

**Course List and Graduation Requirements for International Programs,
Chemistry Program - School of Science (for Undergraduates Enrolled in October 2026)**

Course Category			Course	Term	No of Credits	Compulsory	Credits		
							Compulsory Elective	Elective	Minimum Requirement
Liberal Arts and Sciences Courses	Common Basic Courses	Introduction to skills for academic success	Introduction to skills for academic success	I	1	1			1
		First Year Seminar	First Year Seminar	I	2	2			2
		Language and Culture	Japanese	Fall/Spring	8	8			8
			Japanese/Second Foreign Languages/English	Fall/Spring	6	6			6
		Health and Sports Science	Health and Sports Science: Lecture	I	2	2			2
			Exercise and Sports A	I	1	1			2
			Exercise and Sports B	II	1	1			
		Data Science	Introduction to Data Science (Lecture)	II	1	1			1
			Data Science Exercise B	II	1	1			1
		Entrepreneurship	Entrepreneurship Beginners	I	1	1			1
			<i>Partial Sum</i>			24			24
	Liberal Arts Course	Contemporary Liberal Arts	Introduction to Cultural Studies ★	Spring	2			2	4 consisting of 2 credits from CLA.
			Introduction to Political Studies ★	Spring	2			2	
			Introduction to Economics ★	Spring	2			2	
			Introduction to Career Development Theory	Fall	2			2	
			Art and Culture ★	Spring	2			2	
			Gender Studies	III	2			2	
			Disaster Prevention and Mitigation	III	2			2	
			Biotechnology	Fall	2			2	
			International Society in the Age of Globalization ★	Fall	2			2	
			Exploration of Japan: From the Outside looking Inside	Spring	2			2	
		Global Liberal Arts	Go in Japanese Culture	Fall	2			2	
			Studium Generale A	Fall	2			2	
			Studium Generale B	Spring	2			2	
			Special Mathematics Lecture	Fall/Spring	–			–	
			Introduction to Intercultural Competence	Fall	2			2	
			Immigration in Japan	III	2			2	
			Content courses taught in Japanese	–	–			–	
			Problem/Project Based Learning Seminar	–	–			–	
			Summer Camp for General Academic Skills	VI	2			2	
			Calculus I	I	2			2	
			Calculus II	II	2			2	
			Linear Algebra I	I	2			2	
			Linear Algebra II	II	2			2	
			Complex Analysis	III	2			2	
			Fundamentals of Physics I	I	2			2	
			Fundamentals of Physics II	II	2			2	
			Fundamentals of Physics III	II	2			2	
			Fundamentals of Chemistry I	I	2			2	
			Fundamentals of Chemistry II	II	2			2	
			Fundamentals of Biology I	I	2			2	
			Fundamentals of Biology II	II	2			2	
			Fundamentals of Earth Science I	I	2			2	
			Fundamentals of Earth Science II	II	2			2	
			Laboratory in Physics	III	2			2	
			Laboratory in Chemistry	II	2			2	
			Laboratory in Biology	II	2			2	
			Sum for Liberal Arts and Sciences Courses			24	0	24	48
	Basic Specialized Courses	Compulsory Courses ①	Chemistry Seminar I	IV	2	2			4
			Chemistry Seminar II	IV	2	2			
		Compulsory Elective Courses ②	Analytical Chemistry	III	2		2		28
			Inorganic Chemistry I	IV	2		2		
			Inorganic Chemistry II	V	2		2		
			Inorganic Chemistry III	VI	2		2		
			Organic Chemistry I	III	2		2		
			Organic Chemistry II	IV	2		2		
			Organic Chemistry III	V	2		2		
			Physical Chemistry I	III	2		2		
			Physical Chemistry II	IV	2		2		
			Quantum Chemistry I	IV	2		2		
			Quantum Chemistry II	V	2		2		
			Quantum Chemistry III	VI	2		2		
			Biochemistry I	III	2		2		
			Biochemistry II	IV	2		2		
			Chemistry of Inorganic Materials I	V	2		2		
			Chemistry of Inorganic Materials II	VI	2		2		
			Mathematical Physics I	III	2		2		
			Mathematical Physics Tutorial I	III	1		1		
		Elective Courses ③	Mathematics Tutorial Ia	I	1			1	8
			Mathematics Tutorial Ib	I	1			1	
			Mathematics Tutorial IIa	II	1			1	
			Mathematics Tutorial IIb	II	1			1	
			Fundamental Physics Tutorial Ia	I	1			1	
			Fundamental Physics Tutorial Ib	II	1			1	
			Fundamental Physics Tutorial II	II	1			1	
			Cell Biology I	III	2			2	
			Cell Biology II	III	2			2	
			Statistical Physics I (Thermodynamics)	III	2			2	
			Analytical Mechanics I	III	2			2	
			Electricity and Magnetism	IV	2			2	
			Earth and Planetary Science	V	2			2	
			Environmental Earth Science	VI	2			2	
			<i>Partial Sum</i>			4	28	8	40
	Specialized Courses	Compulsory Courses ④	Chemistry Laboratory I	III	5	5			37
			Chemistry Laboratory II	V, VI	12	12			
			Graduation Research	VII, VIII	20	20			
		Elective Courses ⑤	Organic Chemistry IV	VI	2			2	7
			Organic Chemistry V	V	2			2	
			Polymer Chemistry	V	2			2	
			Computational Chemistry	V	2			2	
			Current Organic and Polymer Chemistry	VI	2			2	
			Biochemistry IV	VI	2			2	
			Cell Biology IV	VI	2			2	
			Chemical Physics	V	2			2	
			Biophysics	IV	2			2	
			Structural Chemistry	V	2			2	
			<i>Partial Sum</i>			37	0	7	44
			Sum for Courses in Specialized Fields			41	28	15	84
			Total Sum			65	28	39	132

