BIO 2600: Introduction to Cell Biology

Lecture Syllabus, Winter 2020

3 credits

Room 0145 Macomb Education Center

2:30 pm – 3:45 pm; Tuesdays and Thursdays

Welcome to BIO 2600!

In this document, you will find all the information you need regarding the course structure, the content of the course, grading policies, exam dates, and other important information. By registering for the class, you agree to follow all of the policies listed in the syllabus and those that are mandated by the University. Therefore, **I highly recommend you read the syllabus in a great detail.** I look forward to a fun and exciting semester with all of you!

Dr. Turchyn

COURSE DESCRIPTION

This course serves to introduce cell biology to undergraduate students majoring in the Biological Sciences or other science majors, including science education, pre-allied health, engineering and all students seeking introductory knowledge of cell biology. The prerequisites for this class include BIO 1500 and BIO 1510.

Cells are the simplest unit of life and serve as the building block of all multi-cellular organisms. The objective of the course is to introduce students to the complexities of structure and function of the major components of living cells. The lectures in this course will focus on cell structures and their functions. The emphasis will be on animal cells, although aspects unique to plant or prokaryotes may be mentioned. The information learned from this course will provide a solid knowledge base for future classes in genetics, physiology, and metabolism.

LEARNING OUTCOMES

Upon successful completion of the course, students should be able to:

1. Describe the basic structure of a eukaryotic cell and its different compartments (organelles).
2. Integrate the relationship between an organelle's structure and function within different cells.
3. Model how molecules necessary for an organelle's function are routed to the correct organelle.

4. Depict the flow of information within a cell and between cells.
5. Predict outcomes when information flow within a cell or between cells is not correctly regulated.
6. Reconstruct how a cell grows, duplicates, and dies, and how defects in these mechanisms lead to disease.
7. Create a dynamic model of a cell and its behaviors under different conditions.

COURSE PREREQUISITES

Students are required to have completed **both** BIO 1500 and BIO 1510 with a final grade of C- or better. Students who managed to enroll in this course without satisfying these prerequisites are not likely to succeed in this course and for this reason will be required to drop it. Students who have questions about these prerequisites should see the Biology Department's Undergraduate Advisor during the first week of class.

RECOMMENDED TEXTBOOK

Essential Cell Biology, 5th edition, by Alberts, Hopkin, Johnson, Morgan, Raff, Roberts, and Walte (ISBN: 9780393679533). If funds are a serious issue, students can use an older edition. However, students are responsible for determining the material in the older edition that corresponds to the material in the 5th edition. To develop a true understanding of the material, students must read the textbook. It is highly recommended that students read the assigned chapters before each lecture, since this will facilitate a solid understanding of the concepts discussed in lectures.

ADD/DROP INFORMATION

Students can enroll in the class until **January 17th**. If a student signs up for the class and decides to drop it before **January 17th**, the tuition for the class will be cancelled, the student will be reimbursed, and the class will not show on his/her transcript. If the student drops the class between **January 18th** and **March 22nd**, the tuition will not be reimbursed and a final grade of "WP" (withdrawal with a passing grade, if average of all your scores earned to date is greater than or equal to 60%), "WF" (withdrawal with a failing grade, if average of all your scores earned to date is less than 60%), or "WN" (withdrawal never attended) will be shown on his/her transcript. **All withdrawals must be requested through Academica and they will not be granted after March 22nd**. If the student signs up for the class, stops attending lectures, and fails to withdraw, he/she will receive a failing grade "F"

for the course. **Please note that "incomplete" grades will not be issued to students in poor standing who are seeking an alternative to a late drop.**

CODE OF CONDUCT

Professional behavior is expected in the lecture, which includes respecting your classmates by arriving on time, turning off cell phones, and not talking, texting, surfing internet (facebook, twitter, etc.) or playing any games. If a student is caught performing any of the above during lecture, he/she will be required to leave the room. If a student is caught performing any of the above during an exam, he/she will receive a grade of "F" for the course (see below).

CHEATING POLICY

A student found to be cheating during an exam (using a "cheat sheet" or notes written on a desk, looking at another student's exam, or allowing another student to look at his/her exam) will automatically receive a grade of "F" for the course and may be expelled from the University. For discussions of cheating and plagiarism see the "Student Code of Conduct" that can be found at https://doso.wayne.edu/conduct/academic-misconduct.

