BIOL 100 - Biology I – From Cells to Organisms
Draft Syllabus for Fall 2020 (“202030”)
7 Aug/20.

Instructors

Lecture: Dr. Mark Brigham
  e-mail: mark.brigham@uregina.ca

Dr. Harold Weger
  e-mail: harold.weger@uregina.ca

Laboratory: Dr. Nola Erhardt
  e-mail: nola.erhardt@uregina.ca

Communication within the Course

• E-mail is the preferred way to communicate with the instructors; simply use the above e-mail addresses.

• Please check your U of R email address for important information about this course and your other courses.

• If you prefer to use a different email address (e.g. gmail), it is possible to set your U of R email address to forward to your preferred email address.

• Emails to the class are also visible via the Announcements section of the UR Courses site.
Couple of Notes about the Biology Program:

1) Biology **majors** should take **CHEM 104**, **CHEM 105** and **CHEM 140** as *early as possible* in their B.Sc. program. (You should be taking CHEM 104 *this semester*, and should take at least one of CHEM 105/140 this coming January).

2) Students looking to take an *elective* Biology course are welcome in BIOL 100, but should also consider BIOL 140 or BIOL 150 (BIOL 100 and 101 are *majors* Biology courses).

3) Program advising appointments are available via the Science Student Services Office ([science@uregina.ca](mailto:science@uregina.ca)). Luther College and Campion College students should contact their college main office for program advising.

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**Specialized Accommodations:** Students in this course who, because of a disability, may have need for specialized accommodations, should please contact the Centre for Student Accessibility ([www.uregina.ca/student/accessibility/](http://www.uregina.ca/student/accessibility/)) and should also discuss these accommodations with the instructor(s). Please note that the course instructors do not have the authority to arrange for any accommodations independent of the Centre for Student Accessibility.
Grading:

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Mid-Term Test #1</strong></td>
<td>12.5%</td>
</tr>
<tr>
<td><strong>Mid-Term Test #2</strong></td>
<td>17.5%</td>
</tr>
<tr>
<td><strong>Laboratory (see lab description below)</strong></td>
<td>30%</td>
</tr>
<tr>
<td><strong>Final Exam</strong></td>
<td>40%</td>
</tr>
</tbody>
</table>

Course Materials:

*Lab Manual (required):* Available on the [BIOL 100 UR Courses site](https://biol100.ur.courses).  

*Textbook (optional):* [OpenStax Biology 2e](https://openstax.org/details/books/biology-2e).  This is an open access book; available from https://openstax.org/details/books/biology-2e. (Please note that “Concepts of Biology”, also produced by OpenStax, is an entirely different book.)  Students should also feel free to purchase used copies of Campbell Biology.  There are no assigned readings.
More Information About Textbooks
Student evaluation forms from previous years have made it very clear that some students find a textbook invaluable in BIOL 100, while other students consider a textbook completely unnecessary. So, what to do about the textbook? To use one or not to use one? It really depends upon you as an individual, and your own learning style. Comments about the textbook from previous course evaluations range from “The textbook is extremely useful” to “If you take good notes in class, then you don't really need it”. The instructors of this course suggest using a textbook, but it is not obligatory.

Policies and Procedures
1) The final exam covers the entire course.
2) Attendance at each laboratory session is mandatory. If you miss a laboratory session (with a valid excuse – see Lab Manual), please contact Dr. Erhardt (nola.erhardt@uregina.ca).
3) This course falls under the Academic Regulations of the University of Regina and the Faculty of Science (these regulations are printed in the General Calendar, available at https://www.uregina.ca/student/registrar/resources-for-students/academic-calendars-and-schedule/undergraduate-calendar/index.html)
Policies and Procedures continued

4) The grading scheme for the course is the same for all students in the course. There is no opportunity to boost a grade by doing “extra work”, and there are no adjustments to grade allocations to the various mid-terms and assignments.

5) For students who have previously taken the course and wish to apply for an official “lab exemption”, the minimum lab grade for an exemption is 70%.

Policies and Procedures for Mid-Term Tests, Lab Exam and the Final Exam

1) There are no make-up mid-term tests. Marks for the missed mid-term test will be reallocated to the final exam. Students who miss either of the two lecture mid-term tests, or the lab exam, must provide a valid excuse (unfortunately, vacations are not valid excuses).

