

# Biology 4410F: Restoration Ecology 2017

“Here is the means to end the great extinction spasm.  
The next century will, I believe, be the era of restoration in ecology”  
E. O. Wilson, Biodiversity, 1988

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**Teaching Assistant:** Chris Therrien, email: [ctherri@uwo.ca](mailto:ctherri@uwo.ca)

**Prerequisites:** Biology 3442F/G and 3445F (may be waived by special permission from instructor)

Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

## Outline and topics covered

The course will look at restoration ecology in theory and in practice. Topics covered include ecosystem functioning, ecological relationships at various spatial scales as they apply to restoration, invasive species management, restoration of various types of ecosystems (e.g. forest, tallgrass prairie, wetland), value of ecosystem services, financial and practical considerations in ecological restoration projects. We will use case studies as examples, with a focus on local restoration projects. Local experts will be featured as guest lecturers. The main evaluations will be based on a group project.

## Format

This course is a *Community Engaged Learning (CEL) Course*. Students will be working on group projects in partnership with Western University Landscape Services. The partner provides students with an opportunity to see restoration ecology in practice. In return students will be researching and writing reports on various topics to assist in restoration efforts at Western University. There will be a weekend field day at the site on October 1<sup>st</sup> (9:30-3:30). In addition, students will participate in preparing and seeding a restoration site with Thames Talbot Land Trust (TTLT), a local not-for-profit organization. The seeding will take place at Hawk Cliff Woods (near Port Stanley) on Saturday, November 4<sup>th</sup> (10-4) with TTLT volunteers. Group work and interaction with stakeholders are major parts of real world ecological restoration projects and the course is structured to include extensive group work.

## Learning Outcomes

Upon completion of the course students will be able to:

1. Recognize local ecosystems and identify at least 10 species of plants by conducting field work and producing a plant collection assignment.
2. Describe the theoretical aspects of restoring different types of ecosystems by discussing and presenting case studies.
3. Apply content knowledge of restoring different types of ecosystems to real-world settings and contexts by creating a restoration plan for a local site.
4. Recognize current issues in restoration ecology, synthesize research and integrate information by creating a sound restoration plan.

5. Demonstrate understanding of the practical aspects of restoring ecosystems, working with communities and producing sound restoration plans through engagement with the community partner.
6. Apply planning, delegation, prioritizing, time-management, and organizational strategies by collaborating on a term-long group project.
7. Practice reflective thinking to connect CSL experience with course content and personal values.
8. Recognize and develop own sense of and commitment to civic engagement and social responsibility.

### **Classes and tutorials**

Lectures and tutorials are Thursdays 2:30-5:30 in FNB2210. Although the lectures (2 hours) and tutorials (1 hour) are officially split, the actual time spent on lecture and tutorial will vary each week. You are expected to attend the full 3 hour session each week. Attendance will be recorded each week.

### **Course website**

Course materials will be available through OWL.

### **Readings**

Readings are assigned in the Course Schedule. The required text for the course is “Introduction to Restoration Ecology” by E.A. Howell, J.A. Harrington, S.B. Glass. The text is on reserve at Taylor library (1 day loan). Additional readings will be posted on OWL and indicated on the Course Schedule.

### **Evaluation**

In this community engaged learning course there will be a number of opportunities for evaluation of your learning, engagement in your teams and quality of contribution to the projects. Fifty-three percent (53%) of the grade is based on individual performance and 47% on team performance.

Learning is a shared responsibility of students and faculty. Students are expected to complete all readings BEFORE lectures on the dates of the assigned readings. Every attempt will be made to make lectures interesting, engaging and thought-provoking using active learning and learner-centered strategies. Some material covered during lectures might not be in readings. Note-taking is the responsibility of the student.

Active student involvement is essential. You are expected to attend all classes and field trips; come to class on time; be prepared and ready to participate in discussion; contribute original ideas; listen attentively; debate respectfully and persuasively; suggest strategies and act on strategies to work through differences to complete tasks; evaluate ideas and arguments of others and integrate them into your evaluations; work collaboratively and contribute to the learning of your classmates. Disruptive behaviour, such as ringing cell phones; talking; text messaging; Facebook, Twitter, disturbing consumption of food or drink; littering; listening to music; e-mailing or using internet are not acceptable during the class.

