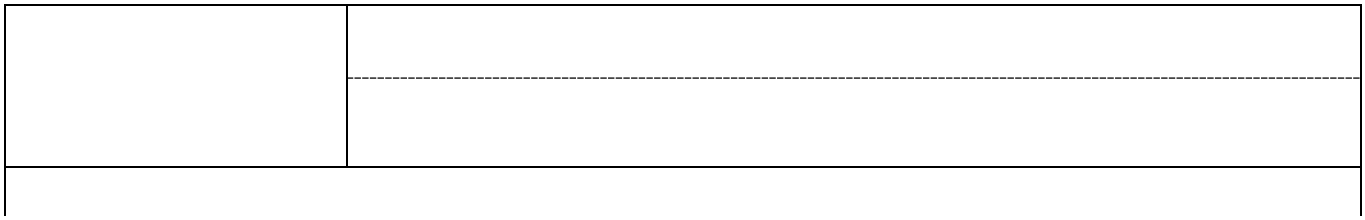

○ Positioning

○ When and how it is assigned

○ Criteria for Progra

○ How it is assessed

○Position on giving feedback to students and

Cluster 2 (Electrical, Electronic and Systems Engineering)

◎ Required subject (period of registration specified)
○ Compulsory elective subject (any of these subjects shall be registered
△ Free elective subject (any of these subjects shall be registered)

Subject Type					Required No. of credits	Class subjects, etc.	No. of credits	Type of course registration	Year in which the subject is taken(*The lower figure means semester)(Note 1)													
									1st grade				2nd grade				3rd grade				4th grade	
									Spring		Fall		Spring		Fall		Spring		Fall		Spring	Fall
									1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T 2T	3T 4T
Liberal Arts Education Subjects	Peace science curse				2		2	Compulsory elective		○												
	Common Subjects	Basic Courses in University Education	Introduction to University Education		2	Introduction to University Education	2	Required	◎													
			Introductory Seminar for First-Year		2	Introductory Seminar for First-Year Students	2	Required	◎													
			Advanced Seminar		0		1	Free elective			△	△										
		Area Courses			4	Courses in Arts and Humanities/Social Sciences	2	Compulsory elective	○		○											
					4	Courses in Natural Sciences	2			○		○										
		Foreign Languages	English (Note2・3)	Basic English Usage	2	Basic English UsageI	1	Required	◎	◎												
						Basic English UsageII	1				◎	◎										
				Communication Ⅰ	2	CommunicationIA	1	Required	◎	◎												
						Communication IB	1		◎	◎												
				Communication Ⅱ	2	Communication IIA	1	Required			◎	◎										
						Communication IIB	1				◎	◎										
			Initial Foreign Languages (Select one language from German, French, Spanish, Russian, Chinese, Korean and Arabic)		2	1 subjects from Basic language I	1	Compulsory elective	○													
						1 subjects from Basic language II	1															
		Information and Data Science Courses			2	Introduction to Information and Data Sciencies	2	Required		◎												
		Health and Sports Cou			2		1or2	Compulsory elective	○	○	○	○										
	Basic Subjects				16	CalculusI	2	Required		◎												
						CalculusII	2					◎										
						Linear AlgebraI	2		◎													
						Linear AlgebraII	2				◎											
						Seminar in Basic Mathematics I	1			◎												
						Seminar in Basic Mathematics II	1					◎										
						General Mechanics I	2		◎													
						General Mechanics II	2				◎											
						Experimental Methods and Laboratory Work in Physics I(Note 4)	1				◎											
						Experimental Methods and Laboratory Work in Physics II(Note 4)	1					◎										
	Free elective subjects				6	From all Subject Type (Note 5)		Free elective	△	△	△	△										
	No. of credits required for graduation				48																	

Note 1: When students fail to acquire the credit during the term or semester marked with ◎, ○, △ in the boxes for the year in which the course is taken, they can take the course in subsequent terms or semesters. Depending on class subject, courses may be offered in semesters or terms different from those scheduled. Please be sure to check the time schedule for Liberal Arts

Note 2: The credit obtained by mastery of self-directed study of "Online Seminar in English A・B" cannot be counted towards the credit necessary for graduation. The credit obtained by Overseas Language Training can be recognized as Communication Ⅰ or Ⅱ if application is made in advance. For more details, please refer to the article on English in Liberal Arts Education in the student handbook.

Note 3: We have a recognition of credit system for foreign language proficiency tests. For more details, please refer to the article on Foreign Language in Liberal Arts Education in the student handbook.

Note 4: Students must take both「Experimental Methods and Laboratory WorkI(1credit)」and「Experimental Methods and Laboratory WorkII(1credit)」.

Note 5: You should take subjects from the Area courses in Natural Sciences and Basic subjects.

