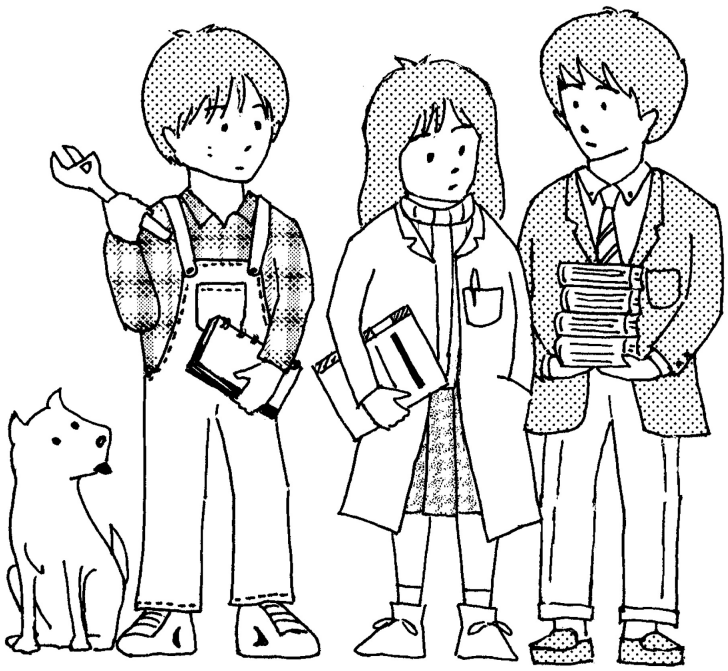
SYLLABUS *2016*

[B] Architecture



Kyoto University, Faculty of Engineering

[B] Architecture

Architecture

40510

Introduction to Architectural Engineering

建築工学概論

【Code】40510 【Course Year】1st year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	4	
	3	
	3	
	4	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40570

History of Japanese Urban Space

日本都市史

【Code】40570 【Course Year】1st year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

History of World Architecture

世界建築史

【Code】40640 【Course Year】 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	8	
	4	
	1	
	1	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40610

Atelier Practice of Architectural Design, Basis

設計演習基礎

【Code】40610 【Course Year】1st year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Seminar 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	7	
	7	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40720

Fundamental Training in Architectural Design

建築造形実習

【Code】40720 【Course Year】1st year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Exercise 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	6	
	6	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

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【Web Sites】

【Additional Information】

40050

Architectural Planning I

建築計画学 I

【Code】40050 【Course Year】2nd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	1	
	1	
	1	
	1	
	1	
	2	
	2	
	2	
	1	
	2	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

Housing Design

住居計画学

【Code】40060 【Course Year】2nd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	1	
	5	
	2	
	2	
	2	
	1	
	1	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

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【Web Sites】

【Additional Information】

40160

Architectural Design Method

建築設計論

【Code】40160 【Course Year】2nd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	5	
	5	
	4	
	1	
	1	
	1	
	1	
	7	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

Atelier Practice of Architectural Design I

設計演習 I

【Code】40070 【Course Year】2nd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Seminar 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	7	
	7	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40080

Atelier Practice of Architectural Design II

設計演習 II

【Code】40080 【Course Year】2nd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Seminar 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	7	
	7	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

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【Web Sites】

【Additional Information】

Environmental Engineering of Architecture I

建築環境工学 I

【Code】40090 【Course Year】2nd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese

【Instructor】Kazunori Harada, Daisuke Ogura,

【Course Description】

【Grading】Score is evaluated based on end-term examination and other materials.

【Course Goals】B1) scientific ability to solve problems, B4) understanding of environmental engineering aspects in architecture, C1) ability to realize architectural projects

【Course Topics】

Theme	Class number of times	Description
building and climate	3	
thermal comfort and environment	2	
heat transfer in buildings	3	
air quality and ventilation	4	Sources of indoor air pollution, required ventlation rate, mechanism of ventilation, planning and calculation methods of buoyancy ventilation and wind-driven ventilation.
thermal radiation heat transfer	2	Principle of thermal radiation, utilization of thermal radiation to buildings
evaluation of achievements	1	Achievement on above items will be evaluated.

【Textbook】

【Textbook(supplemental)】Shuichi Hokoi, Teturo Ikeda, Katsumichi Nitta, Kenchiku Kankyo Kougaku II (Environmental engineering in Architecture II, in Japanese), Asakura Shoten

【Prerequisite(s)】None specified.

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【Web Sites】

【Additional Information】[Office hour] No specific time is to be specified. Those who want to make questions can make an appointment with lecture staff.

40100

Environmental Engineering of Architecture II

建築環境工学 II

【Code】40100 【Course Year】2nd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	2	
	4	
	3	
	1	
	3	
	4	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

Mechanics of Building Structures I

建築構造力学 I

【Code】40110 【Course Year】2nd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】This course presents the fundamentals on the shapes, elements, and design of building structures. Mechanical models, basic concepts and theories, and their applications are shown. Definitions of stress and strain, mechanical properties of structural materials, stress resultants and deformation of bars, theory and application of of statically determinate beams are also given.

【Grading】Term examination

【Course Goals】To study fundamentals of mechanics of building structures, which form the basis of studying mechanics of building structures 2 and 3.

【Course Topics】

Theme	Class number of times	Description
Role of structural mechanic and fundamentals of statics	2	Classification of frame structures. Shapes and mechanical properties of frame structures. Role of structural mechanics in structural design. Displacement, strain, force, moment. Equilibrium equations of free body.
Mechanical properties of materials and principles for analysis of deformable bodies	3	Deformation process of structural materials, e.g., steel and concrete, under external forces. Definition of elasticity, plasticity, and viscosity. Definition of stress and strain. Stress-strain relationship. Basic equations for frame analysis. Assumptions and approximations for elementary analysis.
Statically determinate beams	4	Definition of stress resultants of beams. Statically determinate beams. Methods for finding reaction forces and stress resultants using equilibrium equations for free bodies. Derivation of differential equations for beams. Diagrams for axial forces, shear forces, and bending moments.
Stresses on beam section	5	Assumption of plane sections. Axial stress due to axial force and bending moment. Shear stress due to torque. Mohr's circle.
Feedback using term exam	1	Conduct feedback using term exam through KULASIS

【Textbook】T.Nakamura (ed.)‘Mechanics of building structures I: Illustrative description and exercises’, Maruzen.

