Biology 4950F Seminar in Genetic Fall 2022

Welcome to Bio 4950! My goal is to help you learn and be successful!
Please, read and keep this course outline handy, because it is an official document that contains important course information.

COURSE DESCRIPTION: (from Calendar)

Current research in genetics critically reviewed and discussed through a combination of student presentations and written assignments.
3 seminar/tutorial hours, 0.5 course.

COURSE COMMUNICATION

Seminars:	Friday → 10:30-13:30	**Room:** WIRB-1110	
Instructor:	J. Wesley Robinson	**Office hours:** virtual appointments, as needed	
E-mail:	jrobi8@uwo.ca	**Email hours:** Checked 9:30 am to 4:30 pm most days except weekends. Usually answered within 24 hrs.	

3 seminar/tutorial hours, 0.5 course**.**

Prerequisites:
A minimum grade of 70% in Biology 3596A/B and enrollment in year 4 of the Honors Specialization in Genetics, or permission of the Genetics Undergraduate Coordinator.

Antirequisites:
Biology 4920F/G, 4930F/G, 4931F/G, 4944F/G, or the former Biology 4932F/G, 4941E, 4943E, 4946E

Email Policies
Email hours: Checked 9:30 am to 4:30 pm most days, except weekends. Answered within 24 hrs, with the limitations below:

Your instructors' emails should only be used for administrative purposes. In order to maximize efficiency and to allow your instructors to respond to legitimate concerns as quickly as possible, emails of the following nature will *not* be responded to:

- Questions about course material or on how to prepare for quizzes, exams, or annotation. Such questions should be taken to the seminar or posted on the OWL forum.
- Questions that can be answered based on the information found in this course outline. Being able to find information yourself is an important soft-skill and an employability outcome.
- Requests for grade increases, extra assignments, make-up assignments, etc. (see page 4).
- If you email your instructor, you must use your Western email address and include *Bio4590* in the subject line. Messages from a non-Western account or those that do not include *Bio4590* may be blocked by the university's anti-spam system. Please do not hesitate to contact any one of the instructors if you have any constructive comments or feedback on any aspect of *Bio4590*. We are always trying to improve the course!

COURSE MATERIAL

Peer-reviewed articles provided on OWL, plus additional information on OWL.

Students should check OWL (http://owl.uwo.ca) on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class. Students are responsible for checking OWL on a regular basis.

TEACHING METHODS:

This seminar is inspired by the C.R.E.A.T.E. approach to reading primary literature with undergraduate students (posted on owl).

Hoskins, S.G., Lopatto, D., and Stevens, L.M. (2011). The C.R.E.A.T.E. Approach to Primary Literature Shifts Undergraduates, Self-Assessed Ability to Read and Analyze Journal Articles, Attitudes about Science, and Epistemological Beliefs. CBE-Life Sciences Education 10, 368-378.

1. Presentations

- One session will discuss how to perform the annotations and the presentations
- One session will discuss how to perform the written assignments

2. Annotation of primary scientific articles: introduction to active reading

See class hand-out. In order to be able to participate to the discussion, each student, (including those presenting on that day) will fill in these annotations sheets on the paper to be presented. In order to be evaluated, annotation sheets have to be submitted or brought in every day there is a student presentation (4 of them total – see schedule p), no later than 10:20 am (or by email - same time stamp).

3. Group Presentations of the articles

Each group of 3-4 students will prepare one presentation based on the annotation made (as a group). Details will be provided in class, guidelines on OWL.