Cluster 2 Basic Specialized Subjects

Class Subjects	Credits	Type of course registration		Class Hours/Week																Note
		Electrical, Systems and Information Engineering	Semiconductor Systems	1st grade				2nd grade				3rd grade				4th grade				
				Spring		Fall		Spring		Fall		Spring		Fall		Spring		Fall		
				1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	
Applied Mathematics I	2	◎	◎			4														
Applied Mathematics II	2	○	◎					4												
Applied Mathematics III	2	◎	◎						4											
Discrete Mathematics I	2	○	△						4											(School of Informatics and Data Science)
Synthesis of Applied Mathematics	2	○	○							4										
Engineering Mathematics A	2	△	△									4								
Engineering Mathematics C	2	△	○								4									
Probability and Statistics	2	◎	○					4												
Technical English	1	◎	◎											4						
Introduction to Energy and Information Systems	2	◎	◎				4													
Electric Circuit Theory I	2	◎	◎			4														
Programming I	2	◎	◎						4											
Programming II	2	◎	◎							4										
Programmgcr24	2	△	○	Experiments in Electrical Engineering Electronics and System Engineering II																
		◎	◎																	
		◎	◎																	
			◎																	
	2	◎										5	5							

Cluster 2 Specialized Subjects

(Program of Electrical,Systems and Information Engineering)

Class Subjects	Credits	Type of course registration	Class Hours/Week																Note
			1st grade				2nd grade				3rd grade				4th grade				
			Spring		Fall		Spring		Fall		Spring		Fall		Spring		Fall		
			1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	
Electromagnetism I	2	○					2	2											
Electromagnetism II	2	△							2	2									
Exercise of Electromagnetism I	1	△					2	2											
Exercise of Electromagnetism II	1	△							1	1									
High-voltage Engineering	1	△											2						
Introduction to Semiconductor Devices and Circuits*	2	△						(4)				4							
Electric and Electronic Measurements	2	△							4										
Electric Transient Phenomena	2	○							4										
Circuit Theory IIA	2	◎						4											
Electronic Circuits	2	◎								4									
Exercise of Electric Circuit	1	◎						2											
Electric Energy Generation and Conversion	2	◎								4									
Fundamentals of Power Systems	2	○									4								
Power System Engineering	2	○												4					
Power Electronics and Motor Control Application	2	△												4					
Nuclear Engineering	2	△												4					
Regulations for Electrical Facilities	1	△															2		
Control Systems Engineering I	2	◎						4											
Control Systems Engineering II	2	○								4									
Signal Processing Engineering	2	◎										4							
Exercises in Measurement and Control Engineering	1	◎							2										
Bioelectrical Engineering	2	○										4							
Robotics	2	○											4						
Communication Engineering	2	△										4							
Mathematical Programming	2	◎					4												
Simulation Engineering	2	○							4										
Exercises in Systems Planning and Control	1	◎										2							
Decision Making	2	○												4					
Production Control	2	○											4						
Social System Engineering	2	△									4								
Logic System Design Ⅰ	2	△					4												(School of Informatics and Data Science)
Software Engineering Ⅰ*	2	△						(4)				4							(School of Informatics and Data Science)
Introduction to Artificial Intelligence	2	△					4												(School of Informatics and Data Science)
Computer Network	2	△												4					(School of Informatics and Data Science)
Algorithms and Data Structures*	2	△							(4)				4						(School of Informatics and Data Science)
Human Computer Interaction	2	△											4						(School of Informatics and Data Science)
Theory of Computing	2	△									4								(School of Informatics and Data Science)
Stochastic Modeling*	2	△								(4)				4					(School of Informatics and Data Science)
Graduation Thesis	5	◎																	

***)Students can register 2nd grade or 3rd grade.**

Academic Achievements in Electrical, Systems and Information Engineering Program

The Relationship between Evaluation Items and Evaluation Criteria

		Excellent	Very Good	Good
(1)	The ethics and understanding about the relations between society and technology considered basically necessary for engineers.	Sufficiently understand relations between society and technology, and be able to behave with a sufficient sense of ethics.	Understand relations between society and technology at the standard level, and be able to behave with a standard sense of ethics.	Marginally understand relations between society and technology, and be able to behave with a minimum sense of ethics.
(2)	Basic knowledge of mathematics such as calculus and linear algebra, which is required for scientists/engineers.	Acquire and be able to utilize sufficient basic knowledge of mathematics such as calculus and linear algebra.	Acquire and be able to utilize standard basic	

