

**WERKLUND SCHOOL OF EDUCATION – UNDERGRADUATE PROGRAMS**  
**BACHELOR OF EDUCATION, Winter 2015**  
**EDUC 545**  
**Curriculum I**  
**Science for Responsible Living**

Section	Instructor	Location	Email
S01	Sharon Nichols	EDC352	<a href="mailto:snichols@ucalgary.ca">snichols@ucalgary.ca</a>
S02	Lissa D'Amour	EDC351	<a href="mailto:ldamour@ucalgary.ca">ldamour@ucalgary.ca</a>
S03	Polly Knowlton Cockett	EDC350	<a href="mailto:plknowlt@ucalgary.ca">plknowlt@ucalgary.ca</a>
S04	Greg Lowan-Trudeau*	EDC353	<a href="mailto:gelowan@ucalgary.ca">gelowan@ucalgary.ca</a>
S05	Dianne Dodsworth	EDC354	<a href="mailto:ddodswor@ucalgary.ca">ddodswor@ucalgary.ca</a>
S06	Olive Chapman	EDC356	<a href="mailto:chapman@ucalgary.ca">chapman@ucalgary.ca</a>
S07	Gavin Peat	EDC357	<a href="mailto:peat@ucalgary.ca">peat@ucalgary.ca</a>
S08	Jeff Turner	EDC370A	<a href="mailto:turnerjw@icloud.com">turnerjw@icloud.com</a>
S09	Carol-Ann Burke	EDT1220A	<a href="mailto:lburke@ucalgary.ca">lburke@ucalgary.ca</a>
S10	Sandy Last	TBA	<a href="mailto:slast@ucalgary.ca">slast@ucalgary.ca</a>

\*Coordinator

**Time:** 10 am -12 pm

**Office Hours:** By appointment

**Term Dates:** January 12<sup>th</sup> to February 13<sup>th</sup>, 2015

**COURSE DESCRIPTION:**

The notion of scientific literacy and authentic science, particularly its ethical, economic, and political dimensions, is critical in the redefinition of the role of science education in the 21<sup>st</sup> Century's globalized society. In keeping with current trends in education in Alberta<sup>1</sup> and beyond, students will develop an interdisciplinary perspective on and appreciation of the discipline of science, through investigation of major themes of environment, sustainability, and health and wellness. Using appropriate and engaging case studies, students will develop their critical inquiry skills, modeling appropriate strategies that they could expect their students to adopt when investigating such themes. Further, students will develop knowledge and skills to assess and incorporate traditional and contemporary science resources to support teaching and learning across curricula. In this course, learners will be given an opportunity to explore a variety of topics to deepen their pedagogical understanding of science as a disciplinary practice to support responsible living. Students are expected to actively bring their everyday knowledge to the readings and discussions and to contribute to broadening the scope and understanding of science and its connections to societal and environmental health and wellbeing.

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<sup>1</sup><http://www.education.alberta.ca/media/6950988/moststudentlearning.pdf>  
[http://erlc.ca/resources/resources/cross\\_curricular\\_competencies\\_overview/](http://erlc.ca/resources/resources/cross_curricular_competencies_overview/)

**LEARNER OUTCOMES:**

Students will become knowledgeable about:

- The role and significance of incorporating authentic and current science issues in classroom practice to support skill development in the areas of inquiry, problem-solving, critical and creative thinking and decision-making;
- Scientific literacy and environmental awareness and how these notions are fulfilled within the Programs of Study and as a consequence of examining science in the community;
- The many facets of health and how to design, deliver, and manage instruction on these topics;
- Developing an interdisciplinary program that is both authentic, engaging and explores the boundaries of what is possible in the classroom;
- Becoming critical and discerning consumers and creators of learning resources through the development of tools to assess a variety of materials; and
- Appropriate and effective means of utilizing educational technologies to support learning.

**COURSE DESIGN AND DELIVERY:**

Case inquiries present real-life learning and teaching scenarios and issues to be discussed, analyzed, and debated. These inquiry-based cases are designed to foster collaboration, provoke discussion, and extend understandings. This work requires students to explore perspectives, to become critically informed from different perspectives, and to appreciate multiple possibilities for practical action in learning and teaching environments. Students need to explore the inquiry beyond the initial response to the preamble, narrative and initial readings. Further, students need to work with and learn from others as they engage in critical discussion of the issues and reflect on how this impacts teaching and learning.

