BIOL 101 7980 Concepts of Biology (2158)

BIOL-101

Fall 2015  Section 7980  3 Credits  10/19/2015 to 12/13/2015

Faculty Contact

Carl Berman Carl.Berman@umuc.edu

Course Description

(For students not majoring in a science.) An introduction to the structure and function of living organisms. The objective is to use knowledge about biological principles and scientific reasoning to make informed decisions about the natural world. Topics include the chemical foundations of life, cell biology, genetics, evolution, ecosystems, and interdependence of living organisms. Discussion also covers the importance of the scientific method to biological inquiry and the impact of biological knowledge and technology on human societies. Students may receive credit for only one of the following courses: BIOL 101, BIOL 103, BIOL 105, or BSCI 105.

Course Introduction

This course is an introductory course in biology in which we will explore unifying themes and concepts. Unifying themes include biodiversity and the principles of evolution that underlie biodiversity. We will discuss how the scientific method and technological advances, have led to the significant body of knowledge that now exists in biology as well as in all other scientific disciplines.

Biology is the study of living things. We will discuss the criteria that serve to characterize life and living systems.

Living organisms are built from a very specific set of building blocks—atoms, molecules, and cells. We will begin with a study of these building blocks and their importance to living things. Next, we will examine the ways in which these building blocks interact to provide the energy living things need to develop, grow, move, work, and respond. The power and elegance of DNA and genes will be discussed, as well as their role in inheritance, human diseases, biodiversity, and evolution.

We will look at plants and animals to understand how atoms, molecules, and cells work together in balanced, interrelated systems that are critical to the health and well-being of living organisms. We will also look at the way in which living things interact with one another and with the nonliving parts of their environment. These interactions play a major role in the overall health of populations, ecosystems, and planet Earth.

Course Outcomes

After completing this course, you should be able to

- recognize and explain how the scientific method is used to solve problems
- use knowledge of biological principles and appropriate technologies to ask relevant questions about the natural world
- make observations and discriminate between scientific and pseudoscientific explanations
- weigh evidence and make decisions based on strengths and limitations of scientific knowledge and the scientific method

Course Materials

Click to access your course materials information (http://webapps.umuc.edu/UgcmBook/BPage.cfm?C=BIOL%20101&S=7980&Sem=2158)
Grading Information

Grading Information and Criteria

This course consists of the following graded items:

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussions (7 @ 3%)</td>
<td>21%</td>
</tr>
<tr>
<td>OLI quizzes (7 weekly quiz averages @ 4% each)</td>
<td>28%</td>
</tr>
<tr>
<td>Written Assignment 1: Trace the Scientific Method in a Primary Scientific Article</td>
<td>12%</td>
</tr>
<tr>
<td>Written Assignment 2: Biology and Technology in the Real World</td>
<td>14%</td>
</tr>
<tr>
<td>Final Examination</td>
<td>25%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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</tbody>
</table>

Late Submission Policy

If you are unable to submit an assignment on time contact your professor before the submission deadline to ask for an extension. This does not guarantee that an extension will be granted and/or the professor may require documentation.

*For assignments submitted late without a pre-approved extension:*

- A penalty of 10% per week will be applied to the weekly OLI quiz grade if one or more of the assigned OLI quizzes for that week are submitted late
- Late participation in discussions will result in zero points
- Late submission of the final exam will not be accepted and result in zero points.

Extra Credit and Make-up Policy

There will be no extra credit opportunities in this class. There will also be no make-up work assigned.

OLI Course Materials

In this course we will be using resources from Carnegie-Mellon University's Open Learning Initiative (OLI). A link to the OLI Course Materials that we will be using is located under Course Content.

Each week you need to complete the OLI materials that are assigned. This means that you need to read all expository text, complete all learning activities (Learn By Doing, My Response, Did I Get This), take the assigned module quizzes, and complete the My Response questions at the end of each Unit as they are assigned.
OLI Quizzes

Each week you will receive a grade for the assigned quizzes in the OLI modules for that week. The OLI quiz grade for each week will count 4% towards your course grade. Note that Unit level quizzes are for your practice only and are not graded. You have two attempts to take each OLI quiz, and your highest score on each quiz will count towards your course grade.

Final Examination

The final examination will be available to you on 12/9 at 159 PM and it will be due on 12/11 at 1159 PM. There will be no make up exam and copies of the exam are not returned to the students. The final exam may consist of multiple choice, fill-in-the-blank, matching, short answer, and essay questions.

