assessments & Exit Slip – Friday

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 ASSESSMENTS:

LT 1 – Community knowledge building: Inquiry into teaching through Elementary Science
Individual, & within small groups

Learning Task 1 (35%) **DUE** – Ongoing, as per Weekly Schedule, to include:

- Weekly Readings (6 @ 4% each)
- Round Robin Panel (1 @ 3%)
- Friday Fun Science Engagement (1 @ 4%)
- Other Posts: Introduction, Peer Feedforwards (x2), PeerEval-GroupWork (2%)
- Midpoint Check In, Self-Assessment & Exit Slip (2%)

The purpose of the learning task is to provide ongoing reflections on the following question: *How has your conceptualization of teaching Elementary Science through a design-based and inquiry-focused approach changed, been modified, or reinforced?* Your reflections will be in the form of blogs; that is, you will write from a personal perspective that allows you to connect directly with your readers and support knowledge building.

Note: While this is an overarching question, as a community of learners, you will develop prompts or sub-questions within your conversation groups preceding the blog entries. Further details and explanations will be presented to you on D2L.

i For each of the specified Weekly Reading assignments, you will post an approximately 400-word blog or equivalent* within your small conversation group (3-4 members) on the D2L Discussion Board by Wednesday midnight.
ii You will then respond to each of your small conversation group peers by Friday midnight. Approximately 200 words each.

*Note: After Blog 1 in standard format, you may try out alternatives to written formats, such as audio or video, and asynchronous or synchronous. Further details in class and on D2L.

These connections allow you to interact and share ideas with your colleagues. Thoughtfully plan how you will engage members of your class on your insights and learning. Your blogs and responses must be persuasive, that is, you should take a personal stance on the question and explain your response, using relevant and varied evidence. Your blogs must include significant insights from:

- Professional discussions (Online and In Class Discussions and Activities)
- Course readings and resources (including Online and In Class Discussions on the readings)
- Current research
- Classroom observations/experiences (e.g. Field Experience I & Specialization I Class Visits)

Friday Fun Science Engagement presentations and the Round Table Panel Session will be further detailed in class. These small group presentations, demonstrations, and associated resources will contribute to a class collection of teaching ideas for self and others regarding Elementary Science.

Learning Task 1 Assessment Criteria:

Criteria	**A+ to A** Meets all and exceeds some requirements	**A- to B+** Meets all requirements	**B to B-** Meets most requirements	**C+ or lower** Does not meet requirements
Articulation of Science Teaching concepts	Contributions and responses are detailed, insightful, clearly communicated, and focused on group knowledge building.	Contributions and responses are clear, and focused on group knowledge building.	Contributions and responses are generally clear, but may lack some details or focus.	Contributions and responses are unclear and/or not focused on knowledge building.
Relevant evidence	Demonstrates skillful use of high quality, credible, relevant sources to explain and support ideas. Cites all content obtained from other sources other than course readings and personal experiences. APA 7 citation style is accurate (if applicable).	Demonstrates consistent use of credible, relevant sources to support ideas. Cites most content obtained from other sources other than course readings and personal experiences. APA 7 citation style is accurate (if applicable).	Demonstrates an attempt to use credible and/or relevant sources to support ideas. Cites some content obtained from other sources. Citation style is either inconsistent or incorrect (if applicable).	Does not use credible and/or relevant sources to ideas. May not cite sources.

Democratizing knowledge	Recognizes all participants as legitimate contributors to the shared goals of knowledge building through supportive and constructive interactions that build on group ideas.	Recognize and integrates contributions from all group members.	Attempts are made (potentially with some gaps) to recognize and respond to contributions from all group members.	Contributions are primarily independent without recognition and/or integration of ideas from other group members.
	Participates in a timely manner in all class-related activities, including formative engagements such as class presentations and peer feedforward rounds, PeerEval-GroupWork, self-assessment opportunities, and midpoint check ins, and exit slips.	Participates in most class-related activities, including formative engagements such as class presentations and peer feedforward rounds, PeerEval-GroupWork, self-assessment opportunities, and midpoint check ins and exit slips.	Participates in some class-related activities, including formative engagements such as class presentations and peer feedforward rounds, PeerEval-GroupWork, self-assessment opportunities, and midpoint check ins and exit slips.	Does not often participate in class-related activities, including formative engagements such as class presentations and peer feedforward rounds, PeerEval-GroupWork, self-assessment opportunities, and midpoint check ins and exit slips.

