



# Speciation BIOL4212

**Fall 2021**

**Professor:**

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Office hours: Wednesdays at 1:30 on ZOOM (see link in Blackboard)

**Graduate Assistant:**

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Office hours: Mondays at 1:30 on ZOOM (see link in Blackboard)

**Course Time and Location:**

This course will take place entirely online. Course materials will be available through Blackboard. There will ZOOM links posted on the Blackboard page for synchronous learning. This class has approximately two hours of lecture material per week and one hour of tutorial per week. This year, I am using a hybrid model where lectures are mostly asynchronous and tutorials are synchronous. I will post recordings of lectures by Monday of each week, and on Wednesday at 11:30 AM the live ZOOM classes will begin with me answering any questions from the Monday lecture and then we will proceed with the tutorial component of the class. These tutorials will not be recorded and recording them will be prohibited due to privacy concerns. Please note, attendance at tutorials is mandatory and will be evaluated through participation grades. Each tutorial is worth 1.5% of your final grade. Therefore you should only take this class if you can make it to tutorials on Wednesdays.

If you haven't used ZOOM before, it's very straightforward. You can join a meeting from your browser, but I recommend that you sign-up for a free ZOOM account and download the ZOOM app. Please use your uwindsor email when signing up, and **make sure that your first and last names** match what is on your student ID so that the GA and I can begin to learn your names and for grading attendance and participation during tutorials. You can ask questions by clicking on the "raise hand" button and then unmute yourself and ask a question when I call on you. Please keep your mute function on unless you are asking questions as there can be a lot of audio feedback with a group this size.

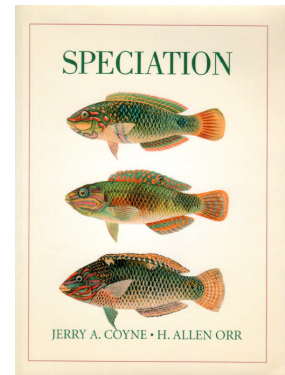
**Course Website:**

Please look for the website on Blackboard:

<https://blackboard.uwindsor.ca>

### Textbook:

The recommended textbook for this class is *Speciation* by Jerry A. Coyne and H. Allen Orr (Sinauer 2004). This textbook should be available at the bookstore and there will be a copy on reserve at Leddy Library. I will supplement lectures with information from key scientific papers from the literature.



### Prerequisites:

The prerequisite for this course is Evolution (BIOL-3142).

### Synopsis:

The course will present an overview of current knowledge, controversy and research directions into the origin of species and will include topics such as species concepts, methods of studying speciation, tempo and modes of speciation, isolation mechanisms, reinforcement, and macroevolution. Background in basic Mendelian genetics, population genetics, evolution, ecology and biological diversity is required.

### Evaluation:

Assessment Component	Due Date	Location
Popular science article (20%)	4 October at 10:00 PM	Due online
Midterm (20%)	20 October, 11:30 AM	Online
Group presentation (20%)	Last several weeks of tutorial	During class tutorials
Participation (15%)	Throughout semester	During class tutorials
Final exam (25%)	TBA	Online

#### **Popular science article (20%)**

You will write a popular science article based on a scientific paper published on the topic of speciation. Your article will be about 1000 words long.

Popular science articles are due online *on October 4 at 10:00 PM*. Late papers will receive a penalty of 5% for the first 12 hours, an additional 5% for the following 12 hours, and an additional 10% for each subsequent 24-hour period.

#### **Midterm (20%)**

An online midterm will evaluate your comprehension of the concepts learned in this class. The midterm will cover all aspects of the lecture and tutorial components of the course, including any guest lectures and videos shown in class. The midterm format will be multiple choice and short answer questions.

#### **Group Presentation (20%)**

During the last several tutorial sessions at the end of the semester, you will work together in groups to present a seminar on a speciation topic. The seminar will be approximately 30 minutes long depending on class size and group size. Detailed instructions will be given ahead of time. The seminar will be in the format of a review of a particular area of research on speciation.

#### **Participation (15%)**

Attendance is mandatory for tutorials to obtain participation grades. During the tutorials, you will be expected to participate and contribute to group learning. Each tutorial will be worth 1.5% of your final grade. During instructional tutorials, you should be attentive and engaged. I will be taking attendance and sometimes asking you to write something in the chat to gauge participation. When tutorial time is devoted to individual or group work, you should focus on these tasks and take advantage of the opportunity to consult me or your GA if you

have questions. During seminar tutorials, you will be graded on being attentive to your classmates' seminars and asking thoughtful questions after each seminar. I will explain ahead of time how participation is assessed for each tutorial.