Discussion Participation

Be sure that your discussions are submitted in one of the required formats (doc, docx, ppt, xls, rtf) as an attachment to the discussion folder. Papers and quizzes should be submitted in a similar manner.

By registering for a Web-based course, you have made a commitment to participate in your online course discussions as well as other online activities. Please plan to participate regularly. Participation for this course is defined as proactive involvement in weekly discussion conferences and/or answering discussion questions. This may require you to actively reflect on weekly reading assignments and to develop original ideas in your responses. You are expected to demonstrate critical thinking and your understanding of the content in the assigned readings as they relate to the issues identified in the discussion. You are expected to make your own contribution in a main topic as well as respond with value-added comments to at least two of your classmates. You are encouraged to respond to other students as well as to your instructor. You will note in the grading policy that your online discussion participation counts significantly toward your final grade.

You are expected to adhere to the general rules of online etiquette. It’s important to follow the guidelines of proper online etiquette to ensure good communication between you, your classmates and your instructors. Keep the five online etiquette tips below in mind during your online course:

1. Respect. Whether the class is online or on-site, respect is essential. It allows all involved parties to focus on the objective and prevents distracting disagreements. Be sure to use a polite tone, read before responding and be constructive with your criticism. It’s important to treat all online interactions the same as face-to-face interactions.
2. Use Proper Formatting, Punctuation and Grammar. The same rules of English apply in the online classroom setting. Capitalize letters when necessary, use appropriate punctuation and avoid using slang and abbreviations. You’ll not only make your posts easier to read; you’ll demonstrate your professionalism and personal value.
3. Be Careful. Because tone is difficult to convey online, sarcasm or humor can easily be misinterpreted. Though you may be tempted to joke around with your classmates, something written for a laugh may offend others. If you are unsure whether your message will be misconstrued, consider using an emoticon to lighten the tone.
4. Go to Your Instructor First. If you have a disagreement or issue with a fellow classmate, go to your instructor before the situation escalates. It’s best to make your instructor aware of the situation before it affects the classroom dynamics or the way you engage with your peers.
5. Stay on Topic, and Keep it Brief. Online classes require a lot of reading, and when responding, it may be difficult to decide where to start. Focus your comments into short topics to keep the conversation flowing. Avoid being too wordy, and instead say what you need to say without veering off topic.

To increase the possibility of you earning full credit for weekly participation, you must:

- Participate individually with meaningful and original comments in the dialogue of the posted discussion questions. (See Academic Policies for information about plagiarism.)
- Make a minimum of 3 posts per week (you must follow the specific instructions provided by your instructor)
- Ensure your posted content is written in your own words. Repetitive (redundant) answers, copied articles or portions of articles from Web sites, books, magazines and so on will not count towards participation
- Cite properly and consistently and include all sources used for your responses
The due date for weekly discussion(s) is listed in the course schedule.

Do not put off your class work until the end of the week. The deadline for online classroom discussion participation is 11:59pm ET on the due date unless stated otherwise. You must participate in the classroom discussions before the stated deadline to receive credit.

**What is “good” participation?**

For discussion participation, what matters here is the quality of your responses, not quantity.

Here are some examples of good responses:

"Mary - you mention in your answer that human cloning is currently being investigated. In your research did you see any companies that were actually doing human cloning? I did not think that human cloning even a possibility in our lifetime. I think the government should regulate cloning practices of all animals to make sure that the science is not being used in a harmful or unethical way."

Another example:

"Joe, I really enjoyed reading your paper. I like the way that you formatted it, using pictures and tables to support your facts. The table you included about the increase in Flu deaths was very interesting - I did not realize that so many people die in other countries from something as simple as the flu!"

Your responses may include an observation, a counterexample, a suggestion, a statement of respectful disagreement, a solution, a question about the material or the process, an insight, an admission, an assent, an example, an idea, a corroboration, or a speculation. Remember to include your sources of information (if applicable)!

Here are some examples of inadequate responses/participation: “Good job, I liked your answers!” or, “Joe - I liked your paper very much!” or, “I agree!”

Any response that is intimidating, disrespectful, belittling and/or or demeaning will not be tolerated and may be deleted.

