

**【Attention】**

These subjects below have been changed subject title or newly launched.

The titles of five subjects listed in Table 1 have been changed since the beginning of FY 2013, but their contents remain unaltered.

Any subjects completed before the end of FY 2012 cannot be taken again even after the title alternation.

Six subjects in Table 2 newly launched since FY 2013 can be taken regardless of the history.

### Remarks

Table 1 (changed subject title)

	Before the end of FY 2012 (Subject Code, Subject Title)		Note	After the beginning of FY 2013 (Subject Code, Subject Title)		Note
Special Subjects of the Department of Structural Molecular Science / Functional	11070091	Fundamental Theory of Molecular Structures	A	11070202	Theoretical Chemistry	A
	11070198	Applied Molecular Spectroscopy	B	11070203	Structural Photo- Molecular Science	B
	11070074	Solid state chemistry	C	11070204	Materials Chemistry	C
	11080195	Biomolecular Science	D	11080198	Functional Biomolecular Science	D
	11080101	Molecular Assemblies	E	11080199	Molecular Functional Materials	E

※The subject labeled with the same alphabetical letters in "Note" are treated identical to each other, and are mutually exclusive in terms of the subject in Table 2.

Table 2 (newly launched )

	Subject Code	Subject Title
Special Subjects of the Department of Structural Molecular Science	11070205	Structural Biomolecular Science
Common specialized basic subjects of the school of Physical Sciences	11120048	Fundamental Theoretical Chemistry
	11120049	Fundamental Photo-science
	11120050	Fundamental Chemistry and Physics of Solids
	11120051	Fundamentals of Biomolecular Science
	11120052	Introduction to Coordination Chemistry

	Subject Code	Subject	Credit	Lecturer		Lecture Schedule	notes	Course Registration
Department of Structural Molecular Science	11070202	Theoretical Chemistry	2	Prof.	Masahiro Ehara	2014 school year	Both students of Structural and Functional Molecular Science are able to registrate	
				Assoc.Prof.	Hisashi Okumura			
	11070203	Structural Photo-Molecular Science	2	Prof.	Hiromi Okamoto	2014 school year	Both students of Structural and Functional Molecular Science are able to registrate	
				Prof.	Yasuhiro Ohshima			
	11070204	Materials Chemistry	2	Assoc.Prof.	Toshiyasu Suzuki	2014 school year	Both students of Structural and Functional Molecular Science are able to registrate	
				Assoc.Prof.	Donglin Jiang			
	11070205	Structural Biomolecular Science	2	Prof.	Shigetoshi Aono	2nd semester in 2013school year	Both students of Structural and Functional Molecular Science are able to registrate	
				Assoc. Prof.	Yuji Furutani			
	11070200	Exercise on Structural Molecular Science I	4			every year	These lectures are strongly recommended. If you won't take these,you need your prof.'s approval. The Number of lecturecorrespond your academic year.	
	11070100	Exercise on Structural Molecular Science II	4					
	11070101	Exercise on Structural Molecular Science III	4					
	11070102	Exercise on Structural Molecular Science IV	4					
	11070103	Exercise on Structural Molecular Science V	4					
	11070201	Seminar on Structural Molecular Science I	4			every year	These lectures are strongly recommended. If you won't take these,you need your prof.'s approval. The Number of lecturecorrespond your academic year.	
11070106	Seminar on Structural Molecular Science II	4						
11070107	Seminar on Structural Molecular Science III	4						
11070108	Seminar on Structural Molecular Science IV	4						
11070109	Seminar on Structural Molecular Science V	4						
11070111	English for scientific research	2			every year	a required subject for "Basic Course" (Department of Structural Molecular Science)		
Department of Functional Molecular Science	11080198	Functional Biomolecular Science	2	Prof.	Koichi Kato	2014 school year	Both students of Structural and Functional Molecular Science are able to registrate	
				Assoc.Prof.	Hiroshi Fujii			
				Assoc.Prof.	Katsuyuki Nishimura			
	11080171	Complex Catalysis	2	Prof.	Yasuhiro Uozumi	2nd semester in 2013school year	Both students of Structural and Functional Molecular Science are able to registrate	
				Assoc.Prof.	Hidehiro Sakurai			
	11080194	Quantum dynamics	2	Prof.	Kenji Ohmori	2014 school year	Both students of Structural and Functional Molecular Science are able to registrate	
	11080100	Photo-physics	2	Prof.	Masahiro Kato	2014 school year	Both students of Structural and Functional Molecular Science are able to registrate	
				Assoc.Prof.	Takunori Taira			
				Assoc.Prof.	Takao Fuji			
	11080199	Molecular Functional Materials	2	Prof.	Masahiro Hiramoto	1st semester in 2013school year	Both students of Structural and Functional Molecular Science are able to registrate	
				Assoc.Prof.	Toshikazu Nakamura			
	11080196	Exercise on Functional Molecular Science I	4			every year	These lectures are strongly recommended. If you won't take these,you need your prof.'s approval. The Number of lecturecorrespond your academic year.	
	11080104	Exercise on Functional Molecular Science II	4					
	11080105	Exercise on Functional Molecular Science III	4					
11080106	Exercise on Functional Molecular Science IV	4						
11080107	S	4						
11080197	Seminar on Functional Molecular Science I	4			every year	These lectures are strongly recommended. If you won't take these,you need your prof.'s approval. The Number of lecturecorrespond your academic year.		
11080110	Seminar on Functional Molecular Science II	4						
11080111	Seminar on Functional Molecular Science III	4						
11080112	Seminar on Functional Molecular Science IV	4						
11080113	Seminar on Functional Molecular Science V	4						
11080115	English for scientific research	2			every year	a required subject for "Basic Course" (Department of Functional Molecular Science)		