LTs 2 & 3 – COMBINED
Planning for Teaching, Learning, and Assessment in Elementary Science

Some major purposes of our Elementary Science Seminar are to introduce student teachers to the joy and wonder of science for children, to consider concepts and discourses in science learning theory, and to become familiar with some of the many professional resources available to support teaching in Elementary Science. You will be meeting with teachers and children to engage in conversations about teaching and learning science! Assignments in the course are designed to build understanding of planning practices and approaches to teaching that are informed by theory and research. There will be opportunities to model these approaches through some practical classroom experiences such as working with a small group of children in a school learning setting to understand learner thinking and to bring alive the course curriculum. You will engage in inquiry work with science materials typically used in school settings and will build a beginning overview of the Alberta Education Programs of Study in Elementary Science, and you will embrace some of the latest thinking about teaching science inclusively to develop greater awareness of the needs of diverse learners.

In this work, you have a wonderful opportunity to engage in the required planning and assessment assignments in Specialization I by working with teachers and children at a nearby K-6 school.
To begin your understanding of children learning science and to begin to organize for teaching you will start by actively conversing with children to learn about their interests and ideas about a topic in Elementary Science. You will use this information to plan for teaching, learning, and assessment. In addition to learning about children and teachers working in science in real school settings, you will also reflect on your developing work as novice educators. Classroom teachers and children in schools love the depth and focus that you are able to provide through our visits, and student teachers find the insights that they gain into the authentic experiences of school science learning invaluable.

"*We love working with the University and giving our students that authentic experience. Seeing adult learners, leads our students to see themselves as lifelong learners, which is what we hope to develop in our students."* – Principal (2017).

"*We loved this work with your students. We learned so much from them and still use some of their lesson ideas today*." "*We would love to have your students come in again in the new year!"*
– Grade 5/6 Teachers (2021 & 2022).

Course Design Credits: Dr. Bonnie L. Shapiro designed these engagements based on years of similar work, and Dr. Polly L. Knowlton Cockett adapted and delivered this design in 2018 and 2023.

Learning Task 2: (25%) DUE: Friday, February 16, 2024
Design, Implementation, and Analysis of Formative Conversations & Follow Up Engagements
Within small groups

Engagement for Task 2 will involve:

- Guided Work Sessions: Resource access, team preparation, and consultations with instructor.
- Meeting with teachers and conversations and follow up engagements with children at a local school.
- Class Sharing & working sessions to complete Task 2 for submission.

Accessing Learners' Ideas about Grade 4/5/6 Science Topics
In this portion of the assignment, working in teams, you will create hands-on experiential activities and tools to access learner understandings about ideas in science. You will meet several teachers at the school, and will interact with students to learn more about their ideas, concepts, and feelings about studying the topics for Grade 4/5/6 in the Alberta Education Programs of Study in Science. You will meet the teachers at a local school to learn about their views of Science teaching, learning, and planning for instruction. They may also share with us insights into their ways of planning for teaching and the resources they find useful. During these visits to the school, you will gain insight and understanding into the ways that experienced teachers live and work in relation to their students and the curriculum and the bases for many of the decisions that they make concerning the experiences they offer to learners.

Procedure: Design and Analysis of Experiential Conversations and Activities to Access Learners' Ideas about Grade 4/5/6 Science topics. During the Guided Study sessions at the University, you will consider curriculum guidelines, research on children's learning, examples of probes, and the resource materials explored in this course to develop ***hands-on experiential conversations and engagements.*** These sessions will help Grade 4/5/6 students inform you about their current ideas about the nature of Grade 4/5/6 science topics. Each student teacher will work with 1-2 colleagues to plan conversations and activities with a small group of Grade 4/5/6 students. On the days of the School Visits, student teachers may work with the children assigned to each of them (2-3 children) or may combine their group and work together (4-6 children). The plan will describe the engagement activities developed to understand and record learner conceptions about two or three curriculum objectives. The plan should be developed to help learners engage with materials and discuss their ideas. The plan is not designed to TEACH learners concepts and skills, but is designed to engage children in activities and conversations to ACCESS learner ideas, concepts, and skill levels. The Rationale for selection of content for the activities will be grounded in the research literature and the Alberta Programs of Study in Elementary Science. Be sure to TEST all activities prior to working with the children! Student teachers will prepare a report that includes the Plans, a Summary of Findings, and an Analysis and Reflection regarding the Experiences.

