

Specifications for Major Program

Name of School (Program) [School of Engineering, Cluster 4  
(Social and Environmental Engineering)]

Program name (Japanese)	建築プログラム
(English)	Program of Architecture and Building Engineering

1. Academic degree to be Acquired :

2. Overview

(1) -

This program aims to foster and produce future members of a global society who have the knowledge to be innovative, creative, take leadership, and possess language abilities that will help them play an important role in the international world.

This program focuses specifically on producing individuals who are capable of addressing various global issues from an engineering perspective and contribute to the creation of new and valuable solutions that are significant to both the industrial and academic societies.

Students enrolled in the program will begin the curriculum from the first semester of their first year. In the second year, students will set off on their major programs and take the designated courses which are offered at each cluster. Major program overview is as (2).

(2) Prog Program of Architecture and Building Engineering

Japanese architects are active in the world and contribute to the creation of human culture. In this undertaking, a broad range of knowledge and a deep sense of ethics are required. This is especially true in Hiroshima, where the wisdom to create a peaceful living environment has been accumulated. Against the background of the unique features of Hiroshima, this program provides students education, engineering abilities, and technical skills for creating a living environment with a wide range of knowledge. This program cultivates the ability to voluntarily explore and create new buildings that respond to sustainable development and the information-driven society of the future.

In this program, students learn, in a comprehensive manner, basic engineering knowledge related to architectural design and planning, building environment and services, building engineering, and building materials and production, as well as the knowledge necessary for actual business, such as architectural economy, architectural administration, etc., and artistic and creative abilities. Over half of the graduates advance to the first semester of the

se and research competency. After graduation, graduates work actively as engineers in planning, design, equipment, and structure. They work on the construction of buildings of every kind, such as housing, cultural facilities, public institutions, commercial facilities, and industrial facilities, and in the areas related to urban planning and interior planning. They also work actively as architects at construction companies, the housing industry, architectural design offices, and local governments.

This program has an educational system that includes the lectures and exercises necessary to meet the academic requirements to qualify for candidacy in the examinations for second-class and first-class architects (more than two quired).

3. Academic Awards Policy (Policy for awarding degrees and goal of the program)

In the Program of Architecture and Building Engineering, students acquire a wide range of knowledge, education, engineering ability, and technical skill for creating living environments, against the background of the unique features of Hiroshima. This program cultivates the ability to voluntarily explore and create new buildings that respond to sustainable development and the information-driven society of the 21st century. This program awards a

the requirements of the course, a liberal arts education aimed at cultivating a well-rounded character, and the specialized education designed to achieve the following goals:

(A) The ability to contribute to the realization of peaceful living environments through the creation of architecture (development of professionals who can contribute to a peaceful living environment)

(B) The ability to contribute to social progress and human happiness (development of professionals that can contribute to human happiness)

(C) Possession of a deep personality and ethics as an engineer (cultivation of ethics as engineers)

(D) Possession of basic knowledge of engineering in architecture (acquisition of basic knowledge of engineering)

(E) Possession of comprehensive, individual expertise and abilities in architecture (acquisition of architectural expertise and abilities)

(F) Possession of design capabilities (cultivation of design capabilities)

(G) Possession of Japanese communication skills and international communication skills (cultivation of communication skills)

(H) The ability to undertake personal development and continued training on a permanent basis (cultivation of ability to undertake personal development and continued training)

(I) Possession of the ability to make precise and rational plans, and to implement them (cultivation of ability to make plans and to implement them)

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

The Program of Architecture and Building Engineering organizes and implements a curriculum according to the following policy, so that students may achieve the goals A to I in the academic awards policy.

Learning outcomes are evaluated based on the grade calculation for each subject and the level of attainment against the goals set by the education program.

subjects.

year, and assignment to the Program of Architecture and Building Engineering

planning, architectural planning, and architectural design drawing.

students acquire the comprehensive knowledge and methodology necessary to undertake architecture in the 21st century.

is judged. After this judgment has been made, when students advance to the fourth year, they are assigned to a laboratory, select their subject of specialized research, begin their graduation research, including experiments, surveys, etc., undergo final examination of their finished graduation thesis, and, finally, obtain graduation and their academic degree.

