

**Ankara Üniversitesi**  
**Kütüphane ve Dokümantasyon Daire Başkanlığı**  
**Açık Ders Malzemeleri**

**Syllabus**

<b>Course Code and Title</b>	<b>BIO 309, BIOCHEMISTRY I</b>
<b>Instructors</b>	Prof. Dr. ÖZLEM YILDIRIM Assoc. Prof. Dr. FADİME KIRAN
<b>Course Level</b>	Bachelor's Degree
<b>Course Credit</b>	2.0
<b>Course Type</b>	Compulsory
<b>Course Content</b>	Functional groups, biomolecules, the structures, functions and varieties of amino acids, primary, secondary, tertiary and quaternary structures and functions of proteins, the chemistry of carbohydrates and glycobiology, metabolism of carbohydrate, glycolysis, pathway of pyruvate
<b>Course Goals</b>	Biochemistry deals with striking properties of living organisms that contains thousands of various biological molecules. To describe the biochemical terms, the structures, mechanisms and properties of amino acids, protein and carbohydrates
<b>Learning Outcomes</b>	1) Learn the peptide secondary structures of the proteins by utilizing the phi and psi angle and the Ramachandran graphs. 2) Explain the biochemical structures of amino acids to know the secondary structures of peptides 3) Primary, secondary, tertiary and quaternary structures of proteins have been recognized 4) It clearly and precisely indicates that metabolic pathway can be controlled by the enzymes which catalyze the irreversible reactions 5) Learn the carbohydrates and glycobiology
<b>Course Time</b>	45'+45'
<b>Language of Instruction</b>	English
<b>Prerequisites</b>	None
<b>Recommended Sources</b>	Harper's Illustrated Biochemistry, R. K. Murray, D. K. Granner, P. A. Mayes, V. W. Rodwell, Lange Medical Books/McGraw-Hill Medical Publishing Division, 2003. Basic Concepts in Biochemistry, A Student's Survival Guide, H. F. Gilbert, McGraw-Hill Health Professions Division, 2000. Biochemistry, J. M. Berg, J. L. Tymoczko, L. Stryer W. H. Freeman and Company and Sumanas, Inc, 2005. Color Atlas of Biochemistry, J. Koolman, K. H. Roehm, Georg Thieme Verlag, 2005. Lehninger Principles of Biochemistry, 5th EDITION; David L. Nelson ve Michael M. Cox, 2013 Principles of Biochemistry, H. R. Horton, L. A. Moran, K. G. Scrimgeour, M. D. Perry, J. D. Rawn, Pearson Prentis Hall, 2006.
<b>Laboratory</b>	Yes