



# TLEF Project – Final Report

Report Completion Date: (2019/05/16)

## 1. PROJECT OVERVIEW

### 1.1. General Information

<b>Project Title:</b>	CONS 101 Course redevelopment		
<b>Principal Investigator:</b>	Dr. Suzie Lavallee		
<b>Report Submitted By:</b>	Cora Skaien, Suzie Lavallee, Jeanine Rhemtulla		
<b>Project Initiation Date:</b>	July 2, 2018	<b>Project Completion Date:</b>	April 30, 2019
<b>Project Type:</b>	<input checked="" type="checkbox"/> Large Transformation <input type="checkbox"/> Small Innovation <input type="checkbox"/> Flexible Learning <input checked="" type="checkbox"/> Other: [New Small TLEF Project]		

### 1.2. Project Focus Areas – Please select all the areas that describe your project.

- Resource development (e.g. learning materials, media)
- Infrastructure development (e.g. management tools, repositories, learning spaces)
- Pedagogies for student learning and/or engagement (e.g. active learning)
- Innovative assessments (e.g. two-stage exams, student peer-assessment)
- Teaching roles and training (e.g. teaching practice development, TA roles)
- Curriculum (e.g. program development/implementation, learning communities)
- Student experience outside the classroom (e.g. wellbeing, social inclusion)
- Experiential and work-integrated learning (e.g. co-op, community service learning)
- Indigenous-focused curricula and ways of knowing
- Diversity and inclusion in teaching and learning contexts
- Open educational resources
- Other: [please specify]



**1.3. Project Summary**

The redevelopment of CONS 101 from a one-credit to a three-credit course is a significant change for all students entering the Natural Resources Conservation program in Forestry. We focused mostly on (1) developing course content to cover conservation broadly yet cohesively, (2) experiential activities that supplement the theoretical discussions in class, (3) increasing participatory learning inside the classroom, and (4) highlighting potential academic pathways and breadth of research in the disciplines that comprise conservation. CONS 101 also has a broad-base appeal, drawing undergraduate students from other programs and all faculties on campus and providing a strong scientific base to sustainability courses for first year students.

**1.4. Team Members** – Please fill in the following table and include students, undergraduate and/or graduate, who participated in your project.

Name	Title/Affiliation	Responsibilities/Roles
Jeanine Rhemtulla	Associate Professor, Forest and Conservation Sciences	Lead instructor and curriculum developer
Suzie Lavallee	Senior Instructor, Forest and Conservation Sciences	Funding acquisition, idea generation and presenting findings
Cora Skaien	PhD Candidate, Forest and Conservation Sciences	Learning and Teaching Fellow, helped develop curriculum and teach course

**1.5. Courses Reached**

Course	Section	Academic Year	Term (Summer/Fall/Winter)
CONS 101	101	2018	Winter



2. OUTPUTS AND/OR PRODUCTS

2.1. Please list project outputs and/or products (e.g. resources, infrastructure, new courses/programs). Indicate the current location of such products and provide a URL if applicable.

Product(s)/Achievement(s):	Location:
Development materials to support a 3-hour interactive field trip to Pacific Spirit Park	Jeanine Rhemtulla
Course content redesign with clear learning outcomes in syllabus and each lecture	Jeanine Rhemtulla, Canvas
Online (Canvas) course resources enhancement and expansion	(online)
Optional experiential activities development	Jeanine Rhemtulla
Expansion of in-class participatory learning activities (e.g., small group discussion, large group discussion) and curriculum renewal	Jeanine Rhemtulla
Purchasing of resources to enable independent experiential activities (e.g. bird identification guides, plant books, 'library' cart for storing and transporting materials to class)	Jeanine Rhemtulla
Purchasing of educational game resources to enhance curriculum both inside class and in optional extra-curricular sessions	Jeanine Rhemtulla

2.2. Item(s) Not Met – Please list intended project outputs and/or products that were not attained and the reason(s) for this.