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### Project Descriptions

#### Written Assignment 1: Trace the Scientific Method in a Primary Scientific Article

Addresses course outcomes 1 and 4:

- recognize and explain how the scientific method is used to solve problems
- weigh evidence and make decisions based on strengths and limitations of scientific knowledge and the scientific method

Before starting this assignment you might want to revisit the Scientific Method Tutorial in the Science Learning Center under the Content area.

The original peer-reviewed research article that the above article discusses can be found in the Content area. You may want to look at the peer-reviewed scholarly article for more detail (not required).


Researchers recently investigated (see summary in [New Evidence That Drinking Coffee May Reduce the Risk of Diabetes](#)), in laboratory mice whether or not coffee prevented the development of high blood sugar (hyperglycemia). The mice used in this experiment have a mutation that makes them become diabetic.

Answer the questions below based on the information given in the following paragraph.

A group of 11 mice was given water, and another group of 10 mice was supplied with diluted black coffee (coffee:water 1:1) as drinking fluids for five weeks. The composition of the diets and living conditions were similar for both groups of mice. Blood glucose was monitored weekly for all mice. After five weeks, there was no change in average body weight between groups. Results indicated
that blood glucose concentrations increased significantly in the mice that drank water compared with those that were supplied with coffee. Finally, blood glucose concentration in the coffee group exhibited a 30 percent decrease compared with that in the water group. In the original paper, the investigators acknowledged that the coffee for the experiment was supplied as a gift from a corporation.

1. Identify and describe the steps of the scientific method. Which observations do you think the scientists made leading up to this research study? Given your understanding of the experimental design, formulate a specific hypothesis that is being tested in this experiment. Describe the experimental design including control and treatment group(s), and dependent and independent variables. Summarize the results and the conclusion (50 points)

2. Criticize the research described. Things to consider: Were the test subjects and treatments relevant and appropriate? Was the sample size large enough? Were the methods used appropriate? Can you think of a potential bias in a research study like this? What are the limitations of the conclusions made in this research study? Address at least two of these questions in your critique of the research study (20 points).

3. Discuss the relevance of this type of research, both for the world in general and for you personally (20 points).

4. Write answers in your own words with proper grammar and spelling (10 points)

Avoid plagiarism

It is very important to write with your own words. If you do copy one or two sentences directly (use sparingly), use quotation marks (")) around the copied text. All information sources need to be included in the reference list and as in-text references. Plagiarism will be reported to the proper UMUC authority. Guidance on how to avoid plagiarism can be found here: UMUC's How to Avoid Plagiarism

Submission

Submit in assignment folder by due date stated in the course schedule.

Grading

Your paper will be graded based on the following criteria:

<table>
<thead>
<tr>
<th></th>
<th>Excellent (90 – 100%)</th>
<th>Good (75 – 89%)</th>
<th>Adequate (50 – 74%)</th>
<th>Unacceptable (0-49%)</th>
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</thead>
<tbody>
<tr>
<td><strong>The Scientific Method</strong></td>
<td>All steps of the scientific method in the provided research study is clearly and accurately identified and described. 45-50 points</td>
<td>One of the steps in the scientific method in the provided research study is not described and/or minor issues with clarity and accuracy in identifying and describing the steps of the scientific method. 38-44 points</td>
<td>Two of the steps in the scientific method in the provided research study are not described and/or major issues with clarity and accuracy in identifying and describing the steps of the scientific method. 25-37 points</td>
<td>Most or all of the steps in the scientific method is not described. 0-24 points</td>
</tr>
<tr>
<td><strong>Critique of Research</strong></td>
<td>Clear, accurate, relevant and well organized critique of research, commenting on at least two issues. 18-20 points</td>
<td>Minor issues with clarity, accuracy, relevance or organization in critique of research. 15-17 points</td>
<td>Major issues with clarity, accuracy, relevance or organization in critique of research, and/or commenting on only one issue. 10-14 points</td>
<td>No or minimal critique of research. 0-9 points</td>
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</tbody>
</table>
**Discussion of Relevance**  
20 points  
Discussion of the relevance of this research study, both to the world and to you personally, is clear and accurate.  
18-20 points  
Minor issues with clarity or accuracy in the discussion of the relevance of this research study to the world and to you personally.  
15-17 points  
Major issues with clarity and accuracy in the discussion of the relevance of this research study or missing relevance to world or to you personally.  
10-14 points  
No or minimal discussion of relevance to world or you personally.  
0-9 points