Subject Code	Subject	Credit	Lecturer		Lecture Schedule	notes	Course Registration
11120039	Introduction to Observational Astronomy I	2	Prof.	M. Ie			
			Assoc.Prof	W. Aoki			
11120040	Introduction to Observational Astronomy II	2	Prof.	E. Kokubo			
11120023	Introduction to Theoretical Astronomy	2	Assoc.Prof	T.Kajino			
11120014	Space Science	2	Dept.Space and Astronautical Science All the staff				
11120015	Space Engineering	2	Dept.Space and Astronautical Science All the staff				
11120035	Quantum Molecular Science	2	Prof.	Shinji Saito	every year	E-Learning	
			Prof.	Masahiro Ehara			
			Prof.	Nobuhiro Kosugi			
			Prof.	Yasuhiro Ohshima			
			Prof.	Kenji Ohmori			
			Prof.	Hiromi Okamoto			
			Assoc.Prof	Katsuyuki Nobusada			
			Assoc.Prof	Eiji Sigemasa			
11120041	Introduction to Solid State Physics & Chemistry	2	Prof.	Toshihiko Yokoyama	every year	E-Learning	
			Prof.	Masahiro Hiramoto			
			Assoc.Prof	Shinichi Kimura			
			Assoc.Prof	Toshikazu Nakamura			
11120016	Fundamentals of Fusion Science	2	Members of dept. of fusion science				
11120017	Overview of Simulation Science	2	Members of dept. of fusion science				
11120042	Space Science	1	Prof.	Hideo Matsuhara			
			Prof.	Yasuhiro Morita			
			Assoc.Prof.	Takumi Abe			
			Assoc.Prof.	Masanao Abe			
			Assoc.Prof.	Toshifumi Shimizu			
			Assoc.Prof.	Ikkoh Funaki			
			Assoc.Prof.	Takahide Mizuno			
			Assoc.Prof.	Makoto Yoshikawa			
11120036	Overview of Control Engineering	1	Members of dept. of astronomical science, dept. of fusion science and dept. of space and astronautical science				
11120037	Overview of Signal Processing	1	Members of dept. of astronomical science, dept. of fusion science and dept. of space and astronautical science				
11120038	Training of Presentation in English	1					
11120043	Introduction to Integrative Bioscience	1					
11120044	Integrative Bioscience Series	1					
11120045	Introduction to biomolecular simulation	1	Prof Shinji Saito, Assoc. Prof. Hisashi Okumura		2nd semester in 2013school year		
11120048	Fundamental Theoretical Chemistry	2	Assoc.Prof.	Katsuyuki Nobusada	1st semester in 2013school year		
			Assoc.Prof.	Takeshi Yanai			
11120049	Fundamental Photo-science	2	Prof.	Nobuhiro Kosugi	2nd semester in 2013school year		
			Assoc.Prof.	Eiji Sigemasa			
11120050	Fundamental Chemistry and Physics of Solids	2	Prof.	Toshihiko Yokoyama	2014 school year		
			Prof.	Hiroshi Yamamoto			
			Assoc.Prof.	Shinichi Kimura			
11120051	Fundamentals of Biomolecular Science	2	Prof.	Shuji Akiyama	1st semester in 2013school year		
			Prof.	Koichi Kato			
			Assoc.Prof.	Katsuyuki Nishimura			
			Assoc. Prof.	Yuji Furutani			
11120052	Introduction to Coordination Chemistry	2	Prof.	Tetsuro Murahashi	2014 school year		
			Assoc.Prof.	Shigeyuki Masaoka			