Students achieve goal B (development of professionals that can contribute to human happiness) through mastery

offered in the second year.

Students achieve goal C (cultivation of ethics as engineers) through mastery of the specialized basic subjects and the specialized subject ,

the third year.

Students achieve goal D (acquisition of basic knowledge of engineering) through mastery of the specialized basic ,

the first year, and the courses on building engineering, architectural environments, and architectural planning offered from the second year through the third year.

lized basic subject

G (cultivation of communication skills) through mastery of liberal arts education subjects,

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Architecture I,

through mastery of the specialized ,

offered from the third year through the fourth year.

Students achieve goal I (cultivation of the ability to make plans and to implement them) through mastery of the , IV,

year through the fourth year.

## 5. Program Timing and Acceptance Conditions

The English- Program of Architecture and Building Engineering occurs in the second semester of the second year, when students have completed many subjects in the liberal arts course. Cluster 4 has two programs: Architecture and Building Engineering, and Civil and Environmental Engineering. Each program has an upper limit for the acceptable number of students. Assignment to each program is decided at the end of the first year, after taking into account the requests of students and their academic results. The subject that it is recommended to take in the first year of the Program of Architecture and Building Engineering

### Additional Requirements

To determine acceptance into the English- an individual consultation with the faculty committee members.

As architecture involves human living as a whole, it is desirable to learn as wide a range of subjects as possible in the liberal arts course, regardless of whether these subjects belong to humanities or science courses.

## 6. Qualifications to be Acquired

Students qualify for candidacy for the examination for class 2 architects upon graduation. If they have had hands-on experience for more than two years, students qualify for candidacy for the examination for class 1 architects. Type-1

the prescribed liberal arts subjects, students can obtain the Type-1 High School Teaching License (Industry) upon graduation.

## 7. Class Subjects and Course Content

\* For class subjects, see the subject list in the attached sheet 1. (Subject list to be attached.)

\* For course content, see the syllabus published every academic year.

\* All courses are taught in Japanese. Course materials may be written in both Japanese and English or only English.

## 8. Academic Achievements

At the end of each semester, evaluation criteria are applied to each academic achievement evaluation item to

n for each subject, from admission to the

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.

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

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

\* 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.

#### 9. Graduation Thesis (Graduation Research) (Purpose, when and how it is assigned, etc.)

The graduation thesis is intended to be a major subject for the achievement of the following learning and educational goals.

engineering knowledge in architecture  
sion of comprehensive, individual expertise and abilities in architecture

on an ongoing basis

When it is assigned: At the start of fourth year (only those who meet the conditions for undertaking a graduation thesis are to be assigned.)

Conditions for undertaking a graduation thesis

- (1) Students must acquire 46 credits in liberal arts education.
- (2) Students must acquire 38 or more credits (including all compulsory subjects) in the basic special courses of the specialized education.
- (3) Students must complete Architectural Project and Drawing III, IV .
- (4) Out of the total number of credits in basic special education and special education to be acquired before graduation (excluding the 5 credits for graduation thesis), the number of credits yet to be obtained should be 10 or fewer.

Details of each laboratory to which students can be assigned, as well as details of research undertaken by supervisors and the assignment policy (the number of students acceptable to each laboratory and supervisor, etc.) are to be explained by the provided guidance given to students. Depending on academic results in Architectural Project and Drawing, about 10% of students who can undertake a graduation thesis will be able to submit graduation designs as their thesis.

Assignment is decided according to the requests of students who can undertake a graduation thesis. However, since the number of acceptable students is limited, adjustments may be made.

