Appended Form 1

Specifications for Major Program

Name of School (Program) [School of Science (Department of Mathematics)]

Program name (Japanese)	数学プログラム
(English)	Mathematics
1. Degree to be obtained: B	achelor of Science

2. Overview

Among the fields of science, mathematics is the subject for which standardization and systematization are the most advanced. The Mathematics Program at Hiroshima University

fact that students may advance to various fields in science after obtaining their mathematics degree. Specialized fundamental subjects from other programs in the School of Science are accepted as part of the credit required for graduation.

This program also provides courses to meet the requirements of students who wish to obtain certification as Mathematics teachers for junior and senior high school. Furthermore, students who obtain a master's degree are permitted to obtain specialized certification for Mathematics teachers of junior and senior high schools.

3. Diploma policy (policy for awarding degrees and goal of the program)

Based on the aims above, this program will award the degree of Bachelor of Science to students who, in addition to earning the required number of credits, have acquired the capabilities described below:

- The ability to think and make decisions from a wide-ranging perspective
- The ability to understand the essence of basic theories in the various fields of modern mathematics and how to apply those theories
- · The ability to think and express oneself logically
- The ability to comprehend various phenomena from a mathematical point of view in order to generalize, abstract, systematize, model, and process them
- The basic skills and advanced knowledge required for advanced study and research in the graduate school or for actively working in various fields such as education and industry.

4. Curriculum policy (policy for organizing and implementing the curriculum)

To achieve the targets listed in the diploma policy, this program organizes and implements a curriculum according to the following policies:

- In the first year, students develop a wide range of knowledge in areas such as the humanities, social and natural sciences, information science, peace studies, and foreign languages. In addition to this, students acquire fundamental knowledge and skills through courses such as An Introduction to Mathematics, Linear Algebra and Calculus. Also, focus will be given to obtaining the right attitude for collaborating with others through presentations and discussion in the course Liberal Arts Subject Seminars.
- •In the second year, students study the essence of fundamental theories in the various fields of modern mathematics through specialized fundamental subjects related to algebra, analysis, and the fundamental concepts of mathematics. This is done in order to establish basic mathematical capabilities (for conceptual understanding, calculation, and demonstration) and to improve their ability to think logically and express themselves through the exercise courses. In subjects related to topics such as mathematics for computation and probability and statistics, students study processing methods that model and/or systematize various phenomena and analysis methods using computers.
- In the third year, elective subjects that consist of generalized and abstract content in fields such as algebra, geometry, analysis, probability and statistics, and applied mathematics are provided to encourage students to study autonomously and acquire the knowledge required for success at the cutting edge in each field.
- In the fourth year, while taking into consideration the possibility of proceeding to the graduate school, students receive instruction on cutting-edge developments in the field they have chosen in order to improve their ability to

identify and solve problems, think logically, give presentations and be more creative.

Academic achievement is evaluated based on grades/scores and performance.

5. Start time and acceptance conditions

In the School of Science, each department holds entrance examinations and stipulates the requirement for admission to the department in its application guidelines. This program is designed mainly for students of the Department of Mathematics. Students will take this program when they enter our department.

This program also accepts all students who have already been accepted to this university. Requirements for students who wish to join the Department of Mathematics are stipulated separately based on the provisions regarding transfer between schools or departments.

6. Obtainable qualifications

Type 1 license for junior high school Mathematics teachers. Type 1 license for senior high school Mathematics, Curator license, certification for Assistant Registered Surveyors, qualification for joining the Skill Training course for health controllers in Health Engineering.

7. Class subjects and their contents

- * For the class subjects, refer to the subject table in Attachment 1.
- * For the details of the class subjects, refer to the syllabus that is published for each academic year.

8. Academic achievement

The evaluation criteria are specified for each academic achievement item, and the achievement level against these criteria is given at the end of the semester.

The evaluation score for each item is converted to a numerical value (S = 4, A = 3, B = 2, and C = 1), and the evaluation standard for academic achievement from the time the student entered the university to the end of the last semester is determined by using these values. The evaluation standards consist of three levels, i.e. Excellent, Very Good, and Good.

Evaluation of academic	Converted
achievement	value
S (90 or more points)	4
A (80 – 89 points)	3
B (70 – 79 points)	2
C (60 – 69 points)	1

Academic achievement	Evaluation
Academic acinevement	criteria
Excellent	3.00 - 4.00

st Refer to the relationship between evaluation items and evaluation criteria described in Attachment 2.

^{*} Refer to the relationship between evaluation items and class subjects described in Attachment 3.

^{*} Refer to the curriculum map in Attachment 4.

A booklet entitled "After Completing Lectures" is delivered to faculty members and students after the semester ends to notify them about any updated information concerning course curriculum.

Table of Registration Standards for Mathematics Program

Refer to Study Guidance for the Mathematics Program for requirements for attending the course.

Students are allowed to take class subjects provided in other programs and schools, and in other universities, in addition to the class subjects listed in this table, and the credit for those subjects that the faculty committee of the Mathematics Program certifies is accepted as the required credit for graduation.

The credit for the subjects "Introduction to Mathematics Education I" and "Introduction to Mathematics Education II" that are provided by the School of Education is counted towards the required credit for graduation (for the subject category of "Specialized Subjects").

When the faculty committee of the Mathematics Program allows it, students can take class subjects before the period defined in the class subject table.

* Students who have earned required credits (refer to the Student Handbook for details) can acquire the type 1 license for junior high school teachers (mathematics), type 1 license for senior high school teachers (mathematics), certification for assistant registered surveyors, and the curator license.

