



Cell Biology – BIOL 201

University Studies Program

Course Outline

COURSE IMPLEMENTATION DATE: Pre 1998
OUTLINE EFFECTIVE DATE: September 2018
COURSE OUTLINE REVIEW DATE: March 2023

GENERAL COURSE DESCRIPTION:

This course studies the relationship between cell structure and cell function. The structure/function of the cell membrane and most organelles are covered in detail. Topics also include the evolution of the eukaryotic cell, cell movements, and cell reproduction. An introduction to cytogenetics is also presented. The material in Biology 201 is an integral part of an undergraduate biological sciences program and is especially appropriate for students interested in health-related sciences, microbiology, genetics, developmental biology, biochemistry, botany, zoology, and general biology.

Program Information: This course can be used as either a required course or an elective in several University Studies Programs. Refer to the College Program Guide for additional information.

Delivery: This course is delivered face to face.

COTR Credits: 3

Hours for this course: 90 hours

Typical Structure of Instructional Hours:

Instructional Breakdown	Duration
Lecture Hours	45
Seminars / Tutorials	
Laboratory / Studio Hours	45
Practicum / Field Experience Hours	
Other Contact Hours	
Total	90

Practicum Hours (if applicable):

Type of Practicum	Duration
On-the-job Experience	N/A
Formal Work Experience	N/A
Other	N/A
Total	

Course Outline Author or Contact:

Andrena Heigh, BSc, MSc

Signature

APPROVAL SIGNATURES:

Department Head
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Dean of Business and University Studies
Darrell Bethune
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Department Head Signature

Dean Signature

EDCO

Valid from: September 2018 – March 2023

Education Council Approval Date

COURSE PREREQUISITES AND TRANSFER CREDIT:**Prerequisites:** BIOL 101, BIOL 102, CHEM 101 and CHEM 102**Corequisites:** None**Flexible Assessment (FA):**

Credit can be awarded for this course through FA

 Yes No

Learners may request formal recognition for flexible assessment at the College of the Rockies through one or more of the following processes: External Evaluation, Worksite Assessment, Demonstration, Standardized Test, Self-assessment, Interview, Products/Portfolio, Challenge Exam. Contact an Education Advisor for more information.

Transfer Credit: For transfer information within British Columbia, Alberta and other institutions, please visit <http://www.cotr.bc.ca/Transfer>.

Students should also contact an academic advisor at the institution where they want transfer credit.

Prior Course Number: N/A

Textbooks and Required Resources:

Textbook selection varies by instructor and may change from year to year. At the Course Outline Effective Date the following textbooks were in use:

J. Hardin, G. Bertoni and L.J. Kleinsmith. *Becker's World of the Cell 9th ed.*, Pearson, 2016.

Please see the instructor's syllabus or check COTR's online text calculator

<http://go.cotr.bc.ca/tuition/tCalc.asp> for a complete list of the currently required textbooks.

LEARNING OUTCOMES:

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

- compare and contrast structures of prokaryotic and eukaryotic cells and understand the significance of these differences in patterns of evolution and treatment of disease;
 - discuss the relationship between the structure of organelles and their function – i.e.. “form follows function” at the cellular level;
 - relate the general structure and chemical characteristics of the five major groups of molecules important to life (water, carbohydrates, lipids, proteins, nucleic acids) to their function in cellular processes and cellular structure;
 - compare and contrast several theories of the evolution of biologically active molecules and cells;
 - discuss the specific roles each organelle and system play in maintaining homeostasis at the cellular level;
 - read course-related information in scientific publications with increased understanding and interest;
 - appreciate the relatively new position of cell biology in the history of science and its origins in several other scientific disciplines;
 - develop laboratory skills related to cell biology techniques, equipment, instruments and projects; and
 - develop microphotography skills.
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COURSE TOPICS:

- Structural Organization of Cells
- Biological Molecules
- From Molecules to Cells
- Membrane Structure and Function
- Cytoplasmic Compartments
- Cell Movements
- The Nuclear Compartment

See instructor Syllabus for the detailed outline of weekly readings, activities and assignments.

EVALUATION AND ASSESSMENT:

Assignments	% Of Total Grade
Lecture – Midterm Tests	30%
– Final Exam	35%
Lab – - Laboratory Exam	10%
- Assignments, Reports and Laboratory book	<u>25%</u>
Total	100%

Please see the instructor Syllabus for specific classroom policies related to this course, such as breakdown of evaluation, penalties for late assignments and the use of electronic aids.

EXAM POLICY:

Students must attend all required scheduled exams that make up a final grade at the appointed time and place.

Individual instructors may accommodate for illness or personal crisis. Additional accommodation will not be made unless a written request is sent to and approved by the appropriate Department Head prior to the scheduled exam.

Any student who misses a scheduled exam without approval will be given a grade of "0" for the exam.

COURSE GRADE:

Course grades are assigned as follows:

Grade	A+	A	A-	B+	B	B-	C+	C	C-	D	F
Mark (Percent)	> 90	89-85	84-80	79-76	75-72	71-68	67-64	63-60	59-55	54-50	≤ 50

A grade of "D" grants credit, but may not be sufficient as a prerequisite for sequential courses.

ACADEMIC POLICIES:

See www.cotr.bc.ca/policies for general college policies related to course activities, including grade appeals, cheating and plagiarism.

COURSE CHANGES:

Information contained in course outlines is correct at the time of publication. Content of the courses is revised on an ongoing basis to ensure relevance to changing educational, employment and marketing needs. The instructor will endeavour to provide notice of changes to students as soon as possible. The instructor reserves the right to add or delete material from courses.