<b>Assignment</b>	<b>Value (% of Final Mark)</b>	<b>Type of assessment</b>	<b>Due date(s)**</b>
<i>CEL Restoration Projects:</i>			
Report outline – Individual	3	Individual	Oct. 26
Report outline – Group	7	Team*	Nov. 9

Assignment	Value (% of Final Mark)	Type of assessment	Due date(s)**
Group Presentation	15	Team*	Nov. 30
Group Report	25	Team*	Dec. 7
Group evaluation	10	Individual	Dec. 8
CEL logs (6 entries in total)	5	Individual	Starting Oct. 8 and due every 2 weeks, see below for instructions
<i>Other course components:</i>			
3 Reflections	10	Individual	Sept. 21, Oct. 26, Dec. 8
Participation (class, field trips)	10	Individual	Dec. 7
Native Plant Collection	15	Individual	Oct. 19

\* All team members receive the same grade

\*\* All assignments due to OWL at 2:30pm unless indicated otherwise.

### *CEL Restoration Project (65% of final mark)*

Groups of 3-5 students will work on projects related to restoration of habitat at various sites across UWO. Each group will prepare a project outline (individually first = 3%, then as a group = 7% of final mark), presentation (15% of final mark) and a report (25% of final mark) on their project. Reports will be submitted to our partner.

All group members will evaluate each other on their contribution to the group project (10% of final mark).

### *CEL logs*

The CEL Hours Tracking application is to serve as a record of the contributions you, as a Western student, have made to the London community and beyond through Community Service Learning. Since you are engaged in Community Service Learning as part of your course, this will allow your faculty member to track your progress, CEL @ Western to help you ensure your community work is of benefit to you and the community, and for CEL @ Western to collect statistics of the ways that students are “giving back” to our surrounding communities.

Students who are completing CEL as part of a course will be asked to report on their service work in **2 week time blocks**. Your CEL hours include **all** hours you spend working on the Restoration Project (e.g. field work, group meetings, research time). CEL logs are worth 5% of your final mark.

Details about the CEL logs are available in OWL in the file “Guide to CEL logs”.

### *Reflections (10% of final mark)*

A component of CEL is a reflection of your experience in the program. You will be writing 3 short entries and will be evaluated on the quality of your written reflection (worth 2%, 3% and 5% of final mark, respectively). Resources will be provided to help you familiarize yourself with reflections and a practice reflection will be written in the first class. Reflection assignments will be submitted in OWL, deadlines are provided in the Course Schedule.

### *Participation (10% of final mark)*

Active student involvement is essential. You are expected to attend all classes and field trips; come to class on time; be prepared and ready to participate; contribute original ideas; listen attentively; debate respectfully and persuasively; suggest strategies and act on strategies to work through differences to complete tasks; evaluate ideas and arguments of others and integrate them into your evaluations; work collaboratively and contribute to the learning of your classmates. Disruptive behaviour, such as ringing cell phones; talking; text messaging; Facebook, Twitter, disturbing consumption of food or drink; littering; listening to music; e-mailing or using internet are not acceptable during the class.

### *Native Plant Collection (15% of final mark)*

As part of the course you will prepare a scrapbook of native plants. The assignment will include collecting plants, pressing specimens, researching your chosen species and some creativity. Further details and opportunities for collection will be provided in class time.

### *Bonus Marks*

Opportunities will exist to earn bonus marks through a variety of activities and/or assignments.

### **Absences and Illness Accommodation**

Please speak to me in advance if you require extensions for assignments for medical or personal reasons if at all possible (even a short email). It is much easier to make arrangements if I know in advance that you will miss a deadline. You must provide proper documentation directly to the Dean's office to receive accommodation for any work in this course. Please refer to the University's Policy on Accommodation for Medical Illness:

[www.uwo.ca/univsec/pdf/academic\\_policies/appeals/accommodation\\_illness.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf)

Unexcused late assignments will be penalized 10% per day to a maximum of 5 days. After 5 days unexcused late assignments will not be accepted and a grade of 0 awarded.

### **Scholastic Offences**

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

[http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/scholastic\\_discipline\\_undergrad.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf)

Plagiarism is the submission of the work of someone else without giving credit to the author, and presenting the work as your own. When the ideas or words of others are used, as they necessarily will be, proper citation and reference to their source must be given. Plagiarism is unacceptable and is considered a major offence by both the university and myself. There will be little, if any, sympathy for a student caught plagiarizing. If you are unsure what plagiarizing is please familiarize yourself with the University guidelines (see website above). If you are still unsure please talk to me.

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is

subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

### **Accessibility**

Please contact me if you require material in an alternative format or require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 519-661-2111 x 82147 for any specific question regarding an accommodation. Please refer to the University's Policy on Accommodation for Students with Disabilities: [www.uwo.ca/univsec/pdf/academic\\_policies/appeals/accommodation\\_disabilities.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_disabilities.pdf)

### **Support Services**

- Registrarial Services <http://www.registrar.uwo.ca>
- Student Development Centre <http://www.sdc.uwo.ca>
- Services provided by the University Students' Council <http://westernusc.ca/services/>

Students who are in emotional/mental distress should refer to Mental Health@Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.