**Grammar/Spelling**  
10 points  
Less than 3 minor spelling/grammatical errors  
9-10 points  
4-8 spelling/grammatical errors  
7-8 points  
9-12 spelling/grammatical errors  
5-6 point  
More than 13 spelling/grammatical errors.  
0-4 points

**Written Assignment: Biology and Technology in the Real World**

Addresses course outcomes 2-3:

- use knowledge of biological principles to ask relevant questions about the natural world
- make observations and discriminate between scientific and pseudoscientific explanations

1. Select one of the topics listed below.

2. Find at least two information sources related to the topic. You can find assistance with searching for articles at the UMUC Library Subject Guides at [http://libguides.umuc.edu/science](http://libguides.umuc.edu/science).

3. Write a 750-1500 word paper, excluding references and title page. You must read the information sources that you find and summarize the information in your own words, addressing each of the questions and expectations for your chosen topic. Extensive quotes from the article are discouraged. Use APA style for citing references, see [http://www.umuc.edu/library/guides/apa.html](http://www.umuc.edu/library/guides/apa.html).

4. Post your assignment to your Assignments folder by the due date listed in the course schedule.

**Topics (select one)**

**a) Genetically modified organisms (GMOs).** What is the purpose genetic engineering of crop plants and domestic animals? Briefly explain how GMOs are created. What foods in your supermarket contain GMOs? Are foods that contain GMOs safe for human consumption? What types of regulations exist for these foods? Clearly explain your reasoning for each answer. The following website from FDA regarding GMO regulation may be helpful: [http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm352067.htm](http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm352067.htm)

**b) Stem cells.** Your friend had a spinal cord injury after a bad car accident. The medical team has decided that he is a good candidate for a clinical trial using stem cell therapy. Your friend has not had a biology course since high school, so you decide to write him a letter sharing your knowledge of stem cells. Include in your letter a description of the biology of stem cells and how these cells are unique from other cells. Contrast the different types of stem cells, including pros and cons of each. Explain how stems cells are can be used to treat diseases and injury, with special focus on spinal cord injuries. Conclude with your own opinion. The following website from NIH regarding stem cell research will be very helpful: [http://stemcells.nih.gov/info/basics/Pages/Default.aspx](http://stemcells.nih.gov/info/basics/Pages/Default.aspx)

**c) Fracking (hydraulic fracturing) and tar sands (oil sands).** With society's dependence on nonrenewable fossil fuels, the oil & gas industry is turning to the use of hydraulic fracturing and tar (oil) sands to extract natural gas and oil respectively. A friend asks you "What's all this controversy in the news about fracking and tar sands?" Briefly explain to your friend how hydraulic fracturing and tar (oil) sands are used to obtain these fossil fuels. Then, in more detail, describe the environmental problems that may result from these processes and why they are controversial. Issues that may be addressed involves, but are not limited to, water, air and soil pollution, effects on human health, effects on other species and natural ecosystems. Finally, give your opinions on possible solutions to these environmental problems, with your reasoning backed by the references that you studied. The following websites from EPA may be helpful: [http://www2.epa.gov/hydraulicfracturing](http://www2.epa.gov/hydraulicfracturing)
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<tr>
<th></th>
<th>Excellent (90-100%)</th>
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<th>Adequate (50-74%)</th>
<th>Unacceptable (0-59%)</th>
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<tbody>
<tr>
<td><strong>Content</strong></td>
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<td>Full credit: 40 points</td>
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<td>The information obtained from a minimum of three information sources is summarized clearly, accurately and well organized in your own words. All information sources are credible and relevant to the requirement for the chosen topic.</td>
<td>36-40 points</td>
<td>The information obtained from only two information sources is summarized and some minor issues with clarity, accuracy, and organization of information and one information source is not credible and/or relevant and/or more than a few direct quotes.</td>
<td>30-35 points</td>
<td>No information sources are summarized, and/or none of the sources are credible and relevant, and/or all direct quotes.</td>
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<td><strong>Contribution</strong></td>
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<td>40 points</td>
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<td>All questions and requirements for chosen topic are addressed and own ideas are expressed, analyzed and defended based on knowledge learned from literature research.</td>
<td>36-40 points</td>
<td>One of the questions or requirements for chosen topic is not addressed, and/or minimal description and analysis of own ideas, and/or minimal connection between own ideas and what is learned from literature research.</td>
<td>30-35 points</td>
<td>Most of the questions and requirements for chosen topic are not addressed and no description and analysis of own ideas.</td>
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<tr>
<td><strong>Grammar/Spelling</strong></td>
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<td>10 points</td>
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<tr>
<td>Less than 3 minor spelling/grammatical errors</td>
<td>9-10 points</td>
<td>4-7 minor spelling/grammatical errors</td>
<td>7-8 points</td>
<td>More than 13 spelling/grammatical errors.</td>
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<tr>
<td><strong>References</strong></td>
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<td>5 points</td>
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<tr>
<td>All references listed at the end, in-text references are included, all references in correct APA format.</td>
<td>5 points</td>
<td>Missing one reference, and/or minor problems with APA format, and/or missing in-text references.</td>
<td>4 points</td>
<td>No references included.</td>
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<tr>
<td><strong>Length of paper</strong></td>
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<td>5 points</td>
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<tr>
<td>Paper is between 750 and 1500 words</td>
<td>5 points</td>
<td>Paper is between 600-749 or 1501-1700 words</td>
<td>4 points</td>
<td>Paper is less than 399 or more than 2000 words</td>
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Academic Policies and Guidelines