OFFICE HOURS AND COMMUNICATION

Any questions/comments regarding the lecture portion of the course should be directed to:

Dr. Nataliya Turchyn

Office Location: Room 3119, Biological Sciences Building

E-mail: ai7380@wayne.edu

Office Phone: 313-577-2910

Office Hours: 3:45 pm – 5:00 pm on Tuesdays & Thursdays or by appointment at the **Macomb Education Center**

If you have a question about the lecture/textbook material, please post it in **Canvas Discussions**: https://canvas.wayne.edu/courses/119934/discussion_topics.

I will not reply to e-mails when the answer can be found in the syllabus or on Canvas. In addition, I will not reply to e-mail questions that have already been answered on **Canvas Discussions**.

If you would like to make an appointment to meet with me outside of my regular office hours, please

contact me through e-mail.

If you have a question about your lecture grade, please send me an e-mail containing the scores you have in your records and I will check them with my records.

When e-mailing me please use professional style with your course number in the subject, a proper greeting (e.g., "Dear Dr. Turchyn"), and correct punctuation including capitalization and no texting abbreviations. Always include your name at the end of your email.

This course may be assigned a **student supplemental instructor (SI)**. The SI has already taken this course and succeeded in it. He/she will help you develop effective study strategies. You are encouraged to approach the SI with questions about the lecture material as you would your instructor. You will be provided with directions on how to contact him/her during the first or second week of the class.

In addition to that, the Academic Success Center offers individual **tutoring** and **group workshops** to the students, which are free of charge. You can also make a free appointment with a learning specialist to design study strategies just for you. See https://success.wayne.edu/ for more information.

EXAMS

There will be four mid-term exams given during the semester and one final, cumulative exam (five exams total). Each mid-term exam will be worth 125 points, while the final will be worth 150 points. The exams will consist of multiple choice and true/false questions, and will include images. **All exams are closed book, and are related to the material covered in the lecture and assigned in reading of the textbook.**

The lowest score from Exams I, II, III, and IV will be automatically dropped. However, **every student must take the final exam, which cannot be dropped or replaced with another assignment.**

YOU MUST BRING YOUR STUDENT ID (ONECARD) TO EVERY EXAM! Each regular exam begins promptly at 2:30 pm and ends at 3:45 pm. **The FINAL EXAM is scheduled for TUESDAY, APRIL**

28th at 2:30 PM – 4:15 PM. All exams are held in 0145 Macomb Education Center. **There are no make-up exams.** The missed exam will be considered your lowest scored and dropped.

The final exam is scheduled as designated in the Schedule of Classes for this term. No other time for the final exam will be available, and no exception will be made for conflicts such as student travel plans or other exams the same day. **Students arriving late to an exam will NOT be given extra time.** Students will not be able to leave and re-enter the room once the exam begins for any reason (including bathroom breaks). No students will be allowed to enter and take an exam after one student has finished an exam and left the exam room. **Students arriving more than 20 minutes late for an exam will receive a grade of 0 for that exam — no exceptions.**

If more than 75% of the class answers an exam question incorrectly, everyone will receive credit for that question.

CALCULATING GRADES

The total points possible for the course are 525 points. **There is absolutely no opportunity for extra credit or alternate assignments under any circumstances.** All exam scores will be posted in the **Canvas Grades**. **Exams will not be given in advance**.

Exam I	125
Exam II	125
Exam III	125
Exam IV	125
Lowest score from Exams I-IV	-125
Final Exam	150
Total	**525**

In order to determine your final percentage in the course, you should add all the scores above, divide by 525, and then multiply by 100%.

Final grades are assigned based on the following percentage:

A	92.5 – 100%	C	72.5 – 75.4%
A-	89.5 – 92.4%	C-	69.5– 72.4%
B+	85.5 –89.4%	D+	65.5 – 69.4%
B	82.5 –85.4%	D	62.5 – 65.4%
B-	79.5 – 82.4%	D-	59.5 – 62.4%
C+	75.5 – 79.4%	F	≤ 59.4%

GRADE DISPUTES

Students will have one (1) week after the return of an exam to challenge a grade for any question. Failure to challenge the grade within this period indicates a willingness to accept the grade as is. The challenge should consist of a written description of why the answer is correct based on other published material that you cite. It is not an opportunity to complain. Be advised that an exam challenge constitutes an entire re-grade of your exam.

