

## **COURSE DESCRIPTION**

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An introduction to the basic themes and concepts of modern biology spanning organizational levels from molecules to cells in an evolutionary context.

This course is intended primarily for students in biological and life sciences, for those considering pursuing careers in the health sciences/medical sector, and those with a general interest in Biology and plans to take further Biology courses. The Biology Department at Queen's has two other courses, BIOL110 and BIOL111, that are intended for students who plan to take only one or two Biology courses.

This course may be used by Queen's students towards the degree requirements of programs in the biological and life sciences. Students from other institutions pursuing chemistry, biochemistry, or similar programs should check with their home institution regarding the suitability of this course towards their degree programs.

BIOL 102 Online has a significant level of interaction with the instructor and TAs to help students master the course materials.

## **UNIVERSITY OPERATING DATES**

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Please visit the Faculty of Arts and Sciences Sessional Dates website for all academic deadlines.

## **LEARNING OUTCOMES**

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After completing BIOL 102, students should be able to:

1. Explain and interpret how major macromolecules of living organisms interrelate to create cellular function, diversity and evolution;
2. Explain and interpret how cells function normally, respond to environmental signals and propagate the next generation;
3. Explain and interpret how genes work to facilitate life and inheritance and apply this knowledge to scientific experimentation and molecular biotechnologies.

## **TOPICS**

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- Biology and the Tree of Life
- Water and Carbon: The Chemical Basis of Life
- The Molecules of Life: Proteins, Nucleic Acids, Carbohydrates, and Lipids
- Cell Ultrastructure and Cell Communication

- Cell Respiration and Fermentation
- Photosynthesis
- The Cell Cycle, Mitosis and Meiosis
- Mendel and the Gene
- DNA and the Gene: Synthesis, Repair, and How Genes Work
- Translation and Transcription
- Control of Gene Expression in Bacteria and Eukaryotes

## COURSE MATERIALS

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The following material is available from the Queen's Campus Bookstore:

Package ISBN	Package Components	Item Titles
Package ISBN: 9780134694009  (Note that this is for the Special Queen's Access Code to the All-Electronic Package. Be aware that ISBN numbers differ, e.g., hard cover versus loose leaf)	MasteringBiology Access Code Card  <ul style="list-style-type: none"> <li>• <b>with eText</b></li> </ul>	Biological Science, Third Canadian Edition Freeman, Harrington & Sharp  Custom PCL: Biology on the Cutting Edge Case Studies Gillies & Hewitt  Mastering Biology with etext with Full Suite for Freeman, Biological Science Direct Integration for OnQ for Queen's University - Standalone Access Code Card Freeman

### Third Party Policy

This course makes use of Mastering Biology for some activities. Be aware that by logging into the site, you will be leaving onQ, and accessing the site, beyond what is required for the course (for example, purchasing the company's products), is subject to Pearson's terms of use and privacy policy. You are encouraged to review these documents, using the link(s) below, before using the site.

<https://support.pearson.com/getsupport/s/privacy>

## TIMELINE

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The Course Timeline shows all relevant course dates, including assessments, as well as links to other important course information. As dates may change, you should consult the Timeline each time you log in to the course.

Please note, some students may see an onQ Calendar for their course. However, the onQ calendar does not display all dates associated with your course assignments. For complete information on all of your assignments in this course and the start and close dates, please refer to the **Course Timeline**.

If there are discrepancies between dates in the course onQ site, the Timeline will be considered accurate.

All times are in Kingston time (Eastern Time).

## **SUGGESTED TIME COMMITMENT**

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To complete the readings, assignments, and course activities, students can expect to spend on average, 125 hours over the course, or about 10-11 hours per week on the course.

## **LAND ACKNOWLEDGEMENT**

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Queen's University is situated on traditional Anishinaabe and Haudenosaunee Territory. To acknowledge this traditional territory is to recognize its longer history, one predating the establishment of the earliest European colonies. It is also to acknowledge this territory's significance for the Indigenous peoples who lived, and continue to live, upon it – people whose practices and spiritualities were tied to the land and continue to develop in relationship to the territory and its other inhabitants today. The Kingston Indigenous community continues to reflect the area's Anishinaabek and Haudenosaunee roots. There is also a significant Métis community and there are First Peoples from other Nations across Turtle Island present here today.