ACADEMIC INTEGRITY

As a member of the University of Maryland University College (UMUC) academic community that honors integrity and respect for others you are expected to maintain a high level of personal integrity in your academic work at all times. Your work should be original and must not be reused in other courses.

CLASSROOM CIVILITY

Students are expected to work together cooperatively, and treat fellow students and faculty with respect, showing professionalism and courtesy in all interactions. Please review the Code of Civility for more guidance on interacting in UMUC classrooms: https://www.umuc.edu/students/support/studentlife/conduct/code.cfm.

POLICIES AND PROCEDURES

UMUC is committed to ensuring that all individuals are treated equally according to Policy 040.30 Affirmative Action, Equal Opportunity, and Sexual Harassment (https://www.umuc.edu/policies/adminpolicies/admin04030.cfm).

Students with disabilities who need accommodations in a course are encouraged to contact the Office of Accessibility Services (OAS) at accessibilityservices@umuc.edu, or call 800-888-UMUC (8682) or 240-684-2287.

The following academic policies and procedures apply to this course and your studies at UMUC.

<table>
<thead>
<tr>
<th>Policy Number</th>
<th>Policy Name</th>
<th>URL</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>150.25</td>
<td>Academic Dishonesty and Plagiarism</td>
<td><a href="https://www.umuc.edu/policies/academicpolicies/aa15025.cfm">https://www.umuc.edu/policies/academicpolicies/aa15025.cfm</a></td>
<td>UMUC defines academic dishonesty as the failure to maintain academic integrity. All charges of academic dishonesty will be brought in accordance with this Policy. Note: Your instructor may use Turnitin.com, an educational tool that helps identify and prevent plagiarism from Internet resources, by requiring you to submit assignments electronically. To learn more about the tool and options regarding the storage of your assignment in the Turnitin database go to: <a href="https://www.umuc.edu/library/libresources/turnitin.cfm">https://www.umuc.edu/library/libresources/turnitin.cfm</a>.</td>
</tr>
<tr>
<td>151.00</td>
<td>Code of Student Conduct</td>
<td><a href="https://www.umuc.edu/policies/studentpolicies/stud15100.cfm">https://www.umuc.edu/policies/studentpolicies/stud15100.cfm</a></td>
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</tr>
<tr>
<td>170.40</td>
<td>The following policies describe the requirements for the award of each degree:</td>
<td></td>
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<tr>
<td>170.41</td>
<td>Degree Completion Requirements for the Graduate School</td>
<td><a href="https://www.umuc.edu/policies/academicpolicies/aa17040.cfm">https://www.umuc.edu/policies/academicpolicies/aa17040.cfm</a></td>
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<tr>
<td>170.42</td>
<td>Degree Completion Requirements for a Bachelor’s Degree</td>
<td><a href="https://www.umuc.edu/policies/academicpolicies/aa17041.cfm">https://www.umuc.edu/policies/academicpolicies/aa17041.cfm</a></td>
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<tr>
<td>170.42</td>
<td>Degree Completion Requirements for an Associate’s Degree</td>
<td><a href="https://www.umuc.edu/policies/academicpolicies/aa17042.cfm">https://www.umuc.edu/policies/academicpolicies/aa17042.cfm</a></td>
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<tr>
<td>170.71</td>
<td>Policy on Grade of Incomplete</td>
<td><a href="https://www.umuc.edu/policies/academicpolicies/aa17071.cfm">https://www.umuc.edu/policies/academicpolicies/aa17071.cfm</a></td>
<td>The grade of I is exceptional and only considered for students who have completed 60% of their coursework with a grade of B or better for graduate courses or C or better for undergraduate courses and request an I before the end of the term.</td>
</tr>
<tr>
<td>170.72</td>
<td>Course Withdrawal Policy</td>
<td><a href="https://www.umuc.edu/policies/academicpolicies/aa17072.cfm">https://www.umuc.edu/policies/academicpolicies/aa17072.cfm</a></td>
<td>Students must follow drop and withdrawal procedures and deadlines available at <a href="https://www.umuc.edu/">https://www.umuc.edu/</a> under Academic Calendar.</td>
</tr>
<tr>
<td>130.80</td>
<td>Procedures for Review of Alleged Arbitrary and Capricious Grading</td>
<td><a href="https://www.umuc.edu/policies/academicpolicies/aa13080.cfm">https://www.umuc.edu/policies/academicpolicies/aa13080.cfm</a></td>
<td>– appeals may be made on final course grades as described herein.</td>
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</table>
GRADING