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40120

Mechanics of Building Structures II

建築構造力学 II

【Code】40120 【Course Year】2nd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】 【Language】Japanese 【Instructor】,

【Course Description】Axial deformation of a bar and bending deformation of a beam. Statically determinate truss and moment-resisting frame. Theory of statically indeterminate beams and buckling of columns. The force method and the displacement method (stiffness method) are described in the theory of statically indeterminate beams. Exercises are given for each subject.

【Grading】Term examination

【Course Goals】Study analysis method of bending deformation of beams and theory of statically indeterminate beams. In addition study the theory of statically determinate truss and moment-resisting frame and the theory of buckling of columns.

【Course Topics】

Theme	Class number of times	Description
Axial deformation of a bar and bending deformation of a beam	1	Differential equation for deflection curve of a beam and Mohr’s theorem for deflection analysis.
Theory of statically indeterminate beams 1	3	Force method in terms of unknown stress resultants and reactions.
Theory of statically indeterminate beams 2	3	Displacement method in terms of unknown displacements.
Statically determinate truss and frame	4	Analysis of stress resultants in statically determinate trusses and moment-resisting frames.
Buckling of column	3	Governing equation for a buckling problem of a column. Eigenvalue analysis. Slope-deflection method for buckling analysis.
Feedback using term exam	1	Conduct feedback using term exam through KULASIS

【Textbook】T.Nakamura (ed.)‘Mechanics of building structures I: Illustrative description and exercises’, Maruzen.

【Textbook(supplemental)】

【Prerequisite(s)】

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【Web Sites】

【Additional Information】Office hour: Friday 10:30-12:00.

Construction Engineering and Management I

建築生産Ⅰ

【Code】40210 【Course Year】2nd year 【Term】1st term 【Class day & Period】Wed 1st 【Location】N7
【Credits】2 【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese
【Instructor】Professor Shuzo FURUSAKA
Associate Professor Takashi KANETA
【Course Description】Stakeholders and their roles in a building construction project will be explained, looking at the project process including project planning, architectural design, building construction, and maintenance.
【Grading】Evaluated by Examination.
Accepted tasks, quiz, and attendance to the class will be considered.
【Course Goals】Knowledge on building construction process.
B-B2.
【Course Topics】

Theme	Class number of times	Description
Introduction	2	Outline of construction engineering and management. Goals and scopes of the lectures. Textbook Chapter 1
Construction market	1	Construction market of Japan and overseas. Activities and volumes of construction market. Textbook Chapter 2
Building system	5	Stakeholders, regulations, standards, jobs and roles that are involved with building construction projects. Project delivery methods, contracts, procurement system. Questions and Answers. Textbook Chapter 1, 4
Project planning	1	Project process and phases. Project planning, briefing, feasibility study, programming, development management. Textbook Chapter 6, 6.1-6.8
Design in project process	2	Design, drawings and specification required in a construction project. Cost management, design review, concurrent engineering, quantity survey, value engineering. Textbook Chapter 6, 6.2-6.4
Building codes and regulations	4	Architects law, contractors law, design contract, construction contract. ISO9000s, ISO14000s, product liability, quality assurance. Textbook Chapter 3, 5

【Textbook】Shuzo FURUSAKA: KENCHIKU-SEISAN, Published by Riko Tosho.
ISBN978-4-8446-0746-5
【Textbook(supplemental)】
【Prerequisite(s)】Social science and economics taught in High School.
【】
【Web Sites】
【Additional Information】Contact to:
kaneta@archi.kyoto-u.ac.jp

40130

Materials for Buildings

建築材料

【Code】40130 【Course Year】2nd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	1	
	4	
	3	
	4	
	2	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40430

Building and Urban Administration

建築・都市行政

【Code】40430 【Course Year】2nd year 【Term】【Class day & Period】【Location】【Credits】2 【Restriction】

【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,,,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	1	
	3	
	2	
	2	
	4	
	1	
	1	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40410

Theory of Landscape Design

景観デザイン論

【Code】40410 【Course Year】2nd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	7	
	7	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40590

Computational Practice on Architectural Design and Engineering

建築情報処理演習

【Code】40590 【Course Year】2nd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】 【Language】Japanese

【Instructor】D. Ogura, T. Kaneta, M. Kurata, Y. Onishi,, Y. Horinouchi, K. Takatsuka and D. Nii,

【Course Description】

【Grading】It depends on the participation situation to practice and achievement tests in each term

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
Guidance	1	
Introduciton of programming (1st term)	4	
Slightly complicated programming (2nd term)	1	
Example of the computer application for building design	4	
Applied programing (3rd term)	4	
Academic achievement test	1	

【Textbook】H. Tomita and Y. Saito: Fortran90/95 Programing, Baifukan

【Textbook(supplemental)】None. A document is appropriately distributed during practice.

【Prerequisite(s)】

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【Web Sites】

【Additional Information】

21020

Engineering Mathematics C

工業数学Ｃ

【Code】21020 【Course Year】2nd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese

【Instructor】Yohei Yamazaki, Kazuyoshi Nishijima,

【Course Description】This course provides lectures on applied probability theory, Fourier analysis and basic on engineering decision analysis. Emphasis is put on applications to engineering in general and architectural engineering in particular.