(Liberal Arts Education)

					_							in wh					
Туре			9	Subject type	Requ	iired . of	Class subjects, etc.	No. of	Type of course	1st g	rade	2nd g	grade	3rd g	grade	4th g	grade
				subject type	cre		chass subjects, etc.	credits		Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
										1	2	3	4	5	6	7	8
		Peace Science Courses 2 From "Peace Science Courses"			From "Peace Science Courses"	Each 2	Elective/required	0									
	courses versity ation	Intro	duct	ion to University Education		2	Introduction to University Education	2	Required	2							
	Basic C in Uni Educ	Intro	ductor	y Seminar for First-Year Students		2	Introductory Seminar for First-Year Students	2	Required	2							
				Area Courses		3	From "Area Courses" (Note 2)	1 or 2	Elective/required	0	0	0	0				
				Basic English Usage		(0)	Basic English Usage I	1	Free elective	0							
			е 3)	(Note 4)		(0)	Basic English Usage II	1	Tiee elective		0						
			English (Note	Communication I		2	Communication IA	1	Required	1							
		ses	lish	Communication 1		2	Communication IB	1	Kequirea	1							
cts		Foreign Languages	Eng	Communication II		2	Communication IIA	1	Required		1						
ubje	Subjects	Lar		Communication II	8	4	Communication IIB	1	Required		1						
ion	Sub	eigr					Foreign Languages: Basic Studies I	1		0							
Arts Education Subjects	Common	For		n-English Foreign Languages (Select one language from			Foreign Languages: Basic Studies II	1	Elective/required	0							
s Ed	Com		(German, French, Spanish,		4	Foreign Languages: Basic Studies III	1	Elective/required		0						
Art			Russ	sian, Chinese, South Korean, and Arabic)			Foreign Languages: Basic Studies IV	1			0						
Liberal							I, II, III and IV must be the same language		•								
Lib			T.	nformation Courses	(0)	Elements of Information Literacy (Note 5)	2	Free elective	0							
			11	mormation Courses		2	Exercise in Information Literacy	2	Required	2							
			Heal	th and Sports Courses		2	From "Health and Sports Courses"	1 or 2	Elective/required	0	0						
		Socia	al Co	operation Courses (Note 6)	(0)	From "Social Cooperation Courses"	1 or 2	Free elective	0	0						
	Linear Algebra I					Linear Algebra I	2		2								
	Foundation Courses Seminar in Linear Algebra I			Seminar in Linear Algebra I	1	Di J	1										
		Foundation Courses			(6	Linear Algebra II	2	Required		2						
							Seminar in Linear Algebra II	1			1						
	To	tal(Li	beral	Arts Education Subjects)	3	2											

- (Note 1) The indicated semester represents that in which students typically take the subject. It is permitted to take the subject in the same (first or second) semester in the following year, however, it is required to confirm the details in syllabus for that academic year, because the subject might be provided in a different semester or term
- (Note 2) It is required to earn 4 credits in "Human & Social Science Subjects" and 4 credits in "Natural Science Subjects". Students who want to acquire an educational personnel certification must take the subject "Japanese Constitution" in the "Human & Social Science Subjects".

 Credits earned through the subject "Advanced English for Communication", "Foreign Languages: Intensive Studies" and "Overseas Language Seminar (German, French, Spanish, Russian, Chinese, and South Korean)" in "Foreign Languages" are accepted as the credits required for "Human & Social Science Subjects".
- Achievement in a foreign language skill test might also be accepted as credit. For the details, refer to the description of English subjects in Liberal Arts Education and the item "Credit based on Achievement in Foreign Language Skill Tests" in the Student Handbook. (Note 3)
- The credit for "Basic English Usage I" and "Basic English Usage II" is accepted as that for the category of "Any subject".
- The credit for "Elements of Information Literacy" is accepted as credit for the category of "Any subject"
- (Note 6) The credit of the subject "Social Cooperation Courses" is accepted as credit for the category of "Any subject".
- * Note for the "Specialized Education Subjects" listed in the next page and after
- To achieve the 54 credits required for the "Specialized Subjects", it is required to earn 26 or more credits for elective required subjects and free elective subjects, as well as 10 credits for required subjects and 18 credits for elective required subjects.

 The credit for the subjects "Introduction to Mathematics Education I" and "Introduction to Mathematics Education II" that are provided in School of Education is counted as
- credit for the "Specialized Subjects
- (Note 8) For the 11 class subjects of "Specialized Subjects", for which lectures and exercises are provided in pairs, it is required to earn 16 or more credits for 4 or more pairs of
- (Note 9) The subject "Data Science" is provided biannually.
- The subject "Network and Algebra" is provided in the 7th or 8th semester.
- The subject "Topics in Mathematics" is provided in the form of such subjects as "Topics in Algebra", "Topics in Geometry", "Topics in Analysis" and "Topics in Probability and
- (Note 12) The classes in "Special Lectures in Mathematics" are provided as an integrated course within a certain period of time (after the 5th semester; mainly after the 7th semester).
- Because 128 credits are required for graduation, it is required to earn not only the required credits for each subject category (119 credits in total that consist of 32 credits in Liberal Arts Education Subjects and 87 credits in Specialized Education Subjects), but 128 or more credits in total regardless of the categorization of Liberal Arts Education Subjects and Specialized Education Subjects.
 - However, the credits for the subjects described below are not accepted as required credit for graduation: For the details of subjects related to educational personne
 - certification, refer to the list of required credits in "Acquisition of Educational Personnel Certification" in the Student Handbook.

