



**Biology 3594
Course Outline/Syllabus Winter 2024**

1 Course Information and Prerequisites

Prerequisites Biochemistry 2280A; Biology 2581A/B

Unless you have either the prerequisites for this course or written special permission from your Dean or Designate (Department/Program Counsellor 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 if you are dropped from a course for failing to have the necessary prerequisites.

2 Instructor Information

| Professor | Email | Office | Phone | Office Hours |
|----------------------|-----------------|--------|-------|--------------|
| Dr. Patrick McDonald | p.mcdona5@uwoca | | | |
| GTAs | | | | |
| Abbie Bechard | abechard3@uwoca | | | |

Students must use their Western (@uwoca) email addresses when contacting their instructors.

3 Course Description, Learning Outcomes, Schedule, Delivery Mode

Course Description This course [Biology 3594] will cover concepts related to DNA organization, replication, mutagenesis and repair in both prokaryotic and eukaryotic organisms. Lecture topics will include current literature in DNA mutagenesis and repair designed to permit direct examination of concepts, experimental design, methodology, data analysis and future trends.

Learning Outcomes and Objectives

On successful completion of this course students will be able to

- Write effectively
- Perform effective searches in reputable internet sources
- Use Zotero software for citing literature and preparing a reference list
- Work effectively in a team
- Teach the anatomy of a eukaryotic gene
- Teach The Central Dogma
- Describe and illustrate a diagram for common methods for DNA damage assays, mutation detection assays and gene/genome sequence analysis techniques
- Join the conversation and identify ethical challenges presented by advances in human

genetic/genomic research and its translation to the clinic and marketplace

- **Identify the science, technology, stakeholders and issues in current bioethics challenges**
- **Understand, discuss and debate current topics in bioethics associated with genetic/genomic technologies**
- **Describe different forms of genomic instability**

Contingency Plan This course will be delivered in person, however in the unlikely event of any university declared emergency, some or all of this course may be required to be delivered online, either synchronously or asynchronously. Any assessments affected will be conducted online as determined by the professor:

| | | |
|---------------------------|------------|--|
| Midterm exam | 30% | Date TBA |
| OWL Quizzes | 10% | best 4 of 5 |
| Written assignment | 20% | due March 22 at 11:00pm |
| Final exam | 40% | Scheduled by registrar during April exam period |

.

6 Student Absences

If you are unable to meet a course requirement due to illness or other serious circumstances, please follow the procedures below

Assessments worth less than 10% of the overall course grade

The best 4 out of 5 quizzes will be counted towards the overall quiz grade. Students who miss more than

When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request accommodation for their absence in writing at least two weeks prior to the holiday to the course instructor and/or the Academic Counselling office of their Faculty of Registration. Please consult University's list of recognized religious holidays (updated annually) at

<https://multiculturalcalendar.com/cal/index.php?s=c-ur1wo>

Accommodation Policies

Students with disabilities work with Accessible Education (formerly SSD), which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

https://www.uvocalivsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf

<https://enoteprodinguoca>

Professionalism & Privacy:

To connect with a case manager or set up an appointment, please contact support@uwoca

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 Accessible Education at

http://academic.support.uwoca/accessible_education/index.html

if you have any questions regarding accommodations