Item(s) Not Met:	Reason:
None – all items in original TLEF proposal were achieved or purchased	

3. PROJECT IMPACT

3.1. Project Impact Areas – Please select all the areas where your project made an impact.

- Student learning and knowledge
- Student engagement and attitudes
- Instructional team teaching practice and satisfaction
- Student wellbeing, social inclusion
- Awareness and capacity around strategic areas (indigenous, equity and diversity)
- Unit operations and processes
- Other: Student career and professional development



**3.2. What were you hoping to change or where were you hoping to see an impact with this project? – Please describe the intended benefits of the project for students, TAs, instructors and/or community members.**

Our main goals for curriculum re-structuring of CONS 101 (Introduction to Conservation) were: (1) experiential activities that supplement the theoretical discussions in class, (2) increasing participatory learning inside the classroom, (3) highlighting potential academic pathways and breadth of research in the disciplines that comprise conservation, and (4) a vibrant online learning forum to encourage student engagement and sharing.

We assessed the success of different aspects of this course through our personal observations and an optional 25-question survey (Question types: 19 with options strongly agree to strongly disagree, 3 with options of select all that apply, 3 open-ended, 3 demographic) that 170/225 students opted to complete.

**3.3. Were these changes/impacts achieved? How do you know they occurred?**

We assessed the success of different aspects of this course through our personal observations and an optional 25-question survey (Question types: 19 with options strongly agree to strongly disagree, 3 with options of select all that apply, 3 open-ended, 3 demographic) that 170/225 students optionally completed. Below are key results from each of the above categories. See attached questionnaire and Scantron Results.

**1. Experiential Learning Activities**

- a. **Pacific Spirit Park Guided Walk:** The first mandatory assignment included a 3-hour guided walk in Pacific Spirit Park (~20 students per walk). During the walk, we stopped in multiple forest types and spoke about the cultural history and ecology of the area, utilizing student-led teaching trains. The majority of students found that the use of the teaching train increased their engagement with the content presented on the walk (46.5% strongly agreed, 35.3% agreed), and that walk was a valuable use of their time (47.6% strongly agreed, 36.5% agreed). On the walk, many students commented on how enjoyable it was to have a class that brought them out into the forest, and that the 3 hours went by much quicker than expected.
- b. **Optional Self-Guided Activities:** Students had the opportunity to participate in up to two optional bonus activities, each of which were worth 5%. We created a document with a list of potential activities and questions that accompanied each location. To get grades, students had to either write a one-page reflection focusing on some of the questions provided and provide an image showing them at the location, or they could post on Instagram with a photo and short paragraph focusing on one of the questions using the hashtags @UBCForestry, #UBCForestry and #CONS101UBC2018. Opportunities included self-guided hikes, visiting hatcheries and a games night hosted by our teaching team to play a game about climate change. The vast majority of students appreciated the opportunity to do these optional bonus activities (78.2% strongly agreed, 14.7% agreed), and most also felt that these activities provided them with new insight regarding conservation (55.9% strongly agreed, 26.5% agreed).

**2. Increasing Participatory Learning in the Classroom**

- a. **Pipeline Debate Assignment:** Aspects: (1) a pre-debate assignment; students summarized 5 arguments for and 5 arguments against the development of the Trans Mountain Pipeline, based off of sources we provided to them; (2) a 45-minute in-class debate with groups being composed of 9 students; and (3) a reflective paragraph about how this assignment informed or changed their perspective on the construction of the pipeline. We perceived that this activity



went very well, and the majority of students believed that the in-class debate was an effective way to learn about the topic (62.4% strongly agree, 27.1% agreed).

