

For entrants in AY 2026

Appended Form 1

Specifications for Major Program
Name of School (Program) [School of Engineering Cluster 2(Electrical,
Electronic and Systems Engineering)]

Program name (Japanese)	半導体システムプログラム
(English)	Program of Semiconductor Systems

1. Academic Degree to be Acquired : Bachelor's degree in engineering

2. Overview

In the fields of electricity, electronics, systems, information, and in other related fields, technological innovation has been advancing rapidly. We are now in a situation where innovative technology, ideas, and theories are being produced not only by deepening expert knowledge in a specific area, but by combining expert knowledge from multiple fields. As the impact of such technology on society is getting greater, it is always necessary to keep in mind the relationship between humankind, society, and nature.

On the basis of these social trends, Cluster 2 in the School of Engineering (Electrical, Electronic and Systems Engineering) has prepared the following programs with the aim of developing professionals who have a wide range of perspectives and insights, a sense of responsibility, and an ethical outlook, as well as specialized technological, problem-analyzing, and problem-solving abilities.

- The Program of Semiconductor Systems
- The Program of Electrical Systems and Information Engineering

Except for in exceptional circumstances, students who are enrolled in Cluster 2 in the School of Engineering (Electrical, Electronic and Systems Engineering) can choose this program from the above two options at the start of the second year, after going through liberal arts education and specialized education for one year after enrollment.

In the Program of Semiconductor Systems, students study electronic engineering centering on semiconductor devices such as integrated circuits.

Semiconductor device technology is one of the central technologies that supports modern society, in which computerization and informatization have been advancing. Today we use a number of devices and types of equipment in daily life and at work, such as audio and video equipment (TVs, video players, etc.) information processing and communication equipment (computers, the internet, smart devices, etc.), transportation equipment (automobiles), electric home appliances (cooking devices, etc.), medical equipment, manufacturing equipment used in factories, etc., most of which is capable of complicated processing through simple operations using semiconductor devices. In medical and nursing care equipment, and in robots working at disaster sites, which are expected to become increasingly important in the years to come, operability that can achieve complex movement is more necessary than ever. Therefore, the ability to detect the situation using high performance and high functioning sensors, together with complex information processing using integrated circuits, is indispensable. Furthermore, machine learning and artificial intelligence-based decision-making and processing are also being realized.

Meanwhile, considering the energy issues and global environmental problems that are expected to become serious in the future, electronic engineering technology centering on semiconductor devices has a major role to play in resolving many challenges. In order to reduce wasteful energy consumption by the efficient operation of various equipment, the utilization of semiconductor devices, not least solar cells, which are semiconductor devices that generate energy, is absolutely necessary.

Needless to say, new technology to reduce energy consumption by semiconductor devices themselves is also necessary. It goes without saying that semiconductor devices and their systems are also key technologies in rapidly developing technologies such as generative AI and quantum computing.

To respond to such needs, it is necessary to refine current semiconductor technology through the introduction of new materials and new operating principles, and to develop technology that incorporates other fields. In order to develop professionals who have systematic knowledge and the ability to develop innovative technology, and who can play a central role in solving such challenges, this program offers a curriculum in which students can learn systematically and extensively, from basic knowledge such as quantum physics, mechanisms of information processing, and basic semiconductor physics, to the latest research such as high performance electronic devices in nanometer size, processor operation, and high-functioning integrated circuit systems.

The following are the characteristics of the Program of Semiconductor Systems.

- (1) Class subjects are arranged to make it possible for students to learn in order the subjects related to each of the fields, physics and materials, semiconductor devices, information processing system architecture, and integrated systems. Class subjects are also arranged so that the association of subjects in each field is taken into consideration.
- (2) Entry-level subjects and introductory subjects in each field (Introduction to Physical Electronics, Logical System Design, and Introduction to Semiconductor Devices and Circuits) have been prepared for the second year. Consideration has been given to ensuring that students can see the whole picture in the specialized subject groups that they study. On the other hand, a variety of specialized subjects, including the most advanced science and technology, are offered in the second semester of the third year.
- (3) Subjects concerning physics and solid state physics, which form basis of materials and semiconductor devices, have been designed so that students can learn the basic principles necessary for innovative technological development. Students can also systematically learn the design engineering of integrated circuits from the basics of electrical and electronic circuits to the latest integrated circuits.
- (4) Systematic study of the latest integrated circuit technology, communications and information processing systems, from the basics of electrical and electronic circuits to computer configuration and operation.
- (5) This program focuses on acquisition of knowledge, and technical and research ability, in relation to actual "things" such as materials, devices, and integrated circuits. For graduation work, subjects pertinent to the latest research have been set, such as the new theory of operating principles, the manufacture of functional materials, the evaluation of physical properties, the manufacture of new functional devices and semiconductor devices in nanometer size, algorithms utilizable in actual systems, and the design and prototype of integrated circuits.
- (6) In collaboration with other programs, students can learn subjects concerning electric energy, electronic control, signal processing, and software.

3. Academic Awards Policy (Goals of the Program and Policy for Awarding Degrees)

The Program of Semiconductor Systems offers an education that emphasizes the field of physical properties and materials, which forms the basis for new devices, the field of high-performance semiconductor devices in nanometer size, and the field of information system architecture, centering on high performance integrated circuits. By providing both the basic concepts and cutting edge knowledge in each field, and by identifying the mutual relationships between the fields in a systematic manner, this program aims at developing professionals who can take the lead in engineering development in the semiconductor engineering field and who have the ability to develop innovative technology by fusing together the different fields, which will be of growing importance in the future.

Specifically, this program offers education aimed at cultivating a broad range of general knowledge, an international perspective which aspires to peace, a general sense of judgment, and a well-rounded character.

The program awards a bachelor's degree in engineering to students who, in addition to the number of credits necessary to meet the standard of the course, have acquired the liberal arts education and specialized education necessary to prepare them for achieving the following goals:

【Goal A】 Acquisition of the ability to recognize the relationship between science and technology, and humankind, society, and the natural environment, from various perspectives, and the ability to understand the responsibilities engineers have for society.

【Goal B】 Acquisition of the basic knowledge commonly required in the field of semiconductor systems and the abilities applicable to the field.