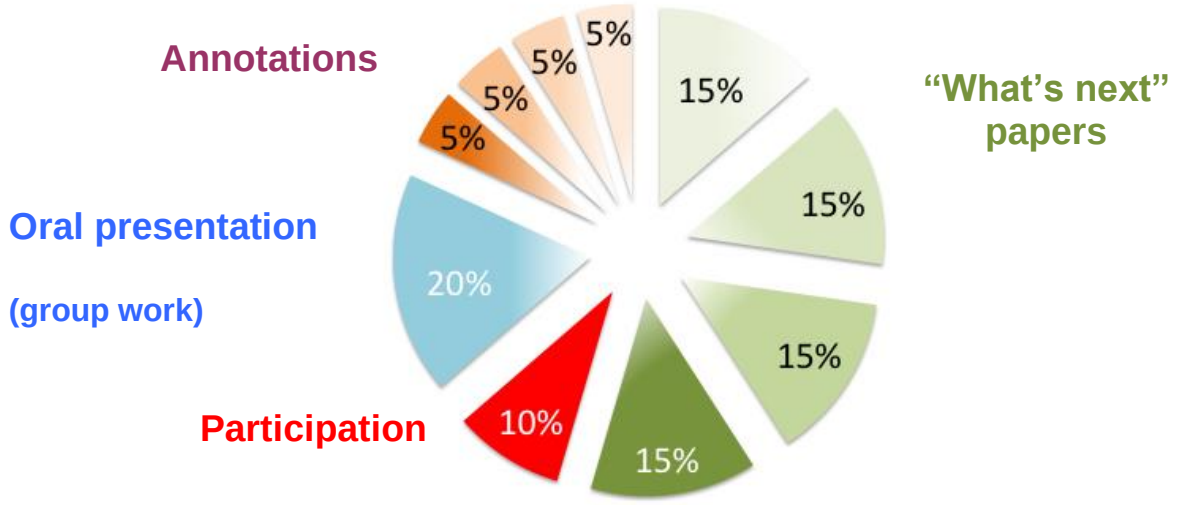
4. "What's next" paper

Redaction of paper describing new experiments. After each researcher's seminar, each student will write a paper (see format below), to propose the next possible experiment. Submitted on Turnitin for peer-review.

Format: The "What's next" papers will be 3 pages long maximum (approx. 1,000 words), excluding references and possible figures (diagrams of experiments - background - models – NO REAL DATA – create potential results). Use an Arial, Helvetica, Palatino, Times or Georgia typeface, a black font color, and a font size of 11 points or larger. Use at least one-inch margins.

1. Introduce the research question / the hypothesis?
2. Significance: why is it an important question? Why do these studies need to be conducted?
3. Which methodologies are you proposing to use to answer these questions / hypothesis?
4. Which results would be obtained if your hypothesis were right?
5. Which interpretations can you provide; in the case that the results are obtained as hypothesized, in the case they are different. Are the results answering the original question?

EVALUATION



What's next: each 12.5%, for a total of 50% of the final grade

- 3 Peer reviews per paper – overseen by coordinator if more than 20 points of discrepancy among best and worst grades.
- If a review is missing, the absentee reviewer will lose 2.5% of their 12.5% - the reviewee's grade will be evaluated by the coordinator.
- **Essential course requirement**: you need to submit ALL of the papers to pass the class, even after 5 late days (and a grade of 0 for that assignment). Failure to pass or non-completion of the assignments component of the course is an automatic failure of the course

Participation (Contribution to Community Learning of What's next)

- Seriousness in peer-reviewing and using rubrics accurately.
- Up to 10%, points lost for poor performance.

Oral presentations: 20% of final grade

- **Essential course requirement:** Failure to pass or non-completion of this course component is an automatic failure of the course. Annotation: each 10%, for a total of

Annotation: each 5%, for a total of 20% of the final grade

IMPORTANT LEGALITIES

The website for Registrarial Services is https://registrar.uwo.ca/

Grades will be posted regularly to the class OWL website.
All appeals must be submitted in writing to the instructor within two weeks of the mark posting with a clear explanation of the reason for the appeal. The instructor may re-grade all or part of the exam to look for additional errors which may lower or raise the final grade.

Missed Course Components

- If you are unable to meet a course requirement due to illness or other serious circumstances, you must seek approval for the absence as soon as possible. Approval can be granted either through a self-reporting of absence or via the Dean's Office/Academic Counselling unit of your Home Faculty. If you are a Science student, the Academic Counselling Office of the Faculty of Science is located in NCB 280, and can be contacted at scibmsac@uwo.ca
- For further information, please consult the university's policy on academic consideration for student absences: https://www.uwo.ca/sci/counselling/procedures/academic_absence_accommodation/index.html
- A student requiring academic accommodation due to illness must use the Student Medical Certificate (https://studentservices.uwo.ca/secure/medical_document.pdf) when visiting an off-campus medical facility.
- For further information, please consult the university's medical illness policy at http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf.