#### 10. Responsibility System

In this program, the architectural studies group, consisting of the teachers in charge. and its subsidiary, the self-assessment evaluation committee, are organized in order to check and improve the program. Under these committees, a curriculum examination working group, a planning examination working group for faculty

development (FD), and an external evaluation working group are established. For the smooth running of the educational program in each area, these committees and working groups check and evaluate the learning and educational goals, the evaluation methods used to judge levels of attainment, and the whole educational system (educational methods, educational environment, etc.) (Check), examine educational improvement methods (Act), make improvement plans to improve learning and educational goals, educational methods, and the educational environment (Plan), and implement these plans (Do). In this way, the PDCA improvement cycle is established. This program has a system under which all the teachers in charge, centering on the program manager, cooperate and move forward.

## (2) Program evaluation

In this program, evaluation is carried out according to the following evaluation criteria.

valuation results of learning and the attainment level of educational goals, whether its mechanism is disclosed, and whether the related activities are being implemented

ion the requirements of society or requests from students, and whether it is organized so as to check the functioning of the education check system itself

or committees that constitute the education evaluation system

evaluations, and whether the related activities are being conducted

uated (relationship to class evaluation to be described)

The architectural studies group and each committee focus on evaluation and improvement of the program. The most important things are the following two points.

am are conducted on a daily basis and in a systematic manner.

attainment levels are conducted continuously.

-assessment evaluation committee implements the following unique questionnaires as part of the program evaluation.

plans, opinions about other lectures, etc.

(targeted at graduates and companies)

The architectural studies group requests the committees to check the program, present their improvement plans, and prepare FD proposals, and, after discussing the reports and proposals submitted by the committees, the group decides on the improvement strategy. As the group consists of all teachers in charge of the program, the evaluation and improvement strategy decided here is considered to have been explained to all members, and is then put into action. In particular, regarding matters associated with the curriculum, the curriculum examination working group in the self-assessment evaluation committee makes its own checks and proposes the necessary improvement plan. The validity of this program from the point of view of society is checked by the external evaluation working group, evaluated by external academics, and checked by means of a questionnaire targeted at employers and graduates. These activities are conducted on an ongoing basis.

a constant basis, and, through interviews with students at the end of the semester, tutors give guidance so that students can achieve the learning and educational

obtained from tutors, which are reflected in the improvement of this program. Furthermore, based on the results of the class evaluation questionnaire targeted at students, an improvement questionnaire about class improvement measures, etc. targeted at teachers is carried out. This program improves classes in response to student requests.



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## Cluster 4 Specialized Basic Subjects

### Required subjects

Compulsory Elective  
subjects

### Request Subjects

[illegible]



Required subjects

Compulsory Elective subjects

Request Subjects

Class Subjects	Credits	Type of course registration		Class Hours/ Week																Note
		Civil and Environmental Engineering	Architecture and Building Engineering	1st grade				2nd grade				3rd grade				4th grade				
				Spring		Fall		Spring		Fall		Spring		Fall		Spring		Fall		
				1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	1T	2T	3T	4T	
Architectural Project and Drawing I	2						6	6												
Architectural Project and Drawing II	2								6	6										
Architectural Structural Mechanics I	4						4	4												
Architectural Structural Mechanics II	4								4	4										
Vibration Theory of Buildings	2														4					
Reinforced concrete structure	2												4							
Geotechnical and Architectural Foundation Engineering	2														4					
Building Administration	2												4							
Field Exercises of Building	1											1	1	1	1					
History of Japanese Architecture	2								4											
Architectural Planning	2							4												
Town Planning	2									4										
Architectural Environments I	2						4													
Architectural Environments II	2								4											
Exercises in Environmental Science	1												4							
History of contemporary architecture I	2			Ⓒ								4								
Field Work in Architecture	1													3	3					
Computer Technology in Architecture	2									4										
Design Concepts of Steel Structures	2			Ⓐ					4											
Architecture drawings	2						4													

1 As the course is offered every other year, you should take either of the courses.

2 Civil and Environmental Engineering is offered in the second semester of the second year, while Architecture and Building Engineering is offered in the first term of the first semester of the third year.