**REQUIRED READINGS:**

For each case, there is a list of required readings as well as supplementary readings and resources to support the specific learning task.

**ADDITIONAL READINGS:**

It is expected that students read further in the area of topics identified and discussed in class. Students must be able to access books and journal articles using the University of Calgary Library system. They will find the **Article Indexes** on the University of Calgary Library website to be helpful.

**USE OF TECHNOLOGY:**

The nature of the course requires you to have basic competency in using word processing, e-mailing and browsing the internet. Rules of netiquette and respectful communication must be respected and followed.

**Desire2Learn (D2L)**, a learning management system, will be used for communication and sharing of resources. To access the course materials, go to <https://d2l.ucalgary.ca/> . You are required to enter your University of Calgary **IT** username and password.

**PARTICIPATION:**

You are expected to attend and participate in each of the cases. Given the nature of the case work, attitudes of responsibility, co-operation and collaboration are required. Active listening, participation and questioning are important components of the course experience. Fulfilling obligations to the group is part of the expectation of this course.

**LEARNING TASKS OVERVIEW**

<b>LEARNING TASK NUMBER</b>	<b>DESCRIPTION OF LEARNING TASK</b>	<b>PERCENT OF FINAL GRADE</b>
Learning Task #1	(Case 1) Science in the Community: Town Hall Presentation and Individual reflection	25%
Learning Task #2	(Case 2) Evaluating and Utilizing a Technological Learning Resource	25%
Learning Task #3	(Case 3) Promoting Health in Schools: Health Promotion Workshop	25%
Learning Task #4	(Case 4) The Science of Physical Activity, Health and Nature: Interdisciplinary Class Proposal	25%

**COURSE SCHEDULE:**

<b>Dates</b>	<b>Case-Based Learning Topics</b>	<b>Due Dates</b>
Jan. 12	Introduction and welcome	
Jan. 13, 15, 16, 19 & 20	Science in the Community: Environmental Awareness and Sustainability (Case 1)	Task One: Jan. 19/ 20
Jan. 22, 23, 26 & 27	Evaluating & Utilizing Technological Learning Resources (Case 2)	Task Two: Jan.27
Jan. 29, 30, Feb. 2, 3 & 5	Promoting Health in Schools (Case 3)	Task Three: Feb. 3/ 5
Feb. 6, 9, 10, 12 & 13	The Science of Physical Activity, Health and Nature (Case 4)	Task Four: Feb. 12/ 13

**CHANGES TO SCHEDULE:**

\*Please note that changes to the schedule may occur in response to course logistics, student questions, and conversations.

**LEARNING TASKS AND ASSESSMENT**

There are four (4) required Learning Tasks for this course.

**1. LEARNING TASK 1: Science in the Community (Case 1) Town Hall Presentation (25%)  
Due: Jan. 19/ 20, 2015**

In small groups you will assume the perspective of a stakeholder involved in a controversial issue regarding pipelines.

- **Each group will make a presentation to the class during a town hall meeting.** Check with your instructor to ensure that a wide range of stakeholder views will be presented.
- **Individual students will also submit a written narrative reflection in response to the reflection questions provided at the end of case study (500 words max).**

Presentations and reflections will be scored according to the following rubric:

	<b>3</b>	<b>2</b>	<b>1</b>
<b>Stakeholder Viewpoint</b>	Viewpoints are directly relevant to the issue at hand	Viewpoints are indirectly relevant to the issue at hand	Viewpoints are not relevant to the issue at hand
<b>Factual Information</b>	Arguments are well supported with facts from reliable sources	Arguments are weakly supported with facts from reliable sources	Arguments are not supported with facts from reliable sources
<b>Use of Examples</b>	Relevant examples are used to support the argument	Weak examples are used to support the argument	No examples are used to support the argument
<b>Presentation Organization</b>	Presenters are equally involved in presenting their components. Presentation is exceptionally organized.	Presenters are inconsistent in presenting their components. Presentation is adequately organized.	Presentation lacks organization
<b>Individual Reflection</b>	Responses to questions are richly synthesized into an exceptionally well-written narrative.	Responses to questions are adequately synthesized into an acceptably written narrative.	Responses to questions are inadequately synthesized into a poorly written narrative.
			<b>Total:</b> /15