### Final exam (25%)

There will be one final exam at the end of the semester to evaluate your comprehension of the concepts learned in this class. The exam will cover all aspects of the lecture and tutorial components of the course, including group presentations and any guest lectures or videos shown in class. The exam format will be multiple choice and short answer questions. The final exam will be cumulative but will focus more on the second half of the course. The exam will be administered online.

### Approximate Lecture Schedule:

Week	Day	Date	Lecture and tutorial topics	Important Dates
1	Mon	13-Sep	Introduction	
	Wed	15-Sep	Tutorial: Popular science article instructions	
2	Mon	20-Sep	Species: Reality and Concepts (Ch. 1)	
	Wed	22-Sep	Tutorial: How to prepare a scientific presentation	
3	Mon	27-Sep	Studying Speciation (Ch. 2)	
	Wed	29-Sep	Tutorial: Group work on scientific presentations	
4	Mon	4-Oct	Allopatric and Parapatric Speciation (Ch. 3)	Pop. science article due
	Wed	6-Oct	Tutorial: Group work on scientific presentations	
5	Mon	11-Oct	<i>Thanksgiving and Fall Reading Week: No Class</i>	
	Wed	13-Oct	<i>Fall Reading Week: No Class</i>	
6	Mon	18-Oct	Sympatric Speciation (Ch. 4)	
	Wed	20-Oct	Midterm	Midterm
7	Mon	25-Oct	Ecological Isolation (Ch. 5)	
	Wed	27-Oct	Tutorial: Group presentations	
8	Mon	1-Nov	Behavioural and Nonecological Isolation (Ch. 6)	
	Wed	3-Nov	Tutorial: Group presentations	
9	Mon	8-Nov	Postzygotic Isolation (Ch. 7)	
	Wed	10-Nov	Tutorial: Group presentations	
10	Mon	15-Nov	Case Study 1	
	Wed	17-Nov	Tutorial: Group presentations	
11	Mon	22-Nov	Reinforcement (Ch. 10)	
	Wed	24-Nov	Tutorial: Group presentations	
12	Mon	29-Nov	Selection Versus Drift (Ch. 11)	
	Wed	1-Dec	Tutorial: Group presentations	
13	Mon	6-Dec	Speciation and Macroevolution (Ch. 12)	
	Wed	8-Dec	Case Study 2 and SET	

### Copyright of Class Materials:

Course materials are considered by the University of Windsor to be an instructor's intellectual property protected by the Copyright Act, RSC 1985, c C-42. All course materials are for your own personal study purposes. They cannot be shared outside the class in any way, including copying to websites or sharing with other individuals. Any unauthorized distribution of materials constitutes copyright infringement and violates privacy laws.

### Plagiarism and Academic Dishonesty:

Plagiarism and other forms of Academic Dishonesty will not be tolerated and all instances will be reported to the Associate Dean of Science for disciplinary action under Senate Bylaw 31. A grade of zero can be assigned to any plagiarized material, and plagiarism can lead to further disciplinary action, including expulsion from the university. Be particularly careful about plagiarism in your papers and seminar presentations.

Please also note that even though exams will be online and open book, they must be completed individually without cheating and without help from another person or any source aside from class materials. It is also prohibited to copy any of the exam material. We will follow the university's code of academic integrity during this course: "Students of the University of Windsor pursue all endeavours with honour and integrity, and will not tolerate or engage in academic or personal dishonesty."

By submitting assignments or completing tests, students implicitly confirm that they are completing the assignment or exam on their own and without unallowable sources.

To learn more about academic integrity, visit the university's academic integrity office website: <http://www.uwindsor.ca/aio>

### **Make up Policy:**

Due to academic integrity concerns, there will be no make-up for the midterm or final exam. Students who miss the midterm or final for a valid reason will have their grade prorated based on the basis of the other exam. Students cannot miss both the midterm and final exam. Any missed exam or assignment due to illness will require proper documentation.

### **Inclusivity and Conduct**

I am committed to an academic environment that prioritizes equity, diversity, and inclusivity. Everyone is welcome in my class, regardless of gender, gender-identity, sexuality, ethnicity, religion, culture, and national origins. I also expect all of us to treat each other with kindness and respect in the class environment.

### **Land acknowledgement:**

Our university sits on traditional territory of the Three Fires Confederacy of First Nations, which includes the Ojibwa, the Odawa, and the Potawatomie. I respect and acknowledge the long relationship between First Nations people in Windsor-Essex and the straits of Detroit.

### **Student Evaluation of Teaching:**

The Student Evaluation of Teaching (SET) will be administered online during the last week of class.