

Bio4515 Course Outline

1. Course Information

Course Information

Biology 4515: Genome biology: genome sequencing, genome annotation and genome interactions, FW23

2. Instructor Information

Instructors	Email	Office	Phone	Office Hours
Prof. Vojislava Grbic	vgrbic@uwo.ca	WSC341	x86898	In person

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

3. Course Syllabus, Schedule, Delivery Mode

Overview: The aim of this course is to present concepts, techniques and approaches that represent basis for modern genomics. We will focus on the power of genomics and whole genome sequencing as a tool to understand various biological questions including whole genome regulation, expression and interactions between different genomes and discuss experimental designs in genomics. Students will be familiarized with genome sequencing strategies (ranging from Sanger to Illumina and long range sequencing using Oxford Nanopore and PacBio systems), genome annotation and concepts and approaches used for the development of whole genome sequencing using the two spotted spider mite *Tetranychus urticae*; <http://www.jgi.doe.gov/sequencing/why/50028.html> as an example. The course will be based on lectur

Jan. 18, 25 Development of genomics tools

Genome sequencing: from biological problem to the whole genome sequence, example *T. urticae*

Feb. 1 Detailed technical demonstration: database use, phylogenomic programs, sequence aligning, data presentation, selection of genes for poster presentation

5. Methods of Evaluation

Evaluation:

written essay (proposal) (30%), individual assignment
quizzes (10%), individual assignment

6. Student Absences

Instructors are encouraged to arrange participation requirements and multiple small assignments in such a way as to allow students some flexibility (e.g., by grading based on the best $n - 2$ of n quizzes or assignments) to reduce the number of requests for academic considerations and consequent burden on both instructors and academic counsellors. Where academic considerations are required, the student should be given clear direction.

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:

For work worth less than 10% of the total course grade, the instructor is empowered to grant academic considerations without referring the student to their academic counsellors. If an instructor chooses to do so, the mechanism for dealing with missed work (e.g., an extension, make-up opportunity, or reweighting) must be specified on the course outline to ensure fair treatment for all students. Note that

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).

No electronic devices will be permitted on tests and exams.

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.

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/student_support/survivor_support/get-help.html.

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

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://academicsupport.uwo.ca/accessible_education/index.html

if you have any questions regarding accommodations.

Learning-skills counsellors at the Student Development Centre (<https://learning.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.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and well-being: <https://www.uwo.ca/se/digital/>.

Additional student-