



University  
of Regina

**BIOL 100 - Biology I – From Cells to Organisms**  
**Syllabus for Fall 2021 (“202130”)**  
**Draft – 20 July/21**

**Instructors**

*Lecture:*

**Dr. Mark Brigham**

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**Dr. Harold Weger**

e-mail: [harold.weger@uregina.ca](mailto:harold.weger@uregina.ca)

*Laboratory:*

**Dr. Nola Erhardt**

e-mail: [nola.erhardt@uregina.ca](mailto:nola.erhardt@uregina.ca)

***Course Description:*** An examination of biological molecules, cell structure and fundamental cellular processes, bioenergetics, genetics, evolution, and animal and plant physiology.  
***\*Notes:*** Biology 30 and Chemistry 30 are strongly recommended as background preparation. This course is designed for biology majors, pre-professional students, secondary education science students, and those wanting two semesters of biology. Students seeking a single semester introductory course are advised to take Biology 140 or 150\*

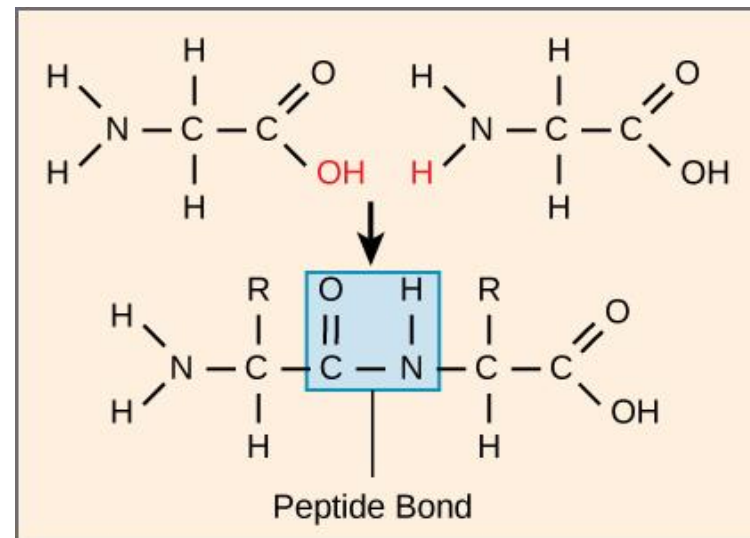
**Territorial acknowledgement:** The University of Regina is situated on the territories of the nêhiyawak, Anihšīnāpēk, Dakota, Lakota, and Nakoda, and the homeland of the Métis/Michif Nation. The Regina campus is on Treaty 4 lands, and Saskatoon classes are on Treaty 6 lands.

**Lectures:** The class will be delivered synchronously (via “distance delivery”) through Zoom, M,W,F from 12:30-1:20 pm (Central Standard Time). Lectures will be recorded and will be available on the BIOL 100 UR Courses site. After the lecture is finished at 1:20 pm, recording will be turned off and students will have an opportunity to ask questions.

**Labs:** Please attend, via Zoom, your assigned lab section. There are six (6) labs in total, and there are a number of lab assignments. *Lab exercises are run through Top Hat.*

### Communication within the Course

- E-mail is the preferred way to communicate with the instructors; simply use the above e-mail addresses (not the messaging system in UR Courses).
- 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.

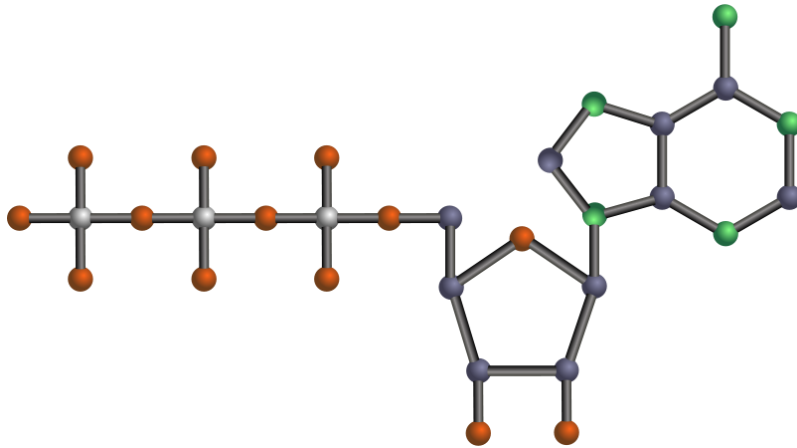


*Peptide bond formation via a condensation reaction. OpenStax Biology 2e.*



## 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)). First Nations Univ, Luther College and Campion College students should contact their college main office for program advising.



