

Course ID:	Course Title:	Winter 2017
BIO 231	Cellular and Molecular Biology	Prerequisite: BIO 131 and BIO 133
		Credits: 3

Class Information		Instructor Information		Important Dates	
Days:	Monday and Wednesday	Instructor:	Dr. Chris Wang	First day of classes:	Wed., Jan 4, 2017
Time:	M: 13:00 – 14:15 W: 14:30 – 15:45	Email:	chris.wang@ambrose.edu	Last day to add/drop, or change to audit:	Sun, Jan. 15, 2017
Room:	M: A2145 W: A2210	Phone:		Last day to request revised exam:	Mon, Mar. 6, 2017
Lab/Tutorial:	F: 16:00 – 17:15	Office:	L2078	Last day to withdraw from course:	Fri, Mar. 17, 2017
		Office Hours:	by appointment	Last day to apply for coursework extension:	Mon, Mar. 29, 2017
Final Exam:	Apr. 13 at 9 am in A2210			Last day of classes:	Tue, April 11, 2017

Course Description

This course examines the principles of cellular structure and function, as well as the interaction of cells with their environment.

Further Course Information:

A cell is the smallest unit of life. It is highly complex and organized so that cellular activities are precise and efficient. This course introduces students to the basic cell structures and their functions. Cellular processes including energy production, gene expression, reproduction and communication will be discussed.

Expected Learning Outcomes

It is the aim of the course that students acquire the following skills:

1. Students will be able to identify basic cellular structures and explain their functions.
2. Students will be able to describe details of essential cellular activities.
3. Students will be able to corroborate etiology of some diseases to aberrant cellular component.

Textbooks

Gerald Karp. Cell and Molecular Biology: Concepts and Experiments. 8th Edition. John Wiley & Sons, Inc. ISBN: 978-1-119-24809-5.

Older editions of this textbook are acceptable. However, please take note of any updates and all references to the textbook in lectures and tutorials, such as figures and concepts, are based on the 8th edition.

Course Schedule

Week of	Lecture Topic	Readings (Karp's)
	Tutorial Objective	
Jan. 04	Introduction to BIOL 231	
	NO Tutorial	
Jan. 09	The Structure and Function of the Plasma Membrane	Ch. 4
	Tutorial 1: Experiments/Techniques for Studying Plasma Membrane	
Jan. 16	The Structure and Function of the Plasma Membrane	Ch. 4
	Tutorial 2: more lecture on the structure and function of the plasma membrane	
Jan. 23	Cytoplasmic Membrane Systems: Structure, Function and Membrane Trafficking	Ch. 8
	Tutorial 3: Plasma Membrane Assignment	
Jan. 28	Cytoplasmic Membrane Systems: Structure, Function and Membrane Trafficking	Ch. 8
	Tutorial 4: Experiments/Techniques for Studying Endomembrane Trafficking	
Feb. 06	Cytoskeleton and Cell Mobility	Ch. 9
	Tutorial 5: Endomembrane Trafficking Assignment Midterm Exam Review (Q/A) Session	
Feb. 13	Cytoskeleton and Cell Mobility Midterm Exam (Feb. 15)	Ch. 9
	Open Tutorial: Presentation Preparation	

Feb. 20	Reading Week (NO CLASS!)	
Feb. 27	The Nature of the Gene and the Genome	Ch. 10
	Tutorial 6: Class Presentation on Cellular and Molecular Biology Techniques	
Mar. 06	The Central Dogma: DNA to RNA to Protein	Ch. 11
	Tutorial 7: Class Presentation on Cellular and Molecular Biology Techniques	
Mar. 13	Control of Gene Expression	Ch. 12
	Tutorial 8:	
Mar. 20	Cell Division	Ch. 14
	Tutorial 9:	
Mar. 27	Interactions between Cells and their Environment No Class on Mar. 29 (Ambrose Research Conference)	Ch. 7
	Tutorial 10:	
Apr. 03	Cell Signaling and Signal Transduction: Communication between Cells	Ch. 15
	Tutorial 11: Final Exam Review (Q/A) Session	
Apr. 10	Cancer	Ch. 16
	NO Tutorial	

Requirements:

- Students are encouraged to read the corresponding chapter prior to attending lectures.
- Students are encouraged to generate their own notes according to their learning styles.
- All lecture PowerPoints and tutorial assignments will be posted on Moodle.
- Tutorials are designed: (1) to understand the landmark experiments in cellular and molecular biology; and (2) to review the lecture topics and key concepts in preparation for tests. Tutorial assignment submission deadlines are on the day of the tutorial.

Attendance:

There are no penalties for non-attendance of lectures or tutorials, except for tests and exams. However, students, who absent from lecture(s), are responsible for the course materials covered.

Grade Summary:

Percent (%) to Letter Grade Conversion	Grade	Grade Point	Description
95.00% - 100%	A+	4.0	Excellent
90.00% - 94.99%	A	4.0	
85.00% - 89.99%	A-	3.7	
82.00% - 84.99%	B+	3.3	Good
78.00% - 81.99%	B	3.0	
75.00% - 77.99%	B-	2.7	
71.00% - 74.99%	C+	2.3	Satisfactory
65.00% - 70.99%	C	2.0	
60.00% - 64.99%	C-	1.7	
56.00% - 59.99%	D+	1.3	Minimal Pass
50.00% - 55.99%	D	1.0	
00.00% - 49.99%	F	0	Fail

Because of the nature of the Alpha 4.00 system, there can be no uniform University-wide conversion scale. The relationship between raw scores (e.g. percentages) and the resultant letter grade will depend on the nature of the course and the instructor's assessment of the level of each class, compared to similar classes taught previously.

