

## Biology 3445F Course Outline

### 1. Course Information

#### Course Information

Biology 3445F Community Ecology

Lectures: Monday and Wednesdays, 12:30 pm – 1:30 pm ( [REDACTED] ).

Labs: Section 002: Thursdays, 2:30-5:30 pm ( [REDACTED] )

Section 003: Wednesdays, 2:30-5:30 pm ( [REDACTED] )

Section 004: Thursdays, 9:30-12:30 pm ( [REDACTED] )

#### List of Prerequisites

Biology 2483A Ecology

Biology 2244A Biostatistics with a minimum 60%.

Unless you have either the requisites for this course or written special permission from your Designate (Department/Program Counsellors and Science Academic Counselling) 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.

### 2. Instructor Information

[REDACTED]

Students must use their Western (@uwo.ca) email addresses when contacting their instructors. Please

note, we.00000.0051004C>132(30)e12 0 1 i-CAom 2 12 TfW\*nsponsem0qu4(n )-stT/F2 s792 2-6(53.824 792 reW

As a result of participating in hands-on laboratory activities, students should be able to:

- recognize and measure ecological community response variables
- generate and manage community data using spreadsheets
- use statistical analysis software to import data, perform summary statistics, perform visualizations of the data, and perform standard descriptive and statistical tests for both univariate and multivariate data
- independently collect, analyze, and interpret data, and communicate these results in written form
- present an interpretation of results in a written form using support from the primary literature.

### Lecture Schedule

Classes begin: September 5, 2024  
 Fall Reading Week: October 12-20, 2024  
 Classes end: December 6, 2024  
 Exam period: December 9 – 22, 2024

Section	Date	Lecture	Topic
Introduction	Sept 9	1	Introduction and course organisation
Section I: How do we study communities?	Sept 11	2	Describing communities: richness, abundance, composition
	Sept 16	3	Experimental design and common statistics: multivariate and ordinations
	Sept 18	4	Common patterns: Intro to SADs, SARs, rank abundance, rarefaction, latitude, altitude
	Sept 23	5	SARs: 3 hypotheses
Section II: Community assembly	Sept 25	6	Niche vs Neutral: underlying themes (space / environment) and debates
			National Day for Truth and Reconciliation (observed as a non-instructional day at Western)
	Oct 2	7	Community assembly: overview, niches: fundamental vs realised
	Oct 7	8	Interactions: Competition, Predation, Facilitation

	Nov 20	17	Disturbance: IDH
	Nov 25	18	Stressors: climate change, habitat loss, SLOSS
Section V: Consequences of Biodiversity Loss	Nov 27	19	Biodiversity-Ecosystem Function relationships
	Dec 2	20	Trait-based approaches and functional diversity
	Dec 4	21	Ecosystem services and planetary boundaries

### Lab Schedule

Due to logistical considerations of your TAs, you must attend your own lab section. Your TAs are not required to explain background information that is presented in lectures prior to your lab sessions.

<b>Date</b>	<b>Lab #</b>	<b>Topics covered</b>	<b>Due in-class</b>	<b>Due online</b>
Sept. 11-12		No labs		
Sept. 18-19	1	Plant communities: species area curves	data	
Sept. 25-26	2	Stream invertebrates 1: sampling & site characterization	data	
Oct. 2-3	3	Stream invertebrates 2: identification	data	
Oct. 9-10	4	Coarse Woody Debris invertebrates: data collection	data	
<b>Oct. 16-17</b>				

you have administrator access for your computer as you will need to install different R packages for different labs. **Note:** tablets are not functional computers for these labs.

## 5. Methods of Evaluation

The overall course grade will be calculated as listed below:

Lecture participation (10/11)	5%	Half-sheets (0.5% each)
Lab participation (5)	5%	In-class submission (1% each)
Lab assignments (2)	10%	See lab schedule (5% each)
In-term test #1	15%	Oct. 21, 2024
In-term test #2	15%	Nov. 18, 2024
Laboratory report	20%	Dec. 2, 2024 (see Notes on Evaluations)
Final exam (cumulative)	30%	Set by registrar during exam period

### Important Notes on Evaluations

-

A minimum average grade on the two midterm tests and final exam of 45% is required to pass the course to ensure that students demonstrate sufficient mastery of the learning outcomes.

An overall weighted average grade across all assessments of 50% is required to pass this course.

## **6. Student Absences**

If you are unable to meet a course requirement due to illness or other serious circumstances, please note flexible deadlines and grading has been provided. However, in-term tests require formal documentation for academic consideration (as soon as possible and no later than 48 hours after the missed test); students will be provided a make-up test.

### **Absences from Final Examinations**

If you miss the Final Exam, please contact the Academic Counselling office of your Faculty of Registration as soon as you are able to do so. They will assess your eligibility to write the Special Examination (the name given by the University to a makeup Final Exam).

[https://www.uwo.ca/univsec/pdf/policies\\_procedures/section1/mapp113.pdf](https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf),

the centrally administered e-official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner.

Electronic devices will not be permitted on tests and exams except for base-model scientific calculators.

**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).

Biology 3445F is an essay-based course. Students must write their lab assignments and final lab report

Indigenous peoples (First Nations, Métis and Inuit) whom we recognize as contemporary stewards of the land and vital contributors of our society.

More information about Indigenous Services (<https://indigenous.uwo.ca/>) and Western University Land Acknowledgement (<https://communications.uwo.ca/comms/land-acknowledgement/>) are available.

## **8. Support Services**

Please visit the Science & Basic Medical Sciences Academic Counselling webpage for information on adding/dropping courses, academic considerations for absences, appeals, exam conflicts, and many other academic related matters: <https://www.uwo.ca/sci/counselling/>.

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at

<https://www.uwo.ca/health/b3g>