2) “Deferred” final exams can only be granted by the Associate Dean, Academic (for Faculty of Science students), or by the Deans and/or Associate Deans of other Faculties or Federated Colleges. The course instructors cannot grant deferred final exams.
Important Dates for Fall 2020 BIOL 100:

- Sept. 2 (W): First day of lectures, and first day of BIOL 100 lectures
- Week of Sept. 14: BIOL 100 labs begin
- Sept. 16 (W): Last day to drop a course without a grade of “W”
- Sept. 30 (W): Mid-term Exam #1
- Oct. 12 (M): Thanksgiving Day Holiday
- Nov. 6 (W): Mid-term Exam #2
- Nov. 9 – 14: Fall Break (no classes); includes Remembrance Day
- Nov. 16 (M): Last day to drop a course with a grade of “W”
- Dec. 7 (M): Last day of BIOL 100 lectures
- Dec. 9 (W): First day of final exams
- Dec. 14 (F): BIOL 100 Final Exam (7:00 PM; 3 hours)

Items in Green have tentative dates
### Biology 100 - Biology I – From Cells to Organisms
#### Laboratory Schedule – Fall 2020

<table>
<thead>
<tr>
<th>Dates</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sept. 14-19</td>
<td>Lab 1. The Mysterious Death of Harriet Highbottom</td>
</tr>
<tr>
<td>Sept. 21-26</td>
<td>Lab 2: Comparing Large Biological Molecules</td>
</tr>
<tr>
<td>Oct. 5-10</td>
<td>Lab 3: Understanding Diffusion and Osmosis</td>
</tr>
<tr>
<td>Oct. 19-24</td>
<td>Lab 4: Taxonomy Times Two</td>
</tr>
<tr>
<td>Nov. 2-7</td>
<td>Lab 5: Exploring Saskatchewan Biomes</td>
</tr>
<tr>
<td>Nov. 16-21</td>
<td>Lab 6: The Theory of Evolution</td>
</tr>
</tbody>
</table>

### Laboratory Mark Breakdown

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Top Hat Questions</td>
<td>5%</td>
</tr>
<tr>
<td>Lab 1</td>
<td>2%</td>
</tr>
<tr>
<td>Lab 2</td>
<td>4%</td>
</tr>
<tr>
<td>Lab 3</td>
<td>5%</td>
</tr>
<tr>
<td>Lab 4</td>
<td>4%</td>
</tr>
<tr>
<td>Lab 5</td>
<td>5%</td>
</tr>
<tr>
<td>Lab 6</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30%</strong></td>
</tr>
</tbody>
</table>

Further details about the laboratory are on the [BIOL 100 UR Courses site](#).
Material to Know for Lecture Tests/Exams – The chart on the next page represents an *approximate* lecture schedule, indicating the order of topics to be covered and the approximate date of the lecture. For many of the topics, a standard biology majors textbook (e.g. OpenStax Biology 2e) provides much more detail than the lectures, and in a few cases the lectures provide slightly more detail than the textbook. You are responsible for **understanding the material at the level of detail provided in the lectures**. Material that is not covered in lecture will not appear on a test/exam.
**Lecture Schedule for Fall 2020** - This chart represents an *approximate* lecture schedule for BIOL 100, indicating the order of topics to be covered and the approximate date(s) for each topic.