## **EQUITY, DIVERSITY, AND INCLUSIVITY STATEMENT**

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Queen's University recognizes that the values of equity and diversity are vital to and in harmony with its educational mission and standards of excellence. It acknowledges that direct, indirect and systemic discrimination exists within our institutional structures, policies and practices and in our community. These take many forms and work to differentially advantage and disadvantage persons across social identities such as race, ethnicity, disability, gender identity, sexual orientation, faith and socioeconomic status, among other examples. In this class I will work to promote an anti-discriminatory, anti-racist and accountable environment where everyone feels welcome. Students in this class are encouraged to participate during class discussions and to support others in their participation. Because the class will represent a diversity of individuals, beliefs, backgrounds, and experiences, every member of this class is asked to show respect for every other member.

## **NAME/PRONOUN**

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Knowing and applying students' names and pronouns is a crucial part of developing a productive learning environment that fosters safety, inclusion, and personal dignity. This is an important part of the inclusion work here at Queen's.

If you wish to change how your name appears in onQ and on class lists, please follow these steps. You may also use this process to add your pronouns to the appearance of your name.

1. Log into SOLUS.
2. Click on Personal Information tab.
3. Click on the Names tab
4. Click on the Add New Name tab
5. Choose Preferred from the Name Type drop down menu
6. Enter your preferred name.
7. Click Save.

Please allow 24 to 48 hours for your preferred name to be registered within the system. If you have further questions or concerns please contact ITS at Queen's University.

## EDUCATIONAL TECHNOLOGIES

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This course makes use of Pearson Mastering Biology for some activities.

Please follow these instructions for accessing Pearson Mastering Biology:

Getting started with Pearson Mastering Biology.

All other required and recommended materials will be available through onQ.

## PRIVACY STATEMENT FOR THIRD-PARTY SOFTWARE

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Be aware that you will be leaving onQ when you log into Pearson Mastering Biology. Your independent use of this site, beyond what is required for the course (for example, purchasing the company's products), is subject to Pearson's terms of use and privacy policy.

You are encouraged to review the applicable privacy statements before using the site.

Pearson Mastering Biology: <https://www.pearson.com/en-us/legal-information/privacy-policy.html>

## WEIGHTING OF ASSESSMENTS

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RoundTable	15%	Aligned to Learning Outcomes 1, 2, 3
Discussions (3)		
Quizzes (2)	15%	Aligned to Learning Outcomes 1, 2, 3

Virtual Research Lab - Case Study	20%	Aligned to Learning Outcomes 1, 2, 3
Integration Assignment	20%	Aligned to Learning Outcomes 1, 2, 3
Proctored Paper Final Exam	30%	Aligned to Learning Outcomes 1, 2, 3

### Location

Students enrolled exclusively in online courses will have two options to write their proctored exams:

1. You may choose to write your exam(s) online using Examity proctoring services where you will be charged the additional \$100 exam fee to your Solus account;
2. You may choose to write your exam(s) in-person on Queen's campus in Kingston where you will NOT be charged the additional \$100 exam fee

Students enrolled in at least one on-campus course are expected to write all their exams on-campus during the scheduled exam time.

### Remote Proctoring (if applicable)

Selected assessments in this course will use remote proctoring provided by Examity, which is a third-party, cloud-based service that enables the completion of a proctored exam or test from an off-campus location, through onQ. This cloud-based proctoring solution was chosen as part of the approach to maintaining academic integrity when remote proctoring is required. Queen's has conducted an extensive privacy and security review of Examity and has entered into a binding agreement with terms that address the appropriate collection, use and disclosure of personal information in accordance with Ontario's privacy legislation. You should also take measures yourself to protect your information by keeping your NetID password and challenge questions private, closing all applications prior to starting an exam/test, and ensuring your device is updated and safeguarded against malware. For more information about remote proctoring, please see <http://www.queensu.ca/registrar/students/examinations/exams-office-services/remote-proctoring>

If you registered to write online with Examity, all information pertaining to the technical requirements and preparation for writing online with Examity will be posted in onQ well in advance of your exam.

