

## Biochemistry (1)

CREDIT	3	INSTRUCTOR	Hyun Woo (Henry) Park
OFFICE	Bldg.: #323 Rm: S423	OFFICE HOURS	9 am ~ 6 pm
TIME	9 am ~ 10:40 am	CLASSROOM LOCATION	TBA
E-MAIL	hwp003@yonsei.ac.kr		

### [COURSE INFORMATION]

COURSE DESCRIPTION & GOALS	This class targets at students with entry-level background in Biochemistry and Cell Biology. It serves as refreshment as well as boost course for those aiming to major in all disciplines in biology. The class starts with covering the biological principles that governs water, proteins, carbohydrates and lipids. It then expands on these principles to introduce their structures, metabolism, regulations, and biological significance. The later course focuses on integrating biochemistry to cutting edge cancer biology, therapeutics, and regenerative medicine.
PREREQUISITE	Basic knowledge in general biology
COURSE REQUIREMENTS	Lecture will be based on the following texts: Lehninger Principles of Biochemistry (Nelson et al.) or Biochemistry (Stryer et al.)
GRADING POLICY	Grades will be based on Midterm (45%), Final exams (45%), and Attendance (10%).
TEXTS & NOTES	Lecture notes should be downloaded from YSCEC prior to class.
INSTRUCTOR'S PROFILE	Major Research Field: Cancer Biology, Metabolism, Drug Development  2016 - present: Assistant Professor, Department of Biochemistry, Yonsei University, Seoul  2012 - 2016: Postdoctoral Fellow, Department of Pharmacology, University of California San Diego  2006 - 2010: Ph.D., Department of Pharmacology, Yonsei University College of Medicine, Seoul  2000 - 2006: B.S., Department of Biology, Yonsei University, Seoul

[WEEKLY SCHEDULE]

WEEK (PERIOD)	WEEKLY TOPIC & CONTENTS	COURSE MATERIAL & ASSIGNMENTS	NOTES
1	Water, Buffer, pH, Osmolarity Amino Acid, Peptides, Protein Structures Protein Function and Metabolism	Lecture note	
2	Enzyme Kinetics Enzyme Inhibitors and Mechanisms Regulatory Enzymes	Lecture note	
3	Carbohydrate, Glycolysis, Glycobiology Lipid Structure, Cell Membrane Lipids Fatty Acid Metabolism	Lecture note	Midterm Exam
4	Biological Membranes and Transport Channels and Pumps Culturing and Visualizing Cells	Lecture note	
5	Signal Transduction Cancer Genomics and Precision Medicine Cancer Metabolism	Lecture note	
6	Stem Cell, Cell Asymmetry, and Cell Death Organoids, Genome Editing Regenerative Medicine	Lecture note	Final Exam