【Goal C】 Acquisition of the ability to analyze given challenges by using expertise, and draw solutions that meet

the requirements of society.

【Goal D】 Acquisition of the ability to draw up plans and measures to resolve challenges, and the will to carry these measures out.

【Goal E】 Acquisition of the ability to gather information and to communicate in Japanese and English. Acquisition of the ability to sum up one's thoughts and accomplishments, to write logically, and to give a presentation.

4. Curriculum Policy (Policy for Preparing and Implementing the Curriculum)

The Program of Electronic Devices and Systems prepares and implements a curriculum that provides the following knowledge and abilities so that students are able to achieve goals A to E listed above.

In the curriculum described above, teaching and learning will be implemented by utilizing active learning and online classes, depending on the delivery methods of the program, such as lectures and seminars.

In addition to strict grading using the standards clearly outlined in the syllabus, learning outcomes are evaluated based on the degree to which the goals set by the educational program are achieved.

○Knowledge/Understanding

- Cultivation of the understanding of society-technology relations and the ethical outlook necessary for an engineer (Goal A). This is obtained through mastery of liberal arts education subjects such as “Introduction to University Education”, and “Information Subjects”, and basic specialized subjects such as “Introduction to Energy and Information Systems” to be offered in the first year.

- Basic knowledge of mathematics, such as differential and integral calculus, and linear algebra, required by scientists and engineers (Goal B). This is obtained through mastery of such basic subjects as “Calculus” to be offered in the first year.

- Basic knowledge of physical theory and experimental methods required by scientists and engineers (Goal B). This is obtained through mastery of basic subjects such as “General Mechanics”, “Experimental Methods and Laboratory Work in Physics” to be offered in the first year.

- General understanding and acquisition of knowledge about technologies in the field of semiconductor systems, and acquisition of the basic knowledge common to this field (Goal B). This is obtained through mastery of “Introduction to Energy and Information Systems” and “Electric Circuit Theory I” to be offered in the first year.

○Abilities/Skills

- The mathematical methodology required by experts in the field of semiconductor systems (Goal B). This is obtained through mastery of basic specialized subjects such as “Applied Mathematics” to be offered during the period from the third or fourth term of the first year through the second year.

- The concepts, knowledge, and methodology that form the foundation of the field of semiconductor systems (Goal B). This is obtained through mastery of specialized subjects to be offered during the period from the third or fourth term of the first year through the third year.

- The ability to apply basic concepts, knowledge, and methodology in the field of semiconductor systems to concrete, professional issues (Goal B). This is obtained through mastery of specialized subjects to be offered during the period from the third or fourth term of the first year through the third year.

- The ability to resolve problems and challenges by using experiments to solve practical problems, by using methods of numerical calculation, and by gathering relevant data (Goal D). This is obtained through mastery of basic specialized subjects such as “Basic Experiments in Electrical Engineering” and “Programming” to be offered during the period from the first or second term of the second year through the third year.

- The ability to make action plans on one's own initiative in relation to practical issues and challenges, make adjustments and resolve problems and challenges by using basic and specialized knowledge and methods (Goal C, D). This is obtained through mastery of “Graduation Thesis” to be offered in the fourth year.

○Comprehensive Abilities

- Creative and logical thinking to analyze practical problems and challenges, and to reach rational solutions that meet the requirements of society, as well as the engineering development abilities to physically realize such solutions (Goal C, D). These are obtained through mastery of “Graduation Thesis” to be offered in the fourth year.

- The ability to organize research results and write logically, including regarding the significance and validity of the obtained outcomes, and to present these research outcomes and discuss them verbally and in an easy-to-understand manner (Goal E). This is obtained through mastery of “Graduation Thesis” to be offered in the fourth year.
- The teamwork, leadership, and communication abilities needed to work in a group (Goal E). These are obtained through mastery of basic specialized subjects such as “Basic Experiments in Electrical Engineering” to be offered during the period from the second year through the third year.
- The ability to take an approach to solving various problems after understanding that such problems that exist in humankind, society, and among individuals can be interpreted in various ways depending on social conditions, cultures, etc. (Goal A, D). This is obtained through mastery of liberal arts education subjects such as “Basic Language I” and “Area Courses”.
- The ability to read, write, converse, and retrieve information in the English language necessary for conducting research (Goal E). This is obtained through mastery of “Technical English” to be offered in the third year and “Graduation Thesis” to be offered in the fourth year.

5. Program Timing and Acceptance Conditions

At the beginning of the second year, students are assigned to this program based on consideration of their request and academic results. In order to be assigned to this program, students must acquire a total of 34 or more credits in liberal arts education subjects and specialized education subjects by the end of the first year.

6. Qualifications to be Acquired

By mastering the predetermined courses, students can obtain Type-1 High School Teaching License (Industry). Students qualify as electrical chief engineers and engineers for architectural equipment after having hands-on experience for some years after graduation. The details are given in student handbook.

7. Class subjects and course content

- * For class subjects, see the course list table on the attached sheet.
- * For course content, see the syllabus for each academic year.

Evaluation of academic achievement	Converted values
S(Excellent: 90 points or higher)	4
A(Superior:80-89 points)	3
B(Good: 70-79 points)	2
C(Fair: 60-69 points)	1

given in one of three levels: “Excellent,” “Very Good,” and “Good,” based on evaluation criteria calculated by adding the weighted values to the numerically-converted values of their academic achievements (S = 4, A = 3, B = 2, and C= 1) in each subject being evaluated.

- * See the relationship between evaluation items and evaluation criteria in the attached sheet 2.
- * See the relationship between evaluation items and class subjects in the attached sheet 3.
- * See the curriculum map in the attached sheet 4.

