BIOLOGY 560 --- ADVANCED CELL BIOLOGY --- Fall 2019

Lectures: On the web

Homepage: http://blackboard.wku.edu Login using your Net ID and Password

Professor Info:

Ajay Srivastava, Ph.D.
Office: OCH1015
Office Phone: 270-745-6008
Biology Dept. Office Phone: 745-3696
Office Hours: by appointment
e-mail: ajay.srivastava@wku.edu (best way to get in touch with me)

COURSE DESCRIPTION: This course will explore current developments and topics in cell biology. Class will be conducted as a seminar type course focusing on recent advancements and discoveries in cell biology and will incorporate in depth readings of the current literature. The first few days will focus on the basics of Cell Biology.

PREREQUISITES: BIOL 411 or equivalent; or consent of instructor.

RECOMMENDED TEXT: Molecular Biology of the Cell, Alberts, et al 6th edition. In addition, selected articles that are required reading will be posted on the web through Blackboard.

GOALS AND OBJECTIVES: This 3 credit hour course is designed to build upon the student's previous knowledge of eukaryotic cell structure and function. The student will delve deeper into cell biology by analyzing and discussing current literature and recent advances in cell biology. The literature discussed will be organized around themes. Several themes will be delved into through online discussion and presentation of current literature.

DROP/WITHDRAWAL/INCOMPLETE: Ceasing to attend class does not activate the drop, withdrawal, or incomplete grade processes. You must submit the appropriate forms for each by the published deadlines to end your enrollment in this class. Failure to complete the appropriate forms may result in a failing grade for this course. You are responsible for monitoring the university's Academic Calendar for important dates relating to add/drop, withdrawal, etc.

ATTENDANCE: To perform well in this course you will need to read and analyze primary literature, present that literature to the class in the form of online presentations. You will also critique presentations from your fellow students and will need to check Blackboard daily and complete assignments in a timely fashion.

ACCOMODATIONS: In compliance with university policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Student Accessibility Resource Center (SARC), formerly referred to as Office for Student Disability Services in Downing Student Union, First Floor, 1074. The phone number is (270) 745-5004. More information can be found at: https://www.wku.edu/sarc/index.php
Please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from SARC.

ACADEMIC INTEGRITY: Students are expected to do their own work throughout this course and demonstrate academic integrity. Academic dishonesty in the form of cheating or plagiarism

will not be tolerated. Please refer to the WKU Student handbook for polices and definitions regarding academic integrity at: https://www.wku.edu/handbook/

ONLINE CIVILITY: Students are expected to assist in maintaining an online environment that is conducive to learning and respectful of the instructor and fellow students.

COURSE SCHEDULE:

Date	Lecture Topic	Chapter
Aug – 26th	Introduction to the course; Principles of cell structure and function	
Aug – 28th	How cells are studied; Cells and organisms used in research	Chapter 8, Page 439-448
Sep – 2nd	Labor day – University Closed	
Sep – 4th	Microscopy	Chapter 9
Sep – 9th	Basic Cellular Biochemistry	Chap. 2, p.47-50; 96-101 Chap. 3, p.109-123 Chap. 4, p. 173-179 Chap 6, p. 353-357; Chap 10, p. 565-568
Sep – 11th, 16th		
Sep – 18th	**Exam 1**	
Sep – 23rd	Theme 1: Intercellular Communications	Review article posted on Blackboard
Sep – 25th	Read Primary Literature related to theme 1	
Sep – 30th	Read Primary Literature related to theme 1	
Oct – 2nd	Read Primary Literature related to theme 1	
Oct – 7th	Read Primary Literature related to theme 1	
Oct – 9th	Theme 2: Cell Competition	Review article posted on Blackboard
Oct – 14th	Read Primary Literature related to theme 2	
Oct – 16th	Read Primary Literature related to theme 2	
Oct – 21st	Read Primary Literature related to theme 2	
Oct – 23rd	Read Primary Literature related to theme 2	
Oct – 28th	Theme 3: Apoptosis	Review article posted on Blackboard
Oct – 30th	Read Primary Literature related to theme 3	
Nov – 6th	Read Primary Literature related to theme 3	
Nov – 11th	Read Primary Literature related to theme 3	
Nov – 13th	Read Primary Literature related to theme 3	
Nov – 18th	Theme 4: Cellular Biology of Alzheimer's Disease	
Nov – 20th	Read Primary Literature related to theme 4	
Nov – 25th	Read Primary Literature related to theme 4	
Nov – 27th	Thanksgiving Break, University closed	

Dec – 2nd	Read Primary Literature related to theme 4	
Dec – 4th	Read Primary Literature related to theme 4	
Dec – 5th	**Final Take Home Exam Posted on Blackboard**	
Dec – 9th	**Final take Home Exam Due**	

GRADING AND EXAMS: Student grades will be determined by the total number of points earned on exams and assignments. Points will be divided as follows:

Midterm Exam	1 exam at 100 points	100 points
Final Take Home Exam or Grant Proposal	1 Final Exam or Grant Proposal at 200 points	200 points
Four Presentations	Four ~25-30 slide (max) PPT presentations (100 points each) of research article or articles covering a cell biology theme in the course	400 points
Discussion/Critique of at least two fellow student PPT presentations	Based on two fellow student presentations of research article (50 points per presentation)	100 points
Total Points Possible		**800 points**

EXAM FORMAT: **<u>One midterm exam</u>** will be given towards the end of the first week and will be based on the basics of cell biology. This will be organized into short answer/problem solving questions. Exams will be on the web. **It is your responsibility to contact me a minimum of 24 hours prior to the exam to reschedule.** I will not reschedule any makeup exams it you contact me *after* the exam due date.
<u>One final take home</u> exam will be given in the last week of the course and must be turned in by the due date for this exam. Students who do not want to do the take home final will need to submit a grant proposal on a problem in cell biology.
All students must take the final exam or submit a grant proposal.

Final course grades will be determined on the following percentage scale:

90-100%	A	Outstanding
80-89%	B	Above average
70-79%	C	Average
60-69%	D	Below Average
Below 60%	F	Failing

The syllabus is subject to change at my discretion. Once I make a change I will make you aware of that change.