Relationships between the evaluation items and class subjects

Subject type	Class subjects	credits	Type of course registration	Period	Evaluation items																														Total weighted values of evaluation items in the
					Knowledge/Understanding								Abilities/Skills										Comprehensive Abilities												
					(1)		(2)		(3)		(4)		(1)		(2)		(3)		(4)		(5)		(1)		(2)		(3)		(4)		(5)					
					Weighted values of evaluation items in the	Weighted values of evaluation items	Weighted values of evaluation items in the	Weighted values of evaluation items	Weighted values of evaluation items in the	Weighted values of evaluation items	Weighted values of evaluation items in the	Weighted values of evaluation items	Weighted values of evaluation items in the	Weighted values of evaluation items	Weighted values of evaluation items in the	Weighted values of evaluation items	Weighted values of evaluation items in the	Weighted values of evaluation items	Weighted values of evaluation items in the	Weighted values of evaluation items	Weighted values of evaluation items in the	Weighted values of evaluation items	Weighted values of evaluation items in the	Weighted values of evaluation items	Weighted values of evaluation items in the	Weighted values of evaluation items	Weighted values of evaluation items in the	Weighted values of evaluation items	Weighted values of evaluation items in the	Weighted values of evaluation items	Weighted values of evaluation items in the	Weighted values of evaluation items	
Liberal Arts Education	Introduction to University Education	2	Required	1semsester-1T																			50	1	50	1									100
Liberal Arts Education	Introductory Seminar for First-Year Students	2	Required	1semsester-1T																			50	1	50	1									100
Liberal Arts Education	Peace Science Courses	2	Elective	1semsester-2T																									100	1					100
Liberal Arts Education	Area Courses(Courses in Arts and Humanities/Social Sc)	4	Elective	1semsester-1T, 2semsester-3T																									100	1					100
Liberal Arts Education	Area Courses(Courses in Natural Sciences)	4	Elective	1semsester-2T, 2semsester-4T																									100	1					100
Liberal Arts Education	Basic English UsageI	1	Required	1semsester(Intensive course)																													100	1	100
Liberal Arts Education	Basic English UsageII	1	Required	2semsester(Intensive course)																													100	1	100
Liberal Arts Education	CommunicationIA	1	Required	1semsester																													100	1	100
Liberal Arts Education	Communication IB	1	Required	1semsester																													100	1	100
Liberal Arts Education	Communication IIA	1	Required	2semsester																													100	1	100
Liberal Arts Education	Communication IIB	1	Required	2semsester																													100	1	100
Liberal Arts Education	Basic language I	1	Elective	1semsester-1T																									100	1					100
Liberal Arts Education	Basic language II	1	Elective	1semsester-2T																									100	1					100
Liberal Arts Education	Introduction to Information and Data Sciences	2	Required	1semsester-2T	100	1																													100
Liberal Arts Education	Health and Sports Courses	2	Elective	1・2semsester																									100	1					100
Liberal Arts Education	CalculusI	2	Required	1semsester-2T			100	1																											100
Liberal Arts Education	CalculusII	2	Required	2semsester-4T			100	1																											100
Liberal Arts Education	Linear AlgebraI	2	Required	1semsester-1T			100	1																											100
Liberal Arts Education	Linear AlgebraII	2	Required	2semsester-3T			100	1																											100
Liberal Arts Education	Seminar in Basic Mathematics I	1	Required	1semsester-2T			100	1																											100
Liberal Arts Education	Seminar in Basic Mathematics II	1	Required	2semsester-4T			100	1																											100
Liberal Arts Education	General Mechanics I	2	Required	1semsester-1T					100	1																									100
Liberal Arts Education	General Mechanics II	2	Required	2semsester-3T					100	1																									100
Liberal Arts Education	Experimental Methods and Laboratory Work in Physics I・II	2	Required	2semsester					100	1																									100
Specialized Education	Introduction to Energy and Information Systems	2	Required	2semsester-4T	50	1					50	1																							100
Specialized Education	Applied Mathematics I	2	Required	2semsester-3T									100	1																					100
Specialized Education	Applied Mathematics II	2	Elective	3semsester-1T									100	1																					100
Specialized Education	Applied Mathematics III	2	Required	3semsester-2T									100	1																					100
Specialized Education	Discrete Mathematics I	2	Elective	3semsester-2T									100	1																					100
Specialized Education	Synthesis of Applied Mathematics	2	Elective	4semsester-3T									100	1																					100
Specialized Education	Engineering Mathematics A	2	Elective	5semsester-1T									100	1																					100
Specialized Education	Engineering Mathematics C	2	Elective	4semsester-4T									100	1																					100
Specialized Education	Probability and Statistics	2	Required	3semsester-1T									100	1																					100
Specialized Education	Technical English	1	Required	6semsester-3T																													100	1	100
Specialized Education	Electric Circuit Theory I	2	Required	2semsester-3T							100	1																							100
