未更新

Course number	U-ENG24 22102 LJ74		
Course title (and course title in English)	工業数学C Engineering Mathematics C	Instructor's name, job title, and department of affiliation	Part-time Lecturer,KOSAKA ATSUSHI
Target year	2nd year students or above	Number of credits	2
Year/semesters	2021/Second semester		
Days and periods	Wed.3	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

[Course objectives]

[Course schedule and contents]

,5times,
,1time,
,5times,
,3times,
,1time,

[Course requirements]

None

[Evaluation methods and policy]

[Textbooks]

[References, etc.]

（**Reference books**）

[Study outside of class (preparation and review)]

（Other information (office hours, etc.)）

*Please visit KULASIS to find out about office hours.

Course number	U-ENG20 42105 LJ77		
Course title (and course title in English)	工学倫理 Engineering Ethics	Instructor's name, job title, and department of affiliation	Graduate School of Informatics Professor,KANDA TAKAYUKI Graduate School of Engineering Professor,MATSUBARA ATSUSHI Graduate School of Engineering Senior Lecturer,KANEKO KENTAROU Graduate School of Engineering Professor,SHIRAISHI MASASHI Graduate School of Engineering Professor,KAGEYAMA HIROSHI Graduate School of Letters Associate Professor,KODAMA SATOSHI Graduate School of Letters Associate Professor,ISEDA TETSUJI Graduate School of Engineering Professor,MATSUSAKA SHUJI Graduate School of Informatics Professor,UMENO KEN Graduate School of Engineering Professor,ITOH SADAHIKO Graduate School of Engineering Professor,KAWAI JIYUN Office of Society-Academia Collaboration for Innovation NAKAGAWA MASAYUKI Graduate School of Management Professor,YAMADA TADASHI Graduate School of Engineering Associate Professor,NAGAKI AIICHIROU Graduate School of Engineering Professor,MIURA KEN Graduate School of Energy Science Professor,HIRATO TETSUJI
Target year	4th year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Thu.3	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

Modern ethics based on engineering aspect are becoming essential to present engineers and scientists.
Instructors from various faculties give lectures about ethics in their research fields.

[Course objectives]

The goal of this class is to understand engineering ethics, and to develop the ability to judge by yourself when you encounter ethical issues.

[Course schedule and contents]

(4/8) The central topic is what is ethics for engineers and what is significance of studying ethics for engineers.
(4/15) “General research ethics"
Lectures on the concept of writing academic papers with ethics.
(4/22)” Ethical Theories for Engineering Ethics”

Continue to 工学倫理(2)↓↓↓

工学倫理(2)

This lecture focus on various ideas in ethics (utilitarianism, deontology, virtue ethics, professional ethics etc.) which will be useful for thinking about particular ethical problems in engineering ethics. This Lecture will be conducted online by using zoom.
(5/6) “Engineering Ethics as a Professional Ethics:”
This lecture discusses basic ideas of engineering ethics in comparison with other fields of applied ethics. In particular, it discusses the characteristics of engineering ethics as professional ethics and what engineers as professionals are required to do.
(5/13) “Ethics for Engineers”
Engineers have to go through some ethical issues about research, development, design, manufacturing, and maintenance. In particular, the ethical decisions of engineers need to be considered for society and environment.
(5/20) Press Release is an essential process for introducing the research to our society through various medias. In this lecture, issues related to Press Release will be addressed and discussed with several examples including SNS release. Lecture will be conducted by Zoom.
(5/27) "Ethics in Water Supply."
It is a basic right in a society that a person can receive and use safe water in sufficient quantity. In addition, a person of water supply utility is recognized to be an essential worker. Taking drinking water supply as a topic, ethics required for a water supplier and an engineer is discussed. It is given by Zoom.
(6/3) “Forensic Analysis”
Forensic repots are sometimes requested by the court in order to clarify the charge of incidents. The nylon rope incident, the Wakayama curry poisoning incident, and the pig iron incident are explained as examples. How to write the forensic report is explained in order to avoid the ethical problems. (Zoom&Youtube)
(6/10) “Patents and Ethics (Part 1)”
This course will teach the students about 1) patent systems which protect inventions and research results and 2) ethical issues in patents. The first class, in preparation for the next subject of patent ethics, introduces Japan's patent system with comparisons to the patent systems in the world's major countries and international framework.
(6/17) “Patents and Ethics (Part 2)”
Students, equipped with the basic knowledge of patent systems by the previous lecture, will get familier with actual case studies on ethical and legal issues in patents.
(6/24) "Urban Planning and Ethics"
The lecture focuses on the norms regulating the actions of the engineers involved in planning and designing urban areas, as well as on the normative consciousness required to facilitate such planning and design, demonstrating some examples on urban transport planning. This will be given via Zoom.
(7/1) “General research ethics of synthetic chemistry”
Lectures on the concept of writing academic papers and patents of synthetic chemisty with ethics.
(7/8) Architecture has developed by imitating beautiful buildings, but in recent years there has been an increase in the number of cases where copyright disputes have arisen. In addition, the appearance of architecture often causes landscape controversy because of its influence on the surrounding environment. Issues concerning the ethics and sociality of architecture are discussed while introducing overseas lawsuits and design processes.
(7/15) The materials engineer may stand on the side using materials as well as a side supplying materials. Some examples are introduced and, by this lecture, are argued about an ethic found from each situation by materials engineer. Note that this lecture is going to be carried out in ZOOM, but may be changed to the on-demand on account of the speaker.
(7/29) "Engineer ethics in mechanical design"
Engineer ethics is not a passive and passive thinking that issues the action of simply following existing norms, but a more active and creative thinking to decide and design one's own actions. It requires the logical thinking and ethical thinking necessary for engineers. This is explained with past cases in mechanical design.

Continue to 工学倫理(3)↓↓↓

工学倫理(3)

[Course requirements]

None

[Evaluation methods and policy]

Class participation and reports.

[Textbooks]

Lecture materials will be distributed.

[References, etc.]

（**Reference books**）
『Omnibus Engineering Ethics』（Kyoritsu Shuppan Co., Ltd.）ISBN:978-4320071964
『Practical Engineering Ethics - A Short Course, New Edition』（Kagaku-Dojin Publishing Company,INC）ISBN:9784759811551
『Engineering Ethics (Revised Edition)』（CORONA PUBLISHING CO.,LTD.）ISBN:978-4-339-07798-8
『World of Engineering Ethics (3rd Edition)』（Morikita Publishing Co., Ltd.）ISBN:978-4-627-97303-9

[Study outside of class (preparation and review)]

The assignment of the report will be given for each lesson.

（Other information (office hours, etc.)）

The class order is subject to change.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors’ practical work experience related to the course

(3) Details of practical classes delivered based on instructors’ practical work experience

Course number	U-ENG20 12108 LJ77		
Course title (and course title in English)	工学序論 Introduction to Engineering	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Senior Lecturer,TAKATSU HIROSHI Graduate School of Engineering Senior Lecturer,KANEKO KENTAROU Graduate School of Engineering Senior Lecturer,YOROZU KAZUAKI Graduate School of Engineering Professor,TAJI TAKAHIRO Graduate School of Engineering Professor,MIKADA HITOSHI Graduate School of Engineering Professor,OOSAKI MAKOTO Graduate School of Energy Science Professor,HIRATO TETSUJI Graduate School of Engineering Professor,HIKIHARA TAKASHI Graduate School of Engineering Professor,KAWASE MOTOAKI Graduate School of Informatics Professor,YAMASHITA NOBUO

Target year	1st year students or above	Number of credits	1	Year/semesters	2021/Intensive, First semester
Days and periods	Intensive	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

Engineering is to inquire after truth, to develop useful technologies, and to establish ways how to give back development results of technology to the society.
First, we offer special lectures regarding the basic knowledge that students in faculty of engineering are expected to have.
Then, we offer a series of intensive lectures about how engineering can suggest solutions of current and future problems of our society, the value of technology, and the responsibilities that researchers and engineers are expected to fulfill.

[Course objectives]

Students learn basic matters such as attitudes and responsibilities they are expected to take as a member of social community. They find value in studying engineering and become to consider what they do in future by understanding technology can suggest solutions of problems our society is facing, especially problems about safety and security.

[Course schedule and contents]

Special lectures,1time, About basic knowledge and attitude as students who start to learn engineering, and the role of engineering in society.
Intensive lectures,6times, A series of lectures offered by special lecturers playing on global stages of science and technology. Lectures are for understanding the role that technology is playing in modern society, for reconfirming importance to study engineering and to work as a researcher and engineer in society, and are to be opportunities to consider own future path. Essays are assigned in every lecture to summarize the lecture content and opinions of other students.
Schedule of the lectures are announced later.

Continue to 工学序論(2)↓↓↓

工学序論(2)

[Course requirements]

None

[Evaluation methods and policy]

Evaluation will be based on participation and essays assigned in every intensive lecture.

[Textbooks]

Specify if necessary.

[References, etc.]

（**Reference books**）
Specify if necessary.

[Study outside of class (preparation and review)]

Specify if necessary.

（Other information (office hours, etc.)）

Information about lecturers and contents of lectures are announced on electric bulletin boards.
Please confirm to your department office that the credit of this course is admitted to graduation requirements.

*Please visit KULASIS to find out about office hours.

未更新

Course number	U-ENG20 32402 SE77		
Course title (and course title in English)	工学部国際インターンシップ 1 Faculty of Engineering International Internship 1	Instructor's name, job title, and department of affiliation	Approved

Target year	3rd year students or above	Number of credits	1	Year/semesters	2021/Intensive, year-round
Days and periods	Intensive	Class style	Seminar	Language of instruction	Japanese and English

[Overview and purpose of the course]

Acquisition of international skills with the training of foreign language through the internship programs hosted by the University, the Faculty of Engineering, or the undergraduate school the applicant belongs to.

[Course objectives]

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 schedule and contents]

Overseas Internship,1time,The contents to be acquired should be described in the brochure of each internship program.
Final Presentation,1time,A presentation by the student is required followed by discussion among participants.

[Course requirements]

Described in the application booklet for each internship program. The registrant is requested to have enough language skills for the participation.

[Evaluation methods and policy]

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 undergraduate school 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.

[Textbooks]

Continue to 工学部国際インターンシップ1(2)↓↓↓

工学部国際インターンシップ 1 (2)

[References, etc.]

（**Reference books**）

[Study outside of class (preparation and review)]

（Other information (office hours, etc.)）

It is required for students to check if the internship program to participate in could be evaluated as part of mandatory credits or not and could earn how many credits before the participation to the undergraduate school or educational program the student in enrolled. If the credit could not be treated as mandatory ones, get in touch with the Global Leadership Engineering Education Center.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course that includes off-campus training classes.

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

Course number	U-ENG20 22403 SJ77		
Course title (and course title in English)	グローバル・リーダーシップセミナーⅠ(企業調査研究) Global Leadership Seminar I (Study for methodology in a company)	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Senior Lecturer,YOROZU KAZUAKI Graduate School of Engineering Senior Lecturer,KOMIYAMA YOSUKE

Target year	2nd year students or above	Number of credits	1	Year/semesters	2021/Intensive, year-round
Days and periods	Intensive	Class style	Seminar	Language of instruction	Japanese

[Overview and purpose of the course]

The purpose of this course is to study about how worldwide leading company, institute, etc. make proposals and find solutions for expanding their own technologies to the international market. Throughout hands-on training on their laboratory, students investigate the methodology of team organization, proposal, market prediction and conception ability by group works. After the investigation, students are expected to improve their comprehension and explanation capability. As extended exersice subject of this course, the Global Leadership Seminar II is opened in the second semester.

[Course objectives]

The goal of this course is to improve student's comprehension and explanation capability for processes of proposal and expansion on the international market invesitigating worldwide leading companies by group work.

[Course schedule and contents]

Week 1, Guidance
Week 2-13, Hands-on training
Week 14, Pre-presentation
Week 15, Final presentation

[Course requirements]

How to register will be announced later. Students who want to join this course is requested to attend the first class.

[Evaluation methods and policy]

Students are prohibited to skip hands-on training. Evaluation will be based on presentation.

[Textbooks]

Not used

Continue to グローバル・リーダーシップセミナーⅠ(企業調査研究) (2)↓↓↓

[References, etc.]

（**Reference books**）

（**Related URLs**）

http://www.glc.t.kyoto-u.ac.jp/ugrad

[Study outside of class (preparation and review)]

Investigating companies in advance. Analyzing the result from hands-on training. Preparing presentation.

（Other information (office hours, etc.)）

How to register will be announced later. Students who want to join this course is requested to attend the first class. Students are prohibited to skip hands-on training. Evaluation will be based on presentation.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
An omnibus course delivered by invited lecturers and guest speakers from different companies, etc.

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG20 32502 SE77		
Course title (and course title in English)	工学部国際インターンシップ２ Faculty of Engineering International Internship 2	Instructor's name, job title, and department of affiliation	Approved

Target year	3rd year students or above	Number of credits	2	Year/semesters	2021/Intensive, year-round
Days and periods	Intensive	Class style	Seminar	Language of instruction	Japanese and English

[Overview and purpose of the course]

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.

[Course objectives]

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 schedule and contents]

Overseas Internship,1time,The contents to be acquired should be described in the brochure of each internship program.
Final Presentation,1time,A presentation by the student is required followed by discussion among participants.

[Course requirements]

Described in the application booklet for each internship program. The registrant is requested to have enough language skills for the participation.

[Evaluation methods and policy]

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 undergraduate school 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.

[Textbooks]

Continue to 工学部国際インターンシップ２(2)↓↓↓

[References, etc.]

（**Reference books**）

[Study outside of class (preparation and review)]

（Other information (office hours, etc.)）

It is required for students to check if the internship program to participate in could be evaluated as part of mandatory credits or not and could earn how many credits before the participation to the undergraduate school or educational program the student in enrolled. If the credit could not be treated as mandatory ones, get in touch with the Global Leadership Engineering Education Center.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course that includes off-campus training classes.

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

Course number	U-ENG20 22503 SJ77		
Course title (and course title in English)	グローバル・リーダーシップセミナーⅡ(イノベーションとその事業化) Global Leadership Seminar II (Innovation and its commercialization)	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Senior Lecturer,KANEKO KENTAROU Graduate School of Engineering Senior Lecturer,TAKATSU HIROSHI

Target year	2nd year students or above	Number of credits	1	Year/semesters	2021/Intensive, Second semester
Days and periods	Intensive	Class style	Seminar	Language of instruction	Japanese

[Overview and purpose of the course]

This course is a small-group workshop program where students are supposed to extract or set up challenges by themselves aiming at creating new social values. In concrete, abilities of planning and problem-solving are trained through group works in residential training and skills of presentation and communication are enhanced through oral presentations regarding contents of the proposal at each step of the process from a preliminary draft to its completion.

[Course objectives]

Ability of planning, from extraction or setting up challenges to proposal of solutions aiming at creating new social values, is trained through group works.

[Course schedule and contents]

※Depending on the situation of COVID-19 pandemic, all lectures will be given online and residential training will be canceled.

Orientation,1time,A brief overview and a schedule of the course are explained and working groups are organized.
Lectures,2times,Lectures by experts are given.
Group works,3times,Setting up challenges, extraction of problems, collecting information, and group works are done.
Residential training,7times,Through intensive group works based on discussion, a proposal for solving problems is planned, a draft report is made, and a few presentations are made.
Preliminary review meeting,1time,A preliminary review meeting is held and discussions are made.
Report meeting,1time,Final presentations are made and reports are submitted.

