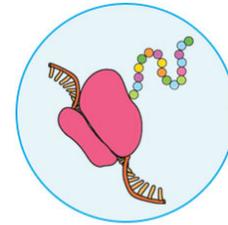


# BIOL 3301-002: Cell Physiology Fall 2014



Molecular Mechanisms  
of **CELL**  
**FUNCTION**  
Malgosia Wilk-Blaszczak

**Instructor:** Professor Laura D. Mydlarz

**Office Number:** Life science 235

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**Email Address:** [Mydlarz@uta.edu](mailto:Mydlarz@uta.edu)

**Faculty Profile:** <https://www.uta.edu/mentis/profile/?1706>

**Dr. Mydlarz Office Hours:** Tuesday 2-3pm, Thursday 10-12 in LS 235

**Section Information:** BIOL 3301-002

**Time and Place of Class Meetings:** Tuesday and Thursday 12:30 -2pm, Life Science 124

**Student Teaching assistants:** Jennifer Harvell [jennifer.harvell@mavs.uta.edu](mailto:jennifer.harvell@mavs.uta.edu)

Shivani Amin [shivani.amin@mavs.uta.edu](mailto:shivani.amin@mavs.uta.edu)

**Student TA office hours:** Wednesdays 1-3pm Life Science 458

**Description of Course Content:** This course is a detailed tour of the inner workings of the cell. From the structure and function of each organelle to how cells communicate. The material is linked to real world and current content whenever possible.

## **Student Learning Outcomes:**

1. Identify the major parts of the cell and explain key functions of each part. Build Structure to Function relationships.
2. Understand the fundamental physiological mechanisms of cell function.
3. Know the scientific methods that are currently being used to explore cell physiology.
4. Relate cell mechanisms to disease and dysfunction.

**Required Textbooks and Other Course Materials:** required to register at [www.grtep.com](http://www.grtep.com) for online text (written by Dr. Wilk) and ability to take online quizzes. This is mandatory. A detailed document on how to register will be available on blackboard. Instructions on how to access this material is attached to the end of the syllabus.

## **Grading and Descriptions of major assignments and examinations:**

- 20% - 11 quizzes throughout the semester
- 10% - 3 homework assignments
- 10% - Infographic project - more info to come
- 15% - Exam 1
- 15% - Exam 2
- 15% - Exam 3
- 15% - Comprehensive final

**Quizzes will be taken online through the web resources. Quizzes will open Friday at noon and close Sunday at 5pm. The answers will be released after the quiz closes. Each quiz will be worth 2% of your grade. Some questions from the exam will be taken from the quizzes, so take this seriously. There will be no practice questions or old exams given. The quizzes are the practice exams. There is no make up for missed quizzes.**

**Exams will have multiple choice questions and short answer/problem-solving questions. Exams are given on Tuesdays. Look at the schedule now and mark the days down. There is no make up for missed exams. The final is mandatory. The final grade can replace the lowest exam grade. This**

will be determined after all the exams are taken, the calculations will be made and the best grade chosen for you by the program.

Exams will be returned on the Thursday or Tuesday after the exam. I will have the exams in class only once. The students TAs will have them in their office hours the following Wednesday.

Homework assignments will comprise of current event questions related to class topics that will be answered and discussed on the discussion board.

**Attendance:** Attendance is mandatory for success in this course.

**Other Requirements:** Exercise critical thinking skills, do your own research, be in charge of your own learning, keep up with the reading and attend class without exception. We will also have a discussion board and keeping up with the discussion and questions on the board is also a part of this class.

**Expectations for Out-of-Class Study:** Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional **9 hours** per week of their own time in course-related activities, including reading required materials, going over the material, doing your own research and taking quizzes, preparing for exams, etc.

**Make-up Exams and Quizzes:** As stated above, there will be no make up exams or quizzes.

### Course Schedule.

*“As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. – Laura Mydlarz.”*

Week		Topic	Quiz week	Module	Lecture notes	Date	Notes
1	Th	Introduction		Notes only	Lecture 1	Aug. 21	
2	Tues	Molecules of life - macromolecules		C1	Lecture 2	Aug. 26	
	Th	The scientific method	Quiz1	Notes only	Lecture 3	Aug. 28	
3	Tues	Biomembrane structure and function		B1	Lecture 4	Sep. 2	
	Th	Membrane transport - pumps and carriers	Quiz2	B2	Lecture 5	Sep. 4	
4	Tues	Glucose transport		B3	Lecture 6	Sep. 9	Sept. 8th census date
	Th	Ion transport	Quiz3	B4, B5	Lecture 7	Sep. 11	
5	Tues	Synapse and water transport		B6	Lecture 8	Sep. 16	
	Th	Mitochondria	Quiz4	A3	Lecture 9	Sep. 18	
6	Tues	<b>EXAM 1</b>				<b>Sep. 23</b>	<b>EXAM 1 (Lecture 1-8)</b>
	Th	Protein synthesis and transport to mitochondria		C2	Lecture 10	Sep. 25	
7	Tues	Protein synthesis and transport to nucleus and perox		C2	Lecture 11	Sep. 30	
	Th	Protein synthesis and ER	Quiz5	C2,C3	Lecture 12	Oct. 2	
8	Tues	Vessicles and Golgi apparatus		C4	Lecture 13	Oct. 7	
	Th	Lysozomes and protein degradation	Quiz6	C5	Lecture 14	Oct. 9	
9	Tues	Endocytosis and anthrosclerosis			Lecture 15	Oct. 14	
	Th	Endocytosis and anthrosclerosis	Quiz7			Oct. 16	
10	Tues	<b>EXAM 2</b>				<b>Oct. 21</b>	<b>EXAM 2 (Lecture 9-15)</b>
	Th	How do cells detect signals		D1	Lecture 16	Oct. 23	
11	Tues	Got Stress?		D2	Lecture 17	Oct. 28	Oct. 29th - last day to drop
	Th	Sensory receptors	Quiz8	D3	Lecture 18	Oct. 30	
12	Tues	Insulin and cancer receptors		D3	Lecture 19	Nov.4	
	Th	Insulin and cancer receptors	Quiz9	D4		Nov. 6	
13	Tues	Cytoskeleton and actin		Notes only	Lecture 20	Nov. 11	
	Th	Actin and muscle	Quiz10	Notes only		Nov. 13	
14	Tues	<b>EXAM 3</b>				<b>Nov. 18</b>	<b>EXAM 3 (Lecture 16-20)</b>
	Th	Microtubules		Notes only	Lecture 21	Nov. 20	
15	Tues	Microtubule structures and IF		Notes only		Nov.25	
	Th	Thanksgiving Holiday				Nov.27	Thanksgiving
16	Tues	Microtubule structures and IF	Quiz11	Notes only		Dec.2	last day of class
2		Thursday December 11th, 2014 11 - 1:30 p.m.					FINAL EXAM (Lecture 1-21)

**Drop Policy:** Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. Students will not be automatically dropped for non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://www.uta.edu/aao/fao/>).

**Americans with Disabilities Act:** The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the Americans with Disabilities Act (ADA). All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Title IX:** The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit [www.uta.edu/titleIX](http://www.uta.edu/titleIX).

**Academic Integrity:** Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:

*I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.  
I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents' Rule 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

**Student Support Services:** UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to [resources@uta.edu](mailto:resources@uta.edu), or view the information at [www.uta.edu/resources](http://www.uta.edu/resources).

**Electronic Communication:** UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this

account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

**Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as "lecture," "seminar," or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

**Final Review Week:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

**Emergency Exit Procedures:** Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.

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