In order to become familiar with the authentication process and test out your technology, you will have a chance to take practice test to help prepare you for your proctored exam via Examity. There is no need to study for this test; it will focus on your general Queen's trivia knowledge and will not count towards your course grade. **The questions provided are merely to help you test and potentially troubleshoot your system in advance of your exam.**

### Timing of Final Examinations

Once the exam schedule has been finalized the exam date will be posted on your SOLUS account. The exam dates for each Term are listed on the Faculty of Arts and Science webpage under "Important Dates." Student exam schedules for the Fall Term are posted via SOLUS immediately prior to the Thanksgiving holiday; for the Winter Term they are posted on the Friday before Reading Week, and

for the Summer Term they are individually noted on the Arts and Science Online syllabi. **Students should delay finalizing any travel plans until after the examination schedule has been posted. Exams will not be moved or deferred to accommodate employment, travel/holiday plans or flight reservations. For more information regarding what is considered extenuating circumstances and qualifications for Academic Consideration, please visit <https://www.queensu.ca/artsci/undergrad-students/student-services/academic-consideration-for-students> or email [asc.consideration@queensu.ca](mailto:asc.consideration@queensu.ca).**

## **ASSESSMENTS AND ACTIVITIES DESCRIPTION**

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We design quality courses with the primary goal to actively engage our learners with the learning materials. Research suggests that learners who actively participate in the learning environment take more responsibility for their performance in the course and consider the course as more valuable and more directly related to their goals. This is the reason we integrate active learning strategies in all our courses.

Here are the active strategies you will most likely find in your courses: discussion boards, integrated assignment, and peer review.

### **Round Table Discussion**

During the course, you will actively participate in three roundtable discussions. Each roundtable discussion will focus on a set of questions and/or a related case study. Like the Module Focus Question forums, these roundtable sessions represent an assortment of tools to help provide you with context, to help you with your engagement with the material and its applications, to help you integrate various aspects together, and to help you find significance in what you study.

### **Quizzes**

There are two online quizzes during the term to help you assess your knowledge and understanding, as well as to keep you on track. Each quiz consists of 30 multiple choice questions.

### **Virtual Research Lab**

There is a virtual research lab case study that you will complete independently. The intent of the virtual research lab assignment is to provide you with opportunities to carry out scientific investigations (hypothesis building and experimental design), "carry" out experiments/research work and gain a feel of experimental techniques, conduct basic statistical analysis, and develop scientific communication skills for biology-oriented audiences, such as patients and professional journals.

### **Integrated Assignment**

This group assignment is designed to integrate relevant material from across the different modules, bringing everything back from the reductionist level to the holistic realm of a cell. The group's work will typically be presented to the class through a virtual conference, or the like.

### **Late Policy**

Although this is an online course, you are expected to submit your assignments by the stipulated deadline. Indeed, it is in both your interest and that of the instructor that you do so. It is a frequent and unfortunate occurrence that students who allow themselves to fall behind in their coursework later find that they are unable to catch up again before the course ends. In addition to this, instructors and graders commonly set aside a block of time to grade all of the essays for a particular assignment together, because this allows them to do the marking in an efficient manner. You should be aware that when you hand in something late, you are taking away time that the instructor or grader has scheduled to do other work.

Assignments that are posted after the deadline will be penalized 5% per day late, including weekends and holidays. **Note that the nature of the RoundTable group discussion activities means that the late policy is inherent in the associated rubric.**

The absolute last day to submit a late assignment in this course is two weeks after its due date. Any essay that arrives after this will not be marked and will receive a grade of zero, unless permission has been sought from the instructor and granted.

The issue of extensions is a difficult one for both instructors and students. On the one hand, unforeseen events that are not the students' fault arise from time to time. On the other hand, a small number of students abuse the instructor's good will by frequently requesting extensions for trivial reasons. It is hoped that the foregoing policy will strike the correct balance between leniency and fairness.

## **ESSENTIAL REQUIREMENTS AND FLEXIBILITY TO SUCCEED**

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Assignments and discussions in this course were designed to be formative assessments or application-driven activities. Quizzes were designed foremost to test your understanding of the topics and your readings, as opposed to recalling facts.

Assignments, discussions, and quizzes have also been designed and scheduled with flexibility in mind to accommodate a wide range of personal needs, such as family commitments and work hours. Assignments can be accessed and worked on according to personal needs and schedules. Quizzes and discussions utilize open windows of a week or more. Mini-lectures are recorded for playback to accommodate your needs and schedules. Discussions are designed to accommodate your needs, knowledge strengths, and schedules by being asynchronous.

Despite the built-in flexibility, the timing of the various course activities (including their grading and feedback) was designed to maximize alignment with the line-up of topics and to assist with your mastery of the topics in a logical and timely manner – by building your knowledge from basic concepts and applying this foundational knowledge to more complex phenomena. Mastery may not be as effective when course activities and assignments are completed too far after the submission times.