Details and Expectations:

Lesson Plans, Findings, Reflections, Conversation and Activity Guides, and References

Learning Task 2 Assessment Criteria:

Criteria	A+ to A Meets all and exceeds some requirements	A- to B+ Meets all requirements	B to B- Meets most requirements	C+ or lower Does not meet requirements
The Lesson Plan (40%)	The plan outlines an extremely well written, detailed, and very well-conceptualized design and procedure. The purpose of the plan is very well stated. A thoughtfully articulated, well organized summary of learner ideas that are to be addressed in the plan is presented. The plan is creatively designed to actively engage learners with relevant activities to explore concepts. Engagement activities are carefully planned to allow learners to use a variety of approaches/modalities to share and preset ideas and understandings. A very well-developed plan for recording student ideas during the lesson is in place. Source material cited for use in the design of the plan is extensive and highly appropriate to the purposes of the lesson. The plan and activities are very clearly tied to the Alberta Education Programs of Study in Elementary Science. The plan clearly demonstrates how the	The plan outlines a very good, detailed, and fairly well-conceptualized design and procedure. The purpose of the plan is well stated. A good summary of learner ideas that are to be addressed in the plan is presented. The plan shows generally the ways learners will be actively engaged to explore ideas and understandings. There is evidence of planning to allow learners to use a variety of approaches or modalities to share and present ideas and understandings. A good plan is in place for recording student ideas during the lesson. Several sources are used in the design of the plan and are appropriate. The plan and activities are tied to the Alberta Education Programs of Study in Elementary Science. The plan demonstrates how the conversations	The plan includes some basic discussion about the procedures to be used. The purpose of the plan is fairly well stated. There is a basic summary of learner ideas that are to be addressed in the plan. The plan provides for limited active engagement of learners with concepts. There is limited planning to allow learners to use a variety of approaches or modalities to share and present ideas and understandings. A limited plan is in place for recording student ideas during the lesson. Two to three source materials are used in the design of the plan. The plan and activities are somewhat tied to the Alberta Education Programs of Study in Elementary Science. The plan shows to some extent how the	The plan may show some significant lack of development or completeness. The purpose of the plan is not well stated. The summary of learner ideas that are to be addressed in the plan is somewhat limited or absent. There is no clear, well-designed and planned activity. Only one modality is engaged or the description is incomplete or poorly developed. A very limited plan is in place to record student ideas or no plan is in place. There are very few or only a single resource used in the design of the lesson or resource materials are absent or inappropriate. The plan and activities are not well tied to the Alberta Education Programs of Study in Elementary Science or are missing. The plan does not give a good description of how

	conversations and all activities were practiced prior to working with the children. Correct APA citation is presented for all sources used.	and all activities were practiced prior to working with the children. Correct APA citation is presented for all sources used with minor errors.	conversations and all activities were practiced prior to working with the children. Correct APA citation is presented for some sources.	the conversations and all activities were practiced prior to working with the children. Correct APA citation is not evident or citations are absent.
Summary of Findings (20%)	The description of the process is excellent. The summary of the findings is comprehensive, student ideas and experiences are fully presented as a summary, and the summary is extremely well organized.	The description of the process is very good. The summary of the findings is fairly comprehensive, student ideas and experiences are presented as a summary, and the summary is well organized.	The description of the process is fair. The summary of the findings is fairly complete, student ideas and experiences are generally presented as a summary, and the summary organization is fair.	The description of the process is problematic, incomplete, or lacking. The summary of the findings is somewhat difficult to follow, student ideas and experiences are not fully presented as a summary, and the summary is not well organized.
Group Reflections (20%)	A comprehensive and extremely well-organized reflection is presented outlining the student teachers' developing new understandings, surprises, learnings, challenges, and experiences during the lessons and time in the school.	A comprehensive and very well-organized reflection is presented outlining the student teachers' developing new understandings, surprises, learnings, challenges, and experiences during the lessons and time in the school.	A comprehensive and fairly well-organized reflection is presented outlining the student teachers' developing new understandings, surprises, learnings, challenges, and experiences during the lessons and time in the school.	The reflection outlining the student teachers' developing new understandings, surprises, learnings, challenges, and experiences during the lessons and time in the school is lacking in depth and/or organization or is limited in scope.
Class Sharing (20%)	Each group engages in meaningful collaborative debriefs after each school visit, including in conversation with the Instructor. Each group posts their in-progress lesson materials to date on D2L in as much detail as possible, and provides an insightful and thoughtful class presentation for their peers.	Each group engages in collaborative debriefs after each school visit, including in conversation with the Instructor. Each group posts their in-progress lesson materials to date on D2L in detail, and provides a thoughtful class presentation for their peers.	Each group engages in debriefs after each school visit, including in conversation with the Instructor. Each group posts their in-progress lesson materials to date on D2L, and provides a class presentation for their peers.	Each group engages in debriefs after each school visit. Each group posts their in-progress lesson materials to date on D2L, and provides a class presentation for their peers.