 Any credit for subjects only related to educational personnel certification, except for "Introduction to Mathematics Education I" and "Introduction to Mathematics Education II"

 "Basic Specialized Subjects" and "Specialized Subjects" provided in the other programs of the School of Science (except those that are admitted by the faculty committee of the
 - "Basic Specialized Subjects" and "Specialized Subjects" provided by the other programs in other schools (except those that are admitted by the faculty committee of the Mathematics Program)

		Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
		1	2	3	4	5	6	7	8
Introduction to Information Mathematics	2		0						
Introduction to Physics A	2	0							
Introduction to Physics B	2		0						
Introduction to Chemistry A	2	0							
Introduction to Chemistry B	2		0						
Introduction to Biological Sciences A	2	0							
Introduction to Biological Sciences B	2		0						
Introduction to Earth and Planetary Sciences A	2	0							
Introduction to Earth and Planetary Sciences B	2		0						
English Seminar on Mathematics	1				0				
Introduction to Mathematics	2	②F.	Η >ú8	k???[ÈSìÀ>	Ý>ßH y	,		
Analysis I	2	2							
Exercises in Analysis I	1	1							
Analysis II	2		2						
Exercises in Analysis II	1		1						
Analysis III									

Academic achievements of Mathmatics Program Relationships between the evaluation items and evaluation criteria

		Academic achievements		Evaluation criteria	
		Evaluation items	Excellent	Very Good	Good
	(1)	is a base of modern mathematics. Being able to find and explain issues from	Having superb understanding on classical basic theory of modern mathematics. Being able to find and explain issues from specific events to the superb level.	Having well understanding on classical basic theory of modern mathematics. Being able to find and explain issues from specific events to the high level.	Understanding classical basic theory of modern mathematics. Being able to find and explain issues from specific events.
ding	(2)		Having a very superb level of understanding on primary theory of modern mathematics established on classical theory.	Having a superb level of understanding on primary theory of modern mathematics established on classical theory.	Having a certain level of understanding on primary theory of modern mathematics established on classical theory.
Understanding	(3)	advanced theories as an extension of core	Having very advanced knowledge on advanced theory of modern mathematics and being able to have a vision with very wide eyesight.	Having advanced knowledge on advanced theory of modern mathematics and being able to have a vision with wide eyesight.	Having a certain knowledge on advanced theory of modern mathematics and being able to have a vision.
and		To learn topic relevant to modern and historical concerns that human and society face through variety of classes.	To acquire advanced knowledge of topic relevant to modern and historical concerns that human and society face through variety of classes. Also, to be able to precisely explain about the topics.	To acquire advanced knowledge of topic relevant to modern and historical concerns that human and society face through variety of classes. Also, to be able to explain about the topics.	To acquire advanced knowledge of topic relevant to modern and historical concerns that human and society face through variety of classes. Also, to be able to explain about the topics.
Knowledge	(5)	basic studying according to each subject	Being able to very fully understand, learn and explain logical framework and system of basic studying according to each subject and necessary knowledge and skills for constructing learning.	Being able to fully understand, learn and explain logical framework and system of basic studying according to each subject and necessary knowledge and skills for constructing learning.	Being able to understand, learn and explain logical framework and system of basic studying according to each subject and necessary knowledge and skills for constructing learning.
		Able to understand, learn, and explain the necessity of college education, career education, and a code of ethics.	Able to understand, learn, and explain the necessity of college education, career education, and a code of ethics especially well.	Able to sufficiently understand, learn, and explain the necessity of college education, career education, and a code of ethics.	Able to understand, learn, and explain the necessity of college education, career education, and code of ethics.

		Academic achievements		Evaluation criteria	
		Evaluation items	Excellent	Very Good	Good
	(1)	To acquire basic mathematical abilities (Ability to understand concepts, calculation ability, argumentation ability).	1. Being able to understand the contents of definition of basic and mathematical concepts and to explain them giving some examples. 2. Being able to logically carry out transformation of numerical expressions and propositions. 3. Being able to understand and prove basic propositions	Being able to logically carry out basic calculation with formulae and transformation of propositions. Being able to state basic concept definition and to give typical examples.	Being able to carry out basic calculation with formulae and transformation of propositions.
Abilities and Skills	(2)	To acquire skills to formulate and solve mathematical questions.	1. Being able to collect information even on issues difficult to find solutions by themselves with various ways such as literature references, discussion with friends or seniors, information equipment, questioning teachers and to make reports. 2. Being able to explain others the basic parts of the acquired results on issues or problems. 3. Being able to logically, correctly and straightforwardly explain others the basic parts of the acquired results on issues or problems.	1. Being able to collect information even on issues difficult to find solutions by themselves with various ways such as literature references, discussion with friends or seniors, information equipment, questioning teachers and to make reports. 2. Being able to explain others the basic parts of the acquired results on issues or problems.	1. Being able to collect information even on issues difficult to find solutions by themselves with various ways such as literature references, discussion with friends or seniors, information equipment, questioning teachers and to make reports.
7	(3)	To learn basic knowledge, skills, and attitudes related to information. Based on them, to be able to process, output and input information, as well as to utilize information appropriately.	Being able to use various kinds of software including programming languages, analysis and graphics and to operate computers and networks.	To be able to use various software and to control computers and networks.	To be able to use software designed for document preparation or formula manipulation. Also to be able to basically operate computers and networks.
	(4)	Being able to conduct daily communication orally or in papers using foreign languages.	Being able to conduct daily communication orally or in papers using foreign languages at a very high level.	level.	Being able to conduct daily communication orally or in papers using foreign languages.
	(5)	Through practice of sports, being able to explain the necessity of physical strenth and health promotion.	Being able to practice sports and explain the necessity of health promotion and fitness at a very high level.	Being able to practice sports and explain the necessity of health promotion and fitness at a high level.	Being able to practice sports and explain the necessity of health promotion and fitness.
	(1)	Acquiring a ability to think logically.	1. The ability to promote discussion by raising solid foundation. 2. The ability to find solutions by making logical thought from hypotheses. 3. The ability to logically find out the reason of unsuccessful trial	Having two abilities among following ones. 1. the ability of promoting discussion giving specific reasons. 2. the ability to pierce results through logical thinking from hypotheses. 3. the ability to find the logical reasons of unsuccessful trials.	Having one ability among following ones. 1. the ability of promoting discussion giving specific reasons. 2. the ability to pierce results through logical thinking from hypotheses. 3. the ability to find the logical reasons of unsuccessful trials.
bilities	(2)	To acquire ability to utilize mathematical thinking.	1. Being able to find out the essence of difficult concepts and to understand in their own way. 2. Being able to consider various phenomena mathematically and make them into abstraction, generalization and modeling. 3. Being able to return results from those abstracted, generalized and modeled phenomena into the former issues. 4. Being able to emulate assumable possibilities and to consider the solution of each of them. 5. The ability to find out common points from various matters and to deal them with unified methods.	Having two abilities among following ones. 1. being able to select essence from difficult concepts and understand in their own way. 2. being able to consider various matters mathematically and make them abstracted, generalized and modeled. 3. being able to return abstracted, generalized and modeled matters to former issues. 4. enumerating expected possibilities and considering each solution. 5. the ability of selecting common points from different matters and generally dealing with them.	Having one ability among following ones. 1. being able to select essence from difficult concepts and understand in their own way. 2. being able to consider various matters mathematically and make them abstracted, generalized and modeled. 3. being able to return abstracted, generalized and modeled matters to former issues. 4. enumerating expected possibilities and considering each solution. 5. the ability of selecting common points from different matters and generally dealing with them.