[Course requirements]

None

[Evaluation methods and policy]

※Depending on the situation of COVID-19 pandemic, all lectures will be given online and residential training will be canceled.

It is required to join the residential training. A report meeting is held and comprehensive evaluation concerning abilities in group discussion to extract or set up challenges and to propose solutions for achieving

Continue to グローバル・リーダーシップセミナーⅡ(イノベーションとその事業化)(2)↓↓↓

a goal is made through presentation of the proposal as well as a submitted report.

[Textbooks]

Will be indicated as necessary.

[References, etc.]

（**Reference books**）
Will be indicated as necessary.

[Study outside of class (preparation and review)]

Will be indicated as necessary.

（Other information (office hours, etc.)）

Course open period: October to January

*It depends on divisions which students belong to whether the earned credits are admitted as credits required for graduation. Please refer to the syllabus of your division.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG23 13001 LJ77　U-ENG23 13001 LJ73		
Course title (and course title in English)	地球工学総論 Introduction to Global Engineering	Instructor's name, job title, and department of affiliation	Graduate School of Engineering KANKEI KYOIN Graduate School of Engineering Professor,YONEDA MINORU Graduate School of Engineering Associate Professor,FUJIMORI SHINICHIRO

Target year	4th year students or above	Number of credits	2	Year/semesters	2021/First semester
Days and periods	Wed.4	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

[Course objectives]

[Course schedule and contents]

0

[Course requirements]

None

[Evaluation methods and policy]

[Textbooks]

[References, etc.]

（**Reference books**）

[Study outside of class (preparation and review)]

（Other information (office hours, etc.)）

*Please visit KULASIS to find out about office hours.

Course number	U-ENG24 24005 LJ74		
Course title (and course title in English)	建築計画学Ⅰ Architectural PlanningI	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Associate Professor,YOSHIDA TETSU

Target year	2nd year students or above	Number of credits	2	Year/semesters	2021/Second semester
Days and periods	Tue.1	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

Lecture on the basic knowledge on dimensional planning, scale planning, flow lines, etc. necessary for planning and designing the architecture, as well as the interpretation and the process of establishment of functions and programs, building types. In addition, we will give a lecture on the basis of positive (explanatory) theory to explain human psychology and behavior in built environment.

[Course objectives]

Understand the fundamental matters of the planning and design of architecture and the theories to understand human psychology and behavior in built environment.
[corresponding learning / educational goal] B. Expertise and basic knowledge B2. Ability to understand the design and planning aspects of architecture

[Course schedule and contents]

Target area of architectural planning studies,1time,
After outlining the genealogy of architectural planning studies, explain the concept of planning in architecture and its transition, and show the areas to be covered by architectural planning studies.

Dimensional planning, 1 time,
Understand the concept of the unit space of buildings and deepen their understanding of the measure of human body, dimension of motion required for designing, dimensional planning of unit space and so on.

Planning of capacity and size,1time,
Understand the planning of capacity and size of regional facilities and prediction of population fluctuation, fluctuation in the number of people using facility and the overflow method.

Evaluation,1time,
Lecture on evaluations and living environment evaluations done in the planning and design process of the building and deepen their understanding of the weight determination method and the evaluation method such as max-min principle and so on.

Durablity planning,1time,
Lecture on durable planning of space building. Understand the social durable years and conversion etc of buildings.

Facility Management,2times,
Mainly focusing on facility management in the office, review the transition of facility management and the POE survey.

Continue to 建築計画学Ⅰ(2)↓↓↓

建築計画学Ⅰ(2)

Building type,3times,
Lecture on the type of daily behavior, room type / building type, type of combination / division of space, concept of flow line etc. Also, lecture on the process of establishment of representative building types such as schools and hospitals since modern times and deepen their understanding

Function, Program,2times,
Lectures on concepts and changes of functions and programs in architectural design.

Environmental psychology,1time,
Focus on environmental psychology, positive (explanatory) theory to explain human psychology in the environment and give lecture on the spread of the object, and outline affordance and others.

Proximity, Privacy, Security,1time,
Lecture on the concept of proximity studies (proxemics) from animal behavioral theory, cultural anthropology and how they are applied to architectural planning studies such as privacy awareness and crime prevention etc.

Final exam/Confirmation of learning achievement
Confirm the proficiency level of lecture content.

Feedback,1time

[Course requirements]

None

[Evaluation methods and policy]

Examination

[Textbooks]

Distribute original documents every time and help to understand using projector projection slide.

[References, etc.]

（**Reference books**）
Introduced during class
Introduce reference book at every lesson

[Study outside of class (preparation and review)]

Please carefully read the materials distributed in the lesson and review the content of the lesson.
It would be good enough, if you could get an understanding that "plan" thought to be general can change throughout the lesson.
To this end, it is recommended obtaining information on the planning and operation of each type of new architecture and building from newspapers, television, and the internet.

Continue to 建築計画学Ⅰ(3)↓↓↓

建築計画学Ⅰ(3)

（**Other information (office hours, etc.)**）

[Grading evaluation] Examination. [Office Hour] (reception of questions, etc.) Tuesday 12: 00-13: 00. For more information about office hours, please check KULASIS.

*Please visit KULASIS to find out about office hours.

未更新

Course number	U-ENG24 24006 LJ74				
Course title (and course title in English)	住居計画学 Living and Housing Design	**Instructor's name, job title, and department of affiliation**	Graduate School of Engineering Associate Professor,YANAGISAWA KIWAMU		
Target year	2nd year students or above	**Number of credits**	2	**Year/semesters**	2021/Second semester
Days and periods	Wed.2	**Class style**	Lecture	**Language of instruction**	Japanese

[Overview and purpose of the course]

[Course objectives]

[Course schedule and contents]

,1time,
,1time,
,2times,
,1time,
,1time,
,3times,
,2times,
,3times,
,1time,

[Course requirements]

None

[Evaluation methods and policy]

[Textbooks]

Continue to 住居計画学(2)↓↓↓

住居計画学(2)

[References, etc.]

（**Reference books**）

[Study outside of class (preparation and review)]

（**Other information (office hours, etc.)**）

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 24007 SJ74		
Course title (and course title in English)	設計演習 I Atelier Practice of Architectural DesignI	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,TAJI TAKAHIRO Graduate School of Engineering Professor,MIURA KEN Disaster Prevention Research Institute Professor,MAKI NORIO Graduate School of Engineering Associate Professor,YANAGISAWA KIWAMU Graduate School of Engineering Associate Professor,NISHINOSAYAKA Graduate School of Engineering Senior Lecturer,KOMIYAMA YOSUKE Part-time Lecturer,UOYA SHIGENORI Part-time Lecturer,YAMADA SUZUKO

Target year	2nd year students or above	Number of credits	2	Year/semesters	2021/First semester
Days and periods	Fri.3,4,5	Class style	Seminar	Language of instruction	Japanese

[Overview and purpose of the course]

Aims to acquire basic knowledge of architectural space design through the issues of context of place, landscape and dwelling space.

[Course objectives]

Students learn architectural abilities to get the sense of context and answer dwelling issues. Also, they learn the way of presentation.

[Course schedule and contents]

●Landscape
Students approach a specific site to propose architectural space based on the sense of place and context.
[Teachers: Taji, Komiyama, and Uoya, 7times]
●Dwelling
Considering the meaning of dwelling, it is not just a space of purpose, but a place where you spend as you like without a purpose, and this is “place of dwelling”. In this class, students try to design “place of dwelling” by architectural ways.
[Teachers: Taji, Yanagisawa, and Onishi, 7times]

[Course requirements]

None

[Evaluation methods and policy]

Grades are evaluated based on the design works and their presentations.

[Textbooks]

Instructed during class
It will be provided during classes.

Continue to 設計演習 I (2)↓↓↓

設計演習 I (2)

[References, etc.]

（**Reference books**）
Introduced during class
Reference materials will be provided during classes.

[Study outside of class (preparation and review)]

Preparations are required during classes.

（Other information (office hours, etc.)）

Every Friday 18: 00-19: 00

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors’ practical work experience related to the course

(3) Details of practical classes delivered based on instructors’ practical work experience

未更新

Course number	U-ENG24 24008 SJ74		
Course title (and course title in English)	設計演習II Atelier Practice of Architectural DesignII	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,HIRATA AKIHISA Graduate School of Engineering Professor,KANKI KIYOKO Graduate School of Engineering Professor,TAJI TAKAHIRO Graduate School of Global Environmental Studies Professor,KOBAYASHI HIROHIDE Graduate School of Engineering Associate Professor,YOSHIDA TETSU Part-time Lecturer,NAKAYAMA HIDEYUKI Graduate School of Engineering Assistant Professor,IWASE RYOKO

Target year	2nd year students or above	Number of credits	2	Year/semesters	2021/Second semester
Days and periods	Mon.4,5	Class style	Seminar	Language of instruction	Japanese

[Overview and purpose of the course]

Aims to acquire basic knowledge of architectural space design through the issues of Urban Landscape and Elementary School.

[Course objectives]

Students learn architectural abilities to get the sense of urban context and answer modern urban and learning issues. Also, they learn the way of presentation.

[Course schedule and contents]

●Urban Context
In Kyoto city, students try to understand the urban context and propose architectural space.
[Teachers: Kanki, Hirata and Iwase, 7times]
●Elementary School
Students design an elementary school at specific sites in Kyoto. They propose new ways for children to get together, learn and play, and also learn abilities to design them comprehensively based on the relationship of the surrounding environment and landscape.
[Teachers: Kobayashi, Yoshida, Yanagisawa, Miura, Maki and Taji, 7times]

[Course requirements]

None

[Evaluation methods and policy]

Grades are evaluated based on the design works and their presentations.

Continue to 設計演習II(2)↓↓↓

設計演習II(2)

[Textbooks]

Instructed during class
It will be provided during classes.

[References, etc.]

（**Reference books**）
Introduced during class
Reference materials will be provided during classes.

[Study outside of class (preparation and review)]

Preparations are required during classes.

（Other information (office hours, etc.)）

Every Monday 18: 00-19: 00

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors’ practical work experience related to the course

(3) Details of practical classes delivered based on instructors’ practical work experience

Course number	U-ENG24 24009 LJ74		
Course title (and course title in English)	建築環境工学 I Environmental Engineering of Architecture I	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,HARADA KAZUNORI Graduate School of Engineering Professor,OGURA DAISUKE

Target year	2nd year students or above	Number of credits	2	Year/semesters	2021/First semester
Days and periods	Wed.2	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

Lectures will be given on basic environmental elements such as solar and thermal radiation, heat and moisture transfer and air quality and ventilation. Fundamental characteristics, analytical and calculation methods are introduced. In addition, evaluation methods will be discussed in physiological and psychological aspects. In summary, the participants will acquire the knowledge and skill to evaluate the building performance on environmental aspects and to reflect them onto architectural design.

[Course objectives]

The aim of this lecture is to let the participants to acquire the basic concepts and skills to evaluate buildings with respect to environmental aspects and to reflect onto architectural design.

B1: scientific ability to solve problems,
B4: understanding environmental aspect of architecture,
C1: ability to realize actual buildings

[Course schedule and contents]

Architecture and climate (3 weeks)
The role of architectural environmental engineering. Fluctuation characteristics of meteorological conditions (temperature, wind, solar radiation), regional characteristics, and the relationship between the external environment around the building and indoor environment.

Thermal environment (2 weeks)
Human body heat generation and dissipation mechanism, body temperature regulation mechanism, thermal comfort and Sensory body temperature index and thermal environmental design.

Heat transfer in buildings (3 weeks)
Relation between steady-state heat conduction and thermal characteristics and heat transfer coefficient of wall. Heat supply and room temperature, unsteady-state heat conduction, indoor humidity and dew condensation

Air quality and ventilation (4 weeks)
The causes of air pollution in rooms and necessary ventilation amount. Mechanism of ventilation, buoyancy ventilation, wind-aided ventilation

Radiation heat transfer (2 weeks)
The principles of thermal radiation and application to buildings

Continue to 建築環境工学 I (2)↓ ↓ ↓

建築環境工学 I (2)

End-term examination and evaluation of achievements (1 week)
Checking degree of understanding.

[Course requirements]

None

[Evaluation methods and policy]

Score is evaluated based on an end-term examination and other materials.

[Textbooks]

Not used

[References, etc.]

（Reference books）
Shuichi Hokoi, Teturo Ikeda, Katsumichi Nitta 『Kenchiku Kankyo Kougaku II (Environmental engineering in Architecture II)』（Asakura Shoten）ISBN:4254268637（in Japanese）

[Study outside of class (preparation and review)]

It is recommended to work on Quiz to be distributed at the lecture.

（Other information (office hours, etc.)）

[Office hours] No explicit office hours are designated. If participants need to have time for questions, contact the teachers via E-mail with his/her name, students number and request for schedule of meeting.

*Please visit KULASIS to find out about office hours.

Course number	U-ENG24 24010 LJ74		
Course title (and course title in English)	建築環境工学II Environmental Engineering of Architecture II	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,TAKANO YASUSHI Graduate School of Engineering Associate Professor,ISHIDA TAIICHIROU

Target year	2nd year students or above	Number of credits	2	Year/semesters	2021/Second semester
Days and periods	Fri.2	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

This course covers basic physical characteristics of lighting, color, and acoustic, as well as their analysis and prediction methods that are required during architectural design process to achieve safe and comfortable environment. The course will also cover the psychological and physiological effects of such environmental factors and their evaluation methods.

[Course objectives]

Students will learn the fundamentals relating to lighting, color, and acoustics that need to be considered during architectural design process and their application. Of the learning and education objectives listed by the department: B. Expertise and Basic Knowledge, B4. An understanding of the environmental side of architecture.

[Course schedule and contents]

(1) Vision and Photometry- 2 classes:
These lectures will consider how the human visual system responds to the light environment, explain how to derive photometric quantities (the basis of light measurement), and provide relevant definitions. The lectures will cover the structure of the eye and retina, sensation of light through rods and cones, adaptation of the eye to the light environment, spectral luminous efficiency, radiometric quantities and photometric quantities, luminous flux, light intensity, illuminance, and luminance.
(2) Architectural Lighting, Calculation of direct illuminance - 2 classes:
These lectures will explain how to measure illuminance, the basis of architectural lighting, and its application in architectural lighting. The lectures will cover computation of the direct illuminance by a point light source, reflection and transmission of light, uniform diffusion, direct illuminance by a surface light source, and configuration factors.
(3) Daylighting, 1 class:
The lecture will explain how to obtain a position of the sun and the sun shadow region of a building.
(4) Color System Basics - 2 classes:
Beginning with the mechanism through which people perceive color, this lecture will explain the color system for quantitative descriptions of colors. This lecture will cover the mechanism of color vision, the three attributes of color, the Munsell color system, and the CIE XYZ color system.
(5) The Nature of Sound and its Physiological and Psychological Effects - 3 classes:
Radiated acoustical wave from a source is affected by various objects that exists along its propagation path, until it reaches human ears and is perceived as sound. These lectures will outline the nature of sound propagation, the function of the human auditory system, and physiological and psychological human responses to sound.
(6) The Physics of Vibration and Sound: Foundations of Acoustic Design - 4 classes:
These lectures will explain basic topics relating to the physics of vibration and sound and the foundation

Continue to 建築環境工学II(2)↓ ↓ ↓

建築環境工学II(2)

of all acoustic design with the objective of creating a comfortable acoustic environment within and outside of building structure. In addition, wave propagation theory, physical indices of sound, and basic theory for acoustic design will be outlined.
(7) Feedback - 1 class:
Assessment of students' understanding and application of course material.