Please note that final grades will be available on student registration system. Printed grade sheets are not mailed out.

Other:

Evaluation Methods	Due Date	Weighting
pre-topic learning	multiple	10%
in-tutorial/post-topic assignments	multiple	25%
tutorial presentation	March 3 rd or 13 th	5%
Midterm Exam	Feb. 15, 2017	25%
Final Exam (cumulative)	Apr. 13 at 9 am in A2210	35%
Total		100%

Pre-Topic Learning:

Pre-Topic Learnings:

- work in a group of 3
- submit a single-page, typed reading notes (can be in any format)

Group Members:

Name	E-mail	Cell

In-Tutorial/Post-Topic Assignments:

- work in a group of 3 students
- e.g.* critical thinking questions, problem solving questions, simple experimental design
- assignment is due on the day of the tutorial
 - NO make-up or deferred assignment will be accepted (unless pre-arrangement was made)

Midterm Exam:

- only materials covered in the lectures will be tested
- focus on understanding the biological concepts rather than detail memorization
- NO make-up or deferred exam unless evidence of legitimate excuse, such as doctor's notes, is presented

Final Exam:

- is *comprehensive* with concentration on the materials covered after the midterm

Ambrose University Academic Policies:

Communication

All students have received an Ambrose e-mail account upon registration. It is the student's responsibility to check this account regularly as the Ambrose email system will be the professor's instrument for notifying students of important matters (cancelled class sessions, extensions, requested appointments, etc.) between class sessions. If students do not wish to use their Ambrose accounts, they will need to forward all messages from the Ambrose account to another personal account.

Registration

During the **Registration Revision Period** students may enter a course without permission, change the designation of any class from credit to audit and /or voluntary withdraw from a course without financial or academic penalty or record. Courses should be added or dropped on the student portal by the deadline date; please consult the List of Important Dates. After that date, the original status remains and the student is responsible for related fees.

Students intending to withdraw from a course after the Registration Revision Period must apply to the Office of the Registrar by submitting a "Request to Withdraw from a Course" form or by sending an email to the Registrar's Office by the **Withdrawal Deadline**; please consult the List of Important Dates on the my.ambrose.edu website. Students will not receive a tuition refund for courses from which they withdraw after the Registration Revision period. A grade of "W" will appear on their transcript.

Students wishing to withdraw from a course, but who fail to do so by the applicable date, will receive the grade earned in accordance with the course syllabus. A student obliged to withdraw from a course after the Withdrawal Deadline because of health or other reasons may apply to the Registrar for special consideration.

Exam Scheduling

Students, who find a conflict in their exam schedule must submit a Revised Examination Request form to the Registrar's Office by the deadline date; please consult the List of Important Dates. Requests will be considered for the following reasons only: 1) the scheduled final examination slot conflicts with another exam; 2) the student has three final exams within three consecutive exam time blocks; 3) the scheduled final exam slot conflicts with an exam at another institution; 4) extenuating circumstances. Travel is not considered a valid excuse for re-scheduling or missing a final exam.

Electronic Etiquette

Students are expected to treat their instructor, guest speakers, and fellow students with respect. It is disruptive to the learning goals of a course or seminar and disrespectful to fellow students and the instructor to use electronics for purposes unrelated to the course during a class session. Turn off all cell phones and other electronic devices during class. Laptops should be used for class-related purposes only. Do not use iPods, MP3 players, or headphones. Do not text, read, or send personal emails, go on Facebook or other social networks, search the internet, or play computer games during class. Some professors will not allow the use of any electronic devices in class. The professor has the right to disallow the student

to use a laptop in future lectures and/or to ask a student to withdraw from the session if s/he does not comply with this policy. Repeat offenders will be directed to the Dean. If you are expecting communication due to an emergency, please speak with the professor before the class begins.

Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Academic Calendar. Personal information (information about an individual that may be used to identify that individual) may be required as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at privacy@ambrose.edu.

Extensions

Although extensions to coursework in the semester are at the discretion of the instructor, students may not turn in coursework for evaluation after the last day of the scheduled final examination period unless they have received permission for a course Extension from the Registrar's Office. Requests for course extensions or alternative examination time must be submitted to the Registrar's Office by the deadline date; please consult the List of Important Dates. Course extensions are only granted for serious issues that arise "due to circumstances beyond the student's control."

Appeal of Grade

An appeal for change of grade on any course work must be made to the course instructor within one week of receiving notification of the grade. An appeal for change of final grade must be submitted to the Registrar's Office in writing and providing the basis for appeal within 30 days of receiving notification of the final grade, providing the basis for appeal. A review fee of \$50.00 must accompany the appeal. If the appeal is sustained, the fee will be refunded.

Academic Integrity

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to acknowledge to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university college. Students are expected to be familiar with the policies in the current Academic Calendar that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

Note: Students are strongly advised to retain this syllabus for their records.