Cluster 4 Specialized Subjects  
Program of Architecture and Building Engineering

### Required subjects

Compulsory Elective subjects

[illegible]

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Relationships between the evaluation items and class subjects

Subject type	Class subjects	credits	Period	Evaluation items																Total weights of values of evaluation items in the subject				
				Knowledge and Understanding								Abilities and Skills												
				(A)	(B)	(C)	(D)	(E-1)	(E-2)	(E-3)	(E-4)	(F)	(G)	(H)	(I)									
Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject	Weights of values of evaluation items in the subject								
Liberal Arts Education	Introductory Seminar for First-Year Students	2	Semester												30	1	40	1	30	1			100	
Liberal Arts Education	Peace Science Courses	2	Semester	100	1																		100	
Liberal Arts Education	Communication A	1	Semester															100	1				100	
Liberal Arts Education	Communication I B	1	Semester															100	1				100	
Liberal Arts Education	Communication IIA	1	Semester															100	1				100	
Liberal Arts Education	Communication IIB	1	Semester															100	1				100	
Liberal Arts Education	Basic language I	1	Semester															100	1				100	
Liberal Arts Education	Basic language II	1	Semester															100	1				100	
Liberal Arts Education	Information Courses	2	Semester																				100	
Liberal Arts Education	Area Courses	2	Semester	10	1	70	1	20	1														100	
Liberal Arts Education	Health and Sports Courses	2	Semester			100	1																100	
Liberal Arts Education	Calculus I	2	Semester							100	1												100	
Liberal Arts Education	Calculus II	2	Semester							100	1												100	
Liberal Arts Education	Linear Algebra I	2	Semester							100	1												100	
Liberal Arts Education	Linear Algebra II	2	Semester							100	1												100	
Liberal Arts Education	Seminar in Basic Mathematics I	1	Semester							100	1												100	
Liberal Arts Education	Seminar in Basic Mathematics II	1	Semester							100	1												100	
Liberal Arts Education	General Mechanics I	2	Semester							100	1												100	
Liberal Arts Education	General Mechanics II	2	Semester							100	1												100	
Liberal Arts Education	Specialized Education (Required) (Mathematics and Statistics: Basic Practice)	1	Semester							100	1												100	
Specialized Education	Applied Mathematics I	2	Semester							100	1												100	
Specialized Education	Applied Mathematics II	2	Semester							100	1												100	
Specialized Education	Applied Mathematics III	2	Semester							100	1												100	
Specialized Education	Engineering Mathematics A	2	Semester							100	1												100	
Specialized Education	Probability and Statistics	2	Semester							100	1												100	
Specialized Education	Environmental Theory	2	Semester			30	1				70	1											100	
Specialized Education	Basic Engineering/Computer Programming	2	Semester							100	1												100	
Specialized Education	Synthesis of Applied Mathematics	2	Semester							100	1												100	
Specialized Education	Technical English	1	Semester														100	1					100	
Specialized Education	Creation of Architectural Space	2	Semester							100	1												100	
Specialized Education	Lifestyle and the city	2	Semester							100	1												100	
Specialized Education	Building Material	2	Semester									100	1										100	
Specialized Education	Experiments on Building Materials	1	Semester									60	1					10	1	30	1		100	
Specialized Education	Introduction of Building Structures	2	Semester									100	1										100	
Specialized Education	Architectural Project and Drawing I	2	Semester	20	1					60	1								10	1	10	1	100	
Specialized Education	Architectural Project and Drawing II	2	Semester			20	1			60	1								10	1	10	1	100	
Specialized Education	Architectural Structural Mechanics I	4	Semester										80	1									100	
Specialized Education	Architectural Structural Mechanics II	4	Semester										80	1									100	
Specialized Education	Vibration Theory of Buildings	2	Semester										80	1									100	