[Course requirements]

None

[Evaluation methods and policy]

Evaluation will be based on final examination scores.

[Textbooks]

松浦邦男、高橋大弐 『エース建築環境工学I(日照・光・音)』（朝倉書店）ISBN:4254268629（K. Matsuura, D. Takahashi, "Ace Architectural Environmental Engineering I", Asakura Publishing Co. Ltd., in Japanese）

[References, etc.]

（Reference books）
To be introduced during the course.

[Study outside of class (preparation and review)]

Students are required to prepare by reading textbook sections prior to each lecture.
Additionally, students shall deepen their understanding by reviewing material covered after each lecture and ask their instructors about any points that are unclear.

（Other information (office hours, etc.)）

Questions will be taken as appropriate. Students are to make an appointment with the relevant teacher.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course
Acoustical noise source analysis and reduction in real environment

(3) Details of practical classes delivered based on instructors' practical work experience
Practical example of improving acoustical enviromnent

未更新

Course number	U-ENG24 24011 LJ74		
Course title (and course title in English)	建築構造力学 I Mechanics of Building StructuresI	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,OOSAKI MAKOTO Graduate School of Engineering Associate Professor, Graduate School of Engineering Assistant Professor,HAYASHI KAZUKI
Target year	2nd year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Fri.1	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

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.

[Course objectives]

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

[Course schedule and contents]

1. Introduction nd guidance of the course. Role of structural mechanics and fundamentals of statics, (Ohsaki)
2. Displacement, strain, force, moment. Equilibrium equations of free body. (Ohsaki)
3. Deformation process of structural materials, e.g., steel and concrete, under external forces. Definition of elasticity, plasticity, and viscosity. (Ohsaki)
4. Definition of stress and strain. Stress-strain relationship. (Ohsaki)
5. Basic equations for frame analysis. Assumptions and approximations for elementary analysis. (Ohsaki)
6. Definition of stress resultants of beams. (Ohsaki)
7. Statically determinate beams. Methods for finding reaction forces and stress resultants using equilibrium equations for free bodies. (Ohsaki)
8. Derivation of differential equations for beams. Diagrams for axial forces, shear forces, and bending moments. (Ohsaki)
9. Excercise for classes 1-8. (Kimura)
10. Assumption of plane sections. Axial stress due to axial force and bending moment. (Ohsaki)
11. Shear stress due to bending. Shear stress due to torque. (Ohsaki)
12. Section properties and coordinate transformation. (Ohsaki)
13. Stresses in the inclined section. Method using Mohr's circle. (Ohsaki)
14. Excercise for classes 10-13. (Kimura)
15. Final examination/ Learning achievement evaluation. (Ohsaki)

Continue to 建築構造力学 I (2)↓ ↓ ↓

建築構造力学 I (2)

[Course requirements]

None

[Evaluation methods and policy]

Term examination

[Textbooks]

中村恒善 『構造力学　図説・演習I』（丸善）ISBN:4-621-03965-2

[References, etc.]

（**Reference books**）

[Study outside of class (preparation and review)]

Explained during the class.

（Other information (office hours, etc.)）

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 24012 LJ74		
Course title (and course title in English)	建築構造力学II Mechanics of Building Structures II	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,TAKEWAKI IZURU Graduate School of Engineering Professor,HAYASHI YASUHIRO Graduate School of Engineering Associate Professor,KOHEI FUJITA
Target year	2nd year students or above	Number of credits	2
Year/semesters	2021/Second semester		
Days and periods	Fri.1	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

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.

[Course objectives]

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 schedule and contents]

Axial deformation of a bar and bending deformation of a beam,1 class,
Differential equation for deflection curve of a beam and Mohr's theorem for deflection analysis.

Theory of statically indeterminate beams 1, 3 classes,
Force method in terms of unknown stress resultants and reactions.

Theory of statically indeterminate beams 2, 3 classes,
Displacement method in terms of unknown displacements.

Statically determinate truss and frame, 4 classes,
Analysis of stress resultants in statically determinate trusses and moment-resisting frames.

Buckling of column, 3 classes,
Governing equation for a buckling problem of a column. Eigenvalue analysis. Slope-deflection method for buckling analysis.

Feedback using term exam, 1 class,
Conduct feedback using term exam through KULASIS

[Course requirements]

None

Continue to 建築構造力学II(2)↓ ↓ ↓

建築構造力学II(2)

[Evaluation methods and policy]

Term examination

[Textbooks]

T.Nakamura (ed.);Mechanics of building structures I: Illustrative description and exercises; Maruzen. isbn{4621039652}

[References, etc.]

（**Reference books**）

[Study outside of class (preparation and review)]

Solve the exercise problems at the end of chapters of the text.

（Other information (office hours, etc.)）

Office hour: Before and after the class.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 24013 LJ74		
Course title (and course title in English)	建築材料 Building Materials	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,KANEKO YOSHIO Graduate School of Engineering Professor,HAYASHI YASUHIRO Graduate School of Engineering Professor,NISHIYAMA MINEHIRO Graduate School of Engineering Professor,KOETAKA YUUJI

Target year	2nd year students or above	Number of credits	2	Year/semesters	2021/Second semester
Days and periods	Mon.2	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

Lectures will be given on the properties of the materials making up a building. In this lecture, the manufacturing method, basic physical properties, mechanical properties, usage examples in buildings, and so forth will be explained regarding concrete, steel, wooden materials, finishing materials in general building materials, and others.

[Course objectives]

Learning the manufacturing method, material characteristics, examples of use in buildings, and so forth regarding construction materials such as concrete, steel, woody materials, and the finishing materials that make up buildings. Among the learning and educational goals listed by the department, the goals are B. expertise and basic knowledge, and B3. the ability to understand structural aspects of architecture.

[Course schedule and contents]

Guidance (1 time): The content of this lecture (composition of lesson, contents of whole lecture, etc.) and the learning target will be described.
Concrete (4 times): Production method and properties of cement, properties of aggregate/admixture, method for producing concrete, compounding design, properties of fresh concrete/test method, and mechanical and physical properties of hardened concrete will be explained.
Steel material (3 times): Raw materials of steel, steel making technology and its history, classification and chemical composition of steel materials, physical properties and the stress/strain relation of steel materials, and the test methods of physical properties will be explained.
Wooden/timber structure (4 times): Regarding material properties, such as the strength of wood as the structural materials of wooden buildings, the deterioration of wood, durability, fire resistance, the structural form, construction method, and the structure design of wooden buildings will be explained, and the focus will be on reflecting on wooden building design, construction, maintenance, and management based on the correct recognition of timber.
Finishing material (2 times): The differences between structural materials and finishing materials, as well as material properties to be utilized, examples of use in buildings, and so forth will be discussed.
Final Exam. (1 time):A feedback class, including posting example model answers on KULASIS, will be conducted.

Continue to 建築材料(2)↓↓↓

建築材料(2)

[Course requirements]

Nothing in particular

[Evaluation methods and policy]

Grades will be evaluated by a final exam, and the achievement level of the course will be confirmed.

[Textbooks]

Not used
Not used

[References, etc.]

（**Reference books**）
Introduced during class
To be introduced during class

[Study outside of class (preparation and review)]

To be indicated during the lecture

（Other information (office hours, etc.)）

[Office hours] (reception of questions, etc.) To be indicated during the lecture

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

Course number	U-ENG24 24016 LJ74		
Course title (and course title in English)	建築設計論 Architectural Design Method	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,HIRATA AKIHISA

Target year	2nd year students or above	Number of credits	2	Year/semesters	2021/First semester
Days and periods	Mon.2	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

Architectural design requires architectural imagination that comprehensively links knowledge from various fields and presents it as a new overall picture. At the same time, flexible thinking ability is required to position architecture in the dynamic relationship of reality and to embody the concept. We will discuss the ideas and examples that underlie these abilities from the three aspects of architectural design Framework / Reality / Actuality.

[Course objectives]

B. Expertise / basic knowledge, ability to understand B2 architectural design / planning aspects
Develop the ability to understand the relationship between the ideas, technologies, and social backgrounds that support architectural design and actual design activities through various examples, and to make unique considerations.

[Course schedule and contents]

Architectural design framework, 5 times, unraveling the ideas behind architecture and discovery perspectives based on various cases including non-architecture
01 Overview
02 Artificial / Natural
03 Architecture as a solid
04 Space / Environment
05 Karamarishiro

Architectural design reality, 5 times, showing abundant examples of what is happening at the actual architectural design and production site
06 Notation
07 model
08 Engineering (Structure)
09 Engineering (Environment)
10 construction

Architectural design charity, 5 times, consider what architecture can bring to the real world, based on world examples
11 architect 1
12 architect 2
13 Architectural Commitment 1
14 Architectural Commitment 2
15 Fusion with urban environment

Continue to 建築設計論(2)↓↓↓

建築設計論(2)

Evaluation of learning achievement, once, evaluation of learning achievement.

[Course requirements]

None

[Evaluation methods and policy]

Performed by normal score (20%) and report evaluation (80%)

[Textbooks]

Akihisa Hirata 『Tangling』（LIXIL publishing, 2011）ISBN:isbn{}{9784872751666}

[References, etc.]

（**Reference books**）
Akihisa HIRATA 『"Discovering New Akihisa Hirata Architectural Works"』（TOTO publishing, 2018）ISBN:9787887063730
Akihisa HIRATA 『JA108 Akihisa HIRATA 2017-2003』（Shinkenchikusya, 2017）
Toyo Ito, Sou Fujimoto, Akihisa Hirata, Jun Sato 『Creating New Principles for 21st Century Architecture』（INAX Publishing, 2009）ISBN:{} {9784872751581}
Akihisa Hirata, others 『Architect's Reading Techniques』（TOTO publishing, 2010）ISBN: 9784887063143
Toyo Ito, Kumiko Inui, Sou Fujimoto, Akihisa Hirata 『architecture possible here?』（TOTO publishing, 2011）ISBN:9784887063310

[Study outside of class (preparation and review)]

Out-of-class study (preparation / review), etc.
Experience as many architectural spaces as possible, learn through related works and magazines about the design concept behind them, space composition, construction methods, materials, etc., and how the architecture is designed by superimposing it on your own experience.

（Other information (office hours, etc.)）

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

Continue to 建築設計論(3)↓↓↓

建築設計論(3)

(3) Details of practical classes delivered based on instructors' practical work experience

Course number	U-ENG24 34017 LJ74		
Course title (and course title in English)	都市設計学 Urban Planning	Instructor's name, job title, and department of affiliation	Graduate School of Global Environmental Studies Professor,KOBAYASHI HIROHIDE Graduate School of Global Environmental Studies Associate Professor,OCHIAI CHIHO
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Mon.3	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

Cities are man's largest creation and have been formed as the historical aggregation of various human activities (not least architectural activity). Urban populations exceed half of the global population and are on the rise; regardless of whether a country is developed or developing, cities are faced with major challenges, and going forwards the nature of cities will have a large impact on human life and the global environment. In this course, students will learn about the fundamental structure of the city and urban development from the modern period onwards as well as current challenges faced by cities from the physical perspective of architecture and from the social perspective of human beings. They will acquire the ability to consider the direction in which cities should progress in the future.

[Course objectives]

Of the learning and education objectives listed by the department, this course develops: C: Practical Skills (C2: Ability to understand the social role of architectural activity).

[Course schedule and contents]

Urban Concepts and Structures - 3 classes:
1. Outline of the class
2. Basic structures of cities 1
3. Basic structures of cities 2

Urban development of modern cities - 4 classes:
4. Outline of the development of modern cities
5. Focusing on E. Howard's urban philosophy
6. Focusing on Le Corbusier's urban philosophy
7. Focusing on the urban movement of Metabolism

Current trends of modern cities (Recreating city value) - 4 classes
8. Reconstructing urban communities
9. Creating urban landscapes
10. Inheriting historical cities
11. Constructing safe cities

Current trends of modern cities (Establishing environmentally low impacting cities) - 3 classes
12. The idea of the compact city
13. The potential of urban wooden structures
14. Urban architecture by passive design

Continue to 都市設計学(2)↓↓↓

都市設計学(2)

Student Assessment - 1 class
15. Assessment of the level of understanding of materials in the lecture series

[Course requirements]

None

[Evaluation methods and policy]

Assessment of achievement and grading is based on attendance (short lecture reports) (50%) and submission of a written assignment (50%).

[Textbooks]

Related material will be distributed.

[References, etc.]

（**Reference books**）
Introduced during class

[Study outside of class (preparation and review)]

You are expected to self-study more about your interesting topics introduced in the lectures, and to lead them to the final report.

（Other information (office hours, etc.)）

Please check the office hour by KULASIS.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

Course number	U-ENG24 34018 LJ74		
Course title (and course title in English)	建築設備システム Building Equipment System	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,OGURA DAISUKE Graduate School of Engineering Associate Professor,ISHIDA TAIICHIROU Graduate School of Engineering Associate Professor,IBA CHIEMI
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Thu.1	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

The lecture will cover the operating principles and basics of the system for building equipment such as air-conditioning equipment, plumbing sanitation equipment, and lighting equipment, and will discuss design methods that take energy saving and global environmental protection into consideration.

[Course objectives]

Students will understand the role and principle of operation of building equipment,and learn the basis for considering equipment planning in harmony with architectural planning.
Students will acquire B. Expertise and basic knowledge and B4. Ability to understand environmental engineering aspects of architecture among the learning and educational goals set in the department.

[Course schedule and contents]

Air conditioning process, (3 times) Analysis method of air condition such as temperature, humidity, enthalpy, operation principle of various air conditioning processes
Heat load calculation method, (2 times) Various heat loads, external weather for design, room load calculation
Air conditioning planning, (2 times) Air conditioning planning, zoning, air conditioning
Heat source equipment, (1 time) Principles of basic heat source equipment such as refrigerators and boilers
Duct design method (1 time) Flow energy conservation in pipes, duct friction resistance, equivalent diameter, duct design method
Water supply and drainage sanitation equipment, (2 times) Water quality standards and pollution prevention, water supply and drainage system design method, Hot water supply system and energy conservation
Lighting equipment, (2 times) Direct illuminance, indirect illuminance calculation, luminous flux method, brightness evaluation, lighting method, lighting equipment, use of natural light, light source, light color, color temperature, color rendering
Special Lecture, (1 time) Lecture by specialists in the practice of building equipment
Confirmation of learning achievement, (1 time) Understanding of lecture contents and confirmation of proficiency

Continue to 建築設備システム(2)↓↓↓

建築設備システム(2)

[Course requirements]

Students who take this course must have prior knowledge of Architectural Environmental Engineering I(U-ENG24 24009 LJ74) and II(U-ENG24 24010 LJ74).

[Evaluation methods and policy]

The grade is evaluated by a term-end examination.

[Textbooks]

Not used

[References, etc.]