Learning Task 3: (40%) DUE: Monday & Friday, March 4 & 8, 2024
Design, Implementation, and Summative Reflections on a Learning and Assessment Plan
Individual (within small groups)

Engagement for Task 3 will involve:

- Guided Work Sessions: Discussions, team preparation sessions, and consultation with instructor.
- Implementation of lesson with children at a local school.

- Class Presentation & Final Submission of lesson plans.
- Summative reflections on implementation.

In this assignment, students will design a learning and assessment plan based on findings in the **Experiential Conversations** conducted with the children at a local school (Task 2). Student teachers will work with the same children in their work in both Task 2 and 3. To construct the learning plan, and drawing on your Pragmatics, Field Experience I, and other courses, we will use resources and materials found in our Course Outline, recommended online resources, materials located during our Doucette Library preparation session, text resources, and other library resources or materials recommended by teachers or found online. The purpose of Task 3 is to gain learning and assessment planning experience working with children in science education. The experience will:

- Foster professional learning conversations**.**
- Build knowledge about the features of well-designed discipline-based learning and assessment plans, and
- provide helpful and supportive "feedforward" suggestions to strengthen the designs of your peers.

You will use the Summary Framework and questions based on Wiggins' online resource summarized below to help with lesson planning. Following the completion of the lesson at the school you will develop a reflective essay describing your work to organize and implement the learning and assessment plan with the children and the impact of this work on your professional development work as an educator and as an Elementary Science specialist.

Details and Expectations:

For this assignment, students will work individually AND must also track and provide evidence of individual contributions and reflections while also working collaboratively (with a partner or with two others in a small group). Build a rationale for the selection of lesson content based on a review of your findings with students at a local school. Select appropriate content from the Alberta Education Programs of Study in Grade 4/5/6 Science Topics, and build one-hour lessons for the same students you worked with in the school during the two visits. The summative portions of the assignment are comprised of two parts:

1. A thoughtfully prepared teaching and learning plan based on your active conversations and engagements with the children. Use a **lesson plan template of your choice** illustrating clearly your vision for the two lessons and making clear the comprehensive vision you used to achieve the objectives. Your plan must include (although is not limited to) the following: objectives, options for inclusion/differentiation, and formative assessment strategies that link to your objectives.

The learning and assessment plan: Following your work at the school and the sharing of ideas and resources, you will create a summative learning plan. Use the Wiggins, et al references below, and model questions adapted for organization and planning for our lessons. Be sure to include a clear assessment component: How will you determine whether students have grasped the knowledge/ concepts or have developed the skills that are the intended goals of the learning experience? You will gather the materials for the lesson activities and engagement plans and will test all activities and communication/engagement activities before implementing the plan with children, insofar as possible. Include in the plan a section with suggestions for addressing the diverse needs of typical students who you may encounter when teaching in the future:

a) an ELL learner who may potentially be in your student group AND
b) a student who may have a different special need that you identify.

The learning design and the theoretical framework supporting it will be posted online for analysis and "feedforward" suggestions from members of the class using the *Teaching Effectiveness Framework and Rubric* and the 5 key strategies of formative assessment (Leahy et al) as lenses. Your plan should follow a clear and comprehensive design-focused template (of your choice) that promotes deep understandings of key concepts or competencies in Elementary Science.