## **GRADING**

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All components of this course will receive numerical percentage marks. The final grade you receive for the course will be derived by converting your numerical course average to a letter grade according to Queen's Official Grade Conversion Scale:

#### Queen's Official Grade Conversion Scale

Grade	Numerical Course Average (Range)
A+	90-100
A	85-89
A-	80-84
B+	77-79
B	73-76
B-	70-72
C+	67-69
C	63-66
C-	60-62
D+	57-59
D	53-56
D-	50-52
F	49 and below

## COURSE ANNOUNCEMENTS

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Throughout the course, I will post announcements to the class, including reminders of upcoming due dates, responses to frequent questions, corrections to broken links, etc. I encourage you to routinely check the Announcements section of the course homepage in onQ. To ensure that you receive these announcements promptly, I also recommend that you enable email notifications to your Queen's email address.

## CONTACTING THE TEACHING TEAM

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The teaching team contact information is located on the Homepage of the course (see "Teaching Team").

For general questions about the course, please post to the Course Questions Forum.

Throughout this course, you may come upon some general questions about the course and assignments. If you think that your question may benefit other students, you are invited to post your question in the Course Questions discussion forum. Feel free to help answer your peers' questions on this forum. The teaching team will monitor this discussion forum and answer questions. Most questions are answered within 24 hours. Any other questions that you would prefer to share privately, please contact me or your TA at one of the emails listed at the top of this syllabus. The teaching team contact information is located on the homepage of the course

## **COURSE FEEDBACK**

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At various points during the course, I may ask you to take part in a variety of feedback activities, such as surveys and questionnaires. This feedback enables my teaching team and me to make any adjustments necessary to improve your learning environment. Additional feedback may be requested throughout the course. All surveys are anonymous and are directly related to activities, assessments, and other course material.

## **NETIQUETTE**

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In any course you often communicate with your peers and teaching team through electronic communication. You are expected to use the utmost respect in your dealings with your colleagues or when participating in activities, discussions, and online communication.

Here is a list of netiquette guidelines. Please read them carefully and use them to guide your communication in this course and beyond.

1. Make a personal commitment to learn about, understand, and support your peers.
2. Assume the best of others and expect the best of them.
3. Acknowledge the impact of oppression on the lives of other people and make sure your writing is respectful and inclusive.
4. Recognize and value the experiences, abilities, and knowledge each person brings.
5. Pay close attention to what your peers write before you respond. Think through and re-read your writings before you post or send them to others.
6. It's ok to disagree with ideas, but do not make personal attacks.
7. Be open to being challenged or confronted on your ideas and to challenging others with the intent of facilitating growth. Do not demean or embarrass others.
8. Encourage others to develop and share their ideas.

## **QUEEN'S EMAIL**

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The university communicates with students via Queen's email. Please check your email regularly to ensure you do not miss important information related to your course.

## **COPYRIGHT**

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Course materials created by the course instructor, including all slides, presentations, handouts, tests, exams, and other similar course materials, are the intellectual property of the instructor. It is a departure from academic integrity to distribute, publicly post, sell or otherwise disseminate an instructor's course materials or to provide an instructor's course materials to anyone else for distribution, posting, sale or other means of dissemination, without the instructor's express consent. A student who engages in such conduct may be subject to penalty for a departure from academic integrity and may also face adverse legal consequences for infringement of intellectual property rights.

## **ACADEMIC ACCOMMODATIONS**

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Queen's University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities.

The Senate Policy for Accommodations for Students with Disabilities was approved at Senate in November 2016. If you are a student with a disability and think you may need accommodations, you are strongly encouraged to contact the Queen's Student Accessibility Services (QSAS) and register as early as possible. For more information, please visit the QSAS website.

**Students with course accommodations should add their information to Ventus using the widget located on the course homepage.**

## **ACADEMIC CONSIDERATIONS FOR STUDENTS IN EXTENUATING CIRCUMSTANCES**

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Academic consideration is a process for the university community to provide a compassionate response to assist students experiencing unforeseen, short-term extenuating circumstances that may impact or impede a student's ability to complete their academics. This may include but is not limited to,

- short-term physical or mental health issues (e.g., stomach flu, pneumonia, COVID diagnosis, vaccination, etc.),
- responses to traumatic events (e.g., death of a loved one, divorce, sexual assault, social injustice, etc.),
- requirements by law or public health authorities (e.g., court date, isolation due to COVID exposure, etc.).

