

Bio3593 Course Outline

1. Course Information

Course Information

BIO 3593

Introduction

Genome structure

Building a transgene: Methods, tools and technology commonly used in genetic engineering

- Transcriptional regulation of gene expression

- Translational regulation of gene expression

- Copy number of transgene

- Targeting of the foreign protein

- Stability of the foreign protein

- Transformation of transgene into a plant host

- Expression of the transgene

- Antisense and other knock-out technologies in plant biotechnology

Protein as a product

The genetic manipulation of herbicide, pest and disease resistance

The genetic manipulation of stress resistance

Molecular farming in plants

RNAi and genome editing

Classes begin: January 8, 2024

Fall Reading Week: February 17 - 25, 2024

Classes end: April 8, 2024

5. Methods of Evaluation

Seminar Presentation: 15% (**groups of three students**, presentations during tutorials), starting January 18

Midterm test: 25%, TBD

Final exam: 40%, TBD

Poster: 15% (**groups of eight students**, presentations TBD)

Participation: 5% (*attendance* at tutorials and participation to discussions)

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 in all cases where documentation (medical or otherwise) is required, it can *only* be collected by the student.

Assessments worth 10% or more of the overall course grade:

By policy, academic considerations for work totalling 10% or more of the final course grade can be granted by the Faculty of Registration (typically by their academic counsellors). In such cases, students should be directed as follows.

For work totalling 10% or more of the final course grade, you must provide valid medical or supporting documentation to the Academic Counselling Office of your Faculty of Registration an extension, make

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).