Missed Assignments

- **Annotations:** If you decide to provide your assignment late, you also choose to lose **-20% per late day.**
- **The papers should be submitted on time.** Your document will be submitted online on Owl for peer-review. This organization does not allow for any late submission. If you choose to provide your assignment late, you also choose to lose **-20% of the assignment % (6-8) late day** – and to be assessed directly by the course coordinator or the teaching assistant.
- **Student Presentation:** If a student has prior knowledge of a conflict with the scheduled presentation, they must inform the instructor prior to the date of the term test. **With the authorization from the Associate Dean, Faculty of Science, the grade for the presentation will be reported to the term paper.** There will be NO make-up presentation.
- **Unusual circumstances:** Any student that has been granted approval for the absence either by self-reporting or via the Academic Office of the Dean from writing a scheduled paper or annotation will be given a reasonable opportunity to provide the assignment at a later deadline.

ACADEMIC OFFENCES.

Plagiarism:

- Students must write their annotation and papers in their own words. 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
- Turnitin **aids** in assessing whether plagiarism took place. All required papers will be subjected 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 STATEMENT:

- Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Student Accessibility Services (SAS) at 661-2147 if you have any questions regarding accommodations (http://sdc.uwo.ca/ssd/).
- The policy on Accommodation for Students with Disabilities can be found here: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic%20Accommodation_disabilities.pdf
- The policy on Accommodation for Religious Holidays can be found here: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf

STUDY / LIFE BALANCE:

- Learning-skills counsellors at the Student Development Centre (http://www.sdc.uwo.ca) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.
- 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.
- Additional student-run support services are offered by the USC, https://westernusc.ca/your-services/

LEARNING EXPECTATIONS

Objectives	Assessment
Diversity of knowledge	
• Become familiar with research investigation Genetics fields • Develop knowledge of genetics tools used to manipulate organisms • Understand the relevance of genetic model organisms to study human disorders	• Orally present complex scientific results • Produce thoughtfully constructed papers
Diversity of Communication	
• Develop skills in reading scientific literature • Develop strong communication skills • Develop research skills through the use of research journal, and internet database • Develop skills in writing scientific papers	• Closely annotate primary source journal articles • Orally present relevant complex scientific results • Produce thoughtfully constructed papers
Diversity of Skills	
• Develop critical thinking skills • Develop hypothesis and propose experimental approaches	• Peer-review (of oral and written assignments) • Produce thoughtfully constructed papers

TENTATIVE SCHEDULE*

Week	Date	Seminar	Class meets	Assignments
1	Sept 9	Orientation: Workshop on presentation and annotation	10:30	Group formation / Articles assigned
2	Sept 16	Workshop on writing papers and peer-review	10:30	
3	Sept 23	Presentation on 1st paper	10:30*	Annotations due 1st paper
4	Sept 30	**1st researcher: Dr. Anne Simon**	10:30*	
5	Oct 7	Presentation on 2nd paper	10:30*	Annotations due 2nd paper
6	Oct 14	**2nd researcher: Dr. Rob Cumming**	10:30*	**What's next 1st paper due**
7	Oct 21	Presentation on 3rd paper	10:30*	Annotations due 3rd paper
8	Oct 28	**3rd researcher: Dr. David Coltman**	10:30*	**What's next 2nd paper due**
9	Nov 4	Fall study break		
10	Nov 11	**Peer Grading**	**11:30**	Grading of 2nd paper **What's next 3rd paper due**
11	Nov 18	Presentation on 4th paper	10:30	Annotations due 4th paper
12	Nov 25	**4th researcher: Dr Brent Sinclair**	**12:00**	
13	Dec 2	**Peer Grading**	**11:30**	Grading of 3rd and 4th paper finished **What's next 4th paper due**
	Dec 9	Finals		
	Dec 16			

**Details/Times subject to change*