According to UMUC’s grading policy, the following marks are used:

<table>
<thead>
<tr>
<th>Undergraduate</th>
<th>Graduate</th>
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</thead>
<tbody>
<tr>
<td>A 90-100</td>
<td>90-100</td>
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<tr>
<td>B 80-89</td>
<td>80-89</td>
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<td>C 70-79</td>
<td>70-79*</td>
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<tr>
<td>D 60-69</td>
<td>N/A**</td>
</tr>
<tr>
<td>F 59 or below</td>
<td>69 or below</td>
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<tr>
<td>FN Failure-Non attendance</td>
<td>Failure-Non attendance</td>
</tr>
<tr>
<td>G Grade Pending</td>
<td>Grade Pending</td>
</tr>
<tr>
<td>P Passing</td>
<td>Passing</td>
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<tr>
<td>S Satisfactory</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>U Unsatisfactory</td>
<td>Unsatisfactory</td>
</tr>
<tr>
<td>I Incomplete</td>
<td>Incomplete</td>
</tr>
<tr>
<td>AU Audit</td>
<td>Audit</td>
</tr>
<tr>
<td>W Withdrew</td>
<td>Withdrew</td>
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</table>

* The grade of "B" represents the benchmark for The Graduate School. Students must maintain a Grade Point Average (GPA) of 3.0 or higher. Classes where final grade of C or F places a student on Academic Probation must be repeated.
** The Graduate School does not award the grade of D.

COURSE EVALUATION SURVEY

UMUC values its students’ feedback. You will be asked to complete an online evaluation toward the end of the term. The primary purpose of this evaluation process is to assess the effectiveness of classroom instruction in order to provide the best learning experience possible and make continuous improvements to every class. Responses are kept confidential. Please take full advantage of this opportunity to provide your feedback.

LIBRARY SUPPORT

Extensive library resources and services are available online, 24 hours a day, seven days a week at [https://www.umuc.edu/library/index.cfm](https://www.umuc.edu/library/index.cfm) to support you in your studies. The UMUC Library provides research assistance in creating search strategies, selecting relevant databases, and evaluating and citing resources in a variety of formats via its Ask a Librarian service at [https://www.umuc.edu/library/libask/index.cfm](https://www.umuc.edu/library/libask/index.cfm).