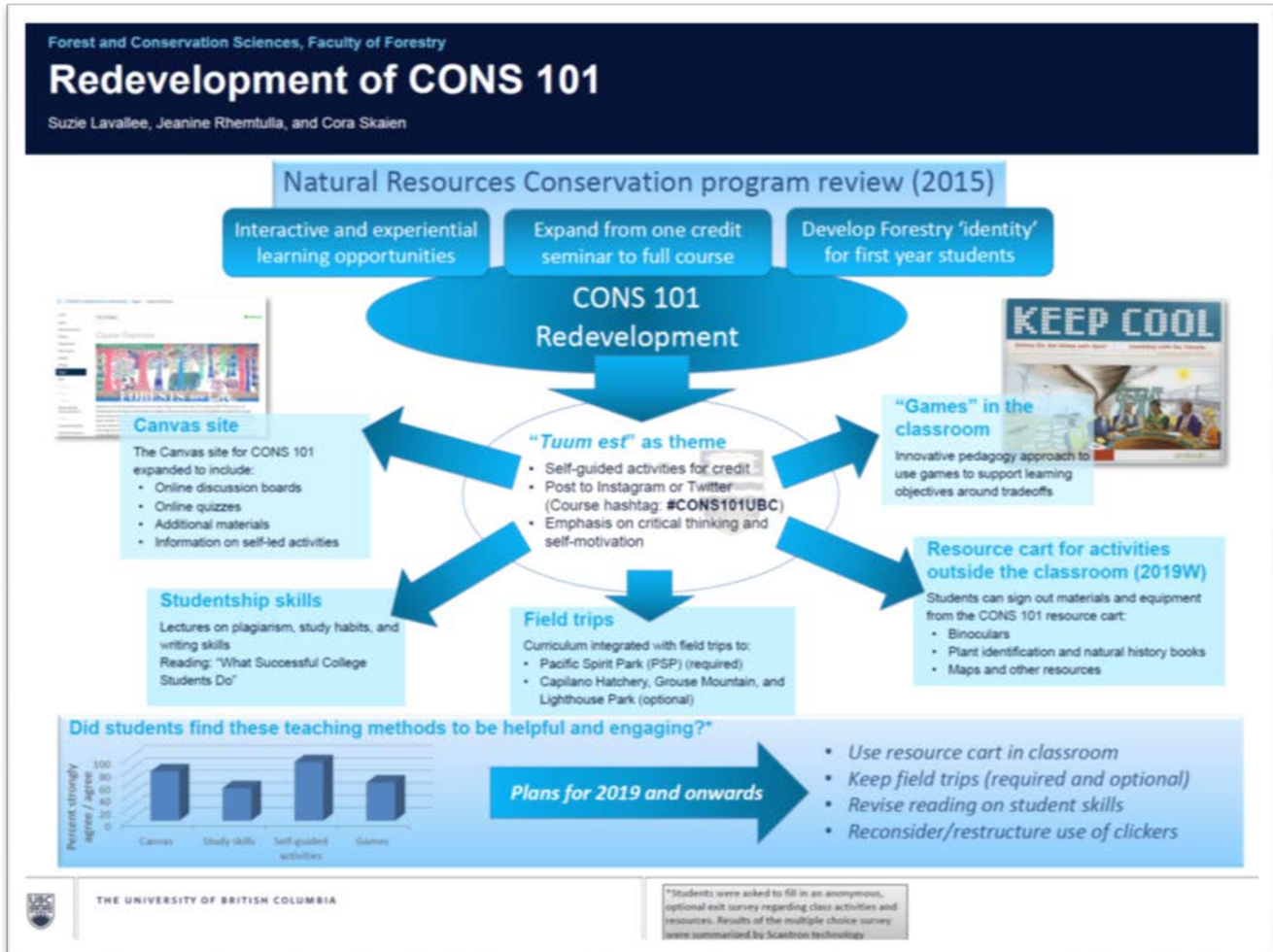
- b. **Game Called “Trade-off” to Teach Ecosystem Services:** Instead of doing a traditional lecture to teach about ecosystem services, we played a game called Trade-Off where students had to select land to convert or set aside to maximize profit for farming and ranching while minimizing impacts on water quality, habitat quality, hunting and foraging habitat, and carbon footprint. In between rounds, we provided lecture slides explaining the concepts and students competed to get the highest score with minimal ecological impacts. Most students agreed that using this game was more effective to learn about ecosystem services than a regular lecture (24.1% strongly agreed, 37.1% agreed).
  - c. **Use of i-clickers:** We used the i-clicker technology in each class to ask: (1) opinion-based questions, often without a correct answer designed to broaden the way we think about a topic, and (2) multiple choice questions pertaining to previous lecture content (Retrieval Practice). The latter questions also provided examples of the style of multiple-choice questions to expect on exams. We perceived that both types of questions enhanced the students learning, and the majority of students agreed (47.1% strongly agreed, 41.8% agreed). We also used the i-clicker technology to track student attendance (worth 10% of their grade). Despite some frustrating glitches, the majority of students who filled out the survey appreciated receiving grades for participating in class (62.4% strongly agreed, 22.9% agreed).
3. **Highlighting Academic and Work Opportunities:** We dedicated two classes to professional development this term, one highlighting opportunities during the undergraduate program (e.g., exchange, co-op, Haida Gwaii semester, Forestry Undergraduate Society) and one to highlight career options in conservation. Most students agreed that dedicating a whole class to highlighting opportunities available during their undergraduate degree increased their awareness of such opportunities (40.0% strongly agreed, 38.8% agreed), and that dedicating a class to highlighting job opportunities was useful (41.2% strongly agreed, 36.5% agreed).