**2. LEARNING TASK 2: Evaluating and Employing Technology for Learning Science (Case 2)  
Resource Evaluation and Activity Development (25%) Due: Jan. 27, 2015**

The following assessment criteria will be used to evaluate the quality of the learning activity you have developed to include the meaningful and appropriate integration of educational technologies:

**Scoring Guide for Learning Activity using Educational Technologies**

**Grade/Course/Subject:** \_\_\_\_\_

CRITERIA	3	2	1
<b>Description of Learning Outcomes</b>	<p>Learning outcomes are clearly identified and come directly from the Alberta Science Programs of Study</p> <p>A relevant Essential Question is posed that will engage students and promote inquiry and/or critical thinking</p>	<p>Learning outcomes are identified. It is not clear if the outcomes are correlated to the Alberta Science Programs of Study</p> <p>The Essential Question requires information or answers that can be gleaned from the activity without any additional inquiry or critical thinking required</p>	<p>Learning outcomes for the task are unclear and/or are not correlated to the Alberta Science Programs of Study</p> <p>An Essential Question for the task has limited relationship to the learning outcomes.</p>
<b>Description of how students will be assessed</b>	<p>A full description and rationale of how students will be assessed with this activity is provided including:</p> <ul style="list-style-type: none"> <li>The purpose of the assessment (i.e. <i>for</i> learning or <i>of</i> learning)</li> <li>Fully developed assessment strategies that include the assessment tool(s)</li> <li>Explanation of how the information from the assessment will be used is relevant and appropriate</li> </ul>	<p>Some description and rationale is provided:</p> <ul style="list-style-type: none"> <li>The purpose of the assessment (i.e. <i>for</i> learning or <i>of</i> learning) is unclear</li> <li>Some development of assessment tools is outlined</li> <li>Some explanation of how the information from the assessment will be used is provided</li> </ul>	<p>Little description and rationale is provided:</p> <ul style="list-style-type: none"> <li>The purpose of the assessment (i.e. <i>for</i> learning or <i>of</i> learning) is missing</li> <li>Assessment strategies are undeveloped; assessment tool(s) are lacking</li> <li>Explanation of how the information from the assessment will be used is lacking</li> </ul>
<b>Activity rationale</b>	<p>A full description and rationale is provided to explain why this activity was chosen with links to the desired learning outcomes</p>	<p>A reasonable description and rationale is provided for why this activity was chosen with some links to the desired learning</p>	<p>A limited description and rationale are provided for why this activity was chosen.</p>

		outcomes	
<b>Rationale for using educational technologies</b>	A full description and rationale is provided to explain how and why the use of educational technologies in this activity enhances student learning or experiences with the content	A reasonable description and rationale is provided to explain how and why the use of educational technologies in this activity enhances student learning or experiences with the content	A limited description and rationale are provided to explain how and why the use of the educational technologies in this activity enhances students learning or experiences with the content
<b>Activity instructions</b>	Activity instructions for students are clear and easy to follow  Students are informed about how they will be assessed	Activity instructions may cause confusion for students  How students will be assessed is ambiguous	Activity instructions are minimal  Students do not know how they will be assessed

**TOTAL: /15**

**2. LEARNING TASK 3: Promoting Health in Schools (Case 3) Health Promotion Workshop (25%)  
Due: Feb. 3 /5, 2015**

The purpose of this case is to have you explore how you, as a teacher, can enhance learning about health in your grade/subject area.

In small groups, you are asked to **create a 20-minute health promotion workshop** that can be used to teach colleagues. Use the following questions to guide your work:

- What are the key learning outcomes to be achieved in your workshop?
- In your workshop, how are you promoting health in the classroom?
- Through this workshop, what types of changes are being advocated to support a greater understanding of health in the classroom/ school?
- What words, visuals, and activities would you use to support the theme of your workshop?
- How would you help translate this workshop into action?
- How is this workshop designed to change the culture in the school about health?

