

Cell Biology

Course description: This course is designed for non-biology students, such as from computer science, engineering, mathematics and others. This course will provide introduction to the structure and biology of eukaryotic cell, with special focus on the cell/cell and cell/ECM interaction, endomembrane trafficking, cytoskeleton and signal transduction pathways. At the end of this course students will gain basic level knowledge in cell biology and applying these to their research.

Pre-requisite:

All graduate students are welcome. Students with basic knowledge in biology, organic chemistry and genetics are preferred.

Required Textbook: Karp, G. Cell Biology. Wiley, 7th edition 2013 ISBN: ISBN : 978-1-118-31874-4

Required Equipment: Non

Topics and Schedules:

Week	Topic	Type
1	Introduction to Cell Biology	Lecture
2	The structure of the Cell	Lecture
3	Cellular Membrane (1)	Lecture
4	Cellular Membrane (2)	Lecture
5	The Extracellular Matrix and Cell Interactions (1)	Lecture
6	The Extracellular Matrix and Cell Interactions (2)	Lecture
7	Cellular Organelles and Membrane Trafficking (1)	Lecture
8	Cellular Organelles and Membrane Trafficking (2)	Lecture
9		Midterm Exam
10	The Cytoskeletons (1)	Lecture
11	The Cytoskeletons (2)	Lecture
12	Cell Signaling Pathway (1)	Lecture
13	Cell Signaling Pathway (2)	Lecture
14	Cancer (1)	Lecture
15	Cancer (2)	Lecture
16	Methods in Cell Biology (1)	Lecture
17	Methods in Cell Biology (2)	Lecture
18		Final Exam

Workload: There will be 2 assignments and two examinations. A homework assignment will be given in the middle and the end of the courses. The assignments and exams will be mainly based on the textbook, but sometimes I will add some questions of my own. Some of the questions will be discussed in class. Your preparation is essential for a good discussion.

Grading:

Grading for the course will be assigned on the basis of six homework assignments (10% each) and two exams (20% each). The expected grade distribution should be: 88-100 = A; 78-87 = B; 68-77 = C; 58-67 = D.