【Grading】Examination

【Course Goals】Successful students will be able to develop probabilistic models for uncertain phenomena and analysis therewith, (2) explain about Fourier analysis and its application and (3) formulate decision problems under uncertainty and optimize decisions.

【Course Topics】

Theme	Class number of times	Description
	6	
Applied probability theory	5	Methodology and analysis methods of uncertain phenomena such as loads acting on structures or material behaviors are introduced. Basics of the probability theory, probabilistic/statistical modeling and their parameter estimation as well as related tools such as First Order Reliability Method and Monte Carlo simulations are explained.
Engineering decision anlaysis	3	A decision theoretical framework for design and maintenance of structures is presented. Decision graph and its use are introduced.
Follow-up	1	

【Textbook】Statistics and Probability theory In Pursuit of Engineering Decision Support (Michael Havbro Faber, Springer)

【Textbook(supplemental)】

【Prerequisite(s)】Calculus

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【Web Sites】

【Additional Information】Some homework assigned. Questions after lectures. Feedback period after final exam.

Urban Design

都市設計学

【Code】40170 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese

【Instructor】Kenji Okazaki,Hirohide Kobayashi,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
History of cities	5	
City planning	3	
Infrastructure of cities	3	
Cities and disasters	3	
Cirties and environment	1	
Evaluation of achievement	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40530

Behavior and Architectural Design Theory

行動・建築デザイン論

【Code】40530 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2 【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】

【Course Description】This course gives the basic knowledge to design desirable architectural spaces for human beings by searching for the relationship between man and behavior. The following topics on scientific methods of man-environment studies are explained to such end; territorial behavior, behavioral setting, wayfinding, group behavior. Then we show various design practices based on these principles, and discuss the new architectural design theory using the behavioral theory based on cognitive science and semiotics.

【Grading】by term-end examination

【Course Goals】To understand the architectural and urban spaces from the viewpoint of human cognition and behavior and to learn basic design methods based on such understanding. B. technical and basic knowledge, B2. understanding of architectural planning and designing.

【Course Topics】

Theme	Class number of times	Description
Various Concepts on Human behavior and Environment	2	Man perceives environment based on diverse information such as form, color, movement, sound, and fragrance, acts in environment, reads environment as the significant world, and memorizes the place and landscape of environment. We explain such mechanism on perception, behavior, cognition, and memory in Man-Environment relations. Moreover we refer to the fundamental characteristics of human behavior including concept of identity and orientation, roundabout route, excursion characteristics, prospect and refuge, ordinary and extra-ordinary behavior.
Territorial Behavior and Behavioral Setting	3	We clarify the territorial behavior studied in proxemics such as personal space, crowding, neighborhood, and defensible space. Moreover we regard the combination of behavior and environment as behavioral setting, and explore the being of environment affording various human behaviors.
Spatial Orientation and Wayfinding Behavior	3	We consider the way of navigation based on the structural analysis of environmental image and cognitive map and explain the mechanism of wayfinding behavior and its simulation through the experiment in architectural and urban spaces.
Group Behavior and its Emergence	2	We explain the mechanism of collective behavior and its simulation. We also explore the emergence of macro group behavior from the interaction of micro subjects.
Behavior and Path Design	2	We analyze the various designs of behavior or path such as sequence landscape, front approach to a shrine, garden adjacent to a ceremonial teahouse, and Japanese garden with paths around ponds, and explain the notation systems of behavior and path developed in various design fields. Moreover we introduce the behavioral description based on time geography, and the effect of environmental transition on human behavior.
Perspective of behavior and Architectural Design theory	2	We give an outline of the relation among perception, cognition and behavior form the viewpoints of philosophy, phenomenology, gestalt theory, psychology, behavioral science, cognitive science, and semiotics. We also consider the possibility of behavior and architectural design in the broad contexts including the conservation and renewal of existing spaces, and cyber spatial design.
Confirmation of the learning degree	1	Summary of the lecture and evaluation of the learning degree

【Textbook】using handout prints and slides

【Textbook(supplemental)】Architectural Institute of Design (ed.), Man-Environment System Design,SHOKOKUSHA, 1997 . Architectural Institute of Design (ed.), Spatial Planning Theory for Architectural and Urban planning, INOUE SHOIN, 2002 .

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】Please contact to the following e-mail; monnai@archi.kyoto-u.ac.jp

History of Japanese Architecture

日本建築史

【Code】40580 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	14	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40180

Building Systems Design

建築設備システム

【Code】40180 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	4	
	3	
	2	
	3	
	2	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

Reinforced Concrete Structure I

鉄筋コンクリート構造 I

【Code】40190 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	2	
	3	
	3	
	3	
	3	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40200

Steel Structure I

鉄骨構造 I

【Code】40200 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】 【Language】Japanese 【Instructor】,,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	2	
	2	
	1	
	1	
	2	
	2	
	1	
	3	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

Mechanics of Building Structures III

建築構造力学 III

【Code】40220 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】4

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】Slope-deflection method and moment distribution method. Force method and displacement method (stiffness method). Matrix method for structural analysis. Principles of virtual work and energy methods. Fundamental theory of structural analysis and theory of plastic analysis of frames.

【Grading】Term examination

【Course Goals】Study force method, displacement method (stiffness method) and matrix method for structural analysis. In addition study slope-deflection method and theory of plastic analysis of frames.

【Course Topics】

Theme	Class number of times	Description
Fundamental theory of structural analysis and slope-deflection method	4	Frame analysis model and governing equation for slope-deflection method.
Moment distribution method	1	Moment distribution method without nodal lateral displacement.
Three-dimensional frame	2	Plane frames with equal horizontal displacements. Shear force distribution formula. Structural design of building frames.
Displacement method and force method	9	Member stiffness matrix and system stiffness equation for truss and moment-resisting frame. Treatment of mid-span loads.
Principles of virtual work	5	Principle of virtual displacement. Unit virtual displacement method and stiffness method. Principle of virtual force. Unit virtual force method.
Principles of energy methods	3	Stationary and minimum principles of total potential energy and complementary energy.
Plastic limit analysis and elastic-plastic analysis	5	Load-deformation curve for an elastic-perfectly plastic beam, plastic hinge, plastic collapse, virtual work equation, fundamental theorem for plastic limit analysis, plastic limit analysis of moment resisting frame.
Feedback using term exam	1	Conduct feedback using term exam through KULASIS

【Textbook】T.Nakamura (ed.)‘Mechanics of building structures II: Illustrative description and exercises’, Maruzen.