		Academic achievements		Evaluation criteria	
		Evaluation items	Excellent	Very Good	Good
Comprehensive A	(3)	To acquire the ability to understand sentences and communicate information.	1. The ability to listen to others opinions carefully and to make logical statements. 2. The ability to read, appropriately integrate and write down necessary documents. 3. The ability to clearly make verbal or paper announcement on intricate information. 4. The ability to send out information with information technology.	Having two abilities among following ones. 1. the ability of listening carefully and making logical statement. 2. the ability of reading necessary papers and appropriately summing up. 3. the ability of clearly presenting intricate information verbally and in writing. 4. the ability of delivering information using information instruments	Having one ability among following ones. 1. the ability of listening carefully and making logical statement. 2. the ability of reading necessary papers and appropriately summing up. 3. the ability of clearly presenting intricate information verbally and in writing. 4. the ability of delivering information using information instruments
		To improve one's ability to learn independently.	1. Being able to study voluntarily. 2. Being able to make trial and errors in one's own way and find tips of the solution. 3. Voluntarily collecting information from limited resources. 4. Being able to make their own decision based on solid facts	through trials and errors of their own. 5.	Having one ability among following ones. 1. studying voluntarily. 2. finding tips of solution through trials and errors of their own. 3. collecting information voluntarily based on limited information. 4. being able to make own decision based on specific reasons.
	(5)	Acquiring a mannar of tackling problems.	1. Being able to tackle difficult issues or calculations for a long time. 2. Trying to find out the essence not being misled by preconceptions. 3. Not jumping to conclusion easily toward unproved matters. 4. Trying to find out the best understanding on issues which are too difficult to find the results soon.	Having two abilities among following ones. 1. being able to tackle with difficult issues or calculations for a long time. 2. trying to find out essence without preconceptions. 3. not jumping to results easily on unproven matters. 4. trying to get the best solution at present on issues difficult to get results soon.	Having one ability among following ones. 1. being able to tackle with difficult issues or calculations for a long time. 2. trying to find out essence without preconceptions. 3. not jumping to results easily on unproven matters. 4. trying to get the best solution at present on issues difficult to get results soon.

Placement of Liberal Arts Education in the Major Program

The liberal arts education in this program aims to build the academic foundation required for the specialized education, and develops the capability for autonomous study, as well as scientific and mathematical intelligence based on the ability to collect, analyze, and critically evaluate data. It also enables students to establish the perspective necessary to insight into the essentials and background of phenomena, to develop the broad range of knowledge required for living in a modern society, and to integrate such knowledge

