Course Description: Principles of biochemistry; molecular and cell biology. General introduction to cell structure and function. Genetics, bioenergetics, anatomy and physiology; introduction to biotechnology.

Instructor: Özlem Keskin

Office: Eng 253

Office Hours: Monday 13:00-14:00, Thursday 10:00-11:00

Textbook: Essential Cell Biology: An Introduction to the Molecular Biology of the Cell
Bruce Alberts, Dennis Bray, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts and Peter Walter © 1998 Garland Science Publishing

Class Hours: Monday and Wednesday B1 (Sec 1)
Monday and Wednesday B2 (Sec 2)

Place: Scie 103

Attendance: In accordance with University policy, students are expected to attend all lectures. Regular attendance and participation in class and problem sessions will be taken into positive consideration in determining the grades of all students.

Grading: Midterm I 20%
Midterm II 20%
Final 40%
Quizzes +Homeworks+Attendance 20%

ACADEMIC DISHONESTY

Academic dishonesty in the form of cheating, plagiarism and collusion are serious offenses and will not be tolerated at Koc University. University Academic Regulations and the Regulations for Student Disciplinary Matters clearly define the policy and the disciplinary action to be taken in case of academic dishonesty. However, if proven guilty, usually the toughest punishment is given to the student, especially if (s)he tries to mislead the commission by lying to them.

Cheating includes, but is not limited to, copying from a classmate or providing answers or information, either written or oral to others. Plagiarism is borrowing or using someone else’s writing or ideas without giving written acknowledgement to the author. This includes copying from a fellow student’s paper or from a text without properly citing the source. Collusion is getting unauthorized help from another person or having someone else write one’s paper or assignment.
Course Outline

I. Cellular and Molecular Biology

  Introduction to Cells
  Chemical Components of Cells, Biochemistry
  Energy, Catalysis, and Biosynthesis
  How Cells Obtain Energy from Food
  Protein Structure and Function
  DNA
  From DNA to Protein

II. Biotechnology and Genetic Engineering

  Recombinant DNA
  Chromosomes and Gene Regulation
  Genetic Variation
  Applications

III. Computational Biology and its Applications

  Medical Reasons to Pursue /Promising Future for Comp. Biol
  Bioinformatics for sequence analysis
  Molecular simulation
  Docking and drug design
  Database search /DNA microarrays