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】Office hour: Before and after the class

40280

Construction Engineering and Management II

建築生産 II

【Code】40280 【Course Year】3rd year 【Term】2nd term 【Class day & Period】Tue 1st 【Location】N8

【Credits】2 【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese

【Instructor】Professor Shuzo FURUSAKA
Associate Professor Takashi KANETA
Visiting Lecturer Jiro TSUNEOKA

【Course Description】Planning and management method in building construction project will be explained. Construction management and construction technology, integrated with information and communication technology, will be also explained with the latest project reports.

【Grading】Evaluated by Examination.
Accepted tasks, quiz, and attendance to the class will be considered.

【Course Goals】Basic knowledge on supervising and construction management.
C-C1.

【Course Topics】

Theme	Class number of times	Description
Introduction	1	Construction process based on drawings and specifications. Textbook Chapter 7
Planning and management	5	Construction planning and management. Considering schedule, quality, cost, safety, environment. Textbook Chapter 8, 10, 10.1-10.4
Management method	2	Project team design, information and reporting system, procurement system, Value engineering. Textbook Chapter 10, 10.5-10.6
Project management and ICT	2	Building Information Model and other applications. Textbook Chapter 10, 10.7-10.8
Construction Control	5	Construction planning and control. Feedback of the lecture. Textbook Chapter 9, 11

【Textbook】Shuzo FURUSAKA: KENCHIKU-SEISAN, Published by Riko Tosho.
ISBN978-4-8446-0746-5

【Textbook(supplemental)】

【Prerequisite(s)】Requested to master "Construction Engineering and Management I" in advance.

【】

【Web Sites】

【Additional Information】Contact to:
kaneta@archi.kyoto-u.ac.jp

Theory of Architecture

建築論

【Code】40290 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	7	
	1	
	6	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40300

Theory of Living Space in the Region

都市・地域論

【Code】40300 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2 【Restriction】No Restriction

【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】KANKI Kiyoko

【Course Description】

【Grading】Short homeworks(2 or 3 times), Homework for Winter Holiday(1 time), and the result of the Examination

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
History of Modern City Planning	1	Overviewing the history of modern city planning and the trials of Utopian cities, and considering the meanings of them specially through how those trials have been inherited.
Building Control	1	Explaining the system of building control and urban development control by the building and City Planning regulation.
District Planning	1	Explaining the systems of the district planning, with a special focus on the local community's initiative and the systems' result and potential.
Spacial Structure of Villages and Cities	1	Understanding the attractive spacial structures of traditional villages and city areas, with a special concern with the method to find the spacial structures and those meanings.
Landscape Planning	1	Explaining the system of planning for the landscape conservation. Here we consider landuse and natural environment as well as the design of building. Understanding the regulation and also considering the way we can create the new and high-qualified designs under the regulation.
Land Use Planning	1	Understanding the system of land use planning including nature protection, parks and openspace, agricultural land use regulation, forestry land use regulation and city planning.
How to utilize Maps and Aerophotos	1	Explaining how to utilize maps, aerophotoes, old drawings, and other materials which shows us how a certain district has been transformed. This is an important and basic approaches to understand the meanings of each building site.
Parks and Openspaces	1	Explaining the planning systems for parks and openspaces. Specially we will focus on the ecological planning and also on the local community's participation.
Community and Planning for disaster prevention	2	Explaining the planning system for disaster prevention in the cities, with a special consern with traditional towns and villages mainly composed with wooden houses and narrow street system. We also focus on the roles of parks and openspaces for disaster prevention.
Planning for urban traffic	1	Explaining the updated planning tools for urban traffic, with a special consern with the TDM cases and the relation between traffic planning and old city revitalization.
Urban Development Projects	1	Explaining the systems of urban development projects such as the land readjustment project, the urban redevelopment projects and the new town development. We also focus on the recent problems of those systems.
Master Plan	1	Explaining the system and contents of master plan, with a special concern with the history of several master plans have been introduced.
Case excersise	2	Case study and disctict planning exercises

【Textbook】MIMURA Hiroshi, "Chiiki Kyosei No Toshi Keikaku" (Ver.3, 2005, Gakugeishuppan)

【Textbook(supplemental)】Additional Documents will be distributed during each lectures. Field Survey in Kyoto City Area will be held.

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】Monday 16:15 -- 18:00, at 1st floor of Kenchiku$_H$onkan

Urban Environment Engineering

都市環境工学

【Code】40520 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese

【Instructor】Kazunori HARADA, Yoshiaki UETANI,

【Course Description】In the urban area, buildings and public structures are densely located. Majority of human activities are carried out in relation with these structures. Consumption of energy and natural resources are deeply related with the interaction with activities and structures. In this course, lectures will be given on the state-of-the-art of energy and natural resource consumption in relation with urban structures, energy saving strategies, the concept of envirnmental friendly city/architecture.

【Grading】Score is evaluated based on end-term examination and other materials.