（**Reference books**）

SHASEJ 『Knowledge of air conditioning and sanitation equipment』（Ohmsha Ltd.）ISBN:978-4-274-22039-5

SHASEJ 『Practical knowledge of air conditioning equipment planning and design』（Ohmsha Ltd.）ISBN:978-4-274-22038-8

Supervised by Saburo Murakawa / edited by Keiji Yoshimura and Tomoko Uno 『Illustration building equipment』（Gakugei Shuppansha）ISBN:978-4-7615-2628-3

edited by Architectural Institute of Japan 『Lighting and color design in architectural environment』（Ohmsha Ltd.）ISBN:978-4-274-10275-2

[Study outside of class (preparation and review)]

It is recommended that students take an appropriate review through Quiz, etc., which will be presented during the lecture.

（Other information (office hours, etc.)）

[Office Hour] (Reception of questions, etc.) Before and after the lecture time (Students who wish to ask questions at other times must make an appointment with the teacher)

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category

A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 34019 LJ74		
Course title (and course title in English)	鉄筋コンクリート構造 I Reinforced Concrete Structures I	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,NISHIYAMA MINEHIRO Graduate School of Engineering Associate Professor,TANI MASANORI
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Fri.2	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

[Course objectives]

[Course schedule and contents]

,2times,
,3times,
,3times,
,3times,
,3times,
,1time,

[Course requirements]

None

[Evaluation methods and policy]

[Textbooks]

[References, etc.]

（**Reference books**）

Continue to 鉄筋コンクリート構造 I (2)↓↓↓

鉄筋コンクリート構造 I (2)

[Study outside of class (preparation and review)]

（Other information (office hours, etc.)）

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category

A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

Course number	U-ENG24 34020 LJ74		
Course title (and course title in English)	鉄骨構造 I Steel Construction I	Instructor's name, job title, and department of affiliation	Disaster Prevention Research Institute Professor,IKEDA YOSHIKI Graduate School of Engineering Professor,KOETAKA YUUJI
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Thu.2	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

This course discusses manufacturing methods and mechanical characteristics of steel material used in steel frame construction, the make-up of framed construction, and outline of design methods; describes in detail the theory of plasticity, which determines collapse load, one of the main factors controlling the functionality and safety of steel frame construction; and explains structural design application methods. Also, appropriate exercises are assigned to teach students the theory.

[Course objectives]

Learn the theories needed to understand the mechanical properties of steel material and the mechanical behavior of steel frame structures, as well as design methods based thereon.
In terms of the department's learning/educational goals: B. Specialized knowledge and fundamental knowledge and B3. Ability to comprehend architectural structure.

[Course schedule and contents]

The 1st-3rd class: Steel production and the properties of steel material;
steel and its raw materials / history of steel production techniques / types of steel material and their chemical composition / mechanical properties of steel material and stress-strain relationship / new steel materials for building structures

The 4th class: Framework and connections of steel frame structures;
typical frameworks and example frameworks of large structures / types and uses of components / overview of connecting methods / Damage of steel buildings by 1995 Kobe Earthquake

The 5th class: Strength of components/connections and behavior of steel frames;
mechanical characteristics of components/connections and the behavior of frameworks

The 6th class: Design load;
overview of design load and design methods

The 7th-8th class: Steel material yield criteria and fully plastic moments;
steel material yield criteria / fully plastic moments of cross-section of members / influence of axial force or shearing force on upon fully plastic moments

The 9th-10th class: Plastic collapse of frames;
flexural member plastic collapse / definition of plastic collapse and collapse mechanisms / principle of virtual work / plastic collapse of simple frames

Continue to 鉄骨構造 I (2)↓↓↓

鉄骨構造Ⅰ(2)

The 11th class: Theorem of plastic collapse;
fundamental theorem of plastic collapse / yield surfaces and their characteristics / concept of plastic hinges

The 12th-14th class: Load calculation methods;
geometrical meaning of mechanical principles (principle of virtual work) / frames sustaining distributed loads / frames sustaining constant vertical loads and proportionally horizontal loads / plastic analysis of frames considered with joint panels / floor moment partition method

<<Final examination>>
The 15th class: Confirmation of learning attainment;
confirmation of learning attainment

[Course requirements]

Would be preferable to have completed Mechanics of Building Structures I-II.

[Evaluation methods and policy]

The score of final examination (80%), the scores of exercises assigned in the classes (20%)

[Textbooks]

Kazuo INOUE / Keiichiro SUITA 『建築鋼構造－その理論と設計－』（Kajima Institute Publishing）
ISBN:978-4306033443

[References, etc.]

（**Reference books**）
Minoru WAKABAYASHI 『鉄骨の設計』（Kyoritsu Shuppan）ISBN:978-4320076464

[Study outside of class (preparation and review)]

Prepare and review for the class using the textbook and the reference book. Enhance to understand by exercises during the classes and on the textbook.

（Other information (office hours, etc.)）

Please bring a scientific calculator.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course
Yoshiki IKEDA (Kajima Corp., 31 years)

Continue to 鉄骨構造Ⅰ(3)↓↓↓

鉄骨構造Ⅰ(3)

Yuji KOETAKA (Taisei Corp., 2 years)

(3) Details of practical classes delivered based on instructors' practical work experience
Lectures are given with practical viewpoints based on the experiences of structural engineers.

未更新

Course number	U-ENG24 24021 LJ74		
Course title (and course title in English)	建築生産Ⅰ Construction Engineering and Management I	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,KANETA TAKASHI Graduate School of Engineering Associate Professor,NISHINOSAYAKA
Target year	2nd year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Wed.1	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

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.

[Course objectives]

To acquire the knowledge on building construction process.
B-B2.

[Course schedule and contents]

1. Introduction
Outline of construction engineering and management.
Goals and scopes of the lectures.
Textbook Chapter 1
2. Construction market
Construction market of Japan and overseas. Activities and volumes of construction market.
Textbook Chapter 2
3. Regulations and codes
Regulations and codes for professionals in building construction.
Textbook Chapter 3
4. Building system
Stakeholders, regulations, standards, jobs and roles that are involved with building construction projects. Project delivery methods, contracts, procurement system.
Textbook Chapter 4
5-6. Project management
Outline of project management in building construction.
Textbook Chapter 5
7. Project planning
Project process and phases. Project planning, briefing, feasibility study, programming, development management.
Textbook Chapter 6, 6.1
8-10. Design in project process
Design, drawings and specification required in a construction project. Cost management, design review, concurrent engineering, quantity survey, value engineering.
Textbook Chapter 6, 6.2-6.3
11. Engineering in design
Engineering in design, for example, design review, concurrent engineering, collaboration in design, production design, value engineering.

Continue to 建築生産Ⅰ(2)↓↓↓

建築生産Ⅰ(2)

Textbook Chapter 6, 6.4
12. Cost management
Quantity survey and cost estimation. Cost control through design process.
Textbook Chapter 6, 6.5
13. Procurement and contract
Variety of procurement and contract for building projects. Supervision of construction and inspection.
Textbook Chapter 6, 6.6-6.7
14. Maintenance
Maintenance in the age of global ecology. Demolish and waste treatment. Reuse and recycle of material.
Textbook Chapter 6, 6.8
15. Final examination/ Learning achievement evaluation
16. Feedback

[Course requirements]

Social science and economics taught in High School.

[Evaluation methods and policy]

* Evaluation method
Evaluation will be based on final examination (80%) and participation in class (20%).
Evaluation for participation in class includes attendance and short reports conducting every class.
* Evaluation policy
Achievement of goals is evaluated according to the grade evaluation policy of the undergraduate / graduate school of Engineering.

[Textbooks]

Shuzo FURUSAKA 『KENCHIKU-SEISAN』（Riko Tosho）ISBN:978-4-8446-0863-9

[References, etc.]

（**Reference books**）
Introduced during class

[Study outside of class (preparation and review)]

Read the text book before and after the lecture.

（Other information (office hours, etc.)）

Contact to:
kaneta@archi.kyoto-u.ac.jp

*Please visit KULASIS to find out about office hours.

Continue to 建築生産Ⅰ(3)↓↓↓

建築生産 I (3)

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 34022 LJ74		
Course title (and course title in English)	建築構造力学III Mechanics of Building StructuresIII	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,TAKEWAKI IZURU Graduate School of Engineering Professor,OOSAKI MAKOTO Graduate School of Engineering Associate Professor, Graduate School of Engineering Associate Professor,KOHEI FUJITA Graduate School of Engineering Assistant Professor,HAYASHI KAZUKI
Target year	3rd year students or above	Number of credits	4
Year/semesters	2021/First semester		
Days and periods	Tue.2,Wed.2	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

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.

[Course objectives]

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 schedule and contents]

Fundamental theory of structural analysis and slope-deflection method, 4 classes,
Frame analysis model and governing equation for slope-deflection method.

Moment distribution method, 1 class,
Moment distribution method without nodal lateral displacement.

Three-dimensional frame, 2 classes,
Plane frames with equal horizontal displacements. Shear force distribution formula. Structural design of building frames.

Displacement method and force method, 9 classes,
Member stiffness matrix and system stiffness equation for truss and moment-resisting frame. Treatment of mid-span loads.

Principles of virtual work, 5 classes,
Principle of virtual displacement. Unit virtual displacement method and stiffness method. Principle of virtual force. Unit virtual force method.

Principles of energy methods, 3 classes,
Stationary and minimum principles of total potential energy and complementary energy.

Plastic limit analysis and elastic-plastic analysis, 5 classes,
Load-deformation curve for an elastic-perfectly plastic beam, plastic hinge, plastic collapse, virtual work

Continue to 建築構造力学III(2)↓↓↓

建築構造力学III(2)

equation, fundamental theorem for plastic limit analysis, plastic limit analysis of moment resisting frame.

Feedback using term exam, 1 class,
Conduct feedback using term exam through KULASIS

[Course requirements]

None

[Evaluation methods and policy]

Term examination

[Textbooks]

T.Nakamura (ed.) lsquoMechanics of building structures II: Illustrative description and exercisesrsquo, Maruzen.

[References, etc.]

（**Reference books**）

[Study outside of class (preparation and review)]

The exercise problems at the end of chapters of the text should be solved in parallel to the class advancement.

（Other information (office hours, etc.)）

Office hour: Before and after the class

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

Course number	U-ENG24 44023 SJ74		
Course title (and course title in English)	建築環境工学演習 Seminar of Practice in Architectural Environmental Engineering	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,TAKANO YASUSHI Graduate School of Engineering Professor,HARADA KAZUNORI Graduate School of Engineering Professor,OGURA DAISUKE Graduate School of Engineering Associate Professor,ISHIDA TAIICHIROU Graduate School of Engineering Associate Professor,OOTANI MAKOTO Graduate School of Engineering Associate Professor,IBA CHIEMI Disaster Prevention Research Institute Associate Professor,NISHINO TOMOAKI Graduate School of Engineering Assistant Professor,NII DAISAKU Graduate School of Engineering Assistant Professor,TAKATORI NOBUMITSU
Target year	4th year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Wed.1,2	Class style	Seminar
Language of instruction	Japanese		

[Overview and purpose of the course]

This course is provided to enhance global understanding of the contents lectured in Environmental Engineering in Architecture 1&2, 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.

[Course objectives]

The goal is to make global understanding of the technical elements in environmental engineering in architecture and their mutual relationships. 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 schedule and contents]

Heat transfer and vapor condensation [3 weeks]

Air-conditioning system [3 weeks]

Building acoustics [3 weeks]
(1) Sound levels, frequency characteristics and 1/3 octave bands, dB summations, sound attenuation by distance, noise reduction by barriers
(2) Transmission loss, sound insulation, frequency analysis and evaluation
(3) Reverberation time calculation, acoustical design of optimum reverberation time

lighting and color [1 week]

Sunshine and daylighting [1 week]

Continue to 建築環境工学演習(2)↓↓↓

建築環境工学演習(2)

ventilation and smoke control for evacuation [2 weeks]
(1) Basic subjects on ventilation design such as Velnouille’s formula, pressure difference, friction coefficients, wind pressure coefficients, neutral plane height.
(2) Smoke control design for escape from fire in a building,

Site visit [1 week]
Site visit are to be planned to introduce design and construction of environmental control systems of real building projects.

Feedback [1 week]

[Course requirements]

The participants are required to study Environmental engineering in Architecture I (U-ENG24 24009 LJ74) and II (U-ENG24 24010 LJ74) prior to join this course. In addition, the knowledge on Building equipment system (U-ENG24 34018 LJ74), Urban Environment Engineering (U-ENG24 34052 LJ74), Lighting and Acoustics in Architecture (U-ENG24 34032 LJ74), Thermal Environment Design of Architecture (U-ENG24 34060 LJ74) is desirable.

[Evaluation methods and policy]

Score is evaluated based on reports and participation.

[Textbooks]

None specified. Practice sheet will be provided during the course.

[References, etc.]

（**Reference books**）
Textbooks and notebooks on the courses specified above are necessary for exercise. Function calculator must be provided by participants themselves.

[Study outside of class (preparation and review)]

Use textbooks, practice sheet for preparation and review.

（Other information (office hours, etc.)）

[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.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

Continue to 建築環境工学演習(3)↓↓↓

建築環境工学演習(3)

(2) Details of instructors’ practical work experience related to the course

(3) Details of practical classes delivered based on instructors’ practical work experience

未更新

Course number	U-ENG24 44027 LJ74		
Course title (and course title in English)	建築計画学II Architectural Planning II	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,MIURA KEN

Target year	4th year students or above	Number of credits	2	Year/semesters	2021/First semester
Days and periods	Wed.3	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

To gain a basic understanding of and learn the methods related to architectural and environmental planning and design. In other words, this class provides an outline of methods for observing, recording, and evaluating the relationship between humans and their environment, and using that evaluation as the basis for the planning and design of a living environment (that includes architecture). After an initial overview of schools of thought in the theory and practice of architectural planning, we will explain a new approach to architectural planning based on the study of human-environment interaction (which incorporates disciplines such as the behavioral and cognitive sciences), and how to apply this approach to planning and research case studies #8211 taking a methodology that views architectural planning as the design of human-environment interaction.

[Course objectives]

To foster the practical ability to design architectural space based on the interactions of humans with their environment
C. Practical skills
C1. The ability to create buildings.

[Course schedule and contents]

Architectural Planning & Environmental Psychology - 1 class: This class will provide an explanation of the position of environmental psychology and environmental behavior research, after an overview of the social nature, role, and meaning of architectural planning. Students will also learn about the problems that exist in architectural planning by examining examples.
People-Environmental Reserach & design 1:4 classes,Deepen understanding of human vision, behavior, dimensions, and posture as the basis of planning
People-Environmental Reserach & design 2: 3 classes,After reviewing past research findings on perception, behavior, cognition, memory, and intelligibility, learn basic concepts and knowledge for planning and designing architectural spaces based on the relationship between humans and the environment.
Safety, security and universal design- 2classes,Learn about architectural planning and universal design for diverse users from the perspectives of safety and accident prevention and usability
Date-based design method- 3classes,Learn practical examples of planning methods based on data, such as ergonomics, statistics, and ergonomics.
Final Examination:Evaluate learning achievement.
Follow up- 1class

Continue to 建築計画学II(2)↓↓↓

建築計画学II(2)

[Course requirements]

None

[Evaluation methods and policy]

Based on written reports（50％） and final report（50％）

[Textbooks]

Classes will make use of printed handouts and projected slides.

[References, etc.]

（**Reference books**）
Introduced during class

[Study outside of class (preparation and review)]

Subjects will be given written reports to be completed outside class, with corresponding presentations in class.

（Other information (office hours, etc.)）

Appointments can be made by email.