Specialized Education	Reinforced concrete structures	2	Semester										100	1									100	
Specialized Education	Structural steel structures	2	Semester										80	1									100	
Specialized Education	Building Administration	2	Semester				40	1		60	1												100	
Specialized Education	Field Exercises of Building	1	Semester				10	1						60	1			10	1	10	1	10	1	100
Specialized Education	History of Japanese Architecture	2	Semester				40	1			60	1											100	
Specialized Education	Architectural Planning	2	Semester				10	1			70	1					10	1		10	1		100	
Specialized Education	Town Planning	2	Semester				20	1			70	1					10	1					100	
Specialized Education	Architectural Environments I	2	Semester									100	1										100	
Specialized Education	Architectural Environments II	2	Semester									100	1										100	
Specialized Education	Exercises in Environmental Science	1	Semester									70	1					10	1	20	1		100	
Specialized Education	History of contemporary architecture I	2	Semester				20	1			80	1											100	
Specialized Education	Field Work in Architecture	1	Semester											70	1			10	1	10	1	10	1	100
Specialized Education	Computer Technology in Architecture	2	Semester							100	1												100	
Specialized Education	Design Concepts of Steel Structures	2	Semester										80	1					10	1	10	1	100	
Specialized Education	Architecture drawings	2	Semester							60	1						40	1					100	
Specialized Education	Methods of Structural Analysis	2	Semester											100	1								100	
Specialized Education	Earthquake Resistant Structures	2	Semester											100	1								100	
Specialized Education	Structural Design	2	Semester										60	1	10	1	10	1	10	1	10	1	100	
Specialized Education	Building Construction	2	Semester				20	1					80	1									100	
Specialized Education	Disaster Prevention of Buildings	2	Semester										100	1									100	
Specialized Education	Seminar in Architecture I	2	Semester										60	1			20	1	20	1			100	
Specialized Education	Design of Steel Structures	2	Semester										100	1									100	
Specialized Education	History of contemporary architecture II	2	Semester	20	1	20	1						60	1									100	
Specialized Education	Architectural Planning II	2	Semester				10	1					70	1	10	1		10	1				100	
Specialized Education	Building Services I	2	Semester										100	1									100	
Specialized Education	Building Services II	2	Semester										100	1									100	
Specialized Education	Architectural Project and Drawing III	3	Semester	10	1	10	1						40	1	10	1	10	1	10	1	10	1	100	
Specialized Education	Architectural Project and Drawing IV	3	Semester	10	1	10	1						40	1	10	1	10	1	10	1	10	1	100	
Specialized Education	Architectural Project and Drawing V	2	Semester										40	1	20	1	10	1	10	1	20	1	100	
Specialized Education	Artistic Practice	2	Semester										60	1	30	1	10	1					100	
Specialized Education	Seminar in Architecture II	2	Semester										60	1			20	1	20	1			100	
Specialized Education	Seminar in Architecture III	1	Semester										50	1	10	1	10	1	10	1	20	1	100	
Specialized Education	Urban Environment	2	Semester										100	1									100	
Specialized Education	Pace Urbanism and Architecture	2	Semester	30	1	10	1						60	1									100	
Specialized Education	Sustainable Design	1	Semester										100	1									100	
Specialized Education	Vegetation Ecology	1	Semester										100	1									100	
Specialized Education	Project Management in Building	2	Semester										80	1	10	1				10	1		100	
Specialized Education	Ethics of Architecture	2	Semester				90	1					10	1									100	
Specialized Education	Graduation Thesis	5	Semester							10	1			40	1	10	1	20	1	10	1	10	1	100

Sheet 4 Curriculum Map									
	C	G	A						
							1	D	2
				D		D		D	D
I			A ☉	A ☉			N	F	
			N A ☉		N		N	G	
				B G☉			B GG☉	N	
		,						B G	

	C	G	A							
							1		2	
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A	D	<div>G</div> <div>D</div>		<div>N</div> <div>I</div> <div></div>	<div>N</div> <div>N</div>	<div>N</div> <div>B</div>	<div>N</div> <div>B</div> <div>N</div> <div>K</div>	<div>E</div> <div>N</div> <div>B</div> <div>N</div> <div></div> <div></div>	<div>E</div>

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