Specialized Education	Programming I	2	Required	3semsester-2T											50	1			50	1															100
Specialized Education	Programming II	2	Required	4semsester-3T											50	1			50	1															100
Specialized Education	Programming III	2	Elective	5semsester-1T											50	1			50	1															100
Specialized Education	Basic Experiments in Electrical Engineering I	2	Required	3semsester															50	1							50	1							100
Specialized Education	Basic Experiments in Electrical Engineering II	2	Required	4semsester															50	1							50	1							100
Specialized Education	Experiments in Electrical Engineering Electronics and System Engineering II	2	Required	5semsester															50	1							50	1							100
Specialized Education	Electromagnetism I	2	Compulsory elective	3semsester-1T 2T											100	1																			100
Specialized Education	Electromagnetism II	2	Free elective	4semsester-3T 4T											50	1	50	1																	100
Specialized Education	Exercise of Electromagnetism I	1	Free elective	3semsester-1T 2T											50	1	50	1																	100
Specialized Education	Exercise of Electromagnetism II	1	Free elective	4semsester-3T 4T											50	1	50	1																	100
Specialized Education	High-voltage Engineering	1	Free elective	6semsester-3T													100	1																	100
Specialized Education	Introduction to Semiconductor Devices and Circuits	2	Free elective	(3semsester-2T), 5semsester-2T											100	1																			100
Specialized Education	Electric and Electronic Measurements	2	Free elective	4semsester-3T													100	1																	100
Specialized Education	Electric Transient Phenomena	2	Compulsory elective	4semsester-3T											50	1	50	1																	100
Specialized Education	Circuit Theory IIA	2	Required	3semsester-2T											50	1	50	1																	100
Specialized Education	Electronic Circuits	2	Required	4semsester-4T											50	1	50	1																	100
Specialized Education	Exercise of Electric Circuit	1	Required	3semsester-2T													100	1																	100
Specialized Education	Electric Energy Generation and Conversion	2	Required	4semsester-4T													100	1																	100
Specialized Education	Fundamentals of Power Systems	2	Compulsory elective	5semsester-1T													100	1																	100
Specialized Education	Power System Engineering	2	Compulsory elective	6semsester-4T													100	1																	100
Specialized Education	Power Electronics and Motor Control Application	2	Free elective	6semsester-4T													100	1																	100
Specialized Education	Nuclear Engineering	2	Free elective	6semsester-4T													100	1																	100
Specialized Education	Regulations for Electrical Facilities	1	Free elective	8semsester-3T													100	1																	100
Specialized Education	Control Systems Engineering I	2	Required	3semsester-2T											50	1	50	1																	100
Specialized Education	Control Systems Engineering II	2	Compulsory elective	4semsester-4T											50	1	50	1																	100
Specialized Education	Signal Processing Engineering	2	Required	5semsester-2T											50	1	50	1																	100
Specialized Education	Exercises in Measurement and Control Engineering	1	Required	4semsester-3T													100	1																	100
Specialized Education	Bioelectrical Engineering	2	Compulsory elective	5semsester-2T													100	1																	100
Specialized Education	Robotics	2	Compulsory elective	6semsester-3T											100	1																			100
Specialized Education	Communication Engineering	2	Free elective	5semsester-2T													100	1																	100
Specialized Education	Mathematical Programming	2	Required	3semsester-1T											50	1	50	1																	100
Specialized Education	Simulation Engineering	2	Compulsory elective	4semsester-3T													100	1																	100
Specialized Education	Exercises in Systems Planning and Control	1	Required	5semsester-2T													100	1																	100
Specialized Education	Decision Making	2	Compulsory elective	6semsester-4T											100	1																			100
Specialized Education	Production Control	2	Compulsory elective	6semsester-3T													100	1																	100
Specialized Education	Social System Engineering	2	Free elective	5semsester-1T											100	1																			100
Specialized Education	Logic System Design I	2	Free elective	3semsester-1T											50	1	50	1																	100
Specialized Education	Software Engineering I	2	Free elective	(3semsester-2T), 5semsester-2T													100	1																	100
Specialized Education	Introduction to Artificial Intelligence	2	Free elective	6semsester-3T													100	1																	100
Specialized Education	Computer Network	2	Free elective	6semsester-4T													100	1																	100
Specialized Education	Algorithms and Data Structures	2	Free elective	(4semsester-3T), 6semsester-3T											50	1	50	1																	100
Specialized Education	Human Computer Interaction	2	Free elective	6semsester-3T													100	1																	100
Specialized Education	Theory of Computing	2	Free elective	5semsester-1T											50	1	50	1																	100
Specialized Education	Stochastic Modeling	2	Free elective	(4semsester-4T), 6semsester-4T											50	1	50	1																	100
Specialized Education	Graduation Thesis	5	Required	7・8semsester																	25	1	25	1	25	1					25	1	100	

Curriculum Map of Electrical, Systems and Information Engineering