【Course Goals】B1) scientific ability to solve problems, B4) understanding of environmental engineering aspects in architecture, C2) understanding societal role of architecture

【Course Topics】

Theme	Class number of times	Description
Global environmrnt and sustainable development	1	Inter-relations between architectural, urban and global environmrent. Susutainable development, evaluation of environmental impact.
Explosion of uban area environmental impact	2	History of urban area development, increase in environmetal polution, energy use and environmental impact.
Mechanizm of Heat Island and Countermeasures	4	The mechanizm and the state-of-the-art of urban warming, often reffered to heat island, are explained. The existing and future countermeasures are to be discussed.
Green	1	Urban green, city park, green area ratio and vegetation are explained. Methods and effects of greening buildings and case studies are described.
Sunlight	2	
Daylighting	2	
Post-Kyoto Protocol	1	
Renewable energy	1	
Evaluation of Achievement	1	Achievement on above items will be evaluated.

【Textbook】None specified. Handouts will be supplied on site.

【Textbook(supplemental)】To be suggested during the course.

【Prerequisite(s)】The participants are required to study Environmental engineering in Architecture I (40090) and II (40100) prior to join this course. In addition, the knowledge on Building Systems Design (40180) is desirable.

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【Web Sites】

【Additional Information】[Office hour] Opportunity for Q&A will be provided during the spare time before and after each lecture. Participants can make appointments for further questions.

40320

Lighting and Acoustics in Architecture

建築光・音環境学

【Code】40320 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	3	
	2	
	2	
	2	
	2	
	3	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

Thermal Environment Design of Architecture

建築温熱環境設計

【Code】40600 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese

【Instructor】Kazunori HARADA, Daisuke OGURA, Chiemi IBA,

【Course Description】In this course, basic concepts for controlling thermal environment of daily habitation space such as especially dwellings. Practical methods for pasive thermal environment control is described.

【Grading】Score is evaluated based on end-term examination and other materials.

【Course Goals】The participants will be trained so that he/she can develope conceptual design of passive controlling elements and their combination for use in dwellings. Corresponding goals for education of department are C: Practical skills, C1: Capability in Realize Building Projects.

【Course Topics】

Theme	Class number of times	Description
Introduction - climate and buildings	1	
Utilization of heat capacity	2	
Benefits and risk of moisture	2	
Thermal system of human body	1	
Insulation of building envelope	2	
Solar shading and utilization	1	
Cross ventilation	2	
Indoor air quality	2	
Residential commissioning	1	
Evaluation of achievement	1	

【Textbook】None specified. Handouts wil be supplied on site.

【Textbook(supplemental)】To be suggeted during the course.

【Prerequisite(s)】The participants are required to study Environmental engineering in Architecture I (40090) and II (40100) prior to join this course.

【】

【Web Sites】

【Additional Information】[Office hour] Opportunity for Q&A will be provided during the spare time before and after each lecture. Participants can make appointments for further questions.

40340

Analytical Methods of Building Structures

建築構造解析

【Code】40340 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	6	
	4	
	4	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

Earthquake Resistant Structures

耐震構造

【Code】40360 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	1	
	6	
	2	
	2	
	3	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40370

Reinforced Concrete Structure II

鉄筋コンクリート構造 II

【Code】40370 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	2	
	4	
	6	
	2	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

Steel Structure II

鉄骨構造 II

【Code】40380 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	2	
	1	
	2	
	2	
	1	
	2	
	1	
	2	
	1	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40390

Atelier Practice of Architectural Design III

設計演習 III

【Code】40390 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】3

【Restriction】No Restriction 【Lecture Form(s)】Seminar 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	14	
	14	
	2	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

Atelier Practice of Architectural Design IV

設計演習 IV

【Code】40400 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】3

【Restriction】No Restriction 【Lecture Form(s)】Seminar 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	14	
	14	
	2	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40540

Applied Mathematics for Architecture

建築応用数学

【Code】40540 【Course Year】3rd year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】 【Language】Japanese 【Instructor】Takahashi, Kawase,

【Course Description】Applied Mathematics required for understanding architecture such as architectural planning, structural design, environmental design is taught. It is aimed that students will acquire the ability to understand and analyze the architecture from mathematical viewpoint.

【Grading】Final examination

【Course Goals】Ordinary and partial differential equations, integral transform,
probability theory and statistics, calculus of variation

【Course Topics】

Theme	Class number of times	Description
Ordinary and partial differential equation	2	General method to solve ordinary differential equations is explained.
Fourier transform	4	Fourier transform and its application to architectural engineering are explained.
Laplace transform	3	Laplace transform and its application to architectural engineering are explained.
probability theory and statistics	2	Fundamentals of probability theory and statistical methods are explained, and their applications to architectural engineering are shown.
calculus of variation	3	Basics of caluculus of variation and approximate methods such as Galerkin method are explained. Examples including minimal surface and energy principle are also explained.
Verification of how students understand	1	About what students learned in the previous 14 lectures, we check how deep they understand the contents of each unit.

【Textbook】Katoh, Hokoi, Takahashi, Ohsaki, Mathematics for architectural engineering, (in Japanese) Asakura shoten, 2007

【Textbook(supplemental)】

【Prerequisite(s)】Calculus, mathematical statistics and industrial mathematics are prerequisite.

【】

【Web Sites】

【Additional Information】Please contact teachers in advance when you have questions.

40550

Architectural Information System

建築情報システム学

【Code】40550 【Course Year】3rd year 【Term】1st term 【Class day & Period】Tue 3rd 【Location】N8

【Credits】2 【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese

【Instructor】Associate Professor Takashi KANETA

【Course Description】Information modeling on architecture will be lectured. Also research and development applied to building construction project will be introduced.

【Grading】Final examination.

【Course Goals】D-D1

【Course Topics】

Theme	Class number of times	Description
Outline on architectural information system	3	
mathematical programming	4	
Building information modeling	4	
Application to architecture and urban engineering	3	
Test	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】Basic knowledge on mathematics. "Computational Practice on Architectural Design and Engineering" should be mastered.