Queen's University is committed to providing academic consideration to students experiencing extenuating circumstances. For more information, please see the Senate Policy on Academic Consideration for Students in Extenuating Circumstances.

Each Faculty has developed a protocol to provide a consistent and equitable approach in dealing with requests for academic consideration for students facing extenuating circumstances. For more information, undergraduate students in the Faculty of Arts and Sciences should consult the Faculty's webpage on Academic Consideration in Extenuating Circumstances and submit a request via the Academic Consideration Request Portal. Students in other Faculties and Schools who are enrolled in this course should refer to the protocol for their home Faculty.

Students are encouraged to submit requests as soon as the need becomes apparent and to contact their instructor and/or course coordinator as soon as possible once Academic Consideration has been granted. Any delay in contact may limit the options available for Academic Consideration.

For more information on the Academic Consideration process, what is and is not an extenuating circumstance, and to submit an Academic Consideration request, please see the Faculty of Arts and Science Academic Consideration website. ASO courses include links to information on **Academic Accommodation** on your **Course Homepage** in onQ.

Please see the Teaching Team page for all contact information regarding Academic Accommodations and Considerations.

Please use the information provided on the Teaching Team page.

## ACADEMIC INTEGRITY

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Queen's students, faculty, administrators and staff all have responsibilities for upholding the fundamental values of academic integrity: honesty, trust, fairness, respect, responsibility and courage. These values are central to the building, nurturing and sustaining of an academic community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the "freedom of inquiry and exchange of ideas" essential to the intellectual life of the University (see the Senate Report on Principles and Priorities).

Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments and their behaviour conform to the principles of academic integrity. Information on academic integrity is available in the Arts and Science Calendar (see Academic Regulation 1), on the Arts and Science website, and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen's. Given the seriousness of these matters, actions which contravene the regulation on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

You may benefit from visiting these websites for further tips on what constitutes plagiarism and how to avoid it.

- Avoiding Plagiarism: Paraphrasing

- Quoting and Paraphrasing

## COMPUTER REQUIREMENTS

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Please note that mobile devices are not recommended for the course as they cause several known issues in onQ.

### Computer Specifications

- Windows 8.1 or newer
- OS X 10.13 (High Sierra) or newer
- Dual Core 2 GHz processor
- 4 GB RAM
- Soundcard
- USB headset
- Webcam

### Supported Browsers

- Chrome (preferred - latest version)
- Firefox (latest version)
- ***Safari is not recommended as it causes several known issues in onQ***
- ***Edge is not recommended as it causes several known issues in onQ***

### Internet Connection

- Wired high speed access: Cable or better
- ***Wifi is not recommended***
- A minimum download speed of 10 Mbps and up to 20 Mbps for multimedia is recommended
- [Click here for an Internet speed test](#)

### Java

- Latest version

### Media Player

- HTML5 compatible

### Adobe Reader

- Latest Version

## STUDENTS STUDYING OR TRAVELLING ABROAD

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If you plan to travel, we strongly recommend that you confirm Internet availability in your host country prior to departure. In the past, students in other countries have been blocked from accessing certain websites relevant to their courses, as well as onQ. It is the responsibility of all students to book travel around course work, as we cannot change the format or timing on assessments or assignments as a result of travel plans.

The Course Timeline shows all relevant course dates, including assessments, as well as links to other important course information. As dates may change, you should consult the Timeline each time you log in to the course.

Please note, some students may see an onQ Calendar for their course. However, the onQ calendar does not display all dates associated with your course assignments. For complete information on all of your assignments in this course and the start and close dates, please refer to the Course Timeline below.

If there are discrepancies between dates in the course onQ site, the Timeline will be considered accurate.

All times are in Kingston time (Eastern Time).

