MBioS 401/501: Cell Biology

A. Meeting times

- **Students taking MBioS 401/501:** Three class meetings on **M, W, F @ 3:10 pm in Heald Auditorium G3**

- **Students taking MBioS 501:** In addition to the three class meeting times per week at MWF 3:10 pm, all students taking MBioS 501 must attend mandatory weekly discussion meetings. Weekly discussion meetings (*, see below) will be on **Weds @ 1:10-2:00 pm in Abelson 306**.

- MBioS 501 students will be held to higher standards, expected to read and discuss assigned papers, be subjected to additional questions on each exam and be graded for presentation/participation/ attendance in the Wed 1:10 class. **The first meeting is an organizational meeting, Jan 7th, at the end of the first class.**

B. Instructors

Instructors	Office	Telephone	Email
Dr. Kwan Hee Kim	Heald 431B	5-7022	khkim@wsu.edu
Dr. Eric Shelden	Heald 405	5-2368	eshelden@wsu.edu
Dr. Mary Hunzicker-Dunn	Abelson 435A	5-5614	mehd@wsu.edu

- **Course director:** Dr. Kwan Hee Kim
- **Office hours of professors:** contact by e-mail or phone for appointments. Each instructor may announce his or her office hours in class.

C. Course Objectives and Syllabus

1. **Course Objectives:** To provide a mechanistic understanding of the physical, chemical, molecular, and biochemical basis of cellular function. Major themes that will be covered include the following:

    - Cell theory, structure and function
    - Techniques of cell biology
    - Protein Targeting
    - Cell movement and dynamics
    - Membrane structure and function; Transport
    - Mitochondria, Chloroplast structure and function
    - Mitosis
    - Cell-cell communication
    - Cell proliferation, differentiation, and death

2. **Example SYLLABUS: The course is divided into three modules.**

MODULE I —DR. KIM		
1	Mon, Jan 7	Course organization, Cells
2	Wed, Jan 9	Microscopy **(Dr. Shelden)**
3	Fri, Jan 11	Organelles I
4	Mon, Jan 14	Organelles II
5	Wed*, Jan 16	Organelles II & III
6	Fri, Jan 18	Organelles III
	Mon, Jan 21	**Martin Luther King Day - Holiday**
7	Wed*, Jan 23	Cellular methods
8	Fri, Jan 25	Cellular methods, Membrane
9	Mon, Jan 28	Membrane
10	**Wed, Jan 30**	Membrane & **Quiz (25 points**, up to Cellular Methods)
11	Fri, Feb 1	Transmembrane and Gated transport
12	Mon, Feb 4	ER transport, Protein modifications
13	Wed*, Feb 6	Vesicular transport I
14	Fri, Feb 8	Vesicular transport II
15	Mon, Feb 11	Small molecule membrane transport I
16	Wed*, Feb 13	Small molecule membrane transport II
	Fri, Feb 15	**Exam I (90 points, lectures #1 to 16)**
	Mon, Feb 18	**Presidents' Day - Holiday**

MODULE II--DR. SHELDEN		
1	Wed*, Feb 20	Chloroplasts/Photosynthesis
2	Fri, Feb 22	Mitochondria/ATP
3	Mon, Feb 25	Microfilaments I
4	Wed*, Feb 27	Microfilaments II
5	Fri, Feb 29	Contraction, Locomotion
6	Mon, Mar 3	Microtubules, MAP
7	Wed*, Mar 5	Cell Division, Intracellular Transport
8	Fri, Mar 7	Cilia, Intermediate Filaments
	Mar 10-14	**Spring Break**
9	Mon, Mar 17	Cell-cell Junctions
10	Wed*, Mar 19	Cell-cell Adhesion
11	Fri, Mar 21	Extracellular Matrix
12	Mon, Mar 24	Cell-matrix interactions – tissue formation
	Wed, Mar 26	**Exam II (95 points)**

MODULE III—DR. HUNZICKER-DUNN		
1	Fri, Mar 28	Signal Transduction
2	Mon, Mar 31	Signal Transduction
3	Wed*, April 2	Signal Transduction

4	Fri, April 4	Signal Transduction
5	Mon, April 7	Cell Cycle
6	Wed*, April 9	Cell Cycle
7	Fri, April 11	Cell Cycle
8	Mon, April 14	Apoptosis
9	Wed*, April 16	Apoptosis
10	Fri, April 18	Cell Differentiation
11	Mon, April 21	Cell Differentiation
12	Wed*, April 23	Cancer Cell Biology
13	Fri, April 25	Cancer Cell Biology
	May 2	**Exam III (3:10-5:10 pm) 100 points**

D. TEXT: Alberts et al., *Molecular Biology of the Cell*, 4th edition.

- Individual instructors will use this text to varying degrees.
- The text is available at WSU bookstore and on NCBI Bookshelf http://www.ncbi.nlm.nih.gov/books/bv.fcgi?call=bv.View..ShowTOC&rid=mboc4.TOC&depth=2

E. eLEARNING CENTER LECTURE NOTES: A PDF file of each lecture note will be available on eLearning center.

https://elearning.wsu.edu/webct/urw/lc9140011.tp0/cobaltMainFrame.dowebct

- Login using WSU network username and password
- Choose MBioS 401
- Choose Folder: General information, Kim Folder, Shelden Folder, Hunzicker-Dunn Folder, etc.
- Open Appropriate PDF
- Save to your computer: Disk Icon on the right (Save a Copy)
- Print and bring to class, unless you want to bring your laptop

F. EXAMINATIONS: There will be one quiz and three exams. Each quiz and exam will cover only the material presented by each instructor. The quiz and exam will include multiple choice questions (2-3 point questions) and short answer questions (5 point questions) or essays (10-20 point questions). 50% will be multiple choice questions and 50% will be a combination of short answer questions and essays.

- NO EARLY EXAMINATIONS – Final Examinations will not be rescheduled for the purpose of leaving the institution before the close of the semester (per academic rule 80).
- 501 exams will be discussed in 501 class.

G. GRADING: There is an absolute requirement of at least 50% to pass this course (i.e. to obtain a "D") and at least 55% to obtain a "C-". All grades "C" and above will be

curved for a final letter grade. The final letter grade is based on the scores from the quiz and three exams. 501 grading will be discussed in 501 class.

H. ACADEMIC INTEGRITY

"Academic dishonesty will result in a grade of "F" for this course without the option to withdraw. Formal documentation will be filed with the Office of Student Conduct at WSU. Academic dishonesty is defined as cheating, falsification, fabrication, multiple submission, plagiarism*, abuse of academic materials, complicity or misconduct in research (WAC 504-25-310 in Standards of Conduct for Students)."

"* Plagiarism is defined as the unauthorized use of the language or thoughts of another person, and the representation of them as one's own. (Random House Webster's College Dictionary, 1991)."

I. ACCOMMODATION FOR STUDENTS WITH DISABILITIES

"We are committed to providing assistance to help you be successful in this course. Reasonable accommodations are available for students with a documented disability. Please go to the Disability Resource Center (DRC) during the first two weeks of every semester to seek information or to qualify for accommodations. All accommodations MUST be approved through the DRC, located in the Administration Annex Bldg, Room 205. To make an appointment with a disability counselor, please call 335-3417."