					evaluatio	Weighted values of	evaluatio	Weighted values of	evaluatio	Weighted values of	evaluatio	Weighted values of	evaluatio	Weighted values of	evaluatio	Weighted values of	evaluatio	Weighted values of	evaluatio	Weighted values of	evaluatio	Weighted values of	evaluatio	Weighted values of	evaluatio	Weighted values of	evaluatio	Weighted values of	evaluatio	Weighted values of	evaluatio	Weighted values of	evaluatio	Weighted values of	evaluatio	Weighted values of	
					n items in the subject	n items	n items ir the subject	n items	n items ir the subject	n items	the	n items	the	n items	n items in the subject	evaluatio n items	the	n items	the	n items	the	evaluatio n items	the	n items	n items in the subject	n items	the	n items	the	n evaluatio n items							
Liberal Arts	Peace Science Courses	2	Elective/	1	subject		subject		subject		subject 100	1	subject		subject		subject		subject		subject		subject		subject		subject		subject		subject		subject		subject		100
Education Liberal Arts	Introduction to	2	required Required	1											100	1																					100
Education Liberal Arts	University Education Introductory Seminar for	2	•	-	0.5	1									100	1											0.5	1	0.5	1	0.5	1					
Education Liberal Arts	First-Year Students		Pl c /	1	25	1																					25	1	25	1	25	1					100
Education	Area Courses	8	required	1 4							100	1																									100
Liberal Arts Education	Basic English Usage I	1	Free elective	1																			100	1													100
Liberal Arts Education	Basic English Usage II	1	Free elective	2																			100	1													100
Liberal Arts Education	Communication	2	Required	1																			100	1													100
Liberal Arts	Communication	2	Required	2																			100	1													100
Education Liberal Arts	Foreign Languages:	1	Elective/	1																			100	1													100
Education Liberal Arts	Basic Studies Foreign Languages:	1	required Elective/	1																			100	1													100
Education Liberal Arts	Basic Studies Foreign Languages:	•	required Elective/	•																				-													
Education	Basic Studies	1	required	2																			100	1													100
Liberal Arts Education	Foreign Languages: Basic Studies	1	Elective/ required	2																			100	1													100
Liberal Arts Education	Elements of Information Literacy	2	Free elective	1																	100	1															100
Liberal Arts	Exercise in Information	2	Required	1																	100	1															100
Education Liberal Arts	Literacy Health and Sports Course	2	Elective/	1 2																					100	1											100
Education Liberal Arts	Social Cooperation		required Free																						100	1											
Education	Courses	0	elective	1 2											100	1																					100
Liberal Arts Education	Linear Algebra	2	Required	1	100	1																															100
Liberal Arts Education	Seminar in Linear Algebra	1	Required	1	100	1																															100
Liberal Arts Education	Linear Algebra	2	Required	2	100	1																															100
Liberal Arts	Seminar in Linear	1	Required	2	100	1																															100
Education Specialized	Algebra Introduction to	2	Required	1	100	1																															100
Education	Mathematics	2		1	100	1																															100
Specialized Education	Introduction to Information Mathematics	2	Elective/ required	2									100	1																							100
Specialized	Introduction to Physics	2	Elective/	1									100	1																							100
Education Specialized	A Introduction to Physics	2	required Elective/	9									100	1																							100
Education Specialized	B Introduction to		required Elective/	2										1																							
Education	Chemistry A	2	required	1									100	1																							100
Specialized Education	Introduction to Chemistry B	2	Elective/ required	2									100	1																							100
Specialized Education	Introduction to Biological Sciences A	2	Elective/ required	1									100	1																							100
Specialized	Introduction to	2	Elective/	2									100	1																							100
Education Specialized	Biological Sciences B Introduction to Earth		required Elective/																																		
Education	and Planetary Sciences A	2	required	1									100	1																							100
Specialized	Introduction to Earth and Planetary Sciences	2	Elective/	2									100	1																							100
Education	В	2	required	2									100	1																							100
Specialized Education	English Seminar on Mathematics	1	Elective/ required	4																			100	1													100
Specialized																																					
Education																																					

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Subject	Subject Name	Credits	Type of course registra	Grade	Weighted	1)	Weighted.	2)	Weighted	3) I	Weighted	(4) T	Weighted	5) T	Weighted	6)	Weighted.	1)	Weighted	2) I	Weighted.	3)	Weighted	4)	() Weighted	5) I	(Weighted	1)	Weighted	2) I	Weighted	3)	Weighted	(4)	Weighted	5)	values of
Classification			tion		values of evaluatio n items in the subject	Weighted values of evaluatio n items	values of evaluatio n items in the subject	Weighted values of evaluatio n items	values of evaluatio n items in the subject	Weighted values of evaluatio n items	values of evaluatio n items in the subject	Weighted values of evaluatio n items	values of evaluatio n items in the subject	Weighted values of evaluation items	values of evaluatio n items in the subject	Weighted values of evaluatio n items	values of evaluatio n items in the subject	Weighted values of evaluatio n items	values of evaluatio n items in the subject	Weighted values of evaluatio n items	values of evaluatio n items in the subject	Weighted values of evaluatio n items	values of evaluatio n items in the subject	Weighted values of evaluatio n items	values of evaluatio n items in the subject	Weighted values of evaluatio n items	values of evaluatio n items in the subject	Weighted values of evaluatio n items	values of evaluatio n items in the subject	Weighted values of evaluatio n items	values of evaluatio n items in the subject	Weighted values of evaluatio n items	values of evaluatio n items in the subject	Weighted values of evaluatio n items	values of evaluatio n items in the subject	Weighted values of evaluatio n items	evaluati on items in
Specialized Education	Exercises in Algebra III	1	Required	3	50	1											50	1							,												100
Specialized Education	Analysis IV	2	Required	4	50	1											50	1																			100
Specialized Education	Exercises in Algebra IV	1	Required	4	50	1											50	1																			100
Specialized Education	Algebra I	2	Required	3	50	1											50	1																			100
Specialized Education	Exercises in Algebra I	1	Required	3	50	1											50	1																			100
Specialized Education	Algebra II	2	Required	4	50	1											50	1																			100
Specialized	Exercises in Algebra II	1	Required	4	50	1											50	1																			100
Education Specialized Education	Fundamental Concepts	2	Required	3	50	1											50	1																			100
Specialized Education	of Mathematics I Exercises in Fundamental Concepts Mathematics I	1	Required	3	50	1											50	1																			100
Specialized	Fundamental Concepts	2	Required	4	50	1											50	1																			100
Education Specialized Education	of Mathematics II Exercises in Fundamental Concepts Mathematics II	1	Required	4	50	1											50	1																			100
Specialized	Exercises in	2	Required	3	50	1															50	1															100
Education Specialized	Mathematical Software Special Study of Mathematics and	5	Required	7 8													10	1	10	1	10	1					14	1	14	1	14	1	14	1	14	1	100
Education Specialized	Informatics for Graduation		Elective/																10	1	10	1					14	1	14	1	14	1	14	1	14	1	
Education Specialized	Algebra	2	required	5			50	1									50	1	L																<u> </u>		100
Education Specialized	Exercises in Algebra	2	required Elective/	5				_	-						-		50	1	50	1			-								-				<u> </u>	<u> </u>	100
Education Specialized	Algebra	2	required Elective/	6			50	1									50	1																			100
Education Specialized	Exercises in Algebra	2	required	6													50	1	50	1															<u> </u>		100
Education Specialized	Geometry Exercises in Geometry	2	required	5			50	1	-						-		50	1	-				-								-				<u> </u>	<u> </u>	100
Education Specialized		2	required Elective/	5													50	1	50	1															<u> </u>		100
Education Specialized	Geometry	2	required	6			50	1									50	1																	<u> </u>		100
Education Specialized	Exercises in Geometry	2	required Elective/	6													50	1	50	1															<u> </u>		100
Education Specialized	Analysis	2	required Elective/	5			50	1									50	1																	<u> </u>		100
Education Specialized	Exercises in Algebra		required Elective/	5													50	1	50	1															<u> </u>		100
Education Specialized	Analysis	2	required Elective/	5			50	1									50	1																	<u> </u>		100
Education Specialized	Exercises in Algebra	2	required Elective/	5													50	1	50	1									-							-	100
Education Specialized	Analysis	2	required Elective/	6	1		50	1	-				-		-		50 50	1	50	1	-		-						-		-		-		 		100
Education Specialized	Exercises in Algebra	2	required Elective/	6			50	1									50		50	1															<u> </u>		100
Education Specialized	Analysis	2	required Elective/	6			90	1									50	1	50	1																	100
Education Specialized	Exercises in Algebra Mathematics for	2	required Elective/	4	1		50	1									50	1	30	1															 		100
Education Specialized	Computation Exercises in		required		1		90	1	-				-		-		50	1	-		-		-						-		-		-		 		
Education Specialized	Mathematics for Computation Mathematics for	2	Elective/ required	4															50	1	50	1													<u> </u>		100
Education	Computation Exercises in	2	required	5	<u> </u>		50	1	-								50	1	-												1				<u> </u>		100
Specialized Education	Mathematics for Computation Probability and	2	Elective/ required	5															50	1	50	1													<u> </u>		100
Specialized Education	Mathematical Statistics Exercises in Probability	2	Elective/ required	5			50	1									50	1																	<u> </u>		100
Specialized Education	and Mathematical Statistics	2	Elective/ required	5													50	1	50	1															<u> </u>		100
Specialized Education	Algebra	2	Free elective	7					100	1																									<u> </u>		100
Specialized Education	Algebra	2	Free elective	8					100	1																											100