Adenosine triphosphate (ATP), the “energy currency” of a cell.

**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:

<i>Mid-Term Test #1</i>	12.5%
<i>Mid-Term Test #2</i>	17.5%
<i>Laboratory (see lab description below)</i>	30%
<i>Lecture Final Exam</i>	40%

## Course Materials:

*Lab Manual (required)*: Available via **Top Hat link** on the **BIOL 100 UR Courses site**.

*Textbook (optional)*: **OpenStax 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.) There are no assigned readings.



*Course textbook*



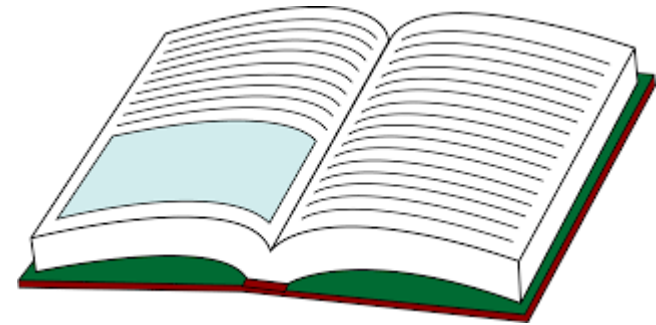
Not the course textbook



## 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.

There are no assigned readings from textbook, and the lecture material is not directly from the textbook (although the textbook does cover most of the material).



For students that wish to have hard copy of the textbook, you can follow the link from the OpenStax Biology 2e [website](#) to Amazon. A hard cover copy of the textbook costs USD52.00, while a soft cover version costs slightly less.

## 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](mailto:nola.erhardt@uregina.ca)).

## **Policies and Procedures** *continued*

- 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>)
- 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 for 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 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, must provide a valid reason (unfortunately, vacations are not a valid reason).
- 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 2021 BIOL 100:

Aug. 30 (M)	<b>First day of lectures, and first day of BIOL 100 lectures</b>
Week of Sept. 13	<b>BIOL 100 labs begin</b>
Sept. 13 (M)	Last day to drop a course without a grade of “W”
Sept. 27 (M)	<b>Mid-term Test #1</b>
Oct. 11 (M)	Thanksgiving Day Holiday
Nov. 3 (W)	<b>Mid-term Test #2</b>
Nov. 8 – 13	Fall Reading Week (no classes); includes Remembrance Day
Nov. 15 (M)	Last day to drop a course with a grade of “W”
Dec. 6 (M)	<b>Last day of BIOL 100 lectures</b>
Dec. 9 (R)	First day of final exams
Dec. 15 (W)	<b>BIOL 100 Final Exam (9:00 AM; length/duration 2.25 hours)</b>



***Biology 100 - Biology I – From Cells to Organisms***  
***Laboratory Schedule – Fall 2021***

<b>Dates</b>	<b>Title</b>
<b>Sept. 13 - 18</b>	<b>Lab 1. The Mysterious Death of Harriet Highbottom</b>
<b>Sept. 27 - Oct. 2</b>	<b>Lab 2: Comparing Large Biological Molecules</b>
<b>Oct. 18 - 23</b>	<b>Lab 3: Understanding Diffusion and Osmosis</b>
<b>Nov. 1 - 6</b>	<b>Lab 4: Taxonomy Times Two</b>
<b>Nov. 15 - 20</b>	<b>Lab 5: Exploring Saskatchewan Biomes</b>
<b>Nov. 29 - Dec. 4</b>	<b>Lab 6: The Theory of Evolution</b>

***Laboratory Mark Breakdown***

Top Hat Questions	5%
Lab 1	2%
Lab 2	4%
Lab 3	5%
Lab 4	4%
Lab 5	5%
Lab 6	5%
<b>Total</b>	<b>30%</b>



Further details about the about the Laboratory are found in the **BIOL 100 Laboratory Information** section of 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 2021** - 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.