<table>
<thead>
<tr>
<th>Date</th>
<th>Lecture #</th>
<th>Topic</th>
<th>Date</th>
<th>Lecture #</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Sep (W)</td>
<td>1</td>
<td>Course Intro, Nature of Science</td>
<td>21 Oct (W)</td>
<td>20</td>
<td>Genes to Proteins</td>
</tr>
<tr>
<td>4 Sep (F)</td>
<td>2</td>
<td>Basic Chemistry</td>
<td>23 Oct (F)</td>
<td>21</td>
<td>Cell Division I</td>
</tr>
<tr>
<td>7 Sep (M)</td>
<td>---</td>
<td><em>Labour Day (no classes)</em></td>
<td>26 Oct (M)</td>
<td>22</td>
<td>Cell Division II</td>
</tr>
<tr>
<td>9 Sep (W)</td>
<td>3</td>
<td>Water &amp; Carbon</td>
<td>28 Oct (W)</td>
<td>23</td>
<td>Genetics I</td>
</tr>
<tr>
<td>11 Sep (F)</td>
<td>4</td>
<td>Large Biological Molecules I</td>
<td>30 Oct (F)</td>
<td>24</td>
<td>Genetics II</td>
</tr>
<tr>
<td>14 Sep (M)</td>
<td>5</td>
<td>Large Biological Molecules II</td>
<td>2 Nov (M)</td>
<td>26</td>
<td>Genetics III</td>
</tr>
<tr>
<td>16 Sep (W)</td>
<td>6</td>
<td>Cell Structure I</td>
<td>4 Nov (W)</td>
<td>26</td>
<td>Intro to Ecology &amp; the Biosphere</td>
</tr>
<tr>
<td>18 Sep (F)</td>
<td>7</td>
<td>Cell Structure II</td>
<td>6 Nov (F)</td>
<td>27</td>
<td><em>Mid-term Test #2</em></td>
</tr>
<tr>
<td>21 Sep (M)</td>
<td>8</td>
<td>Membranes I</td>
<td>9 Nov – 14 Nov</td>
<td>---</td>
<td><em>Reading Week (no classes)</em></td>
</tr>
<tr>
<td>23 Sep (W)</td>
<td>9</td>
<td>Membranes II</td>
<td>16 Nov (M)</td>
<td>28</td>
<td>Evolution I – Charles Darwin</td>
</tr>
<tr>
<td>25 Sep (F)</td>
<td>10</td>
<td>Metabolism &amp; Bioenergetics I</td>
<td>18 Nov (W)</td>
<td>29</td>
<td>Evolution II</td>
</tr>
<tr>
<td>28 Sep (M)</td>
<td>11</td>
<td>Metabolism &amp; Bioenergetics II</td>
<td>20 Nov (F)</td>
<td>30</td>
<td>Evolution III – Evolution of Populations</td>
</tr>
<tr>
<td>30 Sep (W)</td>
<td>12</td>
<td><em>Mid-term Test #1</em></td>
<td>23 Nov (M)</td>
<td>31</td>
<td>Evolution IV – Origin of Species</td>
</tr>
<tr>
<td>2 Oct (F)</td>
<td>13</td>
<td>Metabolism &amp; Bioenergetics III</td>
<td>25 Nov (W)</td>
<td>32</td>
<td>Neurons &amp; Nervous Systems I</td>
</tr>
<tr>
<td>5 Oct (M)</td>
<td>14</td>
<td>Respiration I</td>
<td>27 Nov (F)</td>
<td>33</td>
<td>Neurons &amp; Nervous Systems II</td>
</tr>
<tr>
<td>7 Oct (W)</td>
<td>15</td>
<td>Respiration II</td>
<td>30 Nov (M)</td>
<td>34</td>
<td>Circulation &amp; Gas Exchange I</td>
</tr>
<tr>
<td>9 Oct (F)</td>
<td>16</td>
<td>Respiration III</td>
<td>2 Dec (W)</td>
<td>35</td>
<td>Circulation &amp; Gas Exchange II</td>
</tr>
<tr>
<td>12 Oct (M)</td>
<td>---</td>
<td><em>Thanksgiving (no classes)</em></td>
<td>4 Dec (F)</td>
<td>36</td>
<td>Animal Behaviour I</td>
</tr>
<tr>
<td>14 Oct (W)</td>
<td>17</td>
<td>Photosynthesis I</td>
<td>7 Dec (M)</td>
<td>37</td>
<td>Animal Behaviour II</td>
</tr>
<tr>
<td>16 Oct (F)</td>
<td>18</td>
<td>Photosynthesis II</td>
<td>14 Dec (M)</td>
<td>7:00 PM</td>
<td><em>Final Exam (three hours)</em></td>
</tr>
<tr>
<td>19 Oct (M)</td>
<td>19</td>
<td>Photosynthesis III</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
UR Courses

Notice: Important information about COVID-19 [here](#).

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UR Courses

UR Courses is the primary Online Learning Environment (OLE) used at the University of Regina and its Federated Colleges.

[LOGIN TO UR COURSES](#)

Students

- Access to your course is typically available at the start of the semester. If the semester has already begun, access to your course will become available approximately 24 hours after enrollment.

- If you are missing a course in UR Courses, **please contact your instructor**.

- For assignment, exam, or course material questions, **please contact your instructor**.

- If you are registered in a fully online course, visit Flexible Learning’s [Online Course Support](#) page for additional information.

For additional information, refer to our [Students](#) page.
login, then choose course to open
What is on the BIOL 100 UR Courses Web Site?

**Announcements** – For both lab and lecture.

**Lab Manual** – The lab manual is on-line (there is no hard copy).

**Forums** (a.k.a. Discussion Boards) – These are places to ask questions about the lecture material ("Lecture Questions"), as well as to chat with other students about non-biology topics ("Coffee Shop"). You may also use the Lecture Questions as a study tool. Both questions and answers are accessible to everyone in the course, and we encourage students to post questions (if you have a question about a topic, chances are that someone else also has that question, so post it!).