*Please visit KULASIS to find out about office hours.

未更新

Course number	U-ENG24 34028 LJ74		
Course title (and course title in English)	建築生産II Construction Engineering and Management II	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,KANETA TAKASHI Graduate School of Engineering Associate Professor,NISHINOSAYAKA Part-time Lecturer,KIUCHI TOSHIO
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/Second semester		
Days and periods	Tue.1	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

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.

[Course objectives]

To acquire the basic knowledge on supervision and construction management.
C-C1.

[Course schedule and contents]

1. Introduction
Construction process based on drawings and specifications.
Textbook Chapter 7
2-6. Planning and management
Construction planning and management. Considering schedule, quality, cost, safety, environment.
Textbook Chapter 8, 10, 10.1-10.4
7-8. Management method
Project team design, information and reporting system, procurement system, Value engineering.
Textbook Chapter 10, 10.5-10.6
9. Project management and ICT
Building Information Modeling and other applications.
Textbook Chapter 10, 10.7-10.8
10-14. Construction Control
Construction planning and control.
Taught by Visiting Lecturer Kiuchi.
Textbook Chapter 9, 11
15. Final examination/ Learning achievement evaluation
16. Feedback

[Course requirements]

Requested to master "Construction Engineering and Management I" in advance.

[Evaluation methods and policy]

* Evaluation method
Evaluation will be based on final examination (80%) and participation in class (20%).
Evaluation for participation in class includes attendance and short reports conducting every class.

Continue to 建築生産II(2)↓↓↓

建築生産II(2)

* Evaluation policy
Achievement of goals is evaluated according to the grade evaluation policy of the undergraduate / graduate school of Engineering.

[Textbooks]

Shuzo FURUSAKA 『KENCHIKU-SEISAN』 (Riko Tosho) ISBN:978-4-8446-0863-9

[References, etc.]

(**Reference books**)
Introduced during class

[Study outside of class (preparation and review)]

Read the textbook before and after the lecture.

(Other information (office hours, etc.))

Contact to:
kaneta@archi.kyoto-u.ac.jp

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 34029 LJ74		
Course title (and course title in English)	建築論 Theory of Architecture	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,TAJI TAKAHIRO
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Wed.3	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

Through an inspection of discourse concerning architecture, this course will investigate a range of architectural theory. This course will describe the historical significance of architecture as a discourse, and the potential for its reflection back on architectural behavior, while taking up the architectural theory of architects such as Vitruvius, Alberti, and Piranesi, and the architectural theory of philosophers such as Plato, Val#233ry, and Derrida (Takeyama).
This course will explain the scope of the subject of architectural theory, which questions the meaning of architecture. It will examine the various architectural theories associated with keyword topics, from Western Classical to Modern, based in particular on the thinking of Tomoya Masuda and Keiichi Morita, who contributed to the creation and development of architecture in Japan. It will also consider the relationship of architectural theory with humanities such as philosophy and art theory. We will take specific architects together, and analyze the mental working in their architectural thinking and production. (Taji)

[Course objectives]

The Range of Architectural Theory - 7 classes: (1-2) On the discourse of everything as architecture. (3-4) On the discourse of architecture as frozen music. (5-7) On the historical significance of architecture through the discourse of architects and philosophers, and possible reflections back onto architectural behavior. (Takeyama)
Topics and Methods in Architectural Theory - 1 class: The scope of architectural studies is thought to have two phases (the production and reception (use) of buildings), and three standards (empirical, theoretical, and ideal). This lecture will consider the position of architectural theory within such a scope and examine themes in architectural theory. (Taji)
Basic Concepts in Architectural Theory 1 (6 classes): (1) Architecture: This lecture will confirm that the orginal meaningi of "architecture" is a construction from principles, and describe the meaning of "principles" and "construction." (2) Composition: This lecture will discuss the ideological meaning of geometry based on architectural forms and its historical development. (3) Space: This lecture will outline theories of space pioneered by phenomenology and explain human perception and spatial phenomena. (4) Place: This lecture will explain place as constructed and interpreted by humans, based on existential philosophy (Heidegger, etc.). (5) Light: This lecture will introduce the observations of gestalt psychology concerning the phenomenon and spatial nature of light and consider its symbolism. (6) Nature: This lecture will explain how nature has been imitated and interpreted as a basis for architecture. (Taji)
Student Assessment - 1 class: An assessment of whether a basic knowledge and understanding of architectural theory has been obtained.

[Course schedule and contents]

The Range of Architectural Theory - 7 classes: (1-2) On the discourse of everything as architecture. (3-4) On the discourse of architecture as frozen music. (5-7) On the historical significance of architecture through the

Continue to 建築論(2)↓↓↓

建築論(2)

discourse of architects and philosophers, and possible reflections back onto architectural behavior. (Takeyama)
Topics and Methods in Architectural Theory - 1 class: The scope of architectural studies is thought to have two phases (the production and reception (use) of buildings), and three standards (empirical, theoretical, and ideal). This lecture will consider the position of architectural theory within such a scope and examine themes in architectural theory. (Taji)
Basic Concepts in Architectural Theory 1 (6 classes): (1) Architecture: This lecture will confirm that the orginal meaningi of "architecture" is a construction from principles, and describe the meaning of "principles" and "construction." (2) Composition: This lecture will discuss the ideological meaning of geometry based on architectural forms and its historical development. (3) Space: This lecture will outline theories of space pioneered by phenomenology and explain human perception and spatial phenomena. (4) Place: This lecture will explain place as constructed and interpreted by humans, based on existential philosophy (Heidegger, etc.). (5) Light: This lecture will introduce the observations of gestalt psychology concerning the phenomenon and spatial nature of light and consider its symbolism. (6) Nature: This lecture will explain how nature has been imitated and interpreted as a basis for architecture. (Taji)
Student Assessment - 1 class: An assessment of whether a basic knowledge and understanding of architectural theory has been obtained.

[Course requirements]

None

[Evaluation methods and policy]

Evaluation will be based on written reports on given topics.
Grade Assessment - views and levels of achievement:
Judgment will be based on students' level of understanding of the classes, and whether students have any fresh perspectives that emphasize the deepening of their own understanding.

[Textbooks]

Instructed during class

[References, etc.]

(**Reference books**)
Introduced during class
To be indicated as appropriate

[Study outside of class (preparation and review)]

Read the material introduced in the class.

(Other information (office hours, etc.))

Office hour: before and after lectures

*Please visit KULASIS to find out about office hours.

Continue to 建築論(3)↓↓↓

建築論(3)

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

Course number	U-ENG24 34030 LJ74		
Course title (and course title in English)	都市・地域論 Theory of Living Space in the Region	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,KANKI KIYOKO
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/Second semester		
Days and periods	Mon.2	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

Here we discuss several series of theories and methods for understanding and planning urban and rural planning. We should know spacial as well as historical views. In the Urban and Rural Planning, we should concern and design the physical aspects as well as social aspects of the living spaces. Specially in the contemporary planning, we collaborate within and without local communities, while cooperating with global ongoing activities.
For the architectural students, it is necessary to study the ways to design the living spaces with deep understanding of urban planning theory and systems, as well as to find the new ideas for updating such theory and systems.

[Course objectives]

B.Basic and Professional Knowledges、B2.Architectural Design and Living space Design with Planningoriented view、C.Practical Skills、C2. Ability to understand Social aspects of Architecture and Planning、E.Global View for Planning、E2. Ability to understand global and local culture

[Course schedule and contents]

(1) Building Control and Development Control, From one site till the region(3 classes)
- the single site and facing street (historic area and narrow streets) Simulation of the transition of the area
- Zoning systems, roles, advantages, disadvantages
- Land Use Planning - urban land use, rural land use, natural land use
(2) Micro scale planning and design, community identity and district plan (2 classes)
- district plan, community agreements regulation and activities
- district plan system in Japan and in Germany
- Community action, participation, history of participatory planning and design, Machidukuri
(3) Landscape and Town scape (2 classes)
- History of the debates and community actions related Landscape disfigurement
- Conservation and Creativity
- Landscape planning zone, Conservation area design, Heritage area, Natural and Cultural Landscape
(4) Open space design (2 classes)
- Urban development and open space design, Ecological design
- Parks and Open spaces, Networks for the safety of the living spaces
- Community and open space, Children's participation, Play park, Maintenance and participation
(5) Space for traffic (1 class)
- Urban Planning Road Designation (Japan) , Public transport design and city center development, Pedestrian Zone in the cities (Japan, Germany)
(6) Development Project Design, Urban Regeneration (2 classes)
- Land readjustment, History of (rural and urban) land readjustment

Continue to 都市・地域論(2)↓↓↓

都市・地域論(2)

- Development Project regulations, incentive planning,
- Urban sprawl, Mini-Development(Japan), Gated community development
(7) Master Plan, Regional Plan (1 class)
- Urban planning district master plan, Urban Planning master plan
- Comprehensive plan for the local government
- Urban Shrink design, Change of the urban policy, population flame,
(8) History of Modern urban planning (1 class)
- History of Urban theory
- History of Planning
(9) Home work feed back (1 class)

[Course requirements]

None

[Evaluation methods and policy]

・2 home works (40%) and Examination(at the official examination term)(60%).
・The assignments for 2 home works will be shown during the lectures.

[Textbooks]

The prints will be distributed in each time.
The pdf files same with the prints will be uploaded on PandA.

[References, etc.]

（**Reference books**）
For the reference：「地域共生の都市計画　第二版」三村浩史著　学芸出版社（2005年）
isbn4761531290
Other remarks：We will introduce the information of seminar, exhibition, or book related the lectures if any.

[Study outside of class (preparation and review)]

The PDF files uploaded on PandA is with full color and easy to identify.
Those will be uploaded a little before each lectures in order to provide the more precise understanding of the plans and diagrams.

（Other information (office hours, etc.)）

[Office hours] every monday, during the lunch break and in the afternoon（lecture room）Please get in contact previously by email (kanki@archi.kyoto-u.ac.jp).

*Please visit KULASIS to find out about office hours.

Course number	U-ENG24 34032 LJ74		
Course title (and course title in English)	建築光・音環境学 Lighting and Acoustics in Architecture	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Associate Professor,ISHIDA TAIICHIROU Graduate School of Engineering Associate Professor,OOTANI MAKOTO
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Mon.1	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

These lectures will cover the theory and techniques relating to acoustics, lighting, and color (among the fundamental physical environmental elements to be considered in architectural design for realization of a comfortable and safe environment), and their applications in actual design. In order to take the course, students must have a basic understanding of related topics (covered in Architectural Environmental Engineering II).

[Course objectives]

For students to learn the theory and associated techniques required for architectural design relating to acoustics, lighting, and color, and how to apply them to actual design. Of the learning and education objectives listed by the department: C: Practical Skills C1: The ability to create buildings.

[Course schedule and contents]

Measurement and Evaluation of Sound and Acoustic Material - 3 classes: These lectures will explain basic matters relating to the measurement of the physical properties of sound, as well as explaining various acoustic measures in noise and room acoustics and outlining how to measure them.
Noise Control Design - 2 classes: These lectures will explain the processes relating to interior and exterior noise (from generation to propagation and sound absorption), and related properties; they will also outline various noise countermeasures that can be taken in those processes.
Room Acoustic Design - 2 classes: These lectures will outline fundamental topics and methods for optimizing sound fields in rooms for its their given purposes. Room Acoustics has developed with the transition of Hall Acoustics. The historical circumstances will also be explained here.
Lighting Environments for Clear Vision and Visual Ability - 2 classes: These lectures will explain topics that must be considered for the design of a lighting environment that is comfortable and safe, on the basis of human visual ability. The lectures will cover light and vision, luminance contrast and visibility, clear vision conditions, glare, brightness perception, and the effect of aging on vision.
Architectural Lighting Evaluation and Design - 2 classes: These lectures will outline basic methods for the consideration of architectural lighting, and the psychological effects of the lighting environment. The lectures will cover the calculation of indirect illuminance in a room, daylight and artificial lighting, natural lighting, methods and examples of architectural lighting, and psychological evaluation of lighting environments.
Color Engineering and illumination - 3 classes: These lectures will explain the fundamentals of color engineering, from the CIE XYZ color system to uniform color space, and their applications for illumination engineering. Lectures will cover xy chromaticity diagrams, calculating additive color mixtures, uniform color space and color difference, color temperature, and color rendering index.
Student Assessment - 1 class: Assessment of students' understanding and application of course material.

Continue to 建築光・音環境学(2)↓↓↓

建築光・音環境学(2)

[Course requirements]

Students must have taken Architectural Environmental Engineering II.

[Evaluation methods and policy]

Evaluation will be based on final examination scores.

[Textbooks]

松浦邦男、高橋大弐『エース建築環境工学I(日照・光・音)』（朝倉書店）ISBN:4254268629

[References, etc.]

（**Reference books**）
Introduced during class

[Study outside of class (preparation and review)]

Students are required to prepare by reading textbook sections prior to each lecture.
Additionally, students shall deepen their understanding by reviewing material covered after each lecture and ask their instructors about any points that are unclear

（Other information (office hours, etc.)）

Office hours (taking questions): Questions will be taken as appropriate. Students are to make an appointment with the relevant teacher.

*Please visit KULASIS to find out about office hours.

未更新

Course number	U-ENG24 34034 LJ74		
Course title (and course title in English)	建築構造解析 Analytical Methods of Building Structures	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,KANEKO YOSHIO Graduate School of Engineering Professor,TAKEWAKI IZURU Disaster Prevention Research Institute Professor,MARUYAMA TAKASHI
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/Second semester		
Days and periods	Wed.2	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

An elementary outline will be given including the finite element method used for building structural design, as well as various structural analysis methods, dynamic properties of the building frame and its constituent elements, mechanical properties of planar boards, and the design method.

[Course objectives]

Learning the basics and applications of structural analysis methods, the basic theory of dynamics, and the basic theory of the parallel plate. The educational goal is to acquire expert and basic knowledge. Among the learning and educational goals listed in the department, the goal is to have C. practical ability and C1. the ability to realize buildings.

[Course schedule and contents]

Structural design and structure analysis method (6 times): Lectures will be given on the fundamental and applied structural analysis method utilized in building structure design. First, the characteristics of various structural analysis methods will be introduced, including the finite element method used for building structural design by using actual building design examples. Next, the finite element method will be explained, as well as its basic theory and application, and the analysis accuracy and the application method in actual building structure design will be explained. In addition, the construction and application of a dynamic model necessary for actual structural design will be outlined.
Building vibration analysis (4 times): The fundamentals of vibration theory necessary for the vibration analysis of buildings will be explained. Next, regarding the forced vibration of buildings when external force act upon them, the case of sinusoidal external force will be covered as an example. In addition, the nature of the irregular wave external force as an example of earthquake vibration, wind pressure, and so forth will be explained as external forces that are actually applied to buildings. After that, the handling of forced vibration when an irregular wave external force is applied will be explained. In addition, vibrations of continuous joists will also be explained.
Theory of flat plate structure (4 times): Dynamic theory, analysis method, and the design method of parallel plate structural elements, such as walls and floors, will be explained. The linear governing equation of parallel plates subjected to in-plane deformation under the assumption of plane stress will be introduced, as well as the solution using the Fourier series. Next, the governing equations of parallel plates subjected to the out-of-plane bending deformation based on the assumption of normal line preservation will be derived, and several examples of solution methods will be outlined. In addition, the basic idea of parallel plate element design and usage in actual buildings will be explained.
Final Exam. (1 time):A feedback class, including posting example model answers on KULASIS, will be conducted.