	Subject Code	Subject	Credit	Lecturer		Lecture Schedule	notes	Course Registration
Course by Course Education Program(Physical Sciences)	11120026	Special Study on Physical Sciences I	1	All faculty members			Labo rotation ※a required subject for D1and D2students.	
	11120027	Special Study on Physical Sciences II	1					
	11120028	Special Study on Physical Sciences III	1					
	11120029	Seminar on Advanced Physical Science Research	4	All faculties in the course				
	11120030	Exercise on Advanced Physical Science Research	4	All faculties in the course				
	11120031	Special Program of Big Project Research	2	All faculties in the course				
	11120032	Exercise on Project Research	4	All faculties in the course				
	11120053	Seminar on Research and Development	2	All faculties in the course				
	11120034	Exercise of Research and Development	4	All faculties in the course				
11120054	Exercise of Planning and Managing a Seminar for the Physical Science Field	1	The faculties in charge of seminars for physical science students					
Integrative Bioscience Education Program	11120043	Introduction to Integrative Bioscience	1	Prof.	Toshitaka Fujisawa	every year		
	11080198	Functional Biomolecular Science	2	Prof.	Koichi Kato	2014 school year	same as 11080198 Functional Biomolecular Science	
				Assoc.Prof.	Hiroshi Fujii			
				Assoc.Prof.	Katsuyuki Nishimura			
	11070205	Structural Biomolecular Science	2	Prof.	Shigetoshi Aono	2nd semester in 2013school year	same as 11070205Structural Biomolecular Science	
				Assoc. Prof.	Yuji Furutani			
	11240069	Training Course for Bioinformatics	1	Assoc. Prof.	Shuji Shigenobu	every year		
	11240066	Imaging Science	1	Assoc.Prof.	Kazuyoshi Murata	every year		
				Assoc.Prof.	Shigenori Nonaka			
	11120044	Integrative Bioscience Series	1	Prof.	Koichi Kato	every year		
	11120045	Introduction to Biomolecular Simulation	1	Prof.	Shinji Saito	every year	same as 11120045 Introduction to Integrative Bioscience	
				Assoc.Prof.	Hisashi Okumura			
	11250123	Integrative Evolutionary Studies	2	Prof.	Yoko Satta	every year		
11240067	Molecular and Cellular Biology	2	Prof.	Hiroyuki Araki	every year			
			Prof.	Tatsuo Fukagawa				
			Prof.	Mikio Nishimura				
			Assoc.Prof.	Nobuyuki Shiina				
11960001	Bioinformatics	1	Prof.	Yoko Satta	every year			
11960002	Origin of Life	1	Prof.	Toshitaka Fujisawa	every year			
11120051	Fundamentals of Biomolecular Science	2	Prof.	Shuji Akiyama	2nd semester in 2013school year	same as 11120051 Fundamentals of Biomolecular Science		
			Prof.	Koichi Kato				
			Assoc.Prof.	Katsuyuki Nishimura				
			Assoc. Prof.	Yuji Furutani				

	Subject Code	Subject	Credit	Lecturer		Lecture Schedule	notes	Course Registration
Comprehensive Subjects	11250001	Scientific Writing	1			every year	E-Learning	
	11250079	Life Science & Society I	1	Prof.	Mariko Hasegawa	2nd semester in 2013school year		
	11250080	Life Science & Society II	1	Prof.	Mariko Hasegawa	2nd semester in 2013school year		
	11250077	Science,Technology and Society I	1	Prof.	Satoru Ikeuchi	1st semester in 2013school year	In Japanese	
			1	Prof.	Kouji Hirata	2nd semester in 2013school year	In English	
	11250078	Science,Technology and Society II	1	Prof.	Satoru Ikeuchi	1st semester in 2013school year	In Japanese	
			1	Prof.	Kouji Hirata	2nd semester in 2013school year	In English	
	11250058	Social Literacy in Science	2	Prof. Assist.Prof.	Kouji Hirata Ryuma Shineha	1st semester in 2013school year		
	11250127	Micro- and Macro-scopic Biology I	2	Prof.	Mariko Hasegawa		apply for each time	
	11250128	Micro- and Macro-scopic Biology II	2	Assoc.Prof.	Tatsuya Ota	1st semester in 2013school year		
	—	Student Seminars	1				apply for each time	
	—	Interdepartmental Comprehensive Subject AI~AV	—				apply for each time	
	—	Interdepartmental Comprehensive Subject BI~BV	—				apply for each time	
—	Sokendai Lectures	—				apply for each time		