Presentations will be assessed using the following criteria:

<b>Criteria</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>Authentic rationale and importance of the workshop</b>	Clear evidence of the rationale and importance of the workshop	Some evidence of the rationale and importance of the workshop	The rationale and importance of the workshop is not clear
<b>Connections with all dimensions of health</b>	The workshop clearly connects all dimensions of health	The workshop makes connections to some dimensions of health	The workshop makes connections to only one dimension of health
<b>Creativity of the workshop</b>	Considerable imaginative and engaging activities	Some imaginative and engaging activities	Very limited imaginative and engaging activities
<b>Research evidence to support the workshop</b>	Considerable research evidence to support the workshop	Some research evidence to support the workshop	No research evidence to support the workshop
<b>Practical application of the workshop</b>	Convincing and well expressed workshop ideas that can easily translate knowledge into action	Plausible workshop ideas that could translate knowledge into action	Weak workshop ideas that would be difficult to translate knowledge into action
<b>Total:</b>			<b>/15</b>

**4. LEARNING TASK 4: The Science of Physical Activity, Health and Nature (Case 4)  
Proposal and Presentation (25%) Due: Feb. 12/13, 2015**

With a group of your peers, you are required to develop an interdisciplinary classroom proposal that includes attention to nature/environmental literacy, health and wellness, and physical activity under the umbrella of science. You will **research, create, and present your findings through a power-point presentation** for your colleagues. You are encouraged to explore how to create a rich, authentic interdisciplinary experience for your students. The group presentation will be assessed according to the following criteria:

<b>Criteria</b>	<b>3</b>	<b>2</b>	<b>1</b>
Creativity	Considerable evidence of creativity and engaging activities	Some evidence of creativity and engaging activities	Very limited evidence of creativity and engaging activities
Relevance	Clear evidence of relevance to real world experiences	Some evidence of relevance to real world experiences	Very limited evidence of relevance to real world experiences
Interdisciplinary connections	Clearly connects to curricular requirements	Some connection to curricular requirements	Very limited connections to curricular requirements
Research evidence to support proposal	Considerable research to support proposal	Some research to support proposal	Very limited research to support proposal
Supporting arguments	Strong arguments to support proposal	Weak arguments to support proposal	Very limited arguments to support proposal
			<b>Total: / 15</b>



**ADDITIONAL UNIVERSITY POLICIES & INFORMATION****University of Calgary Grading Scale**

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; generally insufficient preparation for subsequent courses in the same subject
D	1.0	50-51	
F	0.0	≤ 49	Fail – unsatisfactory performance or failure to meet course requirements

**Academic Accommodation:** Students with a disability, who require academic accommodation, need to register with the Disability Resource Centre <http://www.ucalgary.ca/UofC/Others/DRC> MC 295, telephone 220-8237. Academic accommodation letters need to be provided to course instructors no later than fourteen (14) days after the first day of class. **It is a student's responsibility to register with the Disability Resource Centre and to request academic accommodation, if required.**

**Campus Security** provides a range of services intended to promote and facilitate a safe and secure learning and living environment, e.g. the Safe Walk program for students attending

classes on campus. For more information please visit <http://www.ucalgary.ca/security/> or telephone (403) 220-5333.

**Safewalk: Promoting Campus Safety and Awareness:**

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

- call 403.220.533 (24 hours per day, seven days per week, 365 days per year)
- use the Help Phones (they are **NOT** just for emergencies)
- approach an on-duty Safewalker and request a walk

**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 assignments, or submit/return assignments as electronic files attached to private email message.

**Intellectual Honesty/Plagiarism:**

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

The University of Calgary Calendar states that plagiarism involves submitting or presenting work as if it were the student's own work when it is not. Any ideas or materials taken from another source written, electronic, or oral must be fully and formally acknowledged. Plagiarism includes but is not limited to (a) the work submitted or presented was done, in whole or in part, by an individual other than the one submitting or presenting the work (this includes having another impersonate the student or otherwise substituting the work of another's for one's own in an examination or test), (b) parts of the work are taken from another source without reference to the original author, (c) the whole work (e.g., an essay) is copied from another source, and/or (d) a student submits or presents work in one course which has also been submitted in another course (although it may be completely original with that student) without the knowledge of or

prior agreement of the instructor involved.

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

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

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

**Emergency Evacuation/Assembly Points** for the Education Block and Education Tower: Scurfield Hall (primary assembly point); Atrium Professional Faculties Food Court (alternate assembly point)

**Student Union Representative:** The faculty of education representative for 2014-2015 is Sherrin Mohamed - e-mail: [educrep@su.ucalgary.ca](mailto:educrep@su.ucalgary.ca)

**Student Ombudsman's Office:** [www.su.calgary.ca/page/quality-education/academic-services/student-rights](http://www.su.calgary.ca/page/quality-education/academic-services/student-rights)