[Name of the Certificate]
”Systems Biology”

[Requirements for Acquiring a BI Program Certificate]
Students must earn 30 or more credits from the list below.

	Subject name	Minimum number of credits
Program Courses, Research Concept and Methodology Courses, Special Courses	Advanced Molecular And Cellular Biology	At least 8 credits
	Genome Engineering Laboratory	
	Bioinformatics Algorithms	
	Genome Design	
	Genomic Medicine	
	Mathematical Biology	
	Communicating Bioscience Using English	
	Biological Network	
	Metabolic Engineering Laboratory Practice	
	Metabolome Analysis Laboratory Practice	
	Proteome Analysis Laboratory Practice	
	The Body Plan of Vertebrate	
	Conceptual Framework (BI)	
	Advanced Research (BI)	
Project Courses	Academic Project : Advanced Biosciences A (1)	At least 4 credits
	Academic Project : Advanced Biosciences B (1)	
Master Research	< Master Seminar in BI Program >	At least 4 credits
Master Thesis	Master Thesis1(1)	2 credits
	Master Thesis2(1)	

＊Some students may be required to take the following undergraduate courses for supplemental study.
Molecular And Cellular Biology 1/2/3/4, Fundamental Biology Laboratory,
Genetic Engineering Laboratory, Genetic Analysis Laboratory, Life Systems

[Project Courses Related to the Program]

Advanced Biosciences A
Advanced Biosciences B
Multifaceted considerations of the meaning of “life”