Special Subjects of the Department of Structural Molecular Science

*The lectures of this year are framed in yellow.

Field	Course Code	Subject	Credit	Content of subject	Instructor
Theoretical Chemistry, Structural Photo-Mol cull r Science, Basic Ell. to Chemistry, acuum V Spectroscopy, Materials Chemistry, Chemistry, Structural Mat rials Science, Structural Bomole, II r Science, Council Latin Chemistry	20DSM002**	Structural Photo- Molecul ar Science	2	The basic frameworks of various spectroscopic methods such as laser spectroscopy, nonlinear and time-resolved spectroscopy and microscopic methods, for investigation of structures and dynamics of small molecules to molecular assemblies are overviewed. Examples of applications of those methods for understanding/control of materials functionalities are also introduced.	Hiromi Okamoto
	20DSM003**	Materials Chemistry	2	The basic concept and experimental methods in molecular science including organic chemistry, materials chemistry, and solid physics are provided in this class. The case studies are also provided for the molecular design, structural analysis, measurement of molecular properties, and expression of function in the multi-disciplinary research fields.	Members of dept. of structural molecular science
	20DSM004**	Structural Biomolecular Science	2	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, biological metabolism and some recent research topics.	Shigetoshi Aono Nobuyasu Koga
	20DSM005**	Fundamental Electronic Physics	2	Lecture on characteristics of electronic structures for strongly correlated materials. The methods of vacuum UV spectroscopy and other related techniques using synchrotron radiation are introduced.	Kiyohisa Tanaka Genki Kobayashi
Common Cources	90DSM001**	Exercise on Structural Molecular Science I	4	Discussion, experimental instructions, and/or theoretical studies for the student to perform the individual fundamental and applied research in the field of structural molecular science. This program is provided by appropriate teaching stuffs based on the research subject of the individual student. Small size seminar to gain scientific knowledge, competence for scientific consideration, discussion, and research formance, and original scientific conceptions in the field of fundamental and applied tructural molecular science. This program is provided by appropriate teaching stuffs based on the research subject of the individual student.	
	90DSM002**	Exercise on Structural Molecular Science II	4		
	90DSM003**	Exercise on Structural Molecular Science III	4		
	90DSM004**	Exercise on Structural Molecular Science IV	4		
	90DSM005**	Exercise on Structural Molecular Science V	4		
	90DSM006**	Seminar on Structural Molecular Science I	4		
	90DSM007**	Seminar on Structural Molecular Science II	4		
	90DSM008**	Seminar on Structural Molecular Science Ⅲ	4		
	90DSM009**	Seminar on Structural Molecular Science IV	4		
	90DSM010**	Seminar on Structural Molecular Science V	4		
	10DSM001**	English for scientific research	2	The principal aim of this course is to improve academic reading, acadimic writing, listenig, and speaking in English for scientific research.	Sechrist, Jeremiah S Members of dept. of structural molecular science

A two-digit number or letter will be entered to ** according to the semester or the lecturer in charge.