【】

【Web Sites】

【Additional Information】Contact to:
kaneta@archi.kyoto-u.ac.jp

40270

Architectural Planning II

建築計画学 II

【Code】40270 【Course Year】4th year 【Term】1st semester, 2016 【Class day & Period】1st, Friday

【Location】C2-101, Katsura Campus 【Credits】2 【Restriction】No Restriction 【Lecture Form(s)】Lecture

【Language】Japanese 【Instructor】Ken MIURA,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	2	
	6	
	2	.
	3	
	1	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40350

Foundation Engineering

建築基礎構造

【Code】40350 【Course Year】4th year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese

【Instructor】Hiroshi KAWASE, Shinichi MATSUSHIMA, Masaaki TSUJI,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	1	
	2	
	2	
	2	
	2	
	1	
	2	
	2	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40420

Wind Resistant Structures

耐風構造

【Code】40420 【Course Year】4th year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese

【Instructor】Takashi Maruyama,Kazuyoshi Nishijima

【Course Description】

【Grading】By reports or examination

【Course Goals】Acquisition of knowledge on wind resistent design. Understanding the estimation of wind load and the construction from the stand point of wind resistent desig.

【Course Topics】

Theme	Class number of times	Description
Characteristics of wind	4	
Basic of wind force and pressure	4	
Wind load	3	
Wind resistent design	3	
Check of achievement	1	

【Textbook】No textbook, using notebook.

【Textbook(supplemental)】None

【Prerequisite(s)】Structural engineering, fluid dynamics, meteorology will be useful.

【】

【Web Sites】None

【Additional Information】Questions : directing during class

30011

InTroducTion To Global Engineering

地球工学総論（地球工学）

【Code】30011 【Course Year】4th year 【Term】【Class day & Period】【Location】【Credits】2 【Restriction】

【Lecture Form(s)】 【Language】Japanese 【Instructor】

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
Guidance	1	
Safety and Engineering Ethics	1	
General Lectures	5	
Seminars	6	
Laboratory Visit	2	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40440

Atelier Practice of Architectural Design V

設計演習 V

【Code】40440 【Course Year】4th year 【Term】 【Class day & Period】 【Location】 【Credits】3

【Restriction】No Restriction 【Lecture Form(s)】Seminar 【Language】Japanese 【Instructor】,,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	29	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40450

Exercises on Structural Design of Buildings

構造設計演習

【Code】40450 【Course Year】4th year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	2	
	2	
	1	
	5	
	6	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40460

Laboratory Tests of Structural Materials and Members

構造・材料実験

【Code】40460 【Course Year】4th year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	3	
	1	
	3	
	2	
	3	
	3	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

40470

Fire Safety Design of Buildings

建築安全設計

【Code】40470 【Course Year】4th year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】Kazunori HARADA,

【Course Description】In buildings and urban facilities, various fire safety measures are implimented, even though they are not well recognized in daily life. In the first half of this course, fundamentals on physical and cheminal aspects of building fires are decribed. In the latter half, design methodlogies for fire-safe buildings are desribed.

【Grading】Score is evaluated based on end-term examination and other materials.

【Course Goals】B1) scientific ability to solve problems, B4) understanding of environmental engineering aspects in architecture, C2) understanding societal role of architecture

【Course Topics】

Theme	Class number of times	Description
Introduction	1	The historical fire dizasters are described to show the whole view of fire safety issues of buildings and urban area.
Basics of Fire Phenomena	6	Basic fire phenomena such as ingition, burning, spread, fire plume, initial room fire, flashover and fully-developed stage are described in sequence of fire development.
Fire Safety Design of Buildings	7	The principles of fire safety of buildings are described in terms of fire compartmentation, smoke control, egress of occupants, fire fighter's operation, structural fire resistance design.
Evaluation of Achievement	1	Achievement on above items will be evaluated.

【Textbook】Kenchiku Kasaino Mekanizmuto Kasaianzen Sekkei (Mechanizm of Building Fires and Safety Design), the Building Center of Japan, 2007 (in Japanese)

【Textbook(supplemental)】Saburo HORIUCHI, Building Fire Prevention, new ed., Asakura Shoten //
Takeyoshi TANAKA, An Introduction to Building Fire Safety Engineering, The Building Center of Japan, 2002 //
Guidebook on performance Verification methods for egress safety, The Housing Bureau of Ministory of Land, Infrastructure and Transportation, Inoue Shoin, 2000
Guidebook on performance Verification methods for fire resistance, The Housing Bureau of Ministory of Land, Infrastructure and Transportation, Inoue Shoin, 2000

【Prerequisite(s)】The participants are requested to accomplish Environmental engineering in Architecture I (40090), II (40100) and Building Systems Design (40180) prior to join this course.

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【Web Sites】

【Additional Information】[Office hour] Office hours are not specifed but opportunity for Q&A will be arranged upon request. Contact the lecturer via mail with your name, student ID and time of your convenience up to three candidates.

40730

Design Theory of Building Systems

建築設備計画法

【Code】40730 【Course Year】4th year 【Term】 【Class day & Period】Wednesday

【Location】C2-101, Katsura campus 【Credits】2 【Restriction】No Restriction 【Lecture Form(s)】Lecture

【Language】Japanese

【Instructor】Hirotsugu TAKAHASHI, Kazunori HARADA, Taiichiro ISHIDA, Yosiaki UETANI, Daisuke OGURA, Makoto Ohtani, Shinya Ueda,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	1	
	1	
	2	
	1	
	3	
design of fire safety system and seismic design of euipment	2	The schematics of fire safety system, such as fire detection, suppression and egress guidance, are introduced in connection with building design. The state of seismic damage of building equipment is introduced. The design method of building equipment against seismic action will be explained
maintainance and optimum operation	1	
introduction to actual design projects	2	
site visit and/or a lecture by practioners	1	Site visit and/or a lecture by a practioner will be arranged to see and understand the practical equipment system.
evaluation of archivements	1	Achievement on above items will be evaluated.

【Textbook】None specified. Execise sheet will be provided during the lecture.

