



Introduction to Biology

Course Code			
Class Times	Mon/Wed/Thu Type A(9:00~12:00)/B(13 :00~16:00)	Classroom	Bldg
Equivalent Year Level	1/2/3/4	Course Credit	3
Instructor	Hyun Ah (Joy) Kim	Sessions	15(45 class hours)
Office	504-421	Email	joy@snu.ac.kr

□ Instructor's Profile

Name: Hyun Ah (Joy) Kim

Associate professor in the department of Biological Sciences in Seoul National University.

Education

Ph.D. in Physiology and Biophysics, State University of New York at Stony Brook, NY, U.S.A, 2001

B.S. in Biochemistry, University of California, Davis, CA, U.S.A

Expertise

Membrane Biology

Most Recent Works

- Yim C, Jung S, Kim JH, Jung Y, Jeong S, Kim H. Profiling of signal sequence characteristics and requirement of different translocation components. BBA-Mol. Cell. Res. 2018 Nov., 1865;1640-1648.
- Lee S, Lee H, Yoo S, Kim H. Molecular insight into the m-AAA protease-mediated dislocation of transmembrane helices in the mitochondrial inner membrane. J Biol Chem. 2017 Dec 8, 292(49):20058-20066.
- Lara P, Öjemalm K, Reithinger J, Holgado A, Maojun Y, Hamed A, Mattle D, Kim H, Nilsson I. Refined topology model of the STT3/Stt3 protein subunit of the oligosaccharyltransferase complex. J Biol Chem. 2017 Jul 7, 292(27):11349-11360.
- H. Kim, K. Park, S. Botelho and H. Kim. Use of carbonate extraction in analyzing moderately hydrophobic transmembrane proteins in the mitochondrial inner membrane. Protein Sci. 2015 Dec 24, 12:2063-9.



- S. Jung, J. Kim, J.H. Reithinger and H. Kim. The Sec62/Sec63 translocon facilitates the C_{out} orientation of membrane proteins. J Cell Sci. 2014 Oct 1, 127: 4270-8.

□ Course Information

Course Description	Introduction to Biology provides overview of biological concepts with emphasis on molecular and cellular biology.
Course Evaluation	Homework, quiz, class participation 50% Exams 50% Attendance will be important for keeping up with class. Good attendance and active participation will be reflected in grade.
Course Materials	Campbell Biology in Focus (Pearson 2014 edition)
Class Policy	<i>(Insert as necessary)</i>
Etc. <i>(e.g. Guidelines)</i>	Students are expected to read the chapters of the lecture.

□ Course Schedule

Session	Description	Etc
1	Chapter 1. Introduction: Evolution and the foundations of Biology, Chapter 2. The Chemical Context of Life	
2	Chapter 3. Carbon and the Molecular Diversity of Life, Chapter 4. A Tour of the Cell	
3	Chapter 5. Membrane Transport and Cell Signaling	
4	Chapter 6. An Introduction to Metabolism, Chapter 7. Cellular Respiration and Fermentation	
5	Chapter 8. Photosynthesis	
6	Chapter 9. The Cell Cycle	



7	Chapter 10. Meiosis and Sexual Life Cycles, Chapter 11. Mendel and the Gene idea	
8	Chapter 12. The Chromosomal Basis of inheritance, Chapter 13. The Molecular Basis of Inheritance	
9	Chapter 14. Gene Expression: From Gene to Protein, Chapter 15. Regulation of Gene Expression	
10	Chapter 16. Development, Stem Cells, and Cancer	
11	Chapter 17. Viruses	
12	Chapter 18. Genomes and Their Evolution, Chapter 19. Descent with Modification,	
13	Chapter 20. Phylogeny, Chapter 21. The Evolution of Populations	
14	Chapter 22. The Origin of Species, Chapter 23. Broad Patterns of Evolution	