Program name	(Japanese)	〔 〕 電子システムプログラム
	(English)	Program of Electronic Devices and Systems
:		

Program of Electronic Devices and Systems

【　　】

【　　】

-

-

-

	4
	3
	2

1.

2.

3.

4.

5.

6.

-

-
-

-

-

-

-

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	1G 1T	1G 2T	1G 3T	1G 4T	2G 1T	2G 2T	2G 3T	2G 4T	3G 1T	3G 2T	3G 3T	3G 4T	4G 1T	4G 2T	4G 3T	4G 4T
Peace science curse	2		2	Compulsory elective		○														
Basic Courses in University Education — Introduction to University Education	2	Introduction to University Education	2	Required	◎															
Basic Courses in University Education — Introductory Seminar for First-Year	2	Introductory Seminar for First-Year Students	2	Required	◎															
Common Subjects — Area Courses	4	Courses in Arts and Humanities/Social Sciences	2	Compulsory elective	○		○													
Common Subjects — Area Courses	4	Courses in Natural Sciences	2	Compulsory elective		○		○												
Common Subjects — Foreign Languages — English — Basic English Usage	2	Basic English Usage I	1	Required	◎	◎														
Common Subjects — Foreign Languages — English — Basic English Usage	2	Basic English Usage II	1	Required			◎	◎												
Common Subjects — Foreign Languages — English — Communication I	2	Communication IA	1	Required	◎	◎														
Common Subjects — Foreign Languages — English — Communication I	2	Communication IB	1	Required	◎	◎														
Common Subjects — Foreign Languages — English — Communication II	2	Communication IIA	1	Required			◎	◎												
Common Subjects — Foreign Languages — English — Communication II	2	Communication IIB	1	Required			◎	◎												
Common Subjects — Foreign Languages — 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	○															
Common Subjects — Foreign Languages — Initial Foreign Languages	2	1 subjects from Basic language II	1	Compulsory elective		○														
Common Subjects — Information and Data Science Courses	2	(Note 4) Elements of Information Literacy or Exercise in Information Literacy	2	Compulsory elective			○													
Common Subjects — Health and Sports Cou	2		1or2	Compulsory elective	○	○	○	○												
Basic Subjects	16	Calculus I	2	Required		◎														
Basic Subjects	16	Calculus II	2	Required				◎												
Basic Subjects	16	Linear Algebra I	2	Required	◎															
Basic Subjects	16	Linear Algebra II	2	Required			◎													
Basic Subjects	16	Seminar in Basic Mathematics I	1	Required		◎														
Basic Subjects	16	Seminar in Basic Mathematics II	1	Required				◎												
Basic Subjects	16	General Mechanics I	2	Required	◎															
Basic Subjects	16	General Mechanics II	2	Required			◎													
Basic Subjects	16	Experimental Methods and Laboratory Work in Physics I (Note 5)	1	Required			◎													
Basic Subjects	16	Experimental Methods and Laboratory Work in Physics II (Note 5)	1	Required				◎												
Free elective subjects	6	From all Subject Type (Note 6)		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 Education subjects

Note 2: The credit obtained by mastery of "English-speaking Countries Field Research" or 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 English in Liberal Arts Education in the student handbook.

Note 4: Students must take "Elements of Information Literacy" provided in the first semester. You can take the "Exercise in Information Literacy" provided in the second semester only if you fail to obtain credit for "Information Utilization Basics."

Note 5: Students must take both「Experimental Methods and Laboratory WorkI（1credit）」and「Experimental Methods and Laboratory WorkII（1credit）」.

Note 6: You should take subjects from fields other than the Natural Science field. Credits that have been obtained by taking Communication Basics can be included in this subject type.

Cluster 2 Basic Specialized Subjects

◎ Required subject
○Compulsory elective subje
△Free elective subject

Class Subjects	Credits	Electrical,Systems and Information Engineering	Electronic Devices and Systems	1st grade Spring 1T	2T	Fall 3T	4T	2nd grade Spring 1T	2T	Fall 3T	4T	3rd grade Spring 1T	2T	Fall 3T	4T	4th grade Spring 1T	2T	Fall 3T	4T	Note
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										
Programming III	2	△										4								
Basic Experiments in Electrical Engineering I	2	◎	◎					10	10											take classes at one of the terms
Basic Experiments in Electrical Engineering II	2	◎	◎							10	10									take classes at one of the terms
Experiments in Electrical Engineering Electronics and System Engineering I	2	◎	◎									10	10							take classes at one of the terms
Experiments in Electrical Engineering Electronics and System Engineering II	2	◎	◎											10	10					take classes at one of the terms

Cluster 2 Specialized Subjects

(Program of Electronic Devices and Systems)