**Lecture Notes** - You will find lecture notes from Dr. Brigham and Dr. Weger. Dr. Weger’s notes are generated during lecture and are posted after each lecture, while Dr. Brigham will post his PowerPoint notes before lecture.

**Study Skills** – Here you’ll find resources to help you study for Biology 100 (and your other) exams.

**Summaries of Terms and Concepts** – A series of PDFs that highlight and summarize lecture material.
What is on the BIOL 100 UR Courses Web Site?

**U of R Resources** – Links to various University resources and services.

**Other Useful and Important Info** is also on the course website.

**Getting help with UR Courses** - There are two ways to get general help with the Biology 100 UR Courses web site:

- E-mail: [IT.Support@uregina.ca](mailto:IT.Support@uregina.ca); Phone: 306-585-4685
Student Code of Conduct (from the Undergraduate Calendar) -
https://www.uregina.ca/student/registrar/resources-for-students/academic-calendars-and-schedule/undergraduate-calendar/index.html

Academic Misconduct regulations.
Non-academic Misconduct regulations.
• Both sets of regulations are enforced in this course. Please have a quick read of the regulations in the Undergraduate Calendar.
• Misconduct (academic, non-academic) is automatically reported to the Associate Dean of Science (Academic).
• This course uses Turnitin for assignments (https://www.turnitin.com/+).
• Plagiarism: many people don’t realize that it is possible to plagiarize yourself; work previously submitted for any other course, or previously for this course (because you are taking it for a 2nd time) cannot be used; all work must be original.
What is plagiarism? It’s very important to be clear about what constitutes plagiarism in BIOL 100 assignments.

*According to the University of Regina:*  
**Plagiarism** is a form of academic misconduct where the work of another person is submitted without acknowledgement, whether from intent to deceive, lack of understanding, or carelessness.

It is expected that students will examine and refer to the ideas of others unless the course instructor states otherwise. These ideas must be incorporated into the student’s own analysis and must be clearly acknowledged through citations, footnotes, endnotes, or other practices accepted by the academic community. Students’ use of others’ expression of ideas, whether quoted verbatim or paraphrased, must also be clearly acknowledged according to acceptable academic practice. It is the responsibility of each student to learn what constitutes acceptable academic practice in each class.
Plagiarism includes, but is not limited to, the following practices:
• not acknowledging an author or other source for one or more phrases, sentences, thoughts, code, formulae, or arguments incorporated in written work, software, or other assignments;
• presenting passages and/or portions of another person’s paper, report, piece of software, etc., as an assignment for credit, even if that paper or other work is cited as a source in the accompanying bibliography or list of references. This includes copying sources of information found on the Internet;
• paraphrasing text while maintaining the basic paragraph and sentence structure.

Students who are uncertain of what plagiarism is are encouraged to discuss it with their instructors and should consult the vast resources available on this topic that can be found on the internet and in most libraries. The APA and MLA citation guides are also valuable sources of information but students may need to consult other sources of information to follow the format required by their instructor.

Considerations regarding plagiarism in BIOL 100:
• Please note that BIOL 100 uses Turnitin (https://www.turnitin.com/) for all assignments. This means that all student work is checked for similarity to other work (from BIOL 100 and other courses from other schools) and to various websites and publications.
• For students taking this course for a second time, your previous assignments are in the Turnitin database; please submit only original work.
• Scientific writing does not usually quote passages verbatim from other work (even if properly acknowledged or cited); use your own words to describe ideas, but also provide the appropriate acknowledgements where appropriate.
Counselling Services
https://www.uregina.ca/student/counselling/
- Counselling now offered in live stream format.
- Information about mental health and anxiety.
- Many other resources.

Student Success Centre
https://www.uregina.ca/student/ssc/
- Writing tutoring, math and stats tutoring.
- Learning strategies.

Advising and Career Education
https://www.uregina.ca/careercentre/

Cooperative Education and Internships
https://www.uregina.ca/careercentre/coop/

These resources still available in this era of COVID-19, although they are offered on-line at present.
Program/Academic/Pre-Professional Advising

Academic advising (about programs and majors, and about pre-professional programs) is available to both UofR and federated college (First Nations University, Campion College and Luther College) students. For federated college students, advising appointments are made via the appropriate Registrar’s Office and/or Academic Advising Office. For UofR students book an advising appointment via Science Student Services (science@uregina.ca; 306-585-4199; LB 238).

Air flow in bird lungs. Avian respiration is an efficient system of gas exchange with air flowing unidirectionally. A full ventilation cycle takes two breathing cycles. From OpenStax Biology 2e.