Continue to 建築構造解析(2)↓↓↓

建築構造解析(2)

[Course requirements]

Building structural mechanics I, II, and III

[Evaluation methods and policy]

The evaluation will be done by the final exams, and the achievement level of the course will be confirmed.

[Textbooks]

Not used
Not used

[References, etc.]

（**Reference books**）
Introduced during class
To be introduced during the class

[Study outside of class (preparation and review)]

To be indicated during the lecture

（Other information (office hours, etc.)）

[Office hours] (reception of questions, etc.) It will be indicated during the lectures.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 34035 LJ74		
Course title (and course title in English)	建築基礎構造 Building Foundation Engineering	Instructor's name, job title, and department of affiliation	Disaster Prevention Research Institute Professor,MATSUSHIMA SHINICHI Disaster Prevention Research Institute Professor,Yuki Sakai Graduate School of Engineering Associate Professor,KOHEI FUJITA
Target year	4th year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Mon.2	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

In order to support an architectural structure safely on the ground, it is necessary to evaluate the behavior of the foundation structure supporting that architectural structure and investigate its safety. The behavior of the foundation structure is influenced not only by the foundation structure itself, but also largely by the dynamic behavior of the ground. Therefore, this course will first describe the fundamental dynamic characteristics of soil and ground. Then, the behavioral characteristics, the mechanisms and methods of evaluation when a load is applied from the superstructure or the ground to a foundation structure that has been installed on the ground's surface or underground, will be explained.

[Course objectives]

Learn basic knowledge of soil and ground, understand basic theory of the load applied to ground and foundation structure and its behavior due to the load, and acquire the basic ideas necessary for designing and considering the safety of building foundation structures.
Among the learning and education objectives listed by the department: B. Expertise and Basic Knowledge, B3. Ability to understand the structural aspects of architecture.

[Course schedule and contents]

Outline of Architectural Foundation Structures, 1 time, This lecture will outline the overall position relating to soil engineering and foundation structures so that students are able to understand the position of content that they will learn in the course.
Mechanical Behavior of Soil (Basics), 2 times, The characteristics of the behavior of soil when force is applied, can be divided on the basis of whether the force is compressive or shear. These lectures will explain the fundamental characteristics of mechanical behavior of soil as an elastic body.
Mechanical Behavior of Soil (Clay Soil and Sand), 2 times,These lectures will explain about consolidation settlement of clay soil and liquefaction of sandy ground.
Shear Strength of Soil, 2 times, These lectures will explain the shear strength, and active and passive earth pressure of soil.
Earthquake Damage to Building Foundation Structures, 2 times, These lectures will explain the characteristics of building foundation structures when a load is applied, and outline the issues for building foundation structures by presenting examples of earthquake damage.
Behavior of Shallow Foundations, 1 time, This lecture will explain the vertical bearing capacity and settlement of shallow foundations.
Behavior of Pile Foundations, 2 times, These lectures will explain the vertical bearing capacity and horizontal resistance of piles.
Design Planning of Building Foundation Structures, 2 times, These lectures will cover evaluating the mechanical behavior of the ground from ground survey and explain the process of designing the foundation structure based on the evaluation results.

Continue to 建築基礎構造(2)↓↓↓

Student Assessment, 1 time, Assessment of the how much students have achieved the learning objectives.

[Course requirements]

None

[Evaluation methods and policy]

Based on the final examination

[Textbooks]

Not used

[References, etc.]

（**Reference books**）

Fumio Kuwahara 『Geotechnical Engineering』（Morikita Publishing）ISBN:978-4627505117
Koji Tominaga 『Building Foundation Strucures』（Ohmsha）ISBN:978-4274214486

[Study outside of class (preparation and review)]

Recommended to prestudy the terminology and review calculation problems.

（Other information (office hours, etc.)）

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 34036 LJ74		
Course title (and course title in English)	耐震構造 Earthquake Resistant Structures	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,HAYASHI YASUHIRO Graduate School of Engineering Associate Professor, ＳＵＧＩＮＯ　ＭＩＮＡ
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/Second semester		
Days and periods	Wed.3	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

Seismic design of structures requires an accurate understanding of the dynamic behavior of structures during earthquakes. After providing a historical outline of earthquake damage to architectural structures and the development of earthquake-resistant structures, This course will address the properties of seismic motion, and the basics of vibrational theory based on dynamic models of structures. We will also discuss structures' earthquake response analysis methods, response characteristics, and basic concepts and procedures related to earthquake-proof design methods.

[Course objectives]

Learn about basic theories of vibrational analysis of seismic motion in architectural structures, as well as foundational concepts of earthquake-proof design. In terms of the department's learning/educational goals: B. Specialized knowledge and fundamental knowledge and B3. Ability to comprehend architectural structure.

[Course schedule and contents]

History of earthquake-proof structures, 1 class: We will explain the characteristics of the seismic movement of past large-scale earthquakes, as well as the characteristics of earthquake damage to structures and ground, and discuss the history of earthquake-proof structures that have developed based on experiences with earthquake damage.

Linear response in single degree of freedom systems, 6 classes: After explaining the meaning of modeling a building in a single degree of freedom system, we will discuss equations of motion in single degree of freedom systems and the vibration phenomena indicated by their general and special solutions. Based on single degree of freedom linear systems, theoretical solutions for free vibration and various types of interference (impulse excitation, step excitation, harmonic excitation, etc.) will be given, and we will discuss the ways in which a building's natural period, damping ratio, and input seismic motion characteristics influence response.

Non-linear response in single degree of freedom systems, 2 classes: We will discuss single degree of freedom system response with random interference. First, after demonstrating single degree of freedom system response with random interference, we will explain the influence of the non-linear single degree of freedom system vibrational analysis method and non-linearity upon response. Also, the concept of the response spectrum to random interference will be explained, and we will discuss its use in conducting earthquake resistance safety evaluations of buildings.

Multiple degree of freedom system response, 2 classes: After explaining the composition methods of equations of motion in multiple degree of freedom systems, we will discuss eigenvalue analysis and modal

Continue to 耐震構造(2)↓↓↓

analysis. Also, we will discuss the torsional vibration analysis and torsional response characteristics of buildings.

Building response and earthquake-proof design, 3 classes: Mechanisms of the propagation of seismic motion from the epicenter to the ground of the building site will be explained, and the seismic motion amplification characteristics of the ground of the building site, as well as their influence on building response will be explained in terms of simple wave equations. Next, after describing the basic concept of earthquake-proof building design based on the dynamic analysis method, we will discuss basic methods of earthquake-proof building design and their historical development process. Finally, we will take up the topics of base isolation and vibration control as means of controlling building response and damage, discussing the basic theories and actual mechanisms underlying these, as well as design methods.

Confirmation of learning attainment, 1 lecture: In addition to summarizing the classes, the degree of learning attainment will be confirmed.

[Course requirements]

None

[Evaluation methods and policy]

Evaluation is performed by the final examination.

[Textbooks]

Not used
Additional teaching materials: in-class printouts, PowerPoint documents,

[References, etc.]

（**Reference books**）

[Study outside of class (preparation and review)]

Review contents of previous classes and quizzes before taking every class.

（Other information (office hours, etc.)）

[Grading] Based on final examination. Attendance and so on are also taken into account.
[Office hours] (Open for questions, etc.) After end of class.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

Continue to 耐震構造(3)↓↓↓

(2) Details of instructors' practical work experience related to the course
None

(3) Details of practical classes delivered based on instructors' practical work experience
None

未更新

Course number	U-ENG24 34037 LJ74		
Course title (and course title in English)	鉄筋コンクリート構造II Reinforced Concrete Structures II	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,NISHIYAMA MINEHIRO Graduate School of Engineering Associate Professor,TANI MASANORI
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/Second semester		
Days and periods	Mon.3	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

[Course objectives]

[Course schedule and contents]

,2times,
,4times,
,6times,
,2times,
,1time,

[Course requirements]

None

[Evaluation methods and policy]

[Textbooks]

[References, etc.]

（**Reference books**）

Continue to 鉄筋コンクリート構造II(2)↓↓↓

鉄筋コンクリート構造II(2)

[Study outside of class (preparation and review)]

（Other information (office hours, etc.)）

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

Course number	U-ENG24 34038 LJ74		
Course title (and course title in English)	鉄骨構造II Steel Construction II	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,KOETAKA YUUJI Disaster Prevention Research Institute Associate Professor,KURATA MASAHIRO
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/Second semester		
Days and periods	Thu.2	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

This course focuses on buckling of components/frames and connections of components, factors that control the functionality and safety of steel frame structures, explaining in detail their theoretical background and discussing applications to structural design. Also, students are assigned suitable exercises to teach them practical structural design techniques.

[Course objectives]

Understand the theory of buckling of steel frame structure components and frames, and learn how to design them. Also, understand the connections by high strength bolts and welds, and learn connection design techniques.
In terms of the department's learning/educational goals, C. practical skills and C3. Ability to construct actual buildings.

[Course schedule and contents]

The 1st-2nd class: Column elastic buckling;
Central compression column Euler buckling theory / changes in buckling load due to boundary conditions / behavior of columns with initial deflection or eccentricity / buckling load analysis using virtual work equations

The 3rd class: Column inelastic buckling;
Inelastic buckling according to tangent modulus theory and reduced modulus theory / the influence of residual stress upon buckling load

The 4th-5th class: Buckling slope deflection and buckling of frameworks;
Basic theory of buckling slope deflection / buckling of frames with restricted horizontal displacement / buckling of frames with unrestricted horizontal displacement / restraint effects against buckling

The 6th class: Buckling of beams;
Pure torsion of components / warping of components / theory of lateral buckling of beams

The 7th class: Buckling of plates;
Theory of buckling of plates / buckling loads of simply-supported plates

The 8th class: Design overview of components and connections and demanded capacities;
Overview of seismic design procedures / demanded capacities of components and connections

The 9th-11th class: Component design;

Continue to 鉄骨構造II(2)↓↓↓

鉄骨構造II(2)

Compression members / flexural members / components under bending moments and axial force

The 12th-14th class: Connection design;
Full penetration welding / fillet welding / friction connections by high-strength bolts / tensile connections by high-strength bolts

<<Final examination>>
The 15th class: Confirmation of learning attainment;
confirmation of learning attainment

[Course requirements]

Would be preferable to have completed Steel Construction I, Mechanics of Building Structures I-III, and Advanced Calculus I & II.

[Evaluation methods and policy]

The score of final examination (80%), the scores of exercises assigned in the classes (20%)

[Textbooks]

Kazuo INOUE / Keiichiro SUITA 『建築鋼構造－その理論と設計－』（Kajima Institute Publishing）
ISBN:978-4306033443

[References, etc.]

（**Reference books**）
Minoru WAKABAYASHI 『鉄骨の設計』（Kyoritsu Shuppan）ISBN:978-4320076464

[Study outside of class (preparation and review)]

Prepare and review for the class using the textbook and the reference book. Enhance to understand by exercises during the classes and on the textbook.

（Other information (office hours, etc.)）

Please bring a scientific calculator.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course
Yuji KOETAKA (Taisei Corp., 2 years)

(3) Details of practical classes delivered based on instructors' practical work experience
Lectures are given with practical viewpoints based on the experiences of structural engineers.

未更新

Course number	U-ENG24 34039 SJ74		
Course title (and course title in English)	設計演習III Atelier Practice of Architectural Design III	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,HIRATA AKIHISA Graduate School of Engineering Professor,KANETA TAKASHI Graduate School of Engineering Professor,KANKI KIYOKO Graduate School of Engineering Professor,TOMISHIMA YOSHIAKI Graduate School of Engineering Associate Professor,YOSHIDA TETSU Part-time Lecturer,ONISHI MAKI Graduate School of Engineering Assistant Professor,IWASE RYOKO

Target year	3rd year students or above	Number of credits	3	Year/semesters	2021/First semester
Days and periods	Mon.4,5,Fri.4,5	Class style	Seminar	Language of instruction	Japanese

[Overview and purpose of the course]

[Course objectives]

[Course schedule and contents]

,14times,
,14times,
,2times,

[Course requirements]

None

[Evaluation methods and policy]

[Textbooks]

[References, etc.]

（**Reference books**）

Continue to 設計演習III(2)↓↓↓

設計演習III(2)

[Study outside of class (preparation and review)]

（**Other information (office hours, etc.)**）

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 34040 SJ74		
Course title (and course title in English)	設計演習IV Atelier Practice of Architectural Design IV	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,HIRATA AKIHISA Graduate School of Engineering Professor,MIURA KEN Part-time Lecturer,YAMAMOTO ASAKO Part-time Lecturer,FUJIMOTO SOSUKE Graduate School of Engineering Assistant Professor,IWASE RYOKO

Target year	3rd year students or above	Number of credits	3	Year/semesters	2021/Second semester
Days and periods	Tue.3,4,5,Wed.4,5	Class style	Seminar	Language of instruction	Japanese

[Overview and purpose of the course]

Aims to acquire basic knowledge of architectural space design and various architectural expertise through the issues of apartment complexes and cultural complexes. In particular, we aim to cultivate the practical ability to comprehensively express architectural programs and appropriate structural and environmental systems as architectural spaces. In principle, it will be a common issue for each affiliate.

[Course objectives]

Students learn architectural abilities to answer modern social and cultural issues.

[Course schedule and contents]

●Collective Housing

In the first half of the design exercise, students design multi-family dwelling space including shared residence and collective residence. The course provides instruction of design skills to propose the arrangement of public space, semi-public space, private space, and introduction of ancillary facilities to support the resident's lifestyle, and the skills to comprehensively plan the structure, environment, and design.
[Teachers: Miura, Yamamoto and structural and environmental teachers,14times]

●Cultural Complex

Public places in modern society need to be able to accept the diverse values of people of all ages, backgrounds, and orientations. In the second half of the design exercise, the course provides instruction of design skills for a cultural facility with a complex program such as a gallery, library, and theater, and skills to comprehensively plan the structure, environment, and design. [Teachers: Ezoe, Hirata and structural and environmental teachers,14 times]

●Evaluate learning achievement by joint exhibitions. [2 times]

Continue to 設計演習IV(2)↓↓↓

設計演習IV(2)

[Course requirements]

None

[Evaluation methods and policy]

Grades are evaluated based on the design works and their presentations.

[Textbooks]

Instructed during class

[References, etc.]

（**Reference books**）
Reference materials will be provided during classes.

[Study outside of class (preparation and review)]

Preparations are required during classes.

（**Other information (office hours, etc.)**）

Every Tuesday 18: 00-19: 00

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 24041 LJ74		
Course title (and course title in English)	景観デザイン論 Theory of Landscape Design	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,TAJI TAKAHIRO Graduate School of Engineering Senior Lecturer,KOMIYAMA YOSUKE
Target year	2nd year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Wed.5	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

This course will provide an overview of theories related to urban landscapes, natural landscapes, and gardens and outline the meaning of signs, symbols, and space as concepts in environmental design methodologies. The course will describe issues related to landscape revival through a reading of the ideas and concrete proposals of a range of modern architects.

[Course objectives]

Of the learning and education objectives listed by the department: B. Expertise and Basic Knowledge, B2. The ability to understand the design and planning aspects of architecture.

