Curriculum

❒ Undergraduate Course

Classification	Subject No.	Subject Name	Lecture: Lab.: Credit (Assignment)	Semester	Remark
Mandatory Major Course	BiS200	Bioengineering Fundamentals	3:0:3(6)	Spring	
	BiS222	Molecular & Cellular Biology	3:0:3(6)	Fall	
	BiS301	Bioengineering Laboratory I	1:9:4(4)	Spring	
	BiS350	Bioengineering Laboratory II	1:9:4(4)	Fall	
Elective Major Course	BiS202	Cell Biology	3:0:3(4)	Fall	
	BiS208	Biochemistry II	3:0:3(3)	Fall	
	BiS221	General Biochemistry	3:0:3(6)	Spring	
	BiS223	Physical Principles in Biological Engineeing	3:0:3(6)	Spring	
	BiS225	Anatomy & Physiology	3:0:3(6)	Spring	
	BiS232	Bio-Data Structures	3:0:3(6)	Fall	*CS206
	BiS252	Bioinstrumentation Fundamentals	3:0:3(6)	Fall	
	BiS321	Systems Biotechnology	3:0:3(6)	Spring	
	BiS328	Brain Science Fundamentals	3:0:3(6)	Fall	
	BiS332	Bio-Information Processing	3:0:3(6)	Spring,Fall	
	BiS335	Biomedical Statistics & Statistical Learning	3:0:3(6)	Spring,Fall	
	BiS340	Interdisciplinary Approach to Network Science	3:0:3(6)	Fall	
	BiS351	Bio-Signal Processing	3:0:3(6)	Spring	
	BiS352	System Modeling in Bioengineering	3:0:3(6)	Fall	
	BiS354	Analog Microelectronics circuits	3:0:3(6)	Fall	
	BiS355	Digital systems laboratory and bio-applications	3:0:3(6)	Fall	
	BiS371	Biofluidics	3:0:3(6)	Fall	
	BiS372	Dynamic Motion and Response	3:0:3(6)	Fall	
	BiS377	Biomechanics	3:0:3(6)	Spring	
	BiS400	Special Topics in Bio and Brain Engineering	3:0:3(6)	Spring,Fall	
	BiS401	Special Topics in Bio and Brain Engineering (1)	1:0:1(2)	Spring,Fall	
	BiS402	Special Topics in Bio and Brain Engineering (2)	2:0:2(4)	Spring,Fall	
	BiS410	Bioengineering Senior Project	1:6:3(3)	Spring	
	BiS422	Science Communication & Leadership	3:0:3(6)	Fall	
	BiS423	Molecular Biology	3:0:3(4)	Spring	*BS433
	BiS424	Instrumental Analysis for Biomaterials	3:0:3(6)	Fall	*CH463
	BiS425	Biotechnology Laboratory	1:6:3(3)	Spring,Fall	
	BiS427	Computational Neuroscience	3:0:3(6)	Spring	
	BiS428	Introduction to Clinical Neuroscience	3:0:3(6)	Spring,Fall	
	BiS437	Bio-Data Engineering	3:0:3(6)	Spring	
	BiS438	Bioinformatics	3:0:3(6)	Fall	
	BiS451	Cognitive Neuroscience	3:0:3(6)	Fall	
	BiS452	Biomedical Imaging	3:0:3(6)	Fall	
	BiS456	Methods for Neuroimaging	3:0:3(6)	Spring,Fall	
	BiS470	BioNano Engineering	3:0:3(6)	Spring	
	BiS471	Bio-inspired Systems	3:0:3(6)	Spring	
	BiS472	Micro Heat & Mass transfer	3:0:3(4)	Fall	
	BiS473	BioNano Laboratory	0:9:3(6)	Fall	
	BiS481	Collective Intelligence in Biomedical Applications	3:0:3(6)	Fall	
Research	BiS490	Graduation Research	0:6:3		
	BiS495	Individual Study	0:6:1		
	BiS496	Seminar	1:0:1		

※ Notes: 1) 400 level courses open to graduate students. (except 41.410)