UNEXPECTED UNIVERSITY CLOSURES

If the University is officially closed on an exam day, the exam will be held on the next regularly scheduled class day. Closure of the University is announced by the following mechanisms:

- The University Newsline (313) 577-5345*
- WSU Homepage (www.wayne.edu)*
- WSU Academica (https://academica.wayne.edu/)* and
- By other local radio and television stations.

* Note: The information on closures and class cancellations is likely to be found at these locations before local radio and television stations broadcast it.

EXAM TIME CONFLICTS

Students are not required to take more than two exams in one day. A student with more than two scheduled final exams on one day may (not must) contact the instructor of the course with the lowest number of students enrolled to arrange an alternate time for the final exam. Such petitions must be made at least one week prior to the scheduled date of the exam.

RELIGIOUS HOLIDAY CONFLICTS

Students who have a conflict with any of the scheduled exam times due to religious reasons must notify Dr. Turchyn in writing by class time on **Tuesday, January 21st**. Accommodations will not be provided unless she is notified in writing by this date.

STUDENTS WITH DISABILITIES

If you have a documented disability that requires accommodations, you will need to register with Student Disability Services for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. The SDS telephone number is 313-577-1851 or 313-202-4216 for videophone use. Once you have your accommodations in place, the instructors will meet with you privately during office hours to discuss your special needs. Student Disability Services' mission is to assist the university in creating an accessible community where students with disabilities have an equal opportunity to fully participate in their educational experience at Wayne State University. You can learn more about the disability office at www.studentdisability.wayne.edu.

To register with Student Disability Services, complete the online registration form at: https://wayne-accommodate.symplicity.com/public_accommodation/.

SCHEDULE OF LECTURES AND EXAMS

The lectures will be audio- but not video-recorded and posted in the Echo360 Recordings on Canvas. If there are any problems with the lecture capture system, please contact Computing & Information Technology (C& IT) at (313) 577-4778 or helpdesk@wayne.edu. You are welcome to record lectures for your personal use and to take pictures of my handwritten notes, questions, and concept maps. **All lecture PowerPoint slides, study guides, and syllabus can be found at https://canvas.wayne.edu/courses/119934/modules**.

Here is the schedule with dates of all the exams and a tentative schedule indicating which chapter(s) will be covered each class day. Note that some chapters may take more or less time than indicated on the schedule below.

Date	Topic	Chapter(s)
1/7	Course introduction	
1/7	Introduction to cells	1
1/9	Introduction to cells	1
1/9	Protein structure and function	4
1/14	Proteins structure and function	4
1/16	Proteins structure and function	4
1/16	Membrane structure	11
1/21	Membrane structure	11
1/23	Transport across cell membranes	12
1/28	**Exam #1**	**1, 4, 11 & 12**
1/30	Transport across cell membranes	12
2/4	Energy generation in mitochondria and chloroplasts	14
2/6	Energy generation in mitochondria and chloroplasts	14
2/11	Intracellular compartments and transport	15
2/13	Intracellular compartments and transport	15
2/18	Cell signaling	16
2/20	Cell signaling	16
2/25	DNA and chromosomes	5
2/27	**Exam #2**	**12 & 14-16**

Date	Topic	Chapter(s)
3/3	DNA and chromosomes	5
3/3	DNA replication, repair, and recombination	6
3/5	DNA replication, repair, and recombination	6
3/9-3/14	**NO CLASSES — SPRING BREAK**	
3/17	From DNA to protein: how cells read the genome	7
3/19	From DNA to protein: how cells read the genome	7
3/24	Control of gene expression	8
3/26	**Exam #3**	**5-8**
3/31	Control of gene expression	8
4/2	Cytoskeleton	17
4/7	Cytoskeleton	17
4/7	The cell division cycle	18
4/9	The cell division cycle	18
4/14	Cellular communities: tissues, stem cells, and cancer	20
4/16	**Exam #4**	**8, 17, 18 & 20**
4/28	**Final Exam**	**All topics covered**