[Course schedule and contents]

Transfiguration of Forms of Human Habitation, and Landscape Formation (Takeyama) - 7 classes:
Since appearing on the planet, human beings have built various forms of habitation. While looking back on the processes that gave rise to architecture, villages, and towns, this course will trace the spacial concepts of each era, taking them as forming landscapes along with architecture, and consider the architecture and forms of habitation that should exist in the future. (1) Establishment of the human sphere, (2) The occurrence of architecture, villages, and towns, (3) Urban theories and programs, (4) Ancient urban landscapes, (5) Technology and architecture/towns, (6) Communication and forms of habitation, (7) The future of architecture, villages, towns, and forms of habitation.
Interpretation of Environment and Composition of Landscape (Taji) - 7 classes: The composition of architectural environments and interpretation of landscape (Taji)
These lectures will outline the landscapes that we create and inhabit around architectural structures and explain the structure and meaning of landscapes based on human existence in terms of architectural theory, while exploring various theories relating to the spatial composition of landscape. They will also consider architectural and garden landscape composition methods in terms of theories of design (and using specific examples). (1) Built environments and landscapes created by architecture, (2) Theories on the meaning and composition of landscape, (3) English architecture and landscape gardens -1 (landscape with meaning), (4) English architecture and landscape gardens - 2 (sensed landscape), (5) Japanese architecture and gardens - 1 (symbolism with stone), (6) Japanese architecture and gardens - 2 (symbolism with water), (7) From architecture to urban landscape.
Student Assessment - 1 class: An assessment of whether a basic understanding of landscape design has been obtained.

Continue to 景観デザイン論(2)↓↓↓

景観デザイン論(2)

[Course requirements]

None

[Evaluation methods and policy]

Grade Assessment Method:
Dr. Takeyama's portion of the course: Assessment will be based on short reports given in each class and written reports on a given theme.
Dr. Taji's portion of the course: Assessment will be based on written reports on a given theme.
Grade Assessment - views and levels of achievement:
Judgment will be based on students' level of understanding of the classes, and whether students have any fresh perspectives that emphasize the deepening of their own understanding.

[Textbooks]

子安増生 『芸術心理学の新しいかたち』（誠信書房）ISBN:9784414301625（竹山聖著「臨床建築学－死の形式から生の形式へ」（上記所収））
traverse編集委員会 『建築学のすすめ』（昭和）ISBN:9784812215135

[References, etc.]

（**Reference books**）
竹山聖 『独身者の住まい』（廣済堂出版）ISBN:4331509109
竹山聖 『ぼんやり空でも眺めてみようか』（彰国社）ISBN:9784395010059
田路貴浩 『環境の解釈学』（学芸出版）ISBN:4761523301
田路貴浩 『イギリス風景庭園』（丸善）ISBN:4621047817

[Study outside of class (preparation and review)]

Read the material introduced in the class.

（Other information (office hours, etc.)）

Office hour: before and after lectures

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 44042 LJ74		
Course title (and course title in English)	耐風構造 Wind Resistant Structures	Instructor's name, job title, and department of affiliation	Disaster Prevention Research Institute Professor,MARUYAMA TAKASHI Disaster Prevention Research Institute Associate Professor,NISHIJIMA KAZUYOSHI
Target year	4th year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Tue.2	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

This course will provide an overview of various meteorological phenomena causing the wind genesis to understand the wind force on building structures, and discuss the relation between flow around building and wind pressure. We explain the evaluation method of design wind load to secure the building safety against wind and the wind resistant design method based on the Building Standards Act, Building Standard Law Enforcement Order and AIJ Recommendations for Loads on Buildings.

[Course objectives]

Acquisition of expert and basic knowledge on wind resistant design. Understanding the estimation of wind load and the construction from the stand point of wind resistant design.

[Course schedule and contents]

Mechanism of wind genesis, 4 classes:
These classes will provide an overview of the atmospheric circulation caused by the motion of the earth and the heat budget, the mechanism of wind genesis caused by low pressure system, front and topography, etc. We will explain the characteristics of strong wind which is important for wind resistant design of building and structure with the description of its origin such as typhoon or tornado.

Basic of wind force and pressure, 4 classes:
These classes will derive the governing equations of wind flow and explain the meaning of its physics. We also obtain equations for simple flows and show equations to evaluate the wind pressure on the surface of objects.

Wind load, 3 classes:
These classes will explain the characteristics of natural wind, the observing technique and the prediction method of wind speed for wind load estimation. We discuss the calculation method of wind loads for design.

Wind resistant design, 3 classes:
These classes will explain the vibration caused by wind pressure on the walls and the design method to secure the building against wind load, and explain the calculation method of design wind load based on the Building Standards Act and AIJ Recommendations for Loads on Buildings.

Confirmation of learning attainment, 1 class:
This class will summarize the course and confirm learning attainment.

Continue to 耐風構造(2)↓↓↓

耐風構造(2)

[Course requirements]

Architectural Structural engineering, fluid dynamics, meteorology will be useful.

[Evaluation methods and policy]

By reports or examination

[Textbooks]

No textbook, using notebook.

[References, etc.]

（**Reference books**）
To be introduced during the class

（**Related URLs**）
(None)

[Study outside of class (preparation and review)]

To be indicated during the lecture.

（Other information (office hours, etc.)）

[Office hours] (reception of questions, etc.) It will be indicated during the lectures.

*Please visit KULASIS to find out about office hours.

Course number	U-ENG24 24043 LJ74		
Course title (and course title in English)	建築・都市行政 Building and Urban Administration	Instructor's name, job title, and department of affiliation	Part-time Lecturer,YAMAMOTO KAZUHIRO Part-time Lecturer,TAKAGI KATSUHIDE Part-time Lecturer,FUMIYAMA TATSUAKI

Target year	2nd year students or above	Number of credits	2	Year/semesters	2021/First semester
Days and periods	Wed.4	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

This class will deepen your understanding of the interaction of various administrative organs relating to architecture and urban planning in urban management, as well as the nature of their respective roles, through an examination of the laws concerning their delineation and the specific case of Kyoto City.

[Course objectives]

Corresponding learning and education objectives: C. Practical Skills C2. Ability to understand the social role of construction activities.
Understanding of the interaction of various administrative organs relating to architecture and urban planning in urban management.
Understanding the roles, systems and outlines of architecture and urban planning related laws.

[Course schedule and contents]

General Outline - 1 class: This class will provide an outline of the situation in Kyoto City (topography, organizations of Kyoto City government, main policies of construction and urban planning administrations, and a view of required architectural personnel), as well as an outline of the roles of administrative organs and related issues in the planning, design, construction, and management of buildings in Kyoto City.

Urban Planning Administration - 3 classes: These classes will provide a historical and systematic outline of the various systems related to urban planning (land use regulations, district planning, urban facilities, urban development projects, development permission, etc.), as well as the role played by the Urban Planning Administration and current issues.

Landscape Administration - 2 classes: These classes will provide a historical and systematic outline of the various systems of landscape preservation and formation under the Landscape Act and Ordinances based on the case of Kyoto City, as well as the role played by the Landscape Administration and current issues.

Architectural Administration - 2 classes: These classes will provide a historical outline of the Architectural Administration's role and the current issues it faces, as well as the role played by the Architectural Administration and current issues based on the case of Kyoto City.

Architectural Law - 4 classes: These classes will provide an outline of the fundamental structure of the Building Standards Act and related laws and regulations, and their operation in practice, as well as the outline of the flexible preservation system and the practical operation in Kyoto City.

Exercises - 1 class: In this class, you will gain a basic understanding of the Building Standards Act and related laws and regulations, and learn the basics of business conduct through practical case studies.

Continue to 建築・都市行政(2)↓↓↓

建築・都市行政(2)

Case Study - 1 class: This class will provide a study of current issues related to construction and urban administration.

Student Assessment - 1 class: Conclusion of the course and assessment of the level of learning achieved.

[Course requirements]

None

[Evaluation methods and policy]

Results of the report examination(80%),Attendant evaluation(20%)

[Textbooks]

Listed separately

[References, etc.]

（Reference books）
To be distributed and introduced during lectures

[Study outside of class (preparation and review)]

Use the lecture materials distributed in the class for review.
Use the textbook for preparations and review for the class.

（Other information (office hours, etc.)）

Office hours: (for questions, etc.) before and after lectures

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course
All three part-time lecturers are Kyoto City government staff.
They belong to City Planning Bureau.

(3) Details of practical classes delivered based on instructors' practical work experience
Lectures of building regulations are the educational background requirements for the architect exam.

未更新

Course number	U-ENG24 44044 SJ74		
Course title (and course title in English)	設計演習Ⅴ Atelier Practice of Architectural Design V	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,HIRATA AKIHISA Graduate School of Engineering Professor,KANETA TAKASHI Graduate School of Engineering Professor,KANKI KIYOKO Graduate School of Engineering Professor,TOMISHIMA YOSHIAKI Graduate School of Engineering Professor,MIURA KEN Graduate School of Engineering Professor,DANIELL, Thomas Charles Graduate School of Engineering Professor,TAJI TAKAHIRO Graduate School of Global Environmental Studies Professor,KOBAYASHI HIROHIDE Disaster Prevention Research Institute Professor,MAKI NORIO Graduate School of Engineering Associate Professor,YANAGISAWA KIWAMU Graduate School of Engineering Associate Professor,YOSHIDA TETSU Graduate School of Engineering Associate Professor,NISHINOSAYAKA Graduate School of Engineering Senior Lecturer,KOMIYAMA YOSUKE Graduate School of Engineering Assistant Professor,IWASE RYOKO Graduate School of Engineering Assistant Professor,YASUDA KEI

Target year	4th year students or above	Number of credits	3	Year/semesters	2021/First semester
Days and periods	Tue.3,4,5,Wed.5	Class style	Seminar	Language of instruction	Japanese

[Overview and purpose of the course]

[Course objectives]

Continue to 設計演習Ⅴ(2)↓↓↓

設計演習Ⅴ(2)

[Course schedule and contents]

,29times,
,1time,

[Course requirements]

None

[Evaluation methods and policy]

[Textbooks]

[References, etc.]

（Reference books）

[Study outside of class (preparation and review)]

（Other information (office hours, etc.)）

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 44045 SJ74		
Course title (and course title in English)	構造設計演習 Exercise on Structural Design	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,NISHIYAMA MINEHIRO Graduate School of Engineering Professor,KOETAKA YUUJI Graduate School of Engineering Associate Professor,TANI MASANORI Part-time Lecturer,NISHIZAKI TAKASHI Graduate School of Engineering Assistant Professor,SATOU YUUICHI

Target year	4th year students or above	Number of credits	2	Year/semesters	2021/First semester
Days and periods	Fri.4,5	Class style	Seminar	Language of instruction	Japanese

[Overview and purpose of the course]

[Course objectives]

[Course schedule and contents]

,2times,
,2times,
,5times,
,6times,

[Course requirements]

None

[Evaluation methods and policy]

[Textbooks]

Continue to 構造設計演習(2)↓↓↓

構造設計演習(2)

[References, etc.]

（**Reference books**）

[Study outside of class (preparation and review)]

（**Other information (office hours, etc.)**）

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 44046 EJ74		
Course title (and course title in English)	構造・材料実験 Laboratory Tests of Structural Mateials and Members	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,NISHIYAMA MINEHIRO Graduate School of Engineering Professor,KOETAKA YUUJI Graduate School of Engineering Associate Professor,TANI MASANORI Graduate School of Engineering Associate Professor,ＳＵＧＩＮＯ　ＭＩＮＡ Graduate School of Engineering Assistant Professor,SATOU YUUICHI Graduate School of Engineering Assistant Professor,TAKATSUKA KOHEI

Target year	4th year students or above	Number of credits	2	Year/semesters	2021/First semester
Days and periods	Mon.3,4	Class style	Experiment	Language of instruction	Japanese

[Overview and purpose of the course]

[Course objectives]

[Course schedule and contents]

,3times,
,1time,
,3times,
,2times,
,3times,
,3times,

[Course requirements]

None

[Evaluation methods and policy]

[Textbooks]

[References, etc.]

（**Reference books**）

Continue to 構造・材料実験(2)↓↓↓

構造・材料実験(2)

[Study outside of class (preparation and review)]

（**Other information (office hours, etc.)**）

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

Course number	U-ENG24 44047 LJ74		
Course title (and course title in English)	建築安全設計 Fire Safety Design of Buildings	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,HARADA KAZUNORI Disaster Prevention Research Institute Associate Professor,NISHINO TOMOAKI Graduate School of Engineering Assistant Professor,NII DAISAKU

Target year	4th year students or above	Number of credits	2	Year/semesters	2021/First semester
Days and periods	Fri.2	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

Even though not outstanding, many safety measures are implemented into buildings and built-environment. In this lecture, basic knowledge of fire phenomena and principles to design and maintain fire safe buildings are explained.

[Course objectives]

By understanding the fundamental physio-chemical phenomena of fire, general principles of fire safety design of building is acquired.
B1:scientific ability to solve problems
B4:understanding environmental aspect of architecture
C1:ability to realize actual buildings

[Course schedule and contents]

Introduction (1 week)
The history of fire disasters in buildings is introduced. Following the history, framework of fire safety design is presented.

Physics and chemistry of fire (6 weeks)
Basic knowledge of fire phenomena such as ignition, burning, fire plume, initial fire spread, flashover and fully-developed fires are introduced.

Fire safety design of buildings (7 weeks)
Methods for fire safety design are introduced on fire compartmentation, egress of people, firefighting activity, smoke control and structural fire resistance.

End-term examination and evaluation of achievements (1 week)
Check degree of understanding.

Continue to 建築安全設計(2)↓↓↓

建築安全設計(2)

[Course requirements]

Preliminary knowledge on Environmental engineering in Architecture I[U-ENG24 24009 LJ74] and II[U-ENG24 24010 LJ74] is assumed. The knowledge on Building Equipment System [U-ENG24 34018 LJ74] is desirable.

[Evaluation methods and policy]

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

[Textbooks]

Harada Kazunori 『Kenchiku Kasaino Mekanizmuto Kasaianzen Sekkei (Mechanizm of Building Fires and Safety Design)』（The Building Center of Japan）ISBN:9784889101461

[References, etc.]

（**Reference books**）
Introduced during class

[Study outside of class (preparation and review)]

It is recommended to review the lectured contents using handouts and/or quiz distributed at the class.

（Other information (office hours, etc.)）

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

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 14051 LJ74		
Course title (and course title in English)	建築工学概論<建築> Introduction to Architectural Engineering	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,HAYASHI YASUHIRO Graduate School of Engineering Professor,TAKEWAKI IZURU Graduate School of Engineering Professor,NISHIYAMA MINEHIRO Disaster Prevention Research Institute Professor,MARUYAMA TAKASHI

Target year	1st year students or above	Number of credits	2	Year/semesters	2021/Second semester
Days and periods	Mon.1	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

This course will provide an overview of various building structures (wooden structures, steel structures, reinforced concrete structures, composite structures, etc.), and discuss the characteristics of structural materials that comprise architecture, as well as the structural principles of architecture. These explanations will focus on the relationship between the characteristics of various types of disturbance affecting buildings (in the natural and artificial environment), on the one hand, and the response of building structures, on the other, as well as between the target performances of architectural spaces and the combined principles of structures.

[Course objectives]

At the initial phase of the study of architectural structures, acquire the necessary fundamental knowledge and basic concepts and learn about the organization of academic systems.