8. Academic Achievements

At the end of each semester, the evaluation criteria are applied to each evaluation item of academic achievement to clearly demonstrate the level of attainment. Students’ grade calculation for each subject from admission to the current semester is

Academic achievement	Evaluation criteria
Excellent	3.00~4.00
Very Good	2.00~2.99
Good	1.00~1.99

9. Graduation Thesis (Graduation Research) (Positioning, When and how to be assigned, etc.)

- Positioning
Graduation work aims at imparting general research skills by conducting research in line with the research agenda established for each student. The following are more concrete goals:

1. The acquisition of the ability to make a research plan based on the research agenda and execute the research in accordance with the plan
2. The acquisition of the ability to collect materials related to the research agenda, demonstrate a deep understanding of the research agenda, and identify problems
3. The acquisition of the ability to analyze the problems in the research agenda and reach solutions in accordance with the requirements of society
4. The acquisition of the ability to read, write, converse, and retrieve information in the English language necessary for conducting research
5. The acquisition of the ability to organize research results and write in coherent sentences the significance and validity of the obtained outcomes
6. The acquisition of the ability to present the research outcomes and discuss them verbally in an easy-to-understand manner

○ When and how it is assigned

The requirements for embarking on a graduation thesis are as described in the student handbook.

Students in the fourth year or over, who satisfy the requirements for embarking on a graduation thesis, are to be assigned as requested. How adjustments are made in relation to assignment is explained to the applicable students at a briefing held in advance. A briefing session about research topics or an open laboratory is held around the time from February to March for students who are to be assigned to the research laboratory and to the program.

10. Responsibility System

(1) PDCA Responsibility System (“Plan,” “Do,” “Check,” and “Act”)

This program is operated by teachers who support the Program of Semiconductor Systems, however, the program targets students who belong to Cluster 2 and, therefore, the person responsible for executing the program is the Cluster 2 leader. Planning, implementing, evaluation, and handling are discussed mainly in the Cluster 2 Education Program committee and in the Cluster 2 committee (held, in principle, on the first Wednesday of every month) in an appropriate manner. Depending on the situation or content, a working group is established at the instruction of the Cluster leader to focus in the issues at hand.

When there is a need to consider the response on a program basis, research laboratory groups responsible for the applicable program take the necessary measures. In that case, the responsible person is appointed by the Cluster leader.

(2) Program assessment

○ Criteria for Program assessment

- Whether or not each class subject is properly allocated in light of the goals of the program, and whether course content is appropriate
- Whether or not students taking the course have on average achieved the goal or above
- Whether or not the system runs in proper cycles that enable the program to continually improve in an upward spiral

○ How it is assessed

- Conducting self-assessment for each subject based on the results of class evaluations carried out by students who have taken the course, and also based on grade calculation results
- Regarding the upward spiral of the program, obtaining the questionnaire from graduates in suitable cycles and also collecting the needs from business corporations

○ Position on giving feedback to students and how it is approached

- For individual courses, the teacher in charge gives comments on course evaluation results and academic achievement results.
- For re-examining the program structure, the reasons for and the purposes of re-examination are given on the website.

Academic Achievements in Semiconductor Systems Program
The Relationship between Evaluation Items and Evaluation Criteria

Academic Achievements		Evaluation Criteria		
Evaluation Items		Excellent	Very Good	Good
Knowledge/Understanding	(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 knowledge of mathematics such as calculus and linear algebra.	Acquire and be able to utilize minimum basic knowledge of mathematics such as calculus and linear algebra.
	(3) Basic knowledge of theories and experimental methods of physics, which is required for scientists/engineers.	Acquire and be able to utilize sufficient basic knowledge of theories and experimental methods of physics.	Acquire and be able to utilize standard basic knowledge of theories and experimental methods of physics.	Acquire and be able to utilize minimum basic knowledge of theories and experimental methods of physics.
	(4) Comprehensive understanding and knowledge of technologies in semiconductor engineering. Also, basic knowledge which is common in these fields.	Sufficiently acquire and be able to utilize general, common and basic knowledge of semiconductor engineering.	Acquire and be able to utilize general, common and basic knowledge of semiconductor engineering, at the standard level.	Marginally acquire and be able to utilize general, common and basic knowledge of semiconductor engineering.
Abilities/Skills	(1) Mathematical methods required for professionals in semiconductor engineering.	Sufficiently acquire and be able to utilize mathematical methods which are required for professionals in semiconductor engineering.	Acquire and be able to utilize mathematical methods which are required for professionals in semiconductor engineering, at the standard level.	Marginally acquire and be able to utilize mathematical methods which are required for professionals in semiconductor engineering.
