Syllabus Reference

Course title	Fundamentals of Biomolecular Science		
Term	後期 2nd Half		
Credit(s)	2		
The main day		The main period	
School/Program	School of Physical Sciences		
Department/Program	Common Subjects of Physical Sciences		
Category	Common Subjects of Physical Sciences		
Lecturers			

Instructor

Full name
* AKIYAMA SHUJI
KOGA NOBUYASU
IINO RYOTA

Outline	Core aspects of biophysical chemistry will be overviewed with the life-science student in mind. This course aims at cultivating the fundamentals necessary to complete the advanced courses of Structural Biomolecular Science and of Functional Biomolecular Science. The lectures will be given with life-science examples using a textbook covering the lows of thermodynamics, biological standard state, chemical equilibrium and its temperature dependence, chemical kinetics, enzyme kinetics, and molecular dynamics.
Goal	・Understand biological standard state in terms of lows of thermodynamics ・Understand temperature dependence of chemical equilibrium, chemical kinetics, and diffusion ・Understand enzyme kinetics and molecular dynamics
Grading system	
01:Four-grade evaluation (A,B,C,D)	
Grading policy	Sufficient attendance to the lecture and a score of some reports
Lecture Plan	Schedule: 10/19, 10/26, 11/02, 11/09, 11/16, 11/22, 11/29 Contents: 1. Lows of thermodynamics 2. Biological standard state 3. Chemical equilibrium and its temperature dependence 4. Chemical kinetics 5. Diffusion 6. Enzyme kinetics 7. Molecular dynamics
Location	Myodaiji Campus, Research Facilities 3F, Room 301.
Language	Japanese or English
Textbooks and references	Physical Chemistry: Principles and Applications in Biological Science
Others	Lecturer(s): Shuji Akiyama (phone 7363, akiyamas@ims.ac.jp, Myodaiji Campus, South Lab. Bldg., 3F) Ryota Iino (phone 5230, iino@ims.ac.jp, Yamate Campus building 2 East, 4F) Nobuyasu Koga (phone 7365, nkoga@ims.ac.jp, Myodaiji Campus, South Lab. Bldg., 3F)