【Textbook(supplemental)】

【Prerequisite(s)】Knowledge on Environmental Engineering in Architecture I(40090) and II(40100) are neccessary. In addtion, it is desirable that the participants have joined the follwoing courses; Building Systems Design(40180), Lighting and Acoustics in Architecture (40320), Urban Environment Engineering (40520), Thermal Environment Design of Architecture(40600).

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【Web Sites】

【Additional Information】[Office hour] Questions are accepted at occasion. Contact lecturers for the arranment of occice hours.

40230

Seminar of Practice in Architectural Environmental Engineering

建築環境工学演習

【Code】40230 【Course Year】4th year 【Term】 【Class day & Period】 【Location】 【Credits】2
【Restriction】No Restriction 【Lecture Form(s)】Seminar 【Language】Japanese
【Instructor】Hirotsugu TAKAHASHI, Kazunori HARADA, Taiichiro ISHIDA, Yoshiaki UETANI, Daisuke OGURA, Makoto Ohtani, Yoshinari Horinouchi, Chiemi Iba, Daisaku Nii,
【Course Description】This course is provided to enhance global understanding of the contents lectured in Environmental Engineering in Architecture I & II, and to develop capability in applying the knowledge to real projects. For each topic, examples of design problems are supplied. The participants are to solve the problems by their own skills while interacting with lectures.
【Grading】Score is evaluated based on reports and participation.
【Course Goals】The goal is to make global understanding of the elements in environmental engineering in architecture and their mutual relashionships. Corresponding goals for education of department are; A: global capability, A2: Capability in understanding the value of architecture in multiple measures, C: Practical skills, C1: Capability in Realize Building Projects.
【Course Topics】

Theme	Class number of times	Description
heat conduction and condensation	3	
HVAC system	3	
Building accoustics	3	
lighting and color	1	
Solar characteristics and daylighting	1	
ventilation and smoke control for evacuation	2	(1) Basic subjects on ventilkation design such as Velnouille's for mula, pressure difference, friction coefficients, wind pressure coefficients, newtral plane height. (2) Smoke control design for escape from fire in a building
special lecture and/or site visit	1	Special lecture or site visit are to be planned to introduce design and construction of environmental control systems of real building projects.
	1	

【Textbook】None specified. Practice sheet will be provided during the course.
【Textbook(supplemental)】Textbooks and notebooks on the courses specified below are necessary for consultation. Function calculator must be provided by participants themselves.
【Prerequisite(s)】The participants are required to study Building Systems Design (40180), Environmental engineering in Architecture I (40090) and II (40100) prior to join this course. In addition, the knowledge on Building Systems Design (40180), Urban Environment Engineering (40520), Lighting and Acoustics in Architecture (40320), Thermal Environment Design of Architecture (40600) is desirable.
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【Web Sites】
【Additional Information】[Office hour] Office hours are not specified but opportunity for Q&A will be arranged upon request. Contact the lecturer via mail with your name, student ID and time of your convenience up to three candidates.

40650

English for Architects

専門英語

【Code】40650 【Course Year】4th year 【Term】 【Class day & Period】 【Location】 【Credits】2

【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】Basic English vocabulary for communicating and presenting architectural projects and construction documentation.

【Grading】Evaluation: Test - 30%, Homework - 30% Presentations - 30%. Attendance - 10%.

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
Basic Terminology	3	Slide presentations: A general overview of architectural terms in English. Presentation of four seminal projects, discussed in greater detail.
Labels and captions	1	Presentation of basic construction documentation labels and photograph captions in English,followed by student exercises.
Critical, Theoretical and Descriptive Texts	2	Basic readings on architecture in English followed by group discussion.
Student presentations	2	Short presentations in English by students on selected architectural texts.
Project Presentation	2	Slide presentation of a single project in English from design phase through to completion, followed by group discussion.
Quiz / Essay	1	Student test of basic terminology, essay writing and drawing labeling.
Final presentation by Students	4	Short presentations in English by students on selected design projects.

【Textbook】

【Textbook(supplemental)】Kenneth Frampton, Modern Architecture: A Critical History, Thames and Hudson, 1992.
Christopher Alexander, A Pattern Language, MIT Press, 1977.
Peter G. Rowe, Design Thinking, MIT Press, 1987.
Tanizaki, Jun’ichiro, In Praise of Shadows, Leet’s Island Books, 1997.
John Lobell, Between Silence and Light, Spirit in the Architecture of Louis I. Kahn, Shambhala.
Francis D.K. Ching, Building Construction Illustrated, John Wiley and Sons, 1991.
William Curtis, Modern Architecture Since 1900, Phaidon Press, 1996.

【Prerequisite(s)】

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【Web Sites】

【Additional Information】

Engineering Ethics

工学倫理

【Code】21050 【Course Year】4th year 【Term】 【Class day & Period】Thu 3rd 【Location】 【Credits】2 【Restriction】No Restriction 【Lecture Form(s)】Lecture 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

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【Web Sites】

【Additional Information】

21080

Introduction to Engineering

工学序論

【Code】21080 【Course Year】1st year 【Term】 【Class day & Period】 【Location】 【Credits】1

【Restriction】No Restriction 【Lecture Form(s)】 【Language】 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	1~2	
	6	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

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【Web Sites】

【Additional Information】

Engineering and Economy(in English)

工学と経済（英語）

【Code】22210 【Course Year】 【Term】 【Class day & Period】 【Location】 【Credits】2 【Restriction】 【Lecture Form(s)】

【Language】English 【Instructor】,

【Course Description】The purpose of this course is to teach economy from an engineer viewpoint. The course especially contains such economic topics which engineer can use to solve practical engineering economy problems. The course is consisted of lectures and additional exercises, of which the student should complete five (5) written short reports and five (5) 60 minutes laboratory session attendances. The laboratory sessions are held weekly after the lecture, and consist of interactive group work tasks. Laboratory sessions are held weekly from 18 to 19 o’clock.// The course is aimed for both Japanese and Foreign nationals.// The course starts on October 4th.