																			E	Evaluat	ion ite	ms															veighte
								Kr	nowledg	ge and	Under	rstandi	ng							A	oilities	and Sl	kills							Con	ıprehe	nsive A	Abilitie	S			d
Subject	0.11	0 10	Type of course			(1)	((2)	(3	3)	(4	4)	(5)	((6)	((1)	(2)	_	(3)		(4)	(5)	((1)		(2)		(3)		(4)	((5)	values
Classification	Subject Name	Credits	registra tion	Grade	Weighted values of evaluatio n items in the subject	Weighted values of	evaluatio	Weighted values of	n items in	values of	evaluatio n items in	values of	evaluatio	values of	evaluatio n items in	Weighted values of	evaluatio	Weighted values of n evaluatio n items	evaluatio	values of	evaluatio	Weighted values of n evaluatio n items	evaluatio	f Weighte values o	f evaluat	of Weighte io values o	f evaluati o n items	of Weighte o values o	Weighted values of evaluation n items in the subject	Weighted values of	of evaluati on items in						
Specialized Education	Geometry	2	Free elective	7					100	1																											100
Specialized Education	Geometry	2	Free elective						100	1																											100
Specialized Education	Elementary nonlinear studies	2	Free elective	6					100	1																											100
Specialized Education	Mathematical Analysis	2	Free elective	7					100	1																											100
Specialized Education	Mathematical Analysis	2	Free elective	8					100	1																											100
Specialized Education	Probability and Mathematical Statistics	2	Free elective	6					100	1																											100
Specialized Education	Probability and Mathematical Statistics	2	Free elective	8					100	1																											100
Specialized Education	Geometry in Information Systems	2	Free elective						50	1											50	1															100
Specialized Education	Data Science	2	Free elective						50	1											50	1															100
Specialized Education	Network and Algebra	2	Free elective	7 8	3				50	1											50	1															100
Specialized Education	Mathematics for Modeling and Simulation	2	Free elective	6					50	1											50	1															100
Specialized Education	Theory of Complex Systems	2	Free elective						50	1											50	1															100
Specialized Education	Mathematics for Computation	2	Free elective	8					50	1											50	1															100
Specialized Education	Computer-Aided Mathematics	2	Free elective	8					50	1											50	1															100
Specialized Education	Information Society and Professional Ethics	2	Free elective	5																	100	1															100
Specialized Education	Information Internship	1	Free elective																		100	1															100
Specialized Education	Topics in Mathematics	2	Free elective	7 8	3				100	1																											100

