

Syllabus Reference

Course title	Structural Biomolecular Science		
Term	後期 2nd Half		
Credit(s)	2		
The main day		The main period	
School/Program	School of Physical Sciences		
Department/Program	Department of Structural Molecular Science		
Category	Structural Molecular Science		
Lecturers	AONO Shigetoshi, KOGA Nobuyasu		

Instructor

Full name

* AONO SHIGETOSHI

KOGA NOBUYASU

Outline	The molecular mechanisms of various biological processes will be lectured in this course. Especially, the molecular mechanisms of the following topics will be provided: Structure and function of proteins, DNA replication, transcription and translation of DNA, cellular homeostasis, biological energy conversion such as respiration and photosynthesis, signal sensing and sensory receptors, and some recent research topics.
Goal	The object of this lecture is to develop the knowledge and ability to think on the molecular mechanisms of biological processes that are the bases of bioscience.
Grading system	01:Four-grade evaluation (A, B, C, D)
Grading policy	To earn the credit, attendance of more than 60% of all the lectures and submission of a report on the subject given in the lecture are required. The grade will be estimated based upon the attendance and the report. The credit will be awarded if the grade is 60/100 or higher.
Lecture Plan	<ol style="list-style-type: none"> 1. Introduction to protein structure 2. Physical chemistry for protein structure 3. Structures and functions for soluble proteins 4. Protein structure prediction and design 5. Metals in biology 6. Response to environmental conditions and signal transduction by metalloproteins 7. Biological metabolism by metalloproteins 8. Homeostasis of transition metal ions in cells 9. Biogenesis of metalloproteins and translational regulation 10. Recent topics
Location	Seminar Room #301, Research Building
Language	Japanese or English
Textbooks and references	<ol style="list-style-type: none"> 1. Principles of Bioinorganic Chemistry, Stephen J. Lippard, Jeremy M. Berg, University Science Book 2. Introduction to Protein Structure, Carl Branden and Johan Tooze, Newton Press