Introduction to Biology 2 - BIOL 102
University Studies Program

Course Outline

COURSE IMPLEMENTATION DATE: Pre 1998
OUTLINE EFFECTIVE DATE: January 2017
COURSE OUTLINE REVIEW DATE: September 2022

GENERAL COURSE DESCRIPTION:
BIOL 102 is an introduction to organismic and population biology with emphasis on reproduction, genetics, developmental biology, evolution, diversity and ecology.

Program Information: BIOL 101 AND BIOL 102 can be used as components of an Associate of Arts (AA) or an Associate of Science (ASc) degree at COTR.

Delivery: This course is delivered face to face

COTR Credits: 3

Hours for this course: 90 hours

Typical Structure of Instructional Hours:

<table>
<thead>
<tr>
<th>Instructional Activity</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture Hours</td>
<td>45</td>
</tr>
<tr>
<td>Seminars / Tutorials</td>
<td></td>
</tr>
<tr>
<td>Laboratory / Studio Hours</td>
<td>45</td>
</tr>
<tr>
<td>Practicum / Field Experience</td>
<td></td>
</tr>
<tr>
<td>Other Contact Hours</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>90</strong></td>
</tr>
</tbody>
</table>

Practicum Hours (if applicable):

<table>
<thead>
<tr>
<th>Type of Practicum</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-the-job Experience</td>
<td>N/A</td>
</tr>
<tr>
<td>Formal Work Experience</td>
<td>N/A</td>
</tr>
<tr>
<td>Other</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
</tbody>
</table>
Course Outline Author or Contact:
Andrena Heigh, B.Sc., M.Sc.

APPROVAL SIGNATURES:

Department Head
Ildi Walkley
E-mail: walkley@cotr.bc.ca

Dean of Business and University Studies
Darrell Bethune
E-mail: bethune@cotr.bc.ca

EDCO
Valid from: January 2017 – September 2022

COURSE PREREQUISITES AND TRANSFER CREDIT:

Prerequisites: BIOL 101
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:


Biology 102 Lab Outlines and Worksheets

*Please see the instructor’s syllabus or check COTR’s online text calculator [http://www.cotr.bc.ca/bookstore/cotr_web.asp?IDNumber=164](http://www.cotr.bc.ca/bookstore/cotr_web.asp?IDNumber=164) for a complete list of the currently required textbooks.*

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LEARNING OUTCOMES:

University Arts and Sciences at the College of the Rockies allow students to complete their first two years of study towards a university degree. College students gain academic knowledge and skills in their chosen subjects. They also cover general problem-solving and critical thinking skills. The combination can empower them to participate as educated citizens in the economic, political, and cultural life of their communities.

Upon the successful completion of this course, you should be able to:

- use the facilities of a standard undergraduate biology laboratory
- appreciate the role that biology plays in everyday life
- comprehend and interpret detailed scientific and/or technical information from texts
- facilitate the creative problem-solving process using a variety of techniques, such as brainstorming, analogy, probing, attitude, analysis
- critically evaluate information for accuracy, relevance and importance
- think critically and act logically to evaluate situations
- make generalizations (transfer knowledge and training to new situations)
- conduct research and write scientific papers including:
  - thoroughly develop a testable hypothesis
  - identify all variables which need to be considered
  - organize a study and have all the design developed to carry the study out
  - locate sources of material for the study
  - determine how data will be analyzed
- write scientific papers including:
  - articulate what is meant by “professional communication”
  - utilize a variety of resources, media and techniques to access information
  - search for information in the professional literature (print libraries, electronic databases, company records, government documents CD-ROM, internet tools, etc.),
  - organize information so that it can be used in a meaningful way by a specified audience
  - proper scientific citation techniques
- develop an informed response to local and global issues
- demonstrate an understanding of interconnected local and global issues
- exercise leadership in addressing social and workplace issues
Note: Biology 101 and 102 together constitute a first year, university level, general biology course designed primarily to lay the groundwork for further studies in the sciences.

COURSE TOPICS:

- Basic methodology of scientific thought and communication
- Theory of evolution and knowledge of diversity
- Comparative animal anatomy and physiology in terms of
  a) circulatory
  b) respiratory
  c) osmoregulation
  d) nervous system
  e) reproductive system
  f) immune system
  g) developmental biology
- Cell cycles
- Genetics
- DNA technologies
- Ecological principles

See instructor’s syllabus for the detailed outline of weekly readings, activities and assignments.

EVALUATION AND ASSESSMENT:

<table>
<thead>
<tr>
<th>Assignments</th>
<th>% Of total Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Exam</td>
<td>14%</td>
</tr>
<tr>
<td>Lab Assignments</td>
<td>21%</td>
</tr>
<tr>
<td>Midterms</td>
<td>37%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>28%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

Please see the instructor syllabus for specific classroom policies related to this course, such as details of evaluation, penalties for late assignments, and 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:

<table>
<thead>
<tr>
<th>Grade</th>
<th>A+</th>
<th>A</th>
<th>A-</th>
<th>B+</th>
<th>B</th>
<th>B-</th>
<th>C+</th>
<th>C</th>
<th>C-</th>
<th>D</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark (Percent)</td>
<td>≥ 90</td>
<td>89-85</td>
<td>84-80</td>
<td>79-76</td>
<td>75-72</td>
<td>71-68</td>
<td>67-64</td>
<td>63-60</td>
<td>59-55</td>
<td>54-50</td>
<td>&lt; 50</td>
</tr>
</tbody>
</table>

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](http://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.