	(2) Concepts, knowledge and methods which are the basis for studies related to semiconductor engineering.	Sufficiently acquire and be able to utilize concepts, knowledge and methods which are the basis for studies related to semiconductor engineering.	Acquire and be able to utilize concepts, knowledge and methods of semiconductor engineering, at the standard level.	Marginally acquire and be able to utilize concepts, knowledge and methods which are the basis for studies related to semiconductor engineering.
	(3) Ability to apply basic concepts, knowledge, and methods of semiconductor engineering to concrete/technical problems.	Acquire and be able to utilize sufficient abilities to apply basic concepts, knowledge and methods of semiconductor engineering to concrete/technical problems.	Acquire and be able to utilize standard abilities to apply basic concepts, knowledge and methods of semiconductor engineering to concrete/technical problems.	Acquire and be able to utilize marginal abilities to apply basic concepts, knowledge and methods of semiconductor engineering to concrete/technical problems.
	(4) Ability to solve practical issues and problems by conducting experiments, using numerical computation methods, and collecting relevant materials.	Acquire and be able to utilize sufficient abilities to solve practical issues and problems by conducting experiments, using mathematical methods, and collecting relevant materials.	Acquire and be able to utilize standard abilities to solve practical issues and problems by conducting experiments, using mathematical methods, and collecting relevant materials.	Acquire and be able to utilize marginal abilities to solve practical issues and problems by conducting experiments, using mathematical methods, and collecting relevant materials.
	(5) Ability to solve practical issues and problems by voluntarily making a plan, revising it, and utilizing basic and technical knowledge and methods.	Acquire and be able to utilize sufficient abilities to solve practical issues and problems by voluntarily making a plan, revising it, and utilizing basic and technical knowledge and methods.	Acquire and be able to utilize standard abilities to solve practical issues and problems by voluntarily making a plan, revising it, and utilizing basic and technical knowledge and methods.	Acquire and be able to utilize marginal abilities to solve practical issues and problems by voluntarily making a plan, revising it, and utilizing basic and technical knowledge and methods.
Comprehensive Abilities	(1) Creative thinking ability and logical thinking skills to analyze practical problems and tasks, and to lead to rational solutions satisfying social needs, as well as technical development skills to physically realize the solutions.	Sufficiently acquire and be able to utilize logical thinking skills to lead to rational solutions satisfying social needs and technical development skills to physically realize the solutions.	Acquire and be able to utilize logical thinking skills to lead to rational solutions satisfying social needs and technical development skills to physically realize the solutions, at the standard level.	Marginally acquire and be able to utilize logical thinking skills to lead to rational solutions satisfying social needs and technical development skills to physically realize the solutions.
	(2) Skills to organize research results and to describe them logically including the significance and the effectiveness of the obtained outcomes as well as to make easy-to-understand oral presentations and discussions.	Acquire and be able to utilize sufficient skills to organize research results and to describe them logically including the significance and the effectiveness of the obtained outcomes as well as to make easy-to-understand oral presentations and discussions.	Acquire and be able to utilize standard skills to organize research results and to describe them logically including the significance and the effectiveness of the obtained outcomes as well as to make easy-to-understand oral presentations and discussions.	Acquire and be able to utilize marginal skills to organize research results and to describe them logically including the significance and the effectiveness of the obtained outcomes as well as to make easy-to-understand oral presentations and discussions.
	(3) Teamwork, leadership and communication skills in group works.	Sufficiently acquire and be able to utilize the teamwork, leadership and communication skills for presentations and discussions through solving issues in group works.	Acquire and be able to utilize the teamwork, leadership and communication skills for presentations and discussions through solving issues in group works, at the standard level.	Marginally acquire and be able to utilize the teamwork, leadership and communication skills for presentations and discussions through solving issues in group works.
	(4) Ability to understand that various problems, which humanity, society, and individuals are facing, can be interpreted variously depending on social status, culture and so on, as well as to deal with those problems to solve.	Sufficiently acquire and utilize skills to fully understand that various problems, which humanity, society, and individuals are facing, can be interpreted variously depending on social status, culture and so on, as well as to deal with those problems to solve.	Acquire and utilize skills at the standard level to understand that various problems, which humanity, society, and individuals are facing, can be interpreted variously depending on social status, culture and so on, as well as to deal with those problems to solve.	Marginally acquire and utilize skills to minimally understand that various problems, which humanity, society, and individuals are facing, can be interpreted variously depending on social status, culture and so on, as well as to deal with those problems to solve.
	(5) Ability of English conversation, reading and writing skills necessary for research accomplishment.	Sufficiently acquire and be able to utilize the ability of English conversation, reading and writing skills necessary for engineers.	Acquire and be able to utilize the ability of English conversation, reading and writing skills necessary for engineers, at the standard level.	Marginally acquire and be able to utilize the ability of English conversation, reading and writing skills necessary for engineers.