2. Your individual reflection on the teaching and learning plan implementation.

The reflective essay: Using the suggested questions and points here, prepare a reflective essay describing the experience of designing and teaching using the learning and assessment plan. Describe the results of the learning experience for students in terms of student achievement of learning goals, successes, enjoyment in learning, and any difficulties encountered with the topic. What worked well? What did not work particularly well? How might you adjust or change the learning and assessment plan for use in the future? Briefly discuss the practicalities of enacting the learning and assessment plan that includes adapting to the specific and diverse needs of learners. How has this experience with designing and planning for teaching contributed to your professional development?

You will provide a four- to six-page (double-spaced) or equivalent (e.g. a narrated video essay) critical review of the learning design and assessment plan, by addressing each of the aspects of the Understanding by Design® (UbD) framework.

***See the various McTighe and Wiggins references earlier in the Course Outline**

The following bold headings provide a good general summary framework for organizing thinking about planning for learning that is used in all EDUC 460 Specialization courses:

Established Goals: What are the key Goals, Knowledge, and Skills to be developed in the lesson, and how do they address relevant goals in the Programs of Study?

Understandings: What are the "big ideas" to be obtained? What specific understandings are framed in the learning design?

Essential Questions: What provocative question(s) foster inquiry, understanding, and transfer of learning?

Knowledge and Skills: What key knowledge and skill(s) will students acquire as a result of this lesson? How is the lesson part of a larger unit plan? What should students eventually be able to do as a result of such knowledge and skill(s)?

Assessment Evidence: By what criteria will "performances of understanding" be judged? Through what other evidence will students demonstrate achievement of the desired results? What opportunities did students have to receive formative feedback? How will students reflect upon and self-assess their learning?

Lesson Activities: What lesson activities will be used to build the knowledge and skill goals of the lesson? How well do the activities align with the WHERE TO concept (Wiggins, et al.)?

Theory: What are the underpinning theories of learning that are represented in the learning and assessment plan?

Programs of Study: In what ways and to what extent does this design plan align to the goals and objectives of the Alberta Education Programs of Study? If not, how would you adapt it to better align with the Alberta context?

Critique and Recommendations: Following completion of the lesson, what "feedforward" suggestions would you have to strengthen the learning design?

***Refer to the Additional Resources listed earlier in the Course Outline.**

Learning Task 3 Assessment Criteria:

Criteria		**A+ to A** Meets all and exceeds some requirements	**A- to B+** Meets all requirements	**B to B-** Meets most requirements	**C+ or lower** Does not meet requirements
PART I					
DESIGN (40%)					
	CURRICULAR OUTCOMES Links to Programs of Study (PoS) Selected ESL Benchmarks (Level 3) with rationale	Appropriate links to PoS for chosen level; clear understanding of curricular outcomes as expressed in PoS.	Some links to PoS for chosen level are clear and appropriate; some PoS curricular outcomes are represented in lesson plan.	Links to PoS for chosen level not clear or appropriate; curricular outcomes present but not clearly articulated; little effort to integrate.	Few if any links provided between PoS and lesson elements; curricular outcomes not present.
		Appropriate selected ESL benchmark objectives for level 3 students with specific rationale.	Appropriate selected ESL benchmark objectives for level 3 students with general rationale.	Selected ESL benchmark objectives for level 3 students not clearly articulated or rationale not articulated.	Inappropriate or missing selected ESL benchmark objectives for level 3 students.
	INSTRUCTIONAL DELIVERY Plan demonstrates disciplinary knowledge, engagement, student-centeredness, organization, integration across lesson sections	Plan well informed by disciplinary knowledge; lessons highly engaging and inquiry-based; lesson is clearly student-centered; lesson clear and well-ordered; easy to envision how lesson will unfold; all important elements included; high degree of integration among lesson sections and excellent links.	Good evidence of carryover of disciplinary knowledge to lesson plan; lessons engaging and some parts inquiry-based; mostly student-centered; good attempt to integrate parts of the lesson; lesson plan mostly clear and logical flow; most important elements included.	Some evidence that disciplinary knowledge informed creation of lesson plan; lessons are inquiry-based and student-centered but need to be strengthened; lesson plan flow is neither clear nor logical and is hard to follow; several important elements of good lesson plan are missing.	Little evidence that disciplinary knowledge informed creation of plan; inquiry-based learning is not clearly represented; lesson is teacher-centered; lesson plan is missing important elements and does not flow well (hard for reader to imagine how the lesson would unfold).