Sheet4

Entire production from the control of points to base in months (Co. Co. Co.)		Academic achievements	1st grade		2nd grade		3rd grade		4th grade	
March Angle				Fall semester	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester
Inderstanding classical basic theory which is a basic of modern mathematics. Being add to first a fundamental basic theory which is a large of modern mathematics. Being add to first an explain bose from special control. We will be a control of modern mathematics. Being add to first an explain bose from special control of modern mathematics. Being add to first an explain bose from special control of modern mathematics. Being add to first an explain bose from special control of modern mathematics. Being add to first an explain bose from special control of modern mathematics. Being add to first an explain bose from special control of modern and special control of modern and special control of modern mathematics. We described on the social through a special control of modern and special control of modern an		a base of modern mathematics. Being able to find and explain issues from specific events.	Introductory Seminar for First-Year Students (◎)	Analysis II(⊚)	Analysis III (⊚)	Analysis IV(⊚)				
Understanding classical basic through which is all and explaint South from pathwanters. See July 1 1 1 1 1 1 1 1 1 1			Linear Algebra I(⊚)	Exercises in Analysis II(©)	Exercises in Analysis III(©)	Exercises in Analysis IV(©)				
a has of modern mathematics. Reingla alto fortind and organizations from specific ventric. Variable Varia					Algebra I(⊚)	Algebra II(⊚)				
Note				Linear Algebra II(⊚)	Exercises in Algebra I(©)	Exercises in Algebra II(©)				
No.			Analysis I(⊚)							
Application of the computation			Exercises in Analysis I(©)							
Commerty ACO Analysis B(O)	K									
Marting on primary theory of modern mathematics established on classical theory of modern mathematics as an extension of core theory of modern mathematics. Valuation Valuati							Algebra A(O)	Algebra B(O)		
Analysis (Statishished on Gassical theory and production on desisted theory of college and vision on advanced theories as an extension of core theory of modern and historical concerns that human and society of college and skills for constructing larmound variety of classes. Application of the construction of the constructio	_						Geometry A(O)	Geometry B(O)		
Mathematics Scalausified of Classes Mathematics (Scalausified of Classes) Mathematics (Mathematical of Classes) Mathematics (Mathematical of Classes) Mathematics (Mathematical of Classes) Mathematical of Classes (Mathematical of Classes (Mathematical of Classes) Mathematical of Classes (Mathematical of Classes (Mathematical of Classes) Mathematical of Classes (Mathematical of Classes (Mathematical of Classes) Mathematical of Classes (Mathematical of Classes (Mathematical of Classes) Mathematical of Classes (Mathematical of Classes (Mathematical of Classes) Mathematical of Classes (Mathematical of Classes (Mathematical of Classes) Mathematical of Classes (Mathematical of Classes (Mathematical of Classes) Mathematical of Classes (Mathematical of Classes (Mathematical of Classes) Mathematical of Classes (Mathematical o	1	Understanding on primary theory of modern					Analysis A(O)	Analysis C(O)		
Registrical concerns that human and society face through variety of classes. Record of through variety of classes. Record of through variety of classes. Record of through variety of classes. Record of through variety of classes. Record of through variety of classes. Record of through variety of classes. Record of through variety of classes. Record of through variety of classes. Record of through variety of classes. Record of through variety of classes. Record of through variety of classes. Record of through variety of classes. Record of through variety of classes. Record of through variety of classes. Record of through variety of classes. Record of through variety of construction to Record of the construction to Record of the construction of t		mathematics established on classical theory.						Analysis D(O)		
Processing and Mishematics (A) Returned and Algebra (A) Returned and	-						A(O) '			
Record of Computer Acquiring knowledge and vision on advanced the content of Computer Mathematics of Computer (A) Computer Acquiring knowledge and vision on advanced the content of Computer Mathematics (A) Computer Acquiring knowledge and vision on advanced the content of Computer Mathematics (A) Computer Acquiring knowledge and vision on advanced the content of Computer Mathematics (A) Computer Mathematics (A) Computer Mathematics (A) Computer Acquiring knowledge and vision on advanced the content of Computer Mathematics (A) Computer Math							Probability and Mathematical Statistics A(O)			
Und Acquiring knowledge and vision on advanced theories as an extension of core theory of modern mathematics. It is a continue to the control of the contro		theories as an extension of core theory of				Network and Algebra (Δ)		(Δ)	Algebra C(Δ)	Algebra D(Δ)
Acquiring knowledge and vision on advanced heories as an extension of core theory of ender mathematics. Acquiring knowledge and vision on advanced heories as an extension of core theory of ender mathematics. Acquiring knowledge and vision on advanced heories as an extension of core theory of ender mathematics. Acquiring knowledge and vision on advanced heories as an extension of core theory of enders with the mathematics. Acquiring knowledge and vision on advanced heories as an extension of core theory of enders with the mathematics. Acquiring knowledge and vision on advanced heories as an extension of core theory of enders with the mathematics. Acquiring knowledge and vision on advanced heories as an extension of core theory of enders with the mathematics. Acquiring knowledge and vision on advanced heories as an extension of core theory of enders with the mathematics. Acquiring knowledge and vision on advanced heories as an extension of core theory of enders with the mathematics. Acquiring knowledge and vision on advanced heories as an extension of core theory of enders with the mathematics. Acquiring knowledge and vision on advanced heories as an extension of core theory of enders with the mathematics. Acquiring knowledge and vision on advanced heories as an extension of core theory of enders with the mathematics. Acquiring knowledge and vision on advanced heories as an extension of core theory of enders with the mathematics. Acquiring knowledge and vision of core theory of enders with the mathematics. Acquiring knowledge and vision of core theory of enders with the mathematics. Acquiring knowledge and vision of core theory of enders with the mathematics. Acquiring knowledge and vision of enders with the mathematics. Acquiring knowledge and vision of advanced and probability and thematics. Acquiring knowledge and vision of enders with the mathematics. Acquiring knowledge and vision of enders with the mathematics. Acquiring knowledge and vision of enders with the mathematics. Acquiring kno						Data Science(Δ)		Statistics B(Δ)	Geometry $C(\Delta)$	Geometry D(Δ)
theories as an extension of core theory of complex systems. (A) modern mathematics. To joic in Analysis (A) To joic in Analys	U								Mathematical Analysis A(Δ)	* ' '
modern mathematics. Topics in Geometry(\(\Delta\) Stratution (\(\Delta\)									Theory of Complex Systems (Δ)	(Δ)
S t a a language of the second of the secon	u								Topics in Geometry(Δ)	
t a a label to understand, learn and explain logical framework and skills for constructing learning. To learn topic relevant to modern and istorical concerns that human and society face through variety of classes. Peace Science Courses(O) Area Courses(O)	r									Topics in Algebra (Δ)
To learn topic relevant to modern and historical concerns that human and society face through variety of classes. Peace Science Courses(O) Area Courses(O) A	t									= ' '
To learn topic relevant to modern and historical concerns that human and society face through variety of classes. Being able to understand, learn and explain logical framework and system of basic studying according to each subject and necessary knowledge and skills for constructing learning. Being able to understand, learn, and explain the necessity of college education, career explants and explain the necessity of college education, ca									Network and Algebra (Δ)	
Introduction to Physics A (O) Being able to understand, learn and explain logical framework and system of basic studying according to each subject and necessary knowledge and skills for constructing learning. Area Courses(O) Introduction to Physics A (O) Introduction to Physics B (O) Introduction to Physics B (O) Introduction to Biological Sciences A(O) Introduction to Biological Sciences A(O) Introduction to Earth and Planetary Sciences B(O) Able to understand, learn, and explain the necessity of college education, career and explain the necessity of college education, career set each set after and set and explain courses (A) Social Cooperation Courses (A) Social Cooperation Courses (A) Social Cooperation Courses (A) Social Cooperation Courses		historical concerns that human and society	Peace Science Courses(O)	Area Courses(O)	Area Courses(O)	Area Courses(O)				
Being able to understand, learn and explain logical framework and system of basic studying according to each subject and necessary knowledge and skills for constructing learning. Introduction to Physics A (O) (O) (Introduction to Chemistry A) (O) (O) (O) (O) (O) (O) (O) (O) (O) (O	i		Area Courses(O)							
Being able to understand, learn and explain logical framework and system of basic studying according to each subject and necessary knowledge and skills for constructing learning. (○) Introduction to Physics B (○) (○) (○) (○) (○) (○) (○) (○) (○) (○)	g	Tace through variety of classes.								
logical framework and system of basic studying according to each subject and necessary knowledge and skills for constructing learning. (O) (O) Introduction to Biological SciencesA(O) (O) Introduction to Earth and Planetary Sciences A(O) (O) Introduction to Earth and Planetary Sciences A(O) (O) Introduction to Earth and Planetary Sciences B(O) Introduction to University Education(⊚) Social Cooperation Courses (△)		logical framework and system of basic studying according to each subject and necessary knowledge and skills for								
Studying according to each subject and necessary knowledge and skills for constructing learning. Introduction to Biological (O) Introduction to Earth and Planetary Sciences A(O) Introduction to Earth and Planetary Sciences B(O) Able to understand, learn, and explain the necessity of college education, career advertise and each of either and production to University Education (⊚) Social Cooperation Courses (△)			(O)	(O)						
Constructing learning. Planetary Sciences A(O) Sciences B(O) Introduction to Earth and Planetary Sciences B(O) Able to understand, learn, and explain the necessity of college education, career advection and explain the necessity of sciences B(O) Social Cooperation Courses (\(\triangle \)) Social Cooperation Courses Social Cooperation Courses			SciencesA(O)	(O)						
Able to understand, learn, and explain the necessity of college education, career advection and explain the necessity of college education, career Social Cooperation Courses (△) Social Cooperation Courses (△)				SciencesB(O)						
necessity of college education, career advection and a code of othics Education(®) (\(\Delta \)				Planetary Sciences B(O)						
advection and a code of others		Able to understand, learn, and explain the	Education(©)							
		education, and a code of ethics.	Social Cooperation Courses (Δ)							

