BIOL 341: Cell & Molecular Biology Online

Spring 2024

3 Semester Hours

Contact Information: Office Room#: CB 110; Email: k.hossain@mayvillestate.edu; Phone: (701) 788-4728

Hours of Availability: F: 12:00 – 1:30 PM or by appointment

Instruction Mode: Online asynchronous

Time Zone: All times indicated throughout this syllabus reflect Central Standard Time (CST)

Meeting Time and Location: TBA

How to address your instructor- By Name Khwaja

Zoom Link: https://mayvillestate.zoom.us/j/91987171003

Course Description

This course is designed to provide fundamentals of eukaryotic and prokaryotic cells; membranes; cell organelles and their functions; and molecular organization of important cell organelles including the nucleus, mitochondria, and chloroplast.

Co-requisites: Enrollment in the corresponding laboratory course, BIOL 341L, is recommended.

Course Objectives

The objectives of the course are to (as aligned to Composite Science Education Program Approval Standards through North Dakota's Education Standards and Practices Board, ND ESPB):

1) Emphasizes both the core concepts of Cell Biology and the cutting-edge discoveries, modern tools, and analytic methods that will keep the science of cells moving forward.
2) Provide students with a strong command of cell biology as it is practiced today by both academic and corporate researchers.

Standards Alignment (Composite Science Education Program Approval Standards-ND ESPB):

- 13047.1 Composite Science Major/General Science The composite/general science program requires that environmental science be incorporated within other courses or as a separate course. The composite/general science program requires:1. Coursework in biology, chemistry, physics, and earth science, including: a. Minimum of twenty four semester hours in one area, b. Minimum of twelve semester hours in two other areas, c. Minimum of four semester hours in the fourth area, d. Courses must be from those that the institution allows toward graduation in the science major. 2. Study of mathematics through the pre-calculus level (college algebra and above) and statistics.

Required Materials

Required Texts: Karp's Cell and Molecular Biology: Concepts and Experiments by Janet Iwasa and Wallage Marshall, 8th Edition, John Wiley and Sons, Inc. (WILEY). You should obtain a copy from Mayville State University Bookstore.

Course Expectations

Instructor/Student Communication

Students are accountable for all academic communications sent to their MSU email address.

If you have any questions, contact me. The best way to contact me is by email. I check my email regularly during regular working hours (M- F, 8:00 am – 5:00 pm) and will reply to you as soon as I can during those hours. I seldom check my email during the nights and weekends, so my response may take a little longer during those times. However, I will try to respond to you within 48 hours of receipt of your message. I will also be emailing you and posting to the Blackboard Announcement Forum whenever necessary either with announcements of assignments or other things. If you choose to call my office and I do not answer, please leave a detailed message and I will get back to you as soon as possible. Again, I do not check my office phone messages at night and over the weekend, so if you call during that time, I will not respond until the following workday.

Student Learning Experience

PowerPoint Presentations and Recorded Lectures

Course materials such as PowerPoint presentations, lecture audios, and reviews for all exams for all chapters will be available for available in Blackboard. These will help you understand the content of the chapters and you will participate online.

Succeeding in Class

1. Read all chapter lecture PowerPoints including related online audios.
2. Follow PowerPoint lectures as presented in the syllabus and for a better understanding use your textbook.
3. All chapter exams and quizzes will be available on Blackboard and you should complete them following the schedules in the syllabus.

Expectations/Protocols

As a student of BIOL 341, I expect that you

- Fully review the course syllabus and go through it if you have questions ask the instructor.
- Effectively interact with your instructor as required.
- Exercise academic honesty while completing all quizzes and exams.
- If you know you will be absent from class, please send your instructor an email so that he is aware of it beforehand

Method of Evaluation/Grading

Student grades will be based on your performance in the following areas:

1. You need to complete quizzes to increase your proficiency in the chapter.
2. There will be exams for each chapter as scheduled in the syllabus.
3. Exam grades will be available in the gradebook.
4. Each exam is worth 50 points and Quiz, video quiz, and assignment are 10 points each.
5. The quizzes and end-of-the-chapter exams will be graded.

The grading activities presented here may vary depending on the chapter and classes we will be able to cover.

Activity	No. of Occurrences	Points Possible	Percent of Total Grade
Exams	10	500	77%
Quiz	10	100	15%
Video quiz	4	40	6%
Assignment	1	10	2%
Total Points Possible		650	

Grading Scale & Breakdown of Grades

Total points possible = 650

- 10 Exams = 50 points each for a total of 650 points: 77% of final grade
- Quizzes = 10 points each: 15% of final grade
- Assignments = 10 points: 2% of final grade

Letter Grade	Total Points	Total Percent
A	585-650 points	90-100%
B	520-584 points	80-89%
C	455-519 points	70-79%
D	390-454 points	60-69%
F	Less than 390 points	Less than 60%

*Total points will be carried out to the tenth-place value and rounded up to the nearest whole number for the final grade (≥5 is rounded up).

*Incompletes for the class will only be given if an arrangement has been made with the instructor before final grades are submitted.