Date	Lecture #	Topic	Date	Lecture #	Topic
30 Aug (M)	1	Course Intro, Nature of Science	18 Oct (M)	20	Genes to Proteins
1 Sep (W)	2	Basic Chemistry	20 Oct (W)	21	Cell Division I
3 Sep (F)	3	Water & Carbon	22 Oct (F)	22	Cell Division II
6 Sep (M)	---	<i>Labour Day holiday (no classes)</i>	25 Oct (M)	23	Genetics I
8 Sep (W)	4	Large Biological Molecules I	27 Oct (W)	24	Genetics II
10 Sep (F)	5	Large Biological Molecules II	29 Nov (F)	25	Genetics III
13 Sep (M)	6	Cell Structure I	1 Nov (M)	26	Intro to Ecology & the Biosphere
15 Sep (W)	7	Cell Structure II	3 Nov (W)	27	<b>Mid-term Test #2</b>
17 Sep (F)	8	Membranes I	5 Nov (F)	28	Evolution I – Charles Darwin
20 Sep (M)	9	Membranes II	8 Nov – 13 Nov	---	<i>Reading Week (no classes)</i>
22 Sep (W)	10	Metabolism & Bioenergetics I	15 Nov (M)	29	Evolution II
24 Sep (F)	11	Metabolism & Bioenergetics II	17 Nov (W)	30	Evolution III – Evolution of Populations
27 Sep (M)	12	<b>Mid-term Test #1</b>	19 Nov (F)	31	Evolution IV – Origin of Species
29 Sep (W)	13	Metabolism & Bioenergetics III	22 Nov (M)	32	Neurons & Nervous Systems I
1 Oct (F)	14	Respiration I	24 Nov (W)	33	Neurons & Nervous Systems II
4 Oct (M)	15	Respiration II	26 Nov (F)	34	Muscle Physiology I
6 Oct (W)	16	Respiration III	29 Nov (M)	35	Muscle Physiology II
8 Oct (F)	17	Photosynthesis I	1 Dec (W)	36	Animal Behaviour I
11 Oct (M)	---	<i>Thanksgiving holiday (no classes)</i>	3 Dec (F)	37	Animal Behaviour II
13 Oct (W)	18	Photosynthesis II	6 Dec (M)	38	Review
15 Oct (F)	19	Photosynthesis III	15 Dec (M)	9:00 AM	<b>Final Exam (duration two hours)</b>

# UR Courses

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



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Find a Person | Search Classes & Build Schedule

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## UR Courses

### UR Courses

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


University  
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### 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.

# UR Courses



## UR Courses Login

Log in below using your U of R username and password  
Cookies must be enabled in your browser

Username

Password

Remember username

Log in

Need help logging in?

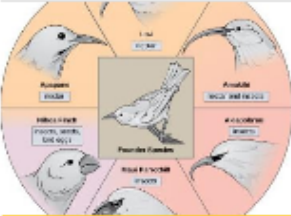

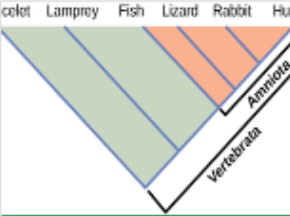
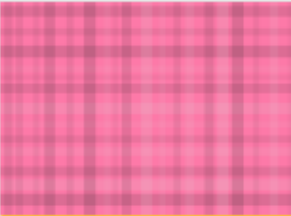
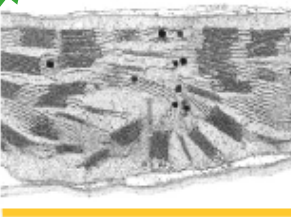



- Are you a new student?
- Forgotten your username or password?
- Activate your account?

For further assistance, please contact  
✉ IT.Support@uregina.ca or call (306) 585-4685.


### Course overview

All (except removed from view)

Course name Card

 <p>☆ BIOL 100: Biology I - From Cells to Organisms</p>	 <p>☆ BIOL 101 LAB: Biology II</p>	 <p>☆ BIOL 101: Biology II</p>	 <p>☆ BIOL 266 LAB: Plant Physiology</p>
 <p>☆ BIOL 266: Plant Physiology</p>	 <p>☆ BIOL 366 (Weger): Advanced Plant Physiology</p>	 <p>☆ PRACTICE EXAM: Student Practice Exam</p>	 <p>☆ Risk Assessment in Research</p>

login, then choose course to open



# UR Courses

## What is on the BIOL 100 UR Courses Web Site?

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

**Lab Manual** – The *Top Hat* link to the lab manual (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.

# UR Courses

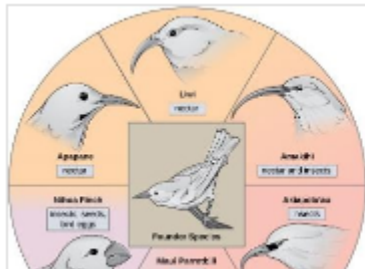
## What is on the BIOL 100 UR Courses Web Site?

