

**Course List and Graduation Requirements for International Programs,
Biological Science Program - School of Science (for Undergraduates Enrolled in October 2023)**

Course Category	Course	Term	Credits				Minimum Requirement				
			No of Credits	Compulsory	Compulsory Elective	Elective					
Common Basic Courses	Introduction to skills for academic success	I	1	1			1				
	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			
	<i>Partial Sum</i>				23			23			
	Liberal Arts and Sciences Courses	Contemporary Liberal Arts	Humanities and Social sciences	Introduction to Cultural Studies ★	Spring	2			2		
			Introduction to Political Studies ★	III	2			2			
			Introduction to Economics ★	Spring	2			2			
		Global Liberal Arts	Interdisciplinary/Integration of arts and sciences	Introduction to Career Development Theory	Fall	2			2		
				Art and Culture ★	Spring	2			2		
				Gender Studies	III	2			2		
			Global Liberal Arts	-	Disaster Prevention and Mitigation	III	2			2	
Biotechnology					III	2			2		
International Development					IV	2			2		
International Society in the Age of Globalization ★					Fall	2			2		
International Studies					IV	2			2		
Exploration of Japan: From the Outside looking Inside					Spring	2			2		
Go in Japanese Culture					Fall	2			2		
Studium Generale A					Fall	2			2		
Studium Generale B					Spring	2			2		
Introduction to Intercultural Competence					Fall	2			2		
Immigration in Japan					IV	2			2		
Content courses taught in Japanese					-	-			-		
Summer Camp for General Academic Skills					VI	2			2		
<i>Problem/Project Based Learning Seminar</i>											
Basic Courses in Natural Sciences	-	Fundamentals of Biology I	I	2	2		6				
		Fundamentals of Biology II	II	2	2						
		Laboratory in Biology	II	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 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				
Sum for Liberal Arts and Sciences Courses				29	0	16	45				
Courses in Specialized Fields	Compulsory Elective Courses ①	-	Genetics I	III	2		2	24			
			Biochemistry I	III	2		2				
			Cell Biology I	III	2		2				
			Cell Biology II	III	2		2				
			Physiology and Anatomy I	III	2		2				
			Analytical Chemistry	III	2		2				
			Organic Chemistry I	III	2		2				
			Physical Chemistry I	III	2		2				
			Genetics II	IV	2		2				
			Physiology and Developmental Biology	IV	2		2				
			Biochemistry II	IV	2		2				
			Inorganic Chemistry I	IV	2		2				
			Genetics III	V	2		2				
			Biochemistry III	V	2		2				
			Cell Biology III	V	2		2				
			Elective Courses ②	-	Fundamental Physics Tutorial Ia	I	1				1
					Fundamental Physics Tutorial Ib	II	1				1
	Mathematics Tutorial Ia	I			1			1			
	Mathematics Tutorial Ib	I			1			1			
	Fundamental Physics Tutorial II	II			1			1			
	Mathematics Tutorial IIa	II			1			1			
	Mathematics Tutorial IIb	II			1			1			
	Analytical Mechanics I	III			2			2			
	Mathematical Physics I	III			2			2			
	Mathematical Physics Tutorial I	III			1			1			
	Statistical Physics I (Thermodynamics)	III			2			2			
	Quantum Mechanics I	IV			2			2			
	Electricity and Magnetism	IV			2			2			
	Earth and Planetary Sciences	V			2			2			
	Environmental Earth Sciences	VI			2			2			
	<i>Partial Sum</i>					0	24	4	28		
	Compulsory Courses ③	-	Bioscience Laboratory I	IV	8	8		42			
			Bioscience Laboratory II	V	8	8					
Advanced Bioscience Laboratory I			VI	2	2						
Advanced Bioscience Laboratory II			VI	2	2						
Advanced Bioscience Laboratory III			VI	2	2						
Graduation Research in Bioscience	VII, VIII	20	20								
Elective Courses ④	-	Agricultural Science	III	2			2				
		Organic Chemistry II	IV	2			2				
		Biophysics	IV	2			2				
		Physiology and Anatomy II	V	2			2				
		Organic Chemistry III	V	2			2				
		Computational Chemistry	V	2			2				
		Chemical Physics	V	2			2				
		Plant Physiology	VI	2			2				
		Biochemistry IV	VI	2			2				
		Cell Biology IV	VI	2			2				
		Microbiology	VI	2			2				
		Bioorganic Chemistry	VI	2			2				
		Organic Chemistry IV	VI	2			2				
		Current Organic and Polymer Chemistry	VI	2			2				
		Advanced Bioscience Laboratory IV	VI	2			2				
		Advanced Bioscience Laboratory V	VI	2			2				
International Marine Biology Course	VI	2			2						
<i>Partial Sum</i>				42	0	18	60				
Sum for Courses in Specialized Fields				42	24	22	88				
Total Sum				71	24	38	133				

* 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,
Biological Science Program - School of Science (for Undergraduate)**

1. Liberal Arts and Sciences Courses: A combined total of at least 45 credits must be acquired.

(1) Common Basic Courses:

A total of at least 23 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, and 1 credit each of Lecture and Exercise for Data Science.

(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 18 credits must be acquired, consisting of 6 credits of Fundamentals of Biology I and II and Laboratory in Biology, at least 12 credits from Basic Courses in Natural Sciences except three Biology courses .

2. Courses in Specialized Fields: A combined total of at least 88 course credits must be acquired from these course categories.

(1) Compulsory Courses: A total of 42 course credits must be acquired from Compulsory Specialized Courses ③.

(2) Compulsory Elective Courses: A total of at least 24 course credits must be acquired from Compulsory Elective Basic Specialized Courses ①.

(3) Elective courses: A total of at least 22 course credits must be acquired from Elective Courses ② and ④, consisting of a total of at least-18 credits from Specialized Courses ④ and a total of at least 4 course credits from Related Elective Basic Specialized Courses ②.

**Requirements for Advancement for International Programs,
Biological Science 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 fourth 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.