Placement of the Liberal Arts Education in the Major Program

Liberal Arts Education in this program assumes the role of establishing the academic foundation on which the specialized education for Cluster 2 in the School of Engineering is built. It fosters a willing, self-reliant attitude and cultivates scientific thinking based on data gathering ability, analytical ability, and critical thinking ability. It establishes an outlook that makes it possible to provide insight on the inner nature of things and their background from a broad perspective, and enhances linguistic ability to a level appropriate for living as a world citizen, and also strengthens interest in peace and the ability integrates a broad range of knowledge into a body of knowledge that will be truly useful in solving problems. It cultivates the ability to explore and promote cross-disciplinary and comprehensive research that goes beyond the established frameworks.

Curriculum Map of Semiconductor Systems

Academic Achievement		1st grade		2nd grade		3rd grade		4th grade						
Evaluation Items		Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall					
Knowledge/Understanding	The ethics and understanding about the relations between society and technology considered basically necessary for engineers.	①②-Introduction to University Education Introduction to Information and Data Sciences	②③-Introduction to Energy and Information Systems											
	Basic knowledge of mathematics such as calculus and linear algebra, which is required for scientists/engineers.	Calculus I Linear Algebra I Seminar in Basic Mathematics I	Calculus II Linear Algebra II Seminar in Basic Mathematics II											
	Basic knowledge of theories and experimental methods of physics, which is required for scientists/engineers.	General Mechanics I	General Mechanics II Experimental Method and Laboratory Work on Physics 1-5											
	Comprehensive understanding and knowledge of technologies in semiconductor engineering. Also, basic knowledge which is common in these fields.		②③-Introduction to Energy and Information Systems Electric Circuit Theory I											