### **WEEK 1**

#### **MATERIAL**

May 1 - 7

Module 1: Biology and the Tree of Life

#### **ASSESSMENTS AND ACTIVITIES**

Module Focus Questions

- Remains open for the duration of the course

Introduction Forum

- Opens May 1 at 10:00 AM
  - Closes May 15 at 2:00 PM
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### **WEEK 2**

#### **MATERIAL**

May 8 - 14

Module 2: The Molecules of Life

#### **ASSESSMENTS AND ACTIVITIES**

Module Focus Questions

Introduction Forum

- Opens May 1 at 10:00 AM
  - Closes May 15 at 2:00 PM
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### **WEEK 3**

#### **MATERIAL**

May 15 - 21

Module 3: Cell Ultrastructure and Cell Communication

#### **ASSESSMENTS AND ACTIVITIES**

RoundTable Session 1

- Initial post due May 17 at 9:00 AM
  - All responses due May 24 at 2:00 PM
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### **WEEK 4**

May 22 - 28

## **MATERIAL**

Module 4: Cell Respiration and Fermentation

## **ASSESSMENTS AND ACTIVITIES**

Module Focus Questions

Quiz 1: Weeks 1-3 (30 MCQs)

- Opens May 22 at 9:00 AM
  - Closes May 29 at 2:00 PM
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## **WEEK 5**

May 29 - Jun 4

## **MATERIAL**

Module 5: Photosynthesis

## **ASSESSMENTS AND ACTIVITIES**

RoundTable Session 2

- Initial post due May 31 at 9:00 AM
  - Final responses due Jun 7 at 2:00 PM
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## **WEEK 6**

Jun 5 - 11

## **MATERIAL**

Module 6: The Cell Cycle

## **ASSESSMENTS AND ACTIVITIES**

Module Focus Questions

Virtual Research Lab - Case Study

- Start Jun 5 at 9:00 AM
  - Complete Parts 1 and 2 by Jun 12 at 2:00 PM
  - Complete Part 3 by Jun 27 at 2:00 PM
  - Complete Parts 4, 5, and 6 by Jul 10 at 2:00 PM
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## **WEEK 7**

Jun 12 - 18

## **MATERIAL**

Module 7: DNA and the Gene

## **ASSESSMENTS AND ACTIVITIES**

RoundTable Session 3

- Initial post due Jun 14 at 9:00 AM
- Responses due Jun 21 at 2:00 PM

Virtual Research Lab - Case Study

- Submit Parts 1 and 2 by Jun 12 at 2:00 PM
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**WEEK 8**

Jun 19 - 25

**MATERIAL**

Module 8: Translation and Transcription

**ASSESSMENTS AND ACTIVITIES**

Quiz 2: Weeks 4-7 (30 MCQs)

- Opens Jun 19 at 9:00 AM
- Closes Jun 26 at 2:00 PM

RoundTable Session 3

- Responses due Jun 21 at 2:00 PM

Group Integration Assignment

- Start Jun 23 at 9:00 AM
  - Due Jul 14 at 2:00 PM
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**WEEK 9**

Jun 26 - Jul 2

**MATERIAL**

Module 9: Group Integration Assignment

**ASSESSMENTS AND ACTIVITIES**

Virtual Research Lab - Case Study

- Submit Part 3 by Jun 27 at 2:00 PM

Group Integration Assignment

- Due Jul 14 at 2:00 PM

Group Workplan

- Post by Jun 30 by 2:00 PM
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**WEEK 10**

Jul 3 - 9

**MATERIAL**

Module 10: Control of Gene Expression

**ASSESSMENTS AND ACTIVITIES**

Module Focus Questions

Virtual Research Lab - Case Study

- Submit Parts 4, 5, and 6 by Jul 10 at 2:00 PM

Group Integration Assignment

- Due Jul 14 at 2:00 PM

Possible Bonus Marks - [click here!](#)

- Due Jul 17 by 2:00 PM

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<b>WEEK 11</b>	<b>MATERIAL</b>	<b>ASSESSMENTS AND ACTIVITIES</b>
Jul 10 - 16	Module 11: Genetic Technologies	Module Focus Questions Virtual Research Lab - Case Study <ul style="list-style-type: none"><li>• Submit Parts 4, 5, and 6 by Jul 10 at 2:00 PM</li></ul> Group Integration Assignment <ul style="list-style-type: none"><li>• Post Part 1</li><li>• Post Part 2</li><li>• Due Jul 14 at 2:00 PM</li></ul> Possible Bonus Marks - <a href="#">click here!</a> <ul style="list-style-type: none"><li>• Due Jul 17 by 2:00 PM</li></ul>

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<b>WEEK 12</b>	<b>MATERIAL</b>	<b>ASSESSMENTS AND ACTIVITIES</b>
Jul 17 - 21	Module 12: Wrap-Up	Possible Bonus Marks - <a href="#">click here!</a> <ul style="list-style-type: none"><li>• Due Jul 17 by 2:00 PM</li></ul>

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Final Exam will be held during the examination period: July 25 - August 2, 2023