*Confirm the prerequisite for each subject with the syllabus.

★Some of the courses on this column are offered in every other year. Confirm the offering term with the “Liberal Arts and Sciences Class Timetable” of the said year.

Graduation Requirements for International Programs, Chemistry Program - School of Science (for Undergraduate)

1. Liberal Arts and Sciences Courses: A combined total of at least 48 credits must be acquired.

(1) Common Basic Courses:

A total of at least 24 credits must be acquired, consisting of 1 credit of Introduction to skills for academic success, 2 credits of First year seminar, 14 credits from Language and Culture *, at least 2 credits each of Lecture and Exercise for Health and Sports Science, 1 credit each of Lecture and Exercise for Data Science and 1 credit of Entrepreneurship.

(2) Liberal arts Contemporary:

A total of at least 4 elective course credits must be acquired, consisting of at least 2 credits from Humanities and Social sciences or Interdisciplinary/Integration of arts and sciences.

(3) Basic Courses in Natural Sciences:

A total of at least 20 credits must be acquired, consisting of 18 course credits from this category of fundamental science courses except three Laboratory courses and at least 2 course credits from the three Laboratory Courses.

2. Courses in Specialized Fields: A combined total of at least 84 course credits must be acquired from these course categories.

(1) Compulsory Courses: A total of 41 compulsory course credits must be acquired, consisting of a total of 37 from Compulsory Specialized Courses ④ and that of 4 compulsory course credits from Compulsory Basic Specialized Courses ①.

(2) Compulsory Elective Courses: A total of at least 28 course credits must be acquired from Compulsory Elective Courses ②.

(3) Elective Courses: A total of at least 15 course credits must be acquired from Elective Courses ③ and ⑤, consisting of a total of at least 8 course credits from Elective Basic Specialized Courses ③ and a total of at least 7 course credits from Elective Specialized Courses ⑤.

(4) If a total of compulsory elective course credits acquired from ② is larger than 28 credits, a maximum of 4 credits out of the exceeding credits can be included in the acquired credits of Elective Specialized Courses ⑤.

Requirements for Advancement for International Programs, Chemistry Program - School of Science (for Undergraduate)

Time the Judgment is made	Course Categories and Required Number of Credits	Students unable to advance to the next year
At the End of the First Grade	A total of a minimum of 20 course credits must be acquired at the end of the first grade.	1. Remain in the first year. 2. Must take no longer than 5 years to complete their first year. [Duration of enrollment (8 years)] minus [second to forth years(3 years)] 3. Students unable to advance to the next year within the 5-year limit stated in 2. above will be expelled from the school.