

BIOL 330 Cell Biology

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Lectures:	Mon 14:30 - 15:30	Biological Sciences Auditorium	
	Tues 12:30-13:30	Etherington Hall Auditorium	
	Thurs 11:30-12:30	Etherington Hall Auditorium	
Tutorials:	Wed 13:30-14:30	Stirling Hall A	
	Fri 15:30 - 16:30	Stirling Hall A	
Textbook:	Lodish et al., Molecular Cell Biology, 8 th Ed		

Topics:

Unit 1 – Cell structure

- Cell types and specialized functions
- Endomembranes and vesicular traffic
- Cellular energy
- Cytoskeleton
- Cell cycle
- Cancer
- Apoptosis, Autophagy
- Integration of cells into tissues

Unit 2 – Genetic basis of cellular function

- Genomes, chromosomes, genes, mutations
- Transcriptional control of gene expression
- Translation
- Protein function, sorting, domains
- Signal transduction
- Techniques in molecular cell biology (microscopy, PCR, cloning, recombinant proteins, genetics)

Assessments:	25%	Midterm exam	in class on Mon Oct 23
	40%	Final exam	during exam period
	15%	Online quizzes	6 dates; best 5 counted at 3% each
	5%	Assignment 1	due on Wed Oct 11
	15%	Assignment 2	due on Mon Nov 27

Course schedule at a glance

Week (Monday)	Lecture topics	Tutorial	Due
1 (09.11)	Cell types and specialized functions		
2 (09.18)	Membranes and vesicular traffic		
3 (09.25)	Cellular energy	T1: Article discussion	Quiz 1 (due 09.25)
4 (10.02)	Cytoskeleton, cell cycle, and cancer	T2: Article discussion	Quiz 2 (due 10.02)
5 (10.09)	Apoptosis and autophagy		Assignment 1 (due 10.11)
6 (10.16)	Integration of cells into tissues	T3: Drop-in midterm review	Quiz 3 (due 10.16)
7 (10.23)	DNA, chromosomes	T4: Go over midterm	Midterm Exam (in class on 10.23)
8 (10.30)	Transcriptional control of gene expression	T5: Using NCBI	
9 (11.06)	Translation, protein sorting	T6: Using NCBI	Quiz 4 (due 11.06)
10 (11.13)	Post-translational modifications, signal transduction		Quiz 5 (due 11.13)
11 (11.20)	Techniques 1		Quiz 6 (due 11.20)
12 (11.27)	Techniques 2	T7: Drop-in final review	Assignment 2 (due 11.27)

Expectations:

Although the lecturers will provide the bulk of the course content, we want students to be independent in their learning. This course is more than just memorizing cell biology concepts - we will emphasize critical thinking and synthesis. Assignments are tailored to help you appreciate the scientific method in practice, including how experiments are designed and how results are interpreted. Students are expected to read the appropriate sections in the textbook and are encouraged to ask questions either in class or in the online forum.

Online forum:

We encourage students to put their questions on the forum. Students who understand the material are encouraged to answer the questions of their peers. The forum will be monitored by the course instructors to make sure everyone is on track. For students still experiencing difficulties appointments can be set up by email. Participation in the forum can be a deciding factor on your final mark (eg. could be the difference between B+ and A-).

Tutorials: Seven times this term you will have tutorial sessions that are designed to help you with the assignment and quizzes, as well as to better understand the course material.

Quizzes: Six times this term, **a quiz will be released on Friday at 6:00PM and you have until 5:00PM the following Monday to complete it.** Only those individuals with medical documentation will be allowed to complete a quiz outside of the quiz release time period. Quizzes are designed to give you an opportunity to show that you truly understand the course material. Emphasis is focused on deep understanding of concepts rather than memorization. **You have 1 hr to complete the quiz.** The quiz can be completed in 30 minutes but one hour is allotted to accommodate individuals that have a special need for extra time. Some quiz questions are marked automatically, so it is important to be careful with spelling and to follow the instructions precisely. Don't lose marks because you didn't follow the instructions!!! The best 5 of 6 quizzes will be counted toward your final grade.

Assignments: **Assignment 1:** You will be assigned a scientific article to read as a class. A series of guiding questions and additional readings will help you to understand the article. You will then have two tutorials to go over the article in detail, including group exercises to help you understand the findings. **At 6:00PM on Friday October 6, an assignment will be released based on this article. You will have until 11:30AM on Wednesday Oct 11 to complete it.** Only those individuals with medical documentation will be allowed to complete the assignment outside of this release time period. The assignment can be completed in a few hours but several days are allotted to accommodate individuals that have a special need for extra time.

Assignment 2: You will be assigned a different scientific article. **At 5:00PM on Monday November 13,** the paper and assignment will be released. You will have until **11:30AM on Monday Nov 27** to complete the assignment. Only those individuals with medical documentation will be allowed to complete the assignment outside of this release time period. The assignment can be completed in 5 hours but several days are allotted to accommodate individuals that have a special need for extra time.

Midterm: **Monday October 23, in class. Arrive on time: no latecomers.** On material learned in weeks 1-6. It is important to understand the processes in the cell rather than just memorize them. This is perhaps different from how you have studied for courses in first and second year.

Final Exam: **During the fall exam period (Dec 7 – 21).** Will cover the entire course, with an emphasis on material learned in weeks 7-12.

Absences: Contact Dr. Monaghan as soon as possible if you are unable to take a test or hand in an assignment on time. It is the student's responsibility to supply the appropriate documentation.

Grievances: The class will be provided with the correct answers to assessments such as quizzes and midterms. It is the student's responsibility to contact Dr. Monaghan **within 2 weeks** of receiving a mark if there are any problems.

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