2) * stands for substitutable courses

❒ Graduate Course

Classification		Subject No.	Subject Name	Lecture:Lab. :Credit (Assignment)	Semester	Remark
Mandatory General Course	Mandatory	CC010	Special Lecture on Leadership	1:0:0	Fall	
		CC020	Ethics and Safety I	1AU	Spring,Fall	
	Choose 1	CC500	Scientific Writing	3:0:3	Spring,Fall	
		CC510	Introduction to Computer Application	2:3:3	Spring,Fall	
		CC511	Probability and Statistics	2:3:3	Spring,Fall	
		CC512	Introduction to Materials and Engineering	3:0:3	Spring,Fall	
		CC513	Engineering Economy and Cost Analysis	3:0:3	Fall	
		CC522	Introduction to Instruments	2:3:3	Fall	
		CC530	Entrepreneurship and Business Strategies	3:0:3	Fall	
		CC531	Patent Analysis and Invention Disclosure	3:0:3(6)	Spring,Fall	
Elective Course		BiS500	Bioinformation and Bioelectronics	3:0:3(3)	Spring	
		BiS502	Bioanalytical Technology	3:0:3(6)	Fall	
		BiS510	Technology Commercialization and Venture Business	3:0:3(6)	Spring	
		BiS521	Biology for Engineers	3:0:3(6)	Spring	
		BiS522	Genomics and Proteomics	3:0:3(4)	Fall	
		BiS523	Information and Electronics for Scientists	3:0:3(6)	Spring	
		BiS524	Biopharmaceuticals	3:0:3(6)	Fall	
		BiS525	Brain Dynamics	3:0:3(6)	Spring	
		BiS526	Methods in Neuroscience	3:0:3(6)	Spring	
		BiS527	Neurophysiology and Information	3:0:3(6)	Spring	
		BiS528	Cognitive Design and Interface	3:0:3(6)	Fall	
		BiS531	Genome Bioinformatics	3:0:3(6)	Spring	
		BiS532	Bioinformatics Laboratory	2:3:3(6)	Fall	
		BiS533	Computing Technology	3:0:3(6)	Spring,Fall	
		BiS534	Systems Biology	3:0:3(6)	Spring	
		BiS536	Proteome Bioinformatics	3:0:3(6)	Fall	
		BiS551	Medical Image Processing	3:0:3(3)	Spring	
		BiS552	Digital Biomedical Signal Processing	3:0:3(6)	Fall	
		BiS553	Biophotonics	3:0:3(6)	Spring	
		BiS554	Neural Networks	3:0:3(6)	Fall	*EE538
		BiS571	BioElectroMechanics	3:0:3(6)	Spring	
		BiS572	Microtransducers and Laboratory	2:3:3(6)	Fall	
		BiS575	Nanobiophysics	3:0:3(3)	Fall	
		BiS622	Metabolic Engineering	3:0:3(3)	Fall	

Classification	Subject No.	Subject Name	Lecture:Lab.:Credit (Assignment)	Semester	Remark
	BiS627	Clinical Neuroscience	3:0:3(3)	Spring	
	BiS631	Data Mining	3:0:3(6)	Spring	
	BiS632	Biostatistics	3:0:3(6)	Spring,Fall	
	BiS633	Bio-Intelligence	3:0:3(6)	Spring	
	BiS634	Database Construction	3:0:3(6)	Fall	
	BiS651	Hearing and Auditory Model	3:0:3(6)	Spring	
	BiS652	Human Visual Model	3:0:3(6)	Fall	
	BiS653	Advanced MRI Techniques	3:0:3(6)	Spring	*EE737
	BiS671	Nanomaterial Process and Behavior	3:0:3(4)	Spring	
	BiS672	Nano Electro Mechanical Systems	3:0:3(4)	Fall	
	BiS673	Bioelectronic Devices	3:0:3(6)	Spring	
	BiS675	Biomimetics in Biomedical Engineering	3:0:3(6)	Fall	
	BiS721	Computational Cell Biology	3:0:3(6)	Spring	
	BiS722	Cell Signaling Network	3:0:3(6)	Fall	
	BiS723	Advanced Cognitive Neuroscience	3:0:3(6)	Fall	
	BiS731	Bio-Pattern Recognition	3:0:3(6)	Spring	
	BiS732	Bio-Network	3:0:3(6)	Spring,Fall	
	BiS735	Computer Graphics and Bio-Application	2:3:3(6)	Spring	*CS580
	BiS752	Neural Engineering	3:0:3(6)	Spring	
	BiS771	Nanobiotechnology	3:0:3(4)	Spring	
	BiS772	Nano-Micro-Machining Process Laboratory	2:3:3(4)	Fall	
	BiS773	Nanotechnology in Medicine	3:0:3	Fall	
	BiS800	Special Lectures in Bio and Brain Engineering	3:0:3(6)	Spring,Fall	
	BiS801	Special Lectures in Bio and Brain Engineering (1)	1:0:1(2)	Spring,Fall	
	BiS802	Special Lectures in Bio and Brain Engineering (2)	2:0:2(4)	Spring,Fall	
	BiS810	Leadership & Communication	3:0:3(6)	Fall	
Research	BiS960	Thesis/Dissertation Research (Master)			
	BiS965	Individual Study (Master)			
	BiS966	Seminar (Master)	1:0:1		
	BiS980	Thesis/Dissertation Research (Doctoral)			
	BiS986	Seminar (Doctoral)	1:0:1		
	BiS987	Biofusion Seminar	1:0:1	Spring,Fall	

※ Notes: 1) 500 level courses open to undergraduate students

2) * stands for substitutable courses