Course Timeline/Schedule

Week #	Assignments (draft)
Week 1 & 2 Jan. 08 – 19 Jan. 22-Feb 2 Martin Luther King, Jr. Day no classes 1/15	1. Walk through the "Start Here" section on the Blackboard page. 2. Post a self-introduction in the Introduction forum (Enrollment verification) –DUE Jan 12, 2023 3. Download and install the necessary software. **CHAPTER 1: Introduction to the Study of Cell and Molecular Biology** 2. Go through the PPTs, audio links, and Exam review to understand the topics of the chapter. **3.** Prepare for the chapter exam and the quiz. 4. The quizzes and exams will be open from Friday (1/19), 9 AM to Monday (1/22), 11:55 PM. You will have 90 minutes to complete the quiz and exam and are allowed to have two attempts. Highest scored attempts will be counted as a grade.

	5. Complete the quiz and end of the chapter exam.
Week 3 & 4 Jan. 22-Feb 2	**CHAPTER 2: The Chemical Basis of Life** **Due Monday 2/5** 1. Go through the PPTs, audio links, and Exam review to understand the topics of the chapter. **2.** Prepare for the chapter exam and the quiz. 3. The Exams and quizzes will be open from Friday (2/2), 9 AM to Monday (2/5), 11:55 PM. You will have 90 minutes to complete the quiz and exam and allowed to have two attempts. Highest scored attempts will be counted as a grade. 4. Complete the quiz and end of the chapter exam.
Week 5 & 6 Feb 5 –Feb 16	**CHAPTER 4: The Structure and Function of the Plasma Membrane** **Due Saturday, 2/19 by 11:55 pm** 1. Go through the PPTs, audio links, and exam reviews to understand the topics of the chapter and the exams. 2. Exams and quizzes will be opened from Friday (2/16), 9 AM to Monday (2/19), 11:55 PM. You will have 90 minutes to complete the exam and quiz and are allowed to have two attempts. Highest scored attempts will be counted as a grade. 3. Complete the quizzes and end-of-chapter exam.
Week 7 & 8 Feb. 19-March 1	**Chapter 5 & 6: Aerobic Respiration and Mitochondria; Photosynthesis and Chloroplast** **Due Monday, 3/3 by 11:55 pm** 1. Go through the PPTs, audio links, and exam reviews to understand the topics of the chapter and prepare for the exams. 2. Exams and quizzes will be opened from Friday (3/1), 9 AM to Monday (3/1), 11:55 PM. You will have 90 minutes to complete the exam and quiz and are allowed to have two attempts. Highest scored attempts will be counted as a grade. 3. Complete the quiz and end-of-chapter exam
Week 9 Mar. 4 – 8 ***(Notice one week)***	**CHAPTER 10: The Nature of the Gene and the Genome** **Due Monday, 3/10 by 11:59 pm** 1. Go through the PPTs, audio links, and exam reviews to understand the topics of the chapter and prepare for the exams. 2. Exams and quizzes will be opened from Friday (3/8), 9 AM to Monday (3/10), 11:55 PM. You will have 90 minutes to complete the exam and quiz and are allowed to have two attempts. Highest scored attempts will be counted as a grade. 3. Complete the quiz and end-of-chapter exam.

Week 10 & 11 Mar. 11- 22	**CHAPTER 11: Gene Expression: From Transcription to Translation** **Due Saturday, 3/24 by 11:55 pm** 1. Go through the PPTs, audio links, and exam review to understand the topics of the chapter and prepare for the exam. 2. The exam, assignment, and quiz will be open from Friday (3/22), 9 AM to Monday (3/24), 11:55 PM. You will have 90 minutes to complete the exams and are allowed to make two attempts. Highest scored attempts will be counted as a grade. 3. Complete the quiz and end-of-chapter exam
Week 12 Mar. 25 – 29 ***(Notice one week)***	**CHAPTER 12: Control of Gene Expression** **Due Monday, 4/1 by 11:55 pm** 1. Go through the PPTs, audio links, and exam review to understand the topics of the chapter and prepare for the exam. 2. The exam and quiz will be open from Friday (3/29), 9 AM to Monday (4/1), 11:55 PM. You will have 90 minutes to complete the exams and are allowed to make two attempts. Highest scored attempts will be counted as a grade. 3. Complete the quiz and end-of-chapter exam.
Week 13 &14 Apr. 1– 12	**CHAPTER 13: DNA Replication and Repair** **Due Monday, 4/15 by 11:55 pm** 1. Go through the PPTs, audio links, and exam reviews to understand the topics of the chapter and prepare for the exam. 2. The exam and quiz will be open from Friday (4/12), 9 AM to Monday (4/15), 11:55 PM. You will have 90 minutes to complete the exams and are allowed to make two attempts. Highest scored attempts will be counted as a grade. 3. Complete the quiz and end-of-chapter exam.
Week 15 Apr. 15 – 19	**CHAPTER 14: Cell Division** **Due Monday, 4/22 by 11:55 pm** 1. Go through the PPTs, audio links, and exam review to understand the topics of the chapter and prepare for the exam. 2. Exams and quizzes will be opened from Friday (4/19), 9 AM to Monday (4/22), 11:55 PM. You will have 90 minutes to complete the exams and are allowed to make two attempts. Highest scored attempts will be counted as a grade. 3. Complete the quiz and end-of-chapter exam.
Week 16 & 17 Apr. 22- May 3	**CHAPTER 18: Techniques in Cell and Molecular Biology** **Due Monday, 5/5 by 11:55 pm**