◎ Required subject
○Compulsory elective subject
△Free elective subject

Class Subjects	Credits	Type of course	1st grade Spring 1T	2T	Fall 3T	4T	2nd grade Spring 1T	2T	Fall 3T	4T	3rd grade Spring 1T	2T	Fall 3T	4T	4th grade Spring 1T	2T	Fall 3T	4T	Note
Electromagnetism I	2	◎					4												
Electromagnetism II	2	◎							4										
Exercise of Electromagnetism I	1	◎					4												
Exercise of Electromagnetism II	1	◎							2										
Electromagnetic Wave Propagation	2	○										4							
Introduction to Physical Electronics	2	◎						4											
Quantum Mechanics	2	◎								4									
Thermodynamics and Statistical Mechanics	2	○										4							
Solid State Physics	2	○									4								
Surface Science and Nanotechnology	2	○												4					
Introduction to Semiconductor Devices and Circuits	2	◎						4											
Solid State Physics	2	◎								4									
Semiconductor Device Engineering	2	○										4							
Optoelectronic Semiconductor Devices	2	○											4						
Electronic Material Engineering	2	○												4					
Electric and Electronic Measurements	2	○									4								
Electric Transient Phenomena	2	○							4										
Logic System Design	2	◎					4												
CMOS Logic Circuit Design	2	○										4							
Semiconductor Process Engineering	2	○											4						
CMOS Integrated Design	2	○												4					
Circuit Theory II	2	○						4											
Electronic Circuits	2	◎								4									
Electric Energy Generation and Conversion	2	△								4									
Fundamentals of Power Systems	2	△									4								
Control Systems Engineering I	2	△						4											
Control Systems Engineering II	2	△								4									
Signal Processing Engineering	2	△									4								
Bioelectrical Engineering	2	△										4							
Robotics	2	△											4						
Communication Engineering	2	△											4						
Digital Circuit Design	2	△							4										(School of Informatics and Data Science)
Computer Architecture	2	△								4									(School of Informatics and Data Science)
Databases	2	△								4									(School of Informatics and Data Science)
Computer Network	2	△												4					(School of Informatics and Data Science)
Algorithms and Data Structures	2	△							4										(School of Informatics and Data Science)
Human Computer Interaction	2	△											4						(School of Informatics and Data Science)
Graduation Thesis	5	◎																	

Relationships between the evaluation items and class subjects

Sheet3

Subject type	Class subjects	credits	Type of course registration	Period	K/U(1)	w	K/U(2)	w	K/U(3)	w	K/U(4)	w	A/S(1)	w	A/S(2)	w	A/S(3)	w	A/S(4)	w	A/S(5)	w	CA(1)	w	CA(2)	w	CA(3)	w	CA(4)	w	CA(5)	w	Total
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	1	Required	1semsester																			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 Sci)	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	Information Courses	2	Elective	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-1T									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-4T																											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	Required	5semsester-3T									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 I	2	Required	5semsester													50	1							50	1							100
Specialized Education	Experiments in Electrical Engineering Electronics and System Engineering II	2	Required	6semsester													50	1							50	1							100
Specialized Education	Electromagnetism I	2	Elective	3semsester-3T									100	1																			100
Specialized Education	Electromagnetism II	2	Elective	4semsester-3T									50	1	50	1																	100
Specialized Education	Exercise of Electromagnetism I	1	Elective	3semsester-1T									50	1	50	1																	100
Specialized Education	Exercise of Electromagnetism II	1	Elective	4semsester-3T									50	1	50	1																	100
Specialized Education	High-voltage Engineering	1	Elective	6semsester-3T													100	1															100
Specialized Education	Introduction to Semiconductor Devices and Circuits	2	Elective	3semsester-2T, (5semsester-2T)									100	1																			100
Specialized Education	Electric and Electronic Measurements	2	Elective	3semsester-2T													100	1															100
Specialized Education	Electric Transient Phenomena	2	Elective	4semsester-3T									50	1	50	1																	100
Specialized Education	Circuit Theory II	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	Elective	4semsester-4T													100	1															100
Specialized Education	Fundamentals of Power Systems	2	Elective	5semsester-1T													100	1															100
Specialized Education	Power System Engineering	2	Elective	6semsester-4T													100	1															100
Specialized Education	Power Electronics and Motor Control Application	2	Elective	6semsester-3T													100	1															100
Specialized Education	Nuclear Engineering	2	Elective	6semsester-3T													100	1															100
Specialized Education	Electronic Appliances	2	Elective	7semsester-2T													100	1															100
Specialized Education	Regulations for Electrical Facilities	1	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	Elective	4semsester-4T									50	1	50	1																	100
Specialized Education	Signal Processing Engineering	2	Required	5semsester-1T									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	Elective	5semsester-2T													100	1															100
Specialized Education	Robotics	2	Elective	6semsester-3T									100	1																			100
Specialized Education	Communication Engineering	2	Elective	6semsester(Intensive course)											100	1																	100
Specialized Education	Regulations Concerning Telecommunication	2	Elective	7semsester-1T											100	1																	100
Specialized Education	Mathematical Programming	2	Required	3semsester-1T									50	1	50	1																	100
Specialized Education	Fundamentals of Probability Theory	2	Required	4semsester-4T									50	1	50	1																	100
Specialized Education	Simulation Engineering	2	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	Elective	6semsester-4T									100	1																			100
Specialized Education	Production Control	2	Elective	6semsester-3T											100	1																	100
Specialized Education	Social System Engineering	2	Elective	5semsester-1T									100	1																			100
Specialized Education	Digital Circuit Design	2	Elective	4semsester-3T, (6semsester-3T)									50	1	50	1																	100
Specialized Education	Software Engineering	2	Elective	(3semsester-2T), 5semsester-2T											100	1																	100
Specialized Education	Artificial Intelligence and Machine Learning	2	Elective	6semsester-3T											100	1																	100
Specialized Education	Computer Network	2	Elective	6semsester-4T											100	1																	100
Specialized Education	Algorithms and Data Structures	2	Elective	4semsester-3T, (6semsester-3T)									50	1	50	1																	100
Specialized Education	Human Computer Interaction	2	Elective	6semsester-3T											100	1																	100
Specialized Education	Theory of Computing	2	Elective	5semsester-1T									50	1	50	1																	100
Specialized Education	Stochastic Modeling	2	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

A   K   C   B

	/			1		2	

(C)   C   E