【Grading】Test, reports, laboratory performance.

【Course Goals】This course will provide tasks for engineering students to be able to understand relationships between engineering and engineering economy. Students will learn solving economic problems related to engineering project at various levels. The course also prepares the students to write engineering related economic topics in English as well as verbally express themselves of these subjects.

【Course Topics】

Theme	Class number of times	Description
Student orientation, Introduction to engineering economy	1	Course introduction; Principles of engineering economy
Cost concept	1	Cost terminology; Competition; Total revenue function; Breakeven point
Design economics	1	Cost-driven design; Making vs. purchasing; Trade-offs
Cost estimation techniques I	1	Integrated approach and WBS; Index, unit, and factor techniques
Cost estimation techniques II	1	Parametric estimating; Power-sizing technique; Learning curve; Cost estimation, bottom-up, top-down, target costing
The time value of money I	1	Simple interest; Compound interest; Equivalence concept;Cash-flow digrams
The time value of money II	1	Present and future equivalent values of single cash flows
The time value of money III	1	Uniform series cash flows; Deferred annuities; Uniform gradient cash flows; Nominal and effective interest rates
Evaluation of a single project I	1	Determining minimum attractive rate of return (MARR); The present worth method; Bond value; Capitalized-worth method
Evaluation of a single project II	1	The future worth method; The annual worth method; The internal rate of return method; The external rate of return method
Comparison and selection among alternatives I	1	Basic concepts; The study (analysis) period; Useful lives are equal to the study period
Comparison and selection among alternatives II	1	Useful lives are unequal to the study period; Repeatability; Cotermination; The imputed market value technique
Income taxes and depreciation	1	Concepts and terminology; Depreciation; Straight-line method; Declining-balance method; Income taxes; Marginal tax; Gain or loss on the disposal of an asset; After-tax economic analysis
Final test	1	The test is based on the above topics

【Textbook】Sullivan, Wicks, Koelling; Engineering Economy, 15th Ed. 2012 , Chapters 1-7.

【Textbook(supplemental)】

【Prerequisite(s)】Note:

-Interactive lessons (discussion), Small group working method

-This course is held in English.

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【Web Sites】None

【Additional Information】If you have any questions or need further information, feel free to contact at 090aglobal@mail2.adm.kyoto-u.ac.jp.

24010

Global Leadership Seminar I

ＧＬセミナーⅠ（企業調査研究）

【Code】24010 【Course Year】 【Term】 【Class day & Period】 【Location】 【Credits】1 【Restriction】

【Lecture Form(s)】 【Language】Japanese 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	1	
	2~3	
	2~3	
	12	
	3~4	
	1	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

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【Web Sites】

【Additional Information】

25010

Global Leadership Seminar II

ＧＬセミナーⅡ（課題解決演習）

【Code】25010 【Course Year】 【Term】 【Class day & Period】 【Location】 【Credits】1 【Restriction】

【Lecture Form(s)】 【Language】 【Instructor】,

【Course Description】

【Grading】

【Course Goals】

【Course Topics】

Theme	Class number of times	Description
	1	
	2	
	1	
	3	
	7	
	1	
	1	

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

24020

International Internship of Faculty of Engineering I

工学部国際インターンシップ１

【Code】24020 【Course Year】 【Term】 【Class day & Period】 【Location】 【Credits】1 【Restriction】

【Lecture Form(s)】Exercise 【Language】English, et al.

【Instructor】Faculty of Engineering, Professor, Hitoshi Mikada and the related faculty members

【Course Description】Acquisition of international skills with the training of foreign language through the to internship programs hosted by the University, the Faculty of Engineering, or the Departments in the Department.

【Grading】Marit rating is done based on the presentation or reports after each internship program. Each Department responsible to identify if the credit earned by this subject to be included as mandatory ones or not. If the credit is not included in the department in which the participant belongs to, the credit is granted by the Global Leadership Education Center as a optional credit. The number of credits, either 1 or 2, will be determined depending on the contents and the duration of the program that the participant has participated in.

【Course Goals】The acquisition of international skills with the training of foreign language through the to internship programs hosted by the University is the major expectation to the students.

【Course Topics】

Theme	Class number of times	Description

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

25020

International Internship of Faculty of Engineering 2

工学部国際インターンシップ２

【Code】25020 【Course Year】 【Term】 【Class day & Period】 【Location】 【Credits】2 【Restriction】

【Lecture Form(s)】Exercise 【Language】English, et al.

【Instructor】Faculty of Engineering, Profesor, Hitoshi Mikada, and the related faculty members

【Course Description】Acqusition of international skills with wth the training of foreign language through the participation to the international internship programs held by the Faculty of Engineering or its subsidiary bodies.

【Grading】Marit rating is done based on the presentation or reports after each internship program. Each Department responsible to identify if the credit earned by this subject to be included as mandatory ones or not. If the credit is not included in the department in which the participant belongs to, the credit is granted by the Global Leadership Education Center as a optional credit. The number of credits, either 1 or 2, will be determined depending on the contents and the duration of the program that the participant has participated in.

【Course Goals】The acquisition of international and foreign language skills through the participation to international programs is expected. Detailed objectives of the participation should be identified by each program.

【Course Topics】

Theme	Class number of times	Description

【Textbook】

【Textbook(supplemental)】

【Prerequisite(s)】

【】

【Web Sites】

【Additional Information】

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・ Common Subjects of Faculty of Engineering
・[A] Global Engineering
・[B] Architecture
・[C] Engineering Science
・[D] Electrical and Electronic Engineering
・[E] Informatics and Mathematical Science
・[F] Industrial Chemistry
・**オンライン版**　http://www.t.kyoto-u.ac.jp/syllabus-s/

本文中の下線はリンクを示しています．リンク先はオンライン版を参照してください．

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