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BIOL 2204: Plant Biology

EFFECTIVE DATE

September 2020

DEPARTMENT

UT Sciences

DESCRIPTION

This course examines the classification, systematics, structure and function, evolutionary origins, adaptational trends, and ecological roles of plants.

CREDITS

4.0

YEAR OF STUDY

2nd Year Post-secondary

PREREQUISITES

BIOL 1100 and BIOL 1200 both with a C+

COREQUISITES

N/A

COURSE LEARNING OUTCOMES

Upon successful completion of this course, students will be able to:

- Describe evolution in plants
- Describe the roles of plants in ecological systems
- Compare and contrast major plant groups
- Analyze the structural characteristics of plant cells, tissues, and organs
- Explain the function and process of plant life mechanisms (e.g. photosynthesis/transport of water)
- Use a dichotomous key to identify unknown plants
- Evaluate scientific journals and hypotheses regarding evolution or ecological systems in plants
- Carry out field activities and laboratory activities using appropriate scientific methodology to investigate plants

PRIOR LEARNING ASSESSMENT & RECOGNITION (PLAR)

None

HOURS

Lecture: 60

Lab: 60

INSTRUCTIONAL STRATEGIES

This course will be a combination of lectures, discussion, and research in a classroom and laboratory setting.

GRADING SYSTEM

Letter Grade (A-F)

PASSING GRADE

D

EVALUATION PLAN

Type	Percentage	Assessment activity
Lab Work	30	comprehensive lab exam, assignments, quizzes
Assignments	15	presentations and/or papers from diverse topics in botany
Midterm Exam	15	assesses first third of course material
Midterm Exam	15	assesses second third of course material
Final Exam	25	comprehensive final exam

COURSE TOPICS

- Evolutionary origin of plants, speciation, mutation, natural selection, and adaptation
- Hardy-Weinberg principle
- Plant ecology including nutrient cycling, competition, adaptations for dispersal, biodiversity, extinction, and conservation
- Plant cells (structure, function, growth, and division)
- Plant body (cell and tissue types, shoots and roots, primary structure and development, secondary growth)

- Major plant groups including nonvascular plants, seedless vascular plants, gymnosperms, and angiosperms emphasizing phylogenetic relationships and morphological characteristics
- Energy metabolism in plants including the multiple pathways of photosynthesis and cellular respiration
- Transport of water, minerals, and sugars through the plant body
- Plant nutrition (and alternate nutritional modes), growth, and development
- Plant reproduction including sexual and asexual
- Recombinant DNA technology, genomics, and plant biotechnology

LEARNING RESOURCES

None

Notes:

- Course contents and descriptions, offerings and schedules are subject to change without notice.
- Students are required to follow all College policies including ones that govern their educational experience at VCC. Policies are available on the VCC website at:
<https://www.vcc.ca/about/governance--policies/policies/>.
- To find out how this course transfers, visit the BC Transfer Guide at <https://www.bctransferguide.ca>.

Broadway campus

1155 East Broadway
Vancouver, B.C. Canada
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Downtown campus

250 West Pender Street
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Annacis Island campus

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