LEARNING MANAGEMENT SYSTEM SUPPORT

To successfully navigate the online classroom new students are encouraged to view the Classroom Walkthrough under Help in the upper right menu of the LEO classroom. Those requiring technical assistance can access Help@UMUC Support directly in LEO under the Help menu. Additional technical support is available 24 hours a day, seven days a week via self-help and live chat at [https://www.umuc.edu/help](https://www.umuc.edu/help) or by phone toll-free at 888-360-UMUC (8682).
### Class & Assignment Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Readings/Assignments</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Pre-Course Week</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Verify OLI Access and do System Check</td>
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<tr>
<td></td>
<td>- Read Syllabus</td>
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<tr>
<td>1</td>
<td>Read and Do:</td>
<td>10/24</td>
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<tr>
<td></td>
<td>- Post introduction in Discussions</td>
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<tr>
<td></td>
<td>- Read and complete activities in OLI in Unit 1: Modules 1 - 5 and Unit 2: Modules 6 - 9</td>
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<td></td>
<td>- Submit OLI Quizzes for Modules 2, 3, 4, 7, 8, and 9 (graded)</td>
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</tr>
<tr>
<td></td>
<td>- Participate in Week 1 Discussion (graded)</td>
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#### Concepts
- scientific method
- experimental design
- dependent and independent variable
- experimental and control groups
- hypothesis
- science vs. pseudoscience
- scientific reasoning
- levels of organization
- characteristics of life
- interdependence of different parts of living systems
- chemistry
  - atoms
  - molecules
  - chemical bonds
- characteristics of water

<table>
<thead>
<tr>
<th>2</th>
<th>Read and Do:</th>
<th>10/31</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Read and complete activities in OLI Unit 2: Modules 10-11 and Unit 3: Modules 12-18</td>
<td></td>
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<tr>
<td></td>
<td>- Submit OLI Quizzes for Modules 10, 13, 14, 15, 16, and 17 (graded)</td>
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<td>- Submit Written Assignment 1 &quot;Trace the Scientific Method in a Primary Research Paper&quot;</td>
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<td>- Participate in Week 2 Discussion (graded)</td>
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#### Concepts
- pH, acids and bases
- macromolecules
  - carbohydrates
  - proteins
  - lipids
  - nucleic acids
<table>
<thead>
<tr>
<th>Week</th>
<th>Read and Do:</th>
<th>Grade Date</th>
</tr>
</thead>
</table>
| 3    | Read and complete activities in OLI Unit 4: Modules 19-23 and Unit 5: Modules 24-26  
Submit OLI Quizzes for Modules 20, 21, 22, 25, and 26 (graded)  
Participate in Week 3 Discussion (graded)  
Concepts  
- cell biology  
- membrane structure and function  
- energy  
- photosynthesis  
- cellular respiration | 11/7 |
| 4    | Read and complete activities in OLI Unit 5: Modules 27-28 and Unit 6: Modules 29-33  
Submit OLI Quizzes for Modules 27, 30, 31, and 32 (graded)  
Participate in Week 4 Discussion (graded)  
Concepts  
- pathways and regulation  
- chromosomes  
- mitosis  
- meiosis | 11/14 |
| 5    | Read and complete activities in OLI in Unit 7: Modules 34-37 and Unit 8: Modules 39-41, 44  
Read and complete activities in OLI in Unit 8: Modules 42-43 - Further Reading (optional)  
Submit OLI Quizzes for Modules 35, 36, 37, 40 and 41 (graded)  
Participate in Week 5 Discussion (graded)  
Concepts  
- inheritance  
- DNA function  
- gene expression | 11/21 |
| 6    | Read and complete activities in OLI Unit 9: Modules 45-48  
Submit OLI Quizzes for Modules 45, 46, and 47 (graded)  
Participate in Week 6 Discussion (graded)  
Concepts  
- phylogenetic trees  
- evolution  
- natural selection  
- biodiversity  
- taxonomy | 11/28 |
<table>
<thead>
<tr>
<th>7</th>
<th>Read and Do:</th>
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</table>
| | • Read and complete activities in OLI in Unit 10: Modules 49-54  
• Submit OLI Quizzes for Modules 50, 51, 52, and 53 (graded)  
• Submit Written Assignment 2 "Biology & Technology in the Real World"  
• Participate in Week 7 Discussion (graded) |
| 12/5 | Written Assignment 2 |
| Concepts |  |
| | • ecology  
• populations  
• community  
• ecosystems  
• interdependence of parts of living systems  
• human impact on the environment |
| 8 | Do: |
| | • Final Exam (graded) - due 12/11 at 11:59 PM |
| 12/12 |  |

**Final Examination**

The final examination will be available to you on 12/9 at 1:59 PM and it will be due on 12/11 at 11:59 PM. There will be no make-up exam and copies of the exam are not returned to the students. The final exam may consist of multiple choice, fill-in-the-blank, matching, short answer, and essay questions.