Abilities/Skills	Mathematical methods required for professionals in semiconductor engineering.		Applied Mathematics I	Applied Mathematics II Applied Mathematics III Probability and Statistics	Synthesis of Applied Mathematics Engineering Mathematics C	Engineering Mathematics A								
	Concepts, knowledge and methods which are the basis for studies related to semiconductor engineering.			Programming I Electromagnetism I Exercise of Electromagnetism I Introduction to Physical Electronics Introduction to Semiconductor Device and Circuit	Programming II Electromagnetism II Exercise of Electromagnetism II Quantum Mechanics Solid State Electronics	Programming III Robotics Thermodynamics and Statistical Mechanics Solid State Physics Signal Processing Engineering								
				Logic System Design I Logic System Design II Circuit Theory IIB Control Systems Engineering I Exercise of Circuit Theory IIB Introduction to Artificial Intelligence	Electronic Transient Phenomena Electronic Circuits Control Systems Engineering II Computer Architecture Hardware Description Language									
				Exercise of Electromagnetism I Logic System Design I Logic System Design II Circuit Theory IIB Control Systems Engineering I Exercise of Circuit Theory IIB Introduction to Artificial Intelligence	Electromagnetism II Exercise of Electromagnetism II Electric Transient Phenomena Electric and Electronic Measurements Electronic Circuits Electric Energy Generation and Conversion Control Systems Engineering II Computer Architecture Hardware Description Language Algorithms and Data Structures	Electromagnetic Wave Propagation Surface Science and Nanotechnology Semiconductor Device Engineering Optoelectronic Semiconductor Devices Fundamentals of Power Systems Electronic Material Engineering Signal Processing Engineering Semiconductor Process Engineering Bioelectrical Engineering Computer Network Communication Engineering								
	Ability to solve practical issues and problems by conducting experiments, using numerical computation methods, and collecting relevant materials.			