Course List and Graduation Requirements for International Programs, Biological Science Program – School of Science (for Undergraduates Enrolled in October 2019)

Course Category			Course	Term	Credits				
					No of Credits	Compulsory	Compulsory Elective	Elective	Minimum Requirement
Liberal Arts and Sciences Courses	Basic General Education Courses	First Year Seminar	First Year Seminar A	I	2	2			2
		Language and Culture	Japanese/Languages except English	I, II	12	12			12
		Health and Sports Science	Health and Sports Science: Lecture	I	2	2			2
			Health and Sports Science: Practicum I	II	1	1			2
			Health and Sports Science: Practicum II	III	1	1			
		Partial Sum				18			18
	Basic Courses in Humanities and Social Sciences ★		History	II	2			2	6
			Literature	I	2			2	
			Comparative Studies of Cultures	*2020-I*	2			2	
	Liberal Education Courses in Humanities and Social Sciences ★		Introduction to Cultural Studies	II	2			2	
			Culture and Representation	II	2			2	
			Past and Present of Democracy	*2020-I*	2			2	
			International Society of Globalization Age	I	2			2	
	Liberal Education Courses in Natural Sciences		Biotechnology	I	2			2	4 consisting of 2 credits from LECNS. see 13 page 1(3)
			Modern Biology	II	2			2	
			Science of Materials	III	2			2	
	Liberal Education Courses in Interdisciplinary Fields ★		Exploration of Japan: From the Outside Looking Inside	II	2			2	
			Introduction to Career Development Theory	I	2			2	
			Preparedness for Imminent Natural Disasters	III	2			2	
			Thinking about Japanese Society in the 21st Century from Gender Perspectives	I	2			2	
			Special Lecture (Studium Generale I)	I	2			2	
			Special Lecture (Studium Generale II)	II	2			2	
			Special Lecture (Go in Japanese Culture)	III	1			1	
			Special Lecture (Summer Camp for General Academic Skills)	IV	2			2	
	Basic Courses in Natural Sciences		Calculus I	I	2			2	15
			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	I	2			2	
			Fundamentals of Physics III	II	2			2	
			Fundamentals of Physics IV	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	1.5			1.5	1.5
			Laboratory in Chemistry	II	1.5			1.5	
			Laboratory in Biology	II	1.5			1.5	
	Sum for Liberal Arts and Sciences Courses					18	0	26.5	44.5
Courses in Specialized Fields	Basic Specialized Courses	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	4
			Fundamental Physics Tutorial Ib	I	1			1	
			Mathematics Tutorial Ia	I	1			1	
			Mathematics Tutorial Ib	I	1			1	
			Fundamental Physics Tutorial II a	II	1			1	
			Fundamental Physics Tutorial II b	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	
			Partial Sum			0	24	4	28
	Specialized Course	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	18
			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	
			Summer Course in Marine Biology	VI	2			2	
			Partial Sum			42	0	18	60
	Sum for Courses in Specialized Fields					42	24	22	88
Total Sum						**60**	**24**	**48.5**	**132.5**

・Confirm the prerequisite for each subject with the syllabus.

・Refer to the derail of the Term on the page 4 of "AY2019 Liberal Arts and Sciences Course Registration Guide for International Programs Sutdents"

★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 44.5credits must be acquired.

(1) Basic General Education Courses:
A total of at least 18 credits must be acquired, consisting of 2 credits from first year seminar A, 12 credits from Japanese/Second Foreign Language, 2 credits of Health and Sports Science: Lecture and at least 2 credits from Health and Sports Science: Practicum courses.

(2) Basic Courses in Humanities and Social Sciences and Liberal Education Courses in Humanities and Social Sciences:
A total of at least 6 elective course credits must be acquired from the two Course Categories.

(3) Liberal Education Courses in Natural Sciences and Liberal Education Courses in Interdisciplinary Fields:
A total of at least 4 elective course credits must be acquired from these two Course Categories, consisting of 2credits from Liberal Education Courses in Natural Sciences.

(4) Basic Courses in Natural Sciences:
A total of at least 16.5 credits must be acquired, consisting of at least 15 course credits from Basic Courses in Natural Sciences except three Laboratory Courses and 1.5 course credits from the three Laboratory 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 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.