	DEEP UNDERSTANDING Learning opportunities for deep understanding of curriculum objectives	Lesson design is highly effective for encouraging deep understanding of content objectives by students.	Lesson design provides good opportunities to encourage deep understanding by students.	Lesson design shows awareness of importance of encouraging deep understanding by students but not effective in achieving that understanding.	Absence of evidence of attempt to encourage deep understanding by students.
ASSESSMENT (20%) Integrated formative assessments Statement of how assessments will improve practice		Appropriate assessments are clearly integrated into lesson; clearly communicates to students how individual tasks fit in. Uses a variety of effective formative assessments to inform instructional decisions and to improve practice; strong statement of how assessment will improve practice.	Good effort to integrate appropriate and effective assessments; shows some variety in choices for formative assessment – most are effective; clear statement of how assessments will improve practice.	Some attempt made to include appropriate assessment opportunities; shows lack of understanding of what constitutes effective assessment; no communication to students of how to situate their work. Formative assessment options are limited and not particularly effective; does not address how assessment will lead to improved practice.	Assessment lacking; no understanding shown of importance of appropriate and effective assessment; clear lack of direction for students. Unclear vision of how to include assessment; discussion of importance of assessment or how it can be used to improve practice needs to be strengthened/revised.
PART II					
THE REFLECTIVE ESSAY (40%) Depth of analysis		The reflective essay displays a sophisticated and elegant understanding and analysis of the role of planning in lesson design.	The reflective essay shows a competent understanding, if not analysis, of the role of planning in lesson design.	The reflective essay displays some understanding of the role of planning in lesson design, but lacks analysis.	The reflective essay displays little understanding of the role of planning in lesson design and lacks analysis.
Writing/Narrative quality		The reflective essay is clearly written/narrated and stands as a superior example free of errors.	The reflective essay is relatively clearly written/narrated and contains few errors.	The reflective essay is somewhat unclearly written/narrated and contains errors that impede understanding.	The reflective essay is unclearly written/narrated and contains many errors that impede understanding.
Presentation of ideas		Essay is 4-6 pages, or equivalent if an alternative format is used. Writing/narrative style is academic. In-text citations and reference list use correct APA 6th edition style. Essay demonstrates	Essay is 4-6 pages or equivalent. Writing/narrative style is primarily academic. Most in-text citations and reference list use correct APA 6th edition style. Essay demonstrates attention to form.	Essay is 4-6 pages or equivalent Writing/narrative style is sometimes academic, sometimes informal. Some in-text citations and reference list use correct APA 6th edition style.	Essay exceeds 6 pages or is less than 4 or equivalent. Writing/narrative style is informal. In-text citations and reference list are missing or not in APA style. Essay requires extensive editing in order to attend to form.

	superior attention to form.		Essay requires some attention to form.	

THE EXPECTATION OF EXCELLENCE IN PROFESSIONAL WORK

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

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

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

- *Engagement in Class Discussion and Inquiry*

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

EXPECTATIONS FOR WRITING

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

LATE SUBMISSIONS

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

ISSUES WITH GROUP TASKS

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

GRADING

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

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

Academic Accommodation
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://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf. 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 based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to their Instructor.

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

Attendance/ Prolonged Absence
Students may be asked to provide supporting documentation for an exemption/special request. This may include, but is not limited to, a prolonged absence from a course where participation is required, a missed course assessment, a deferred examination, or an appeal. Students are encouraged to submit documentation that will support their situation. Supporting documentation may be dependent on the reason noted in their personal statement/explanation provided to explain their situation. This could be medical certificate/documentation, references, police reports, invitation letter, third party letter of

support or a statutory declaration etc. The decision to provide supporting documentation that best suits the situation is at the discretion of the student.

Falsification of any supporting documentation will be taken very seriously and may result in disciplinary action through the Academic Discipline regulations or the Student Non-Academic Misconduct policy. https://www.ucalgary.ca/pubs/calendar/current/k.html

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

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

Education Students Association (ESA) President for the academic year is Claire Gillis, esa@ucalgary.ca.

Werklund SU Representative is Elsa Stokes, educrep@su.ucalgary.ca.