Basic Experiments in Electrical Engineering I Programming I	Basic Experiments in Electrical Engineering II Programming II	①②③④⑤⑥⑦⑧⑨⑩⑪⑫⑬⑭⑮⑯⑰⑱⑲⑳㉑㉒㉓㉔㉕㉖㉗㉘㉙㉚㉛㉜㉝㉞㉟㊱㊲㊳㊴㊵㊶㊷㊸㊹㊺㊻㊼㊽㊾㊿㏁㏂㏃㏄㏅㏆㏇㏈㏉㏊㏋㏌㏍㏎㏏㏐㏑㏒㏓㏔㏕㏖㏗㏘㏙㏚㏛㏜㏝㏞㏟㏠㏡㏢㏣㏤㏥㏦㏧㏨㏩㏪㏫㏬㏭㏮㏯㏰㏱㏲㏳㏴㏵㏶㏷㏸㏹㏺㏻㏼㏽㏾㏿㐀㐁㐂㐃㐄㐅㐆㐇㐈㐉㐊㐋㐌㐍㐎㐏㐐㐑㐒㐓㐔㐕㐖㐗㐘㐙㐚㐛㐜㐝㐞㐟㐠㐡㐢㐣㐤㐥㐦㐧㐨㐩㐪㐫㐬㐭㐮㐯㐰㐱㐲㐳㐴㐵㐶㐷㐸㐹㐺㐻㐼㐽㐾㐿㑀㑁㑂㑃㑄㑅㑆㑇㑈㑉㑊㑋㑌㑍㑎㑏㑐㑑㑒㑓㑔㑕㑖㑗㑘㑙㑚㑛㑜㑝㑞㑟㑠㑡㑢㑣㑤㑥㑦㑧㑨㑩㑪㑫㑬㑭㑮㑯㑰㑱㑲㑳㑴㑵㑶㑷㑸㑹㑺㑻㑼㑽㑾㑿㒀㒁㒂㒃㒄㒅㒆㒇㒈㒉㒊㒋㒌㒍㒎㒏㒐㒑㒒㒓㒔㒕㒖㒗㒘㒙㒚㒛㒜㒝㒞㒟㒠㒡㒢㒣㒤㒥㒦㒧㒨㒩㒪㒫㒬㒭㒮㒯㒰㒱㒲㒳㒴㒵㒶㒷㒸㒹㒺㒻㒼㒽㒾㒿㓀㓁㓂㓃㓄㓅㓆㓇㓈㓉㓊㓋㓌㓍㓎㓏㓐㓑㓒㓓㓔㓕㓖㓗㓘㓙㓚㓛㓜㓝㓞㓟㓠㓡㓢㓣㓤㓥㓦㓧㓨㓩㓪㓫㓬㓭㓮㓯㓰㓱㓲㓳㓴㓵㓶㓷㓸㓹㓺㓻㓼㓽㓾㓿㔀㔁㔂㔃㔄㔅㔆㔇㔈㔉㔊㔋㔌㔍㔎㔏㔐㔑㔒㔓㔔㔕㔖㔗㔘㔙㔚㔛㔜㔝㔞㔟㔠㔡㔢㔣㔤㔥㔦㔧㔨㔩㔪㔫㔬㔭㔮㔯㔰㔱㔲㔳㔴㔵㔶㔷㔸㔹㔺㔻㔼㔽㔾㔿㕀㕁㕂㕃㕄㕅㕆㕇㕈㕉㕊㕋㕌㕍㕎㕏㕐㕑㕒㕓㕔㕕㕖㕗㕘㕙㕚㕛㕜㕝㕞㕟㕠㕡㕢㕣㕤㕥㕦㕧㕨㕩㕪㕫㕬㕭㕮㕯㕰㕱㕲㕳㕴㕵㕶㕷㕸㕹㕺㕻㕼㕽㕾㕿㖀㖁㖂㖃㖄㖅㖆㖇㖈㖉㖊㖋㖌㖍㖎㖏㖐㖑㖒㖓㖔㖕㖖㖗㖘㖙㖚㖛㖜㖝㖞㖟㖠㖡㖢㖣㖤㖥㖦㖧㖨㖩㖪㖫㖬㖭㖮㖯㖰㖱㖲㖳㖴㖵㖶㖷㖸㖹㖺㖻㖼㖽㖾㖿㗀㗁㗂㗃㗄㗅㗆㗇㗈㗉㗊㗋㗌㗍㗎㗏㗐㗑㗒㗓㗔㗕㗖㗗㗘㗙㗚㗛㗜㗝㗞㗟㗠㗡㗢㗣㗤㗥㗦㗧㗨㗩㗪㗫㗬㗭㗮㗯㗰㗱㗲㗳㗴㗵㗶㗷㗸㗹㗺㗻㗼㗽㗾㗿㘀㘁㘂㘃㘄㘅㘆㘇㘈㘉㘊㘋㘌㘍㘎㘏㘐㘑㘒㘓㘔㘕㘖㘗㘘㘙㘚㘛㘜㘝㘞㘟㘠㘡㘢㘣㘤㘥㘦㘧㘨㘩㘪㘫㘬㘭㘮㘯㘰㘱㘲㘳㘴㘵㘶㘷㘸㘹㘺㘻㘼㘽㘾㘿㙀㙁㙂㙃㙄㙅㙆㙇㙈㙉㙊㙋㙌㙍㙎㙏㙐㙑㙒㙓㙔㙕㙖㙗㙘㙙㙚㙛㙜㙝㙞㙟㙠㙡㙢㙣㙤㙥㙦㙧㙨㙩㙪㙫㙬㙭㙮㙯㙰㙱㙲㙳㙴㙵㙶㙷㙸㙹㙺㙻㙼㙽㙾㙿㚀㚁㚂㚃㚄㚅㚆㚇㚈㚉㚊㚋㚌㚍㚎㚏㚐㚑㚒㚓㚔㚕㚖㚗㚘㚙㚚㚛㚜㚝㚞㚟㚠㚡㚢㚣㚤㚥㚦㚧㚨㚩㚪㚫㚬㚭㚮㚯㚰㚱㚲㚳㚴㚵㚶㚷㚸㚹㚺㚻㚼㚽㚾㚿㜀㜁㜂㜃㜄㜅㜆㜇㜈㜉㜊㜋㜌㜍㜎㜏㜐㜑㜒㜓㜔㜕㜖㜗㜘㜙㜚㜛㜜㜝㜞㜟㜠㜡㜢㜣㜤㜥㜦㜧㜨㜩㜪㜫㜬㜭㜮㜯㜰㜱㜲㜳㜴㜵㜶㜷㜸㜹㜺㜻㜼㜽㜾㜿㝀㝁㝂㝃㝄㝅㝆㝇㝈㝉㝊㝋㝌㝍㝎㝏㝐㝑㝒㝓㝔㝕㝖㝗㝘㝙㝚㝛㝜㝝㝞㝟㝠㝡㝢㝣㝤㝥㝦㝧㝨㝩㝪㝫㝬㝭㝮㝯㝰㝱㝲㝳㝴㝵㝶㝷㝸㝹㝺㝻㝼㝽㝾㝿㞀㞁㞂㞃㞄㞅㞆㞇㞈㞉㞊㞋㞌㞍㞎㞏㞐㞑㞒㞓㞔㞕㞖㞗㞘㞙㞚㞛㞜㞝㞞㞟㞠㞡㞢㞣㞤㞥㞦㞧㞨㞩㞪㞫㞬㞭㞮㞯㞰㞱㞲㞳㞴㞵㞶㞷㞸㞹㞺㞻㞼㞽㞾㞿㟀㟁㟂㟃㟄㟅㟆㟇㟈㟉㟊㟋㟌㟍㟎㟏㟐㟑㟒㟓㟔㟕㟖㟗㟘㟙㟚㟛㟜㟝㟞㟟㟠㟡㟢㟣㟤㟥㟦㟧㟨㟩㟪㟫㟬㟭㟮㟯㟰㟱㟲㟳㟴㟵㟶㟷㟸㟹㟺㟻㟼㟽㟾㟿㠀㠁㠂㠃㠄㠅㠆㠇㠈㠉㠊㠋㠌㠍㠎㠏㠐㠑㠒㠓㠔㠕㠖㠗㠘㠙㠚㠛㠜㠝㠞㠟㠠㠡㠢㠣㠤㠥㠦㠧㠨㠩㠪㠫㠬㠭㠮㠯㠰㠱㠲㠳㠴㠵㠶㠷㠸㠹㠺㠻㠼㠽㠾㠿㡀㡁㡂㡃㡄㡅㡆㡇㡈㡉㡊㡋㡌㡍㡎㡏㡐㡑㡒㡓㡔㡕㡖㡗㡘㡙㡚㡛㡜㡝㡞㡟㡠㡡㡢㡣㡤㡥㡦㡧㡨㡩㡪㡫㡬㡭㡮㡯㡰㡱㡲㡳㡴㡵㡶㡷㡸㡹㡺㡻㡼㡽㡾㡿㢀㢁㢂㢃㢄㢅㢆㢇㢈㢉㢊㢋㢌㢍㢎㢏㢐㢑㢒㢓㢔㢕㢖㢗㢘㢙㢚㢛㢜㢝㢞㢟㢠㢡㢢㢣㢤㢥㢦㢧㢨㢩㢪㢫㢬㢭㢮㢯㢰㢱㢲㢳㢴㢵㢶㢷㢸㢹㢺㢻㢼㢽㢾㢿㣀㣁㣂㣃㣄㣅㣆㣇㣈㣉㣊㣋㣌㣍㣎㣏㣐㣑㣒㣓㣔㣕㣖㣗㣘㣙㣚㣛㣜㣝㣞㣟㣠㣡㣢㣣㣤㣥㣦㣧㣨㣩㣪㣫㣬㣭㣮㣯㣰㣱㣲㣳㣴㣵㣶㣷㣸㣹㣺㣻㣼㣽㣾㣿㤀㤁㤂㤃㤄㤅㤆㤇㤈㤉㤊㤋㤌㤍㤎㤏㤐㤑㤒㤓㤔㤕㤖㤗㤘㤙㤚㤛㤜㤝㤞㤟㤠㤡㤢㤣㤤㤥㤦㤧㤨㤩㤪㤫㤬㤭㤮㤯㤰㤱㤲㤳㤴㤵㤶㤷㤸㤹㤺㤻㤼㤽㤾㤿㥀㥁㥂㥃㥄㥅㥆㥇㥈㥉㥊㥋㥌㥍㥎㥏㥐㥑㥒㥓㥔㥕㥖㥗㥘㥙㥚㥛㥜㥝㥞㥟㥠㥡㥢㥣㥤㥥㥦㥧㥨㥩㥪㥫㥬㥭㥮㥯㥰㥱㥲㥳㥴㥵㥶㥷㥸㥹㥺㥻㥼㥽㥾㥿㦀㦁㦂㦃㦄㦅㦆㦇㦈㦉㦊㦋㦌㦍㦎㦏㦐㦑㦒㦓㦔㦕㦖㦗㦘㦙㦚㦛㦜㦝㦞㦟㦠㦡㦢㦣㦤㦥㦦㦧㦨㦩㦪㦫㦬㦭㦮㦯㦰㦱㦲㦳㦴㦵㦶㦷㦸㦹㦺㦻㦼㦽㦾㦿㧀㧁㧂㧃㧄㧅㧆㧇㧈㧉㧊㧋㧌㧍㧎㧏㧐㧑㧒㧓㧔㧕㧖㧗㧘㧙㧚㧛㧜㧝㧞㧟㧠㧡㧢㧣㧤㧥㧦㧧㧨㧩㧪㧫㧬㧭㧮㧯㧰㧱㧲㧳㧴㧵㧶㧷㧸㧹㧺㧻㧼㧽㧾㧿㨀㨁㨂㨃㨄㨅㨆㨇㨈㨉㨊㨋㨌㨍㨎㨏㨐㨑㨒㨓㨔㨕㨖㨗㨘㨙㨚㨛㨜㨝㨞㨟㨠㨡㨢㨣㨤㨥㨦㨧㨨㨩㨪㨫㨬㨭㨮㨯㨰㨱㨲㨳㨴㨵㨶㨷㨸㨹㨺㨻㨼㨽㨾㨿㩀㩁㩂㩃㩄㩅㩆㩇㩈㩉㩊㩋㩌㩍㩎㩏㩐㩑㩒㩓㩔㩕㩖㩗㩘㩙㩚㩛㩜㩝㩞㩟㩠㩡㩢㩣㩤㩥㩦㩧㩨㩩㩪㩫㩬㩭㩮㩯㩰㩱㩲㩳㩴㩵㩶㩷㩸㩹㩺㩻㩼㩽㩾㩿㪀㪁㪂㪃㪄㪅㪆㪇㪈㪉㪊㪋㪌㪍㪎㪏㪐㪑㪒㪓㪔㪕㪖㪗㪘㪙㪚㪛㪜㪝㪞㪟㪠㪡㪢㪣㪤㪥㪦㪧㪨㪩㪪㪫㪬㪭㪮㪯㪰㪱㪲㪳㪴㪵㪶㪷㪸㪹㪺㪻㪼㪽㪾㪿㫀㫁㫂㫃㫄㫅㫆㫇㫈㫉㫊㫋㫌㫍㫎㫏㫐㫑㫒㫓㫔㫕㫖㫗㫘㫙㫚㫛㫜㫝㫞㫟㫠㫡㫢㫣㫤㫥㫦㫧㫨㫩㫪㫫㫬㫭㫮㫯㫰㫱㫲㫳㫴㫵㫶㫷㫸㫹㫺㫻㫼㫽㫾㫿㬀㬁㬂㬃㬄㬅㬆㬇㬈㬉㬊㬋㬌㬍㬎㬏㬐㬑㬒㬓㬔㬕㬖㬗㬘㬙㬚㬛㬜㬝㬞㬟㬠㬡㬢㬣㬤㬥㬦㬧㬨㬩㬪㬫㬬㬭㬮㬯㬰㬱㬲㬳㬴㬵㬶㬷㬸㬹㬺㬻㬼㬽㬾㬿㭀㭁㭂㭃㭄㭅㭆㭇㭈㭉㭊㭋㭌㭍㭎㭏㭐㭑㭒㭓㭔㭕㭖㭗㭘㭙㭚㭛㭜㭝㭞㭟㭠㭡㭢㭣㭤㭥㭦㭧㭨㭩㭪㭫㭬㭭㭮㭯㭰㭱㭲㭳㭴㭵㭶㭷㭸㭹㭺㭻㭼㭽㭾㭿㮀㮁㮂㮃㮄㮅㮆㮇㮈㮉㮊㮋㮌㮍㮎㮏㮐㮑㮒㮓㮔㮕㮖㮗㮘㮙㮚㮛㮜㮝㮞㮟㮠㮡㮢㮣㮤㮥㮦㮧㮨㮩㮪㮫㮬㮭㮮㮯㮰㮱㮲㮳㮴㮵㮶㮷㮸㮹㮺㮻㮼㮽㮾㮿㯀㯁㯂㯃㯄㯅㯆㯇㯈㯉㯊㯋㯌㯍㯎㯏㯐㯑㯒㯓㯔㯕㯖㯗㯘㯙㯚㯛㯜㯝㯞㯟㯠㯡㯢㯣㯤㯥㯦㯧㯨㯩㯪㯫㯬㯭㯮㯯㯰㯱㯲㯳㯴㯵㯶㯷㯸㯹㯺㯻㯼㯽㯾㯿㰀㰁㰂㰃㰄㰅㰆㰇㰈㰉㰊㰋㰌㰍㰎㰏㰐㰑㰒㰓㰔㰕㰖㰗㰘㰙㰚㰛㰜㰝㰞㰟㰠㰡㰢㰣㰤㰥㰦㰧㰨㰩㰪㰫㰬㰭㰮㰯㰰㰱㰲㰳㰴㰵㰶㰷㰸㰹㰺㰻㰼㰽㰾㰿㱀㱁㱂㱃㱄㱅㱆㱇㱈㱉㱊㱋㱌㱍㱎㱏㱐㱑㱒㱓㱔㱕㱖㱗㱘㱙㱚㱛㱜㱝㱞㱟㱠㱡㱢㱣㱤㱥㱦㱧㱨㱩㱪㱫㱬㱭㱮㱯㱰㱱㱲㱳㱴㱵㱶㱷㱸㱹㱺㱻㱼㱽㱾㱿㲀㲁㲂㲃㲄㲅㲆㲇㲈㲉㲊㲋㲌㲍㲎㲏㲐㲑㲒㲓㲔㲕㲖㲗㲘㲙㲚㲛㲜㲝㲞㲟㲠㲡㲢㲣㲤㲥㲦㲧㲨㲩㲪㲫㲬㲭㲮㲯㲰㲱㲲㲳㲴㲵㲶㲷㲸㲹㲺㲻㲼㲽㲾㲿㳀㳁㳂㳃㳄㳅㳆㳇㳈㳉㳊㳋㳌㳍㳎㳏㳐㳑㳒㳓㳔㳕㳖㳗㳘㳙㳚㳛㳜㳝㳞㳟㳠㳡㳢㳣㳤㳥㳦㳧㳨㳩㳪㳫㳬㳭㳮㳯㳰㳱㳲㳳㳴㳵㳶㳷㳸㳹㳺㳻㳼㳽㳾㳿㴀㴁㴂㴃㴄㴅㴆㴇㴈㴉㴊㴋㴌㴍㴎㴏㴐㴑㴒㴓㴔㴕㴖㴗㴘㴙㴚㴛㴜㴝㴞㴟㴠㴡㴢㴣㴤㴥㴦㴧㴨㴩㴪㴫㴬㴭㴮㴯㴰㴱㴲㴳㴴㴵㴶㴷㴸㴹㴺㴻㴼㴽㴾㴿㵀㵁㵂㵃㵄㵅㵆㵇㵈㵉㵊㵋㵌㵍㵎㵏㵐㵑㵒㵓㵔㵕㵖㵗㵘㵙㵚㵛㵜㵝㵞㵟㵠㵡㵢㵣㵤㵥㵦㵧㵨㵩㵪