#### 4. Other

**Use of Learning Objectives/Outcomes Each Class:** We used learning objectives to shape the entire course, but also at the beginning of each lecture, designed to help student studying and learning by highlighting the important concepts. When designing exam questions, we referred back to these learning objectives. The majority of students found these learning objectives useful in guiding their studying (49.4% strongly agreed, 37.1% agreed).

### 3.4. Dissemination

This project was a part of the TLEF Showcase on May 2, 2019. The poster below was presented by Suzie Lavallee:



### 4. TEACHING PRACTICES

**Cora:** I feel that my teaching practices have been enhanced as I learned many skills in the UBC LTS Instructional Skills Workshop that I implemented in class and perceived to enhance student learning. Such activities included clear learning objectives, in-class discussion, participatory learning and experiential based learning. I also really valued the out of classroom field trips and optional game nights, which I would love to incorporate into future teaching opportunities. I will carry these skills forward with me as I embark on a career implementing teaching at the university level.

**Jeanine:** Engaging students in large introductory undergraduate courses is challenging, especially when the students come from multiple degree programs, years, backgrounds, and interests. I really appreciated the opportunity to try new things, and to engage in activities (in-class debates, games, outdoor fieldtrips) that I use regularly in smaller classes but which seemed prohibitive in the large-class format. Our experiments mostly went far better than expected and with the resources that we have acquired, I will be able to further develop the experiential components in future years.



In general, the course activities were expanded to include more online and experiential learning opportunities for students, which enhanced teaching practice in this course. Additional assistance to Jeanine Rhemtulla, via hiring Cora Skaien, ensured that complete resources were generated for future years, in the form of an enhanced Canvas site, field trip teaching materials, and in-class resources. While these changes may not have represented a large shift in individual practice, they do embody a smooth transition to a high-quality revised course.

## **5. PROJECT SUSTAINMENT**

Course resources that were generated through this project will be used to teach CONS 101 in future years, with only minor updating and revisions to ensure relevance over time. The course Canvas site will also be used in future years. These two aspects of the project represent a large portion of the workload to revise the course.

Tangible resources, such as the bird and plant identification guides, hiking books, and cart, will continue to be available to students. It is unlikely that these will need updating in the near future and will retain their teaching and learning value to students.