**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



Biology

## BIOL 100: Biology I - From Cells to Organisms



Mark Brigham




Nola Erhardt



Harold Weger

## Student Code of Conduct

- The Undergraduate Calendar (<https://www.uregina.ca/student/registrar/resources-for-students/academic-calendars-and-schedule/undergraduate-calendar/index.html>) has a lot of good information about expectations about conduct (starting on page 34 of the Calendar).



University  
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2021-2022

UNDERGRADUATE CALENDAR

The information published in this Undergraduate Calendar outlines the rules, regulations, curricula, programs and fees for the 2021-2022 academic year, including the Spring/ Summer term 2021, the Fall Term 2021 and the Winter Term 2022.

Revision Information:

Date	Description
April 19, 2021	Initial Online Publication

### 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.
- As well, some aspects of academic misconduct are addressed in the following pages.
- Related to non-academic misconduct regulations outlined in the Calendar, the University of Regina also has a *Respectful University policy*:  
<https://www.uregina.ca/policy/brows-e-policy/policy-GOV-100-015.html>

**Academic Misconduct** - What is **plagiarism**? It's very important to be clear about what constitutes plagiarism in BIOL 100 lab 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 or lab teaching assistants.

### **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 scientific publications (it's a very large database).
- For students taking this course for a second time, your previous lab assignments are in the Turnitin database. *Please submit only original work; re-submission of past assignments is not permitted* (i.e. in that situation you would be plagiarizing yourself, which is something that even some practising scientists have had issues with).
- Lastly, 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.

## Academic Misconduct

- There are penalties for academic misconduct (and for non-academic misconduct as well).
- Academic misconduct penalties can range in severity, from zero on a question on an assignment, zero for the assignment, zero for a question on a test/exam, zero on a test/exam, and all the way to a grade of zero for the course.
- Academic misconduct is typically reported to the Associate Dean of Science (Academic); the Associate Dean has the authority to impose additional penalties (especially for “repeat offenders”).
- Conversely, if a student feels that an academic penalty assigned by a course instructor is inappropriate, they may discuss this issue with the Associate Dean (book an appointment with the Associate Dean via an email to the Science Student Services Office at [Science@uregina.ca](mailto:Science@uregina.ca)).



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# Resources

## **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.

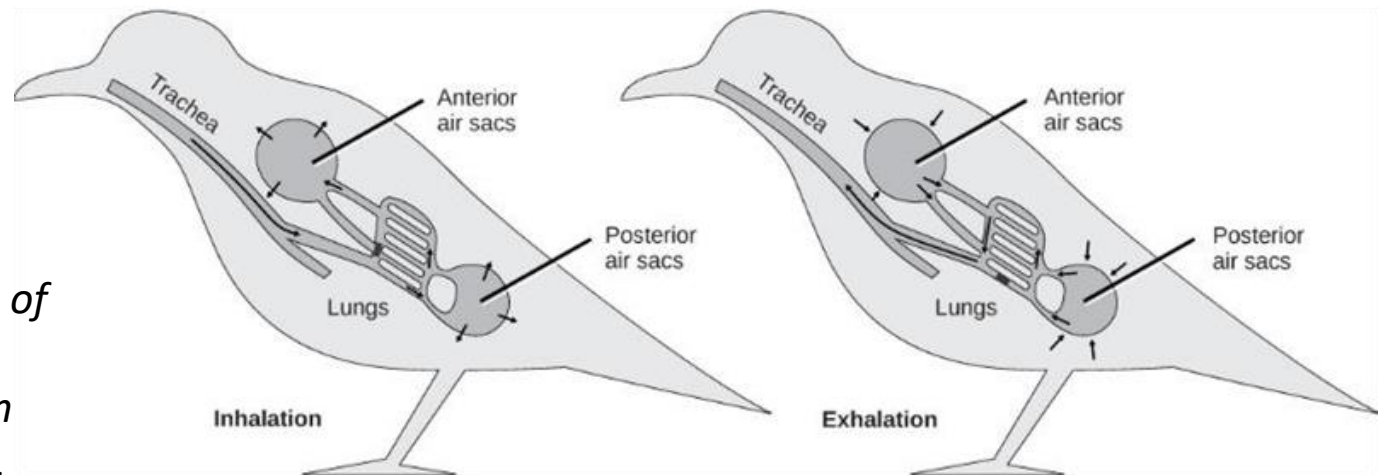


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# Resources

## 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, Champion 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 U of R students book an advising appointment via Science Student Services ([science@uregina.ca](mailto: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.*