㵫㵬㵭㵮㵯㵰㵱㵲㵳㵴㵵㵶㵷㵸㵹㵺㵻㵼㵽㵾㵿㶀㶁㶂㶃㶄㶅㶆㶇㶈㶉㶊㶋㶌㶍㶎㶏㶐㶑㶒㶓㶔㶕㶖㶗㶘㶙㶚㶛㶜㶝㶞㶟㶠㶡㶢㶣㶤㶥㶦㶧㶨㶩㶪㶫㶬㶭㶮㶯㶰㶱㶲㶳㶴㶵㶶㶷㶸㶹㶺㶻㶼㶽㶾㶿㷀㷁㷂㷃㷄㷅㷆㷇㷈㷉㷊㷋㷌㷍㷎㷏㷐㷑㷒㷓㷔㷕㷖㷗㷘㷙㷚㷛㷜㷝㷞㷟㷠㷡㷢㷣㷤㷥㷦㷧㷨㷩㷪㷫㷬㷭㷮㷯㷰㷱㷲㷳㷴㷵㷶㷷㷸㷹㷺㷻㷼㷽㷾㷿㸀㸁㸂㸃㸄㸅㸆㸇㸈㸉㸊㸋㸌㸍㸎㸏㸐㸑㸒㸓㸔㸕㸖㸗㸘㸙㸚㸛㸜㸝㸞㸟㸠㸡㸢㸣㸤㸥㸦㸧㸨㸩㸪㸫㸬㸭㸮㸯㸰㸱㸲㸳㸴㸵㸶㸷㸸㸹㸺㸻㸼㸽㸾㸿㹀㹁㹂㹃㹄㹅㹆㹇㹈㹉㹊㹋㹌㹍㹎㹏㹐㹑㹒㹓㹔㹕㹖㹗㹘㹙㹚㹛㹜㹝㹞㹟㹠㹡㹢㹣㹤㹥㹦㹧㹨㹩㹪㹫㹬㹭㹮㹯㹰㹱㹲㹳㹴㹵㹶㹷㹸㹹㹺㹻㹼㹽㹾㹿㺀㺁㺂㺃㺄㺅㺆㺇㺈㺉㺊㺋㺌㺍㺎㺏㺐㺑㺒㺓㺔㺕㺖㺗㺘㺙㺚㺛㺜㺝㺞㺟㺠㺡㺢㺣㺤㺥㺦㺧㺨㺩㺪㺫㺬㺭㺮㺯㺰㺱㺲㺳㺴㺵㺶㺷㺸㺹㺺㺻㺼㺽㺾㺿㻀㻁㻂㻃㻄㻅㻆㻇㻈㻉㻊㻋㻌㻍㻎㻏㻐㻑㻒㻓㻔㻕㻖㻗㻘㻙㻚㻛㻜㻝㻞㻟㻠㻡㻢㻣㻤㻥㻦㻧㻨㻩㻪㻫㻬㻭㻮㻯㻰㻱㻲㻳㻴㻵㻶㻷㻸㻹㻺㻻㻼㻽㻾㻿㼀㼁㼂㼃㼄㼅㼆㼇㼈㼉㼊㼋㼌㼍㼎㼏㼐㼑㼒㼓㼔㼕㼖㼗㼘㼙㼚㼛㼜㼝㼞㼟㼠㼡㼢㼣㼤㼥㼦㼧㼨㼩㼪㼫㼬㼭㼮㼯㼰㼱㼲㼳㼴㼵㼶㼷㼸㼹㼺㼻㼼㼽㼾㼿㽀㽁㽂㽃㽄㽅㽆㽇㽈㽉㽊㽋㽌㽍㽎㽏㽐㽑㽒㽓㽔㽕㽖㽗㽘㽙㽚㽛㽜㽝㽞㽟㽠㽡㽢㽣㽤㽥㽦㽧㽨㽩㽪㽫㽬㽭㽮㽯㽰㽱㽲㽳㽴㽵㽶㽷㽸㽹㽺㽻㽼㽽㽾㽿㿀㿁㿂㿃㿄㿅㿆㿇㿈㿉㿊㿋㿌㿍㿎㿏㿐㿑㿒㿓㿔㿕㿖㿗㿘㿙㿚㿛㿜㿝㿞㿟㿠㿡㿢㿣㿤㿥㿦㿧㿨㿩㿪㿫㿬㿭㿮㿯㿰㿱㿲㿳㿴㿵㿶㿷㿸㿹㿺㿻㿼㿽㿾㿿								
	Ability to solve practical issues and problems by voluntarily making a plan, revising it, and utilizing basic and technical knowledge and methods.								Graduation Thesis	Graduation Thesis				
Comprehensive Abilities	Creative thinking ability and logical thinking skills to analyze practical problems and tasks, and to lead to rational solutions satisfying social needs, as well as technical development skills to physically realize the solutions.	Introductory Seminar for First-Year Students							Graduation Thesis					
	Skills to organize research results and to describe them logically including the significance and the effectiveness of the obtained outcomes as well as to make easy-to-understand oral presentations and discussions.	Introductory Seminar for First-Year Students							Graduation Thesis					
	Teamwork, leadership and communication skills in group works.													
	Ability to understand that various problems, which humanity, society, and individuals are facing, can be interpreted variously depending on social status, culture and so on, as well as to deal with those problems to solve.	①②-Introduction to University Education Peace Science Courses Area Courses Health and Sports Courses Basic language I・II	Area Courses Health and Sports Courses											
Ability of English conversation, reading and writing skills necessary for research accomplishment.	Basic English Usagel Communication IA Communication IB	Basic English UsageII Communication IIA Communication IIB					Technical English	Graduation Thesis	Graduation Thesis					

(Ex) Liberal Arts Education Basic Specialized Subjects Specialized Subjects Graduation Thesis