	1. Go through the PPTs, audio links, and exam review to understand the topics of the chapter and prepare for the exam. 2. The exam and quizzes will be open from Friday (5/3), 9 AM to Saturday (5/5), 11:55 PM. You will have 90 minutes to complete the exams and are allowed to make two attempts. Highest scored attempts will be counted as a grade. 3. Complete the quiz and end-of-chapter exam
May 5-10	**Final Week**

*** Course schedule is subject to change as needed**

Enrollment Verification

The U.S. Department of Education requires instructors of online courses to provide an activity that will validate student enrollment in this course. The only way to verify that a student has been in this course is if he or she takes an action in the LMS, such as completing an assignment or taking a quiz. Logging into the LMS is **NOT** considered active course participation. Please complete the designated enrollment verification activity by the date indicated. If it is not complete your enrollment in this course will be at risk.

Proctor Notification

No proctors are required for this course.

Important Student Information

In the Announcements section of the Blackboard Institution Page, you can view and download the Important Student Information document for the current academic year. It includes information about:

- ✓ Land Acknowledgement Statement
- ✓ Academic Grievance Concerns and Instructor English Proficiency
- ✓ NetTutor - Online Tutoring Program
- ✓ Starfish - Student Success System
- ✓ Students with Documented Disabilities
- ✓ Student Learning Outcomes / Essential Learning Outcomes
- ✓ Academic Honesty
- ✓ Emergency Notification
- ✓ Continuity of Academic Instruction for a Pandemic or Emergency
- ✓ Family Educational Rights and Privacy Act of 1974 (FERPA)
- ✓ Diversity Statement (Title IX)

Starfish – Student Success System

Starfish is Mayville State's Student Success & Early Alert System the faculty and staff use to report feedback on your academic performance, attendance, etc. If you receive a Starfish notification (will be

sent to your @mayvillestate.edu email from the Student Success Center), please read it immediately – it will contain important information for you.

We Care About Your Success

Throughout the term, you may receive emails from Starfish® regarding your course grades or academic performance. Please pay attention to these emails and consider taking the recommended actions. They are sent to help you be successful! You will also have the ability to reach out for help by "Raising your hand" in Starfish and choosing between the "I Have a Question" flag and the "I Need Help" flag. After the flag has been raised the appropriate faculty or staff will make contact to see how they can assist you.

Once again, we are here to help you be successful!

In addition, your instructor may: (1) request that you schedule an appointment by going to Starfish, or (2) recommend that you contact a specific campus resource, such as tutoring or counseling. You may also be contacted directly by one of these services.

So be sure to log in to Starfish AND check your MSU email inbox on a regular basis. This is where you'll be notified about your academic progress throughout the semester. If you have any questions, you can visit the Starfish webpage on MSU's site found in the "Current Students" tab and under the "Academic Information" list.

NetTutor - Online Tutoring Program

NetTutor is a free, online tutoring service that provides one-on-one virtual tutoring sessions with a professional tutor, as well as a Question Center which allows students to privately post a question and receive a personalized answer within 24-hours in a variety of subjects. NetTutor does not require you to schedule an appointment, you can just "drop in" online for a live, one-on-one tutoring session. NetTutor helps students progress in the classroom and beyond!

Students with Documented Disabilities

You have the right to be accommodated if you are a student with a documented disability. Visit the Student Success Center, or contact them at studentsuccess@mayvillestate.edu, to design a solution that will help you succeed.

As required by Section 504 of the Rehabilitation Act and the ADA, appropriate and reasonable accommodations will be made for all students with documented disabilities (LD, Orthopedic, Hearing, Visual, Speech, Psychological, ADD/ADHD, Health-Related, and other) who request those accommodations to ensure full access to the academic opportunities of Mayville State University. To receive services, students must disclose their disabilities, request accommodations, and provide documentation showing necessary accommodation to the Director of Student Success and Disability Support Services. Any information shared will remain confidential.

Additional Information

This classroom is a place where you will be treated with mutual respect, and the course instructor welcomes individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability – and other visible or non-visible differences. All members of this class are expected to contribute to a respectful, welcoming, and inclusive environment for every other member of the class. MSU is committed to providing a safe learning environment, free of harassment and discrimination as articulated in our university policies located on our website at http://www.mayvillestate.edu/about-msu/consumer-information/title-ix/. MSU's policies require me as a faculty member to share information about incidents of gender-based discrimination and harassment with MSU's Title IX coordinator, regardless of whether the incidents are stated to me in person or shared by students as part of their coursework.