Academic achievements	1st	grade	2n	d grade	3rd grade		4th grade		
Evaluation items	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester	
	Analysis I(⊚)	Analysis II(⊚)	Analysis III(⊚)	Analysis IV (⊚)	Algebra A(O)	Algebra B(O)	Special Study of Mathematics and Informatics for Graduation (③)	Special Study of Mathematics and Informatics for Graduation (③)	
	Exercises in Analysis I(③)	Exercises in Analysis II(◎)	Exercises in Analysis III(©)	Exercises in Analysis IV(⊚)	Exercises in Algebra A(O)	Exercises in Algebra B(O)			
			Algebra I(⊚)	Algebra II(⊚)	Geometry A(O)	Geometry B(O)			
			Exercises in Algebra I(©)	Exercises in Algebra II(©)	Exercises in Geometry A(O)	Exercises in Geometry B(O)			
			Fundamental Concepts of Mathematics I(②)	Fundamental Concepts of Mathematics II(©)	Analysis A(O)	Analysis C(O)			
			Exercises in Fundamental Concepts Mathematics I(©)	Exercises in Fundamental Concepts Mathematics II(©)	Exercises in Analysis A(O)	Exercises in Analysis C(O)			
				Mathematics for Computation (O)	Analysis B(O)	Analysis D(O)			
					Exercises in Analysis B(O)	Exercises in Analysis D(O)			
					Mathematics for Computation A(O)		<u> </u>	Sxer4(a)-132 e f(cs) T dfathematics(t)	4.2(IC2 <u>0</u> TfT
					Probability and Mathematical Statistics A(O) Exercises in Probability and Mathematical Statistics A				
				Exercises in Mathematics for Computation(O)	(O) Exercises in Algebra A(O)	Exercises in Algebra B(O)	Special Study of Mathematics and Informatics for Graduation (()	Special Study of Mathematics and Informatics for Graduation (⊚)	
					Exercises in Geometry A(O)	Exercises in Geelyseit BO) Exercises in Alhabýsi e eD(€	ixercises i Analysi eD	

Academic achievements	1st grade		2nd grade		3rd grade		4th grade	
Evaluation items	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester
(1) Acquiring a ability to think logically.	Introductory Seminar for First-Year Students(©)						Special Study of Mathematics and Informatics for Graduation (⊚)	Special Study of Mathematics and Informatics for Graduation (©)
(2) To acquire ability to utilize mathematical thinking.								
(3) To acquire the ability to understand sentences and communicate information.								
(4) To improve one's ability to learn independently.							Special Study of Mathematics and Informatics for Graduation (③)	Special Study of Mathematics and Informatics for Graduation (⊚)
(5) Acquiring a mannar of tackling problems.								
		Liberal Arts Education Subjects	Basic Specialized Subjects	Specialized Education Subjects	Graduation Thesis	(©)Required	(O)Elective/required	(△)Free elective