[Course schedule and contents]

Building structural mechanics and structural design, 4 classes: Building structures are deformed by the effects of various loads, and internal forces arise. We will discuss the mechanics laws governing such behavior of structures and the basic concepts of building structural mechanics that predict it, without use of mathematical formulas whenever possible. We will discuss displacement and deformation, force and equilibrium, force and deformation, mechanical characteristics of structural elements such as joists, beams and columns, and various structures such as framed structures and shell construction.

Steel structure, 3 classes: These classes will explain the following: a) raw materials of steel, ironmaking techniques and their history, properties of steel material, b) examples of buildings constructed of steel material and their detailed structures, c) process from design to construction and examples of construction. We will explain the principles of earthquake-resistant structures and base isolation in a manner that is easy to understand, and present various dampers to damper building vibration.

Structural materials in buildings, concrete structures, 4 classes: These classes will discuss basic information about main structural materials such as iron, steel, concrete, and wood. With respect to concrete and steel composite structures such as RC, SRC, and CFT, we will explain foundational structural principles, principles of resistance to dead load, live load, and earthquake load, and structural detailings of buildings in practice.

Seismic design, Soil and foundations, Wooden houses, 3 classes : Our country is a leading earthquake-prone country in the world. It is a very important issue how to design safer buildings anainst earthquakes. The generating mechanism of earthquakes, the seismic ground motion propagation in the soil, and the response of

Continue to 建築工学概論<建築>(2)↓↓↓

建築工学概論<建築>(2)

a building are explained. Then, the foundamental concept of seismic design is explained. Moreover, basic knowledge of the soil and foundations, and wooden structure are also outlined.

Confirmation of learning attainment, 1 class: This class will summarize the course and confirm learning attainment.

[Course requirements]

None

[Evaluation methods and policy]

In addition to the final examination(80 points), an evaluation of normal points(20 points) is also performed.

[Textbooks]

Not used

[References, etc.]

（**Reference books**）

[Study outside of class (preparation and review)]

None

（Other information (office hours, etc.)）

[Office hours] Will be detailed during class.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course
None

(3) Details of practical classes delivered based on instructors' practical work experience
None

Course number	U-ENG24 34052 LJ74		
Course title (and course title in English)	都市環境工学 Urban Environment Engineering	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,HARADA KAZUNORI Graduate School of Engineering Associate Professor,ISHIDA TAIICHIROU Disaster Prevention Research Institute Associate Professor,NISHINO TOMOAKI

Target year	3rd year students or above	Number of credits	2	Year/semesters	2021/Second semester
Days and periods	Thu.1	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

Many buildings are accumulated in cities and majority of human activities are carried out inside of buildings. In this course, lectures will be given on; 1) The state of the art of global environmental impact by buildings and cities, 2) Environmental control methods concerning with reduction of global warming, 3) heat island mechanism and its reduction, 4) luminous environment control in urban area, 5) mitigation of urban disaster such as by fires and tsunami.

[Course objectives]

The participants are to acquire knowledge on basic ideas of controlling environment in daily and emergent situations.

B1:scientific ability to solve problems
B4:understanding environmental aspect of architecture
C1:ability to realize actual buildings

[Course schedule and contents]

Global environment and sustainable development (2 weeks)
Environmental problems are identified in the hierarchy structure of global, semi-global, regional, urban and architectural scales. The role of architecture in the age of sustainable development is discussed.

Development of urban area and urban pollution (1 week)
During the era of urban spreading, many urban pollution problems were raised. The history of reduction of urban pollution is looked back and identify that thermal pollution is one of the yet-to-be solved pollution.

The reasons for heat island and its reduction measures (2 weeks)
The reasons for heat island in urban space are explained followed by possible measures to reduce it. Special emphasis is made upon cross ventilation through urban area, vegetation, high reflectance, water mist, optimization of energy use in regional area and heat recovery/exhaust systems.

Control of urban thermal environment by architectural design (4 weeks)
Lectures are given on: the benefit of urban vegetation, roof gardens, cool roof structure, cool spot by water mist system, heat recovery and systematic exhaust from urban area.

Sunshine planning for buildings in urban area (2 weeks)
The lectures cover effects of sunshine, calculation of sun position and sunlight illuminance, evaluation of

Continue to 都市環境工学(2)↓↓↓

都市環境工学(2)

sunshine using the sun shadow and sunlight diagrams, the building standard law on sun shadow regulations, and daylighting for a residential house. In addition, by overviewing a concept and technology of daylighting for buildings, new methods for daylight planning to achieve both energy saving and human comfort are discussed.

City fire (3 weeks)
Impacts of fires following earthquake and tsunami on urban environment are overviewed by introducing the causes of fire occurrences, the mechanism of fire spread, and the human behaviors in past large-scale fires. How fire risk in cities should be controlled is discussed.

End-term examination and evaluation of achievements (1 week)
Checking degree of understanding.

[Course requirements]

Preliminary knowledge on Environmental engineering in Architecture I[U-ENG24 24009 LJ74] and II[U-ENG24 24010 LJ74] is assumed. The knowledge on Building Equipment System [U-ENG24 34018 LJ74] is desirable.

[Evaluation methods and policy]

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

[Textbooks]

None specified. Handouts will be supplied on site.

[References, etc.]

（**Reference books**）
To be suggested during the course.

[Study outside of class (preparation and review)]

It is recommended to review the lectured contents using handouts and/or quiz distributed at the class.

（Other information (office hours, etc.)）

No explicit office hours are designated. If participants need to have time for questions, contact the teachers via E-mail with his/her name, student number and request for schedule of meeting.

*Please visit KULASIS to find out about office hours.

未更新

Course number	U-ENG24 34053 LJ74		
Course title (and course title in English)	行動・建築デザイン論 Behavior and Architectural Design Theory	Instructor's name, job title, and department of affiliation	Disaster Prevention Research Institute Professor,MAKI NORIO

Target year	3rd year students or above	Number of credits	2	Year/semesters	2021/First semester
Days and periods	Tue.4	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

This course gives the basic knowledge of architecture and space design from the view pont of the relation between man and behavior. The topics on scientific methods of man-environment studies are explained. Natural disaster will be highlighted in this lecture. Various design practices based on these principles, such as housing after natural disaster, disaster and build environments, design for disaster reduction, and design for safer communities will be discussed.

[Course objectives]

To understand the architectural and urban spaces from the viewpoint of relation with disaster.

[Course schedule and contents]

Various Concepts on Human behavior and Environment,2times,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.
disaster and environmental transition,3times,Basic understanding about disaster and build environment will be discussed. And the relationship among disaster, man, and environment will be explained based on environmantal transition after disaster.
Disaster and Cities,3times,Impact of disaster to cities will be discussed from the view point of behavior and man-environment desgin.
Architcture desgin for disaster,2times,Design of public facilites to respond disaster will be discussed from the view point of man-environment design.
CEPTED,2times,Desgin for crime prevention will be explained based on CEPTED (Crime Prevention through Environment Design).
Design for Disaster Risk Reduction,2times,Design scheme for Disaster risk reduction will be explained based on Affordance, and risk communication.
Confirmation of the learning degree,1time,Summary of the lecture and evaluation of the learning degree FeedBack, 1time.

[Course requirements]

None

Continue to 行動・建築デザイン論(2)↓↓↓

行動・建築デザイン論(2)

[Evaluation methods and policy]

by term-end examination

[Textbooks]

using handout prints and slides

[References, etc.]

（**Reference books**）
Introduced during class

[Study outside of class (preparation and review)]

Read the newspaper article on disaster

（Other information (office hours, etc.)）

Please contact to the following e-mail; maki.norio.8v#kyoto-u.ac.jp (# should be changed to `)

*Please visit KULASIS to find out about office hours.

未更新

Course number	U-ENG24 34054 LJ74		
Course title (and course title in English)	建築応用数学 Applied Mathematics for Architecture	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,OOSAKI MAKOTO Graduate School of Engineering Professor,OGURA DAISUKE Graduate School of Engineering Associate Professor,OOTANI MAKOTO Disaster Prevention Research Institute Associate Professor,NISHIJIMA KAZUYOSHI
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Fri.3	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

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.

[Course objectives]

Ordinary and partial differential equations, integral transform,
probability theory and statistics, calculus of variation

[Course schedule and contents]

1. Ordinary differential equation: Applications of ordinary differential equations (ODE’ s) to analysis of architecture (Nishijima)
2. Ordinary differential equation: Solutions to constant-coefficient ODE's. (Nishijima)
3. Ordinary differential equation: Solutions to variable-coefficient ODE's. (Nishijima)
4. Fourier transform: Applications of Fourier transform to analysis of architecture (Otani)
5. Fourier transform: Fourier series for periodic functions (Otani)
6. Fourier transform: Fourier series for aperiodic function, impulse response, and convolution. (Otani)
7. Laplace transform: Definition of Laplace transform, and applications of Laplace transform to analysis of architecture (Ogura)
8. Laplace transform: Applications to solutions to ODE's. (Ogura)
9. Laplace transform: Applications to solutions to partial differential equations (PDE's). (Ogura)
10. Probability and statistics: Basics of probability theory, types of probability distributions, and applications to analysis of architecture (Nishijima)
11. Probability and statistics: Estimation and test (Nishijima)
12. Calculus of variation: Definition of functional, and Euler's equation. (Ohsaki)
13. Calculus of variation: Method of Lagrange multipliers (Ohsaki)
14. Calculus of variation: Method of Ritz-Galerkin (Ohsaki)
15. Verification of how students understand: Check how students understand the contents in previous 14 classes. (All)

Continue to 建築応用数学(2)↓↓↓

建築応用数学(2)

[Course requirements]

Calculus, mathematical statistics and industrial mathematics are prerequisite.

[Evaluation methods and policy]

Final examination

[Textbooks]

Katoh, Hokoi, Takahashi, Ohsaki 『Mathematics for architectural engineering, (in Japanese).』 （Asakura Shoten,）ISBN:978-4-254-11636-6

[References, etc.]

（**Reference books**）

[Study outside of class (preparation and review)]

Explained in the class.

（Other information (office hours, etc.)）

Please contact teachers in advance when you have questions.

*Please visit KULASIS to find out about office hours.

未更新

Course number	U-ENG24 34055 LJ74		
Course title (and course title in English)	建築情報システム学 Architectural information Systems	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,KANETA TAKASHI Graduate School of Engineering Associate Professor,NISHINOSAYAKA
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Tue.3	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

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

[Course objectives]

To acquire the basic knowledge of operations research, information and communication technology applied in architectural design and planning.
D-D1

[Course schedule and contents]

1-3. Outline on architectural information system
Techno-literacy, knowledge management.
4-7. Mathematical programming
Linear programming, Non-linear programming, Integer programming, Graph theory, Meta-heuristics, Fuzzy theory.
8-11. Building information modeling
12-14. Application to architecture and urban engineering
15. Final examination/ Learning achievement evaluation
16. Feedback

[Course requirements]

Basic knowledge on mathematics. quotComputational Practice on Architectural Design and Engineeringquot should be mastered.

[Evaluation methods and policy]

* Evaluation method
Evaluation will be based on final examination (80%) and participation in class (20%).
Evaluation for participation in class includes attendance and short reports conducting every class.
* Evaluation policy
Achievement of goals is evaluated according to the grade evaluation policy of the undergraduate / graduate school of Engineering.

Continue to 建築情報システム学(2)↓↓↓

建築情報システム学(2)

[Textbooks]

Instructed during class

[References, etc.]

（**Reference books**）
Introduced during class

[Study outside of class (preparation and review)]

Read the material introduced in the class.

（Other information (office hours, etc.)）

Contact to:
kaneta@archi.kyoto-u.ac.jp

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors’ practical work experience related to the course

(3) Details of practical classes delivered based on instructors’ practical work experience

未更新

Course number	U-ENG24 14057 LJ74		
Course title (and course title in English)	日本都市史 Hisory of Japanese Urban Space	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,TOMISHIMA YOSHIAKI

Target year	1st year students or above	Number of credits	2	Year/semesters	2021/First semester
Days and periods	Tue.3	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

The objective of this course is for students to understand the historical characteristics of Japanese cities and the housing in which the residents of those cities have lived and acted along the course of history.

[Course objectives]

Students will learn an outline of the history of Japanese cities and housing and acquire the basic principles used to shape society in the present and future.
Of the learning and education objectives listed by the department: B. Expertise and Basic Knowledge, B2. The ability to understand the design and planning aspects of architecture.

[Course schedule and contents]

ntroduction - 1 class: 1, Introduction (significance of urban history)
Antiquity - 1 class: 2, Ancient Miyakonojo
Antiquity - 1 class: 3, Pit-dwellings and raised-floor dwellings
Antiquity - 1 class: 4, Imperial palaces in antiquity
Antiquity - 1 class: 5, Housing in Miyakonojo
Antiquity - 1 class: 6, Shinden-zukuri
Medieval Era - 1 class: 7, Transformation of the Heian capital, and Kamakura and Hiraizumi
Medieval Era - 1 class: 8, Medieval-era Kyoto and self-governing cities
Medieval Era - 1 class: 9, Establishment of the Shoin-zukuri style
Modern Era - 1 class: 10, Formation of the castle-town
Modern Era - 1 class: 11, Characteristics of the three cities (Edo, Kyoto, and Osaka)
Modern Era - 1 class: 12, The shoin (drawing room) and guest hall in the modern era
Modern Era - 1 class: 13, Private houses
Modern Era - 1 class: 14, Modern cities
class: 15, Feedback
Student Assessment - 1 class

[Course requirements]

None

[Evaluation methods and policy]

Examination at the end of the term

Continue to 日本都市史(2)↓↓↓

日本都市史(2)

[Textbooks]

日本建築学会編『日本建築史図集』（彰国社） isbn{}{9784395008889}

[References, etc.]

（**Reference books**）

[Study outside of class (preparation and review)]

Read the material introduced in the class.

（Other information (office hours, etc.)）

Taking questions: questions will be accepted by e-mail at any time.

*Please visit KULASIS to find out about office hours.

未更新

Course number	U-ENG24 34058 LJ74		
Course title (and course title in English)	日本建築史 History of Japanese Architecture	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,TOMISHIMA YOSHIAKI

Target year	3rd year students or above	Number of credits	2	Year/semesters	2021/Second semester
Days and periods	Wed.1	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

This course will describe Japanese architectural history from ancient to modern times, with a focus on temple and shrine architecture. Connections will be drawn to the social and cultural background of this architecture. The objective is for students to understand the characteristics of space, technology, and design in Japanese architecture. Lectures will be given on the topics listed below, with some topics given more or less emphasis.

[Course objectives]

B. Expertise and Basic Knowledge　　B2. The ability to understand the design and planning aspects of architecture.

[Course schedule and contents]

Japanese Architectural History - 14 classes: 1. Introduction - purpose of architectural history 2.Traditional Japanese architectural styles and shrine architecture 3. Buddhist Temple Monasteries in the Asuka and Nara periods 4. Temple architecture in the Asuka and Nara periods 5. Temple architecture in the Heian period 6. Daibutsuyo architecture 7. Zen monasteries and Zenshuyo Architecture 8. Medieval Japanese style and Settchuyo architecture 9. The development of architectural technology from antiquity to the medieval era, and Buddhist architecture 10. The Hondo (Main Hall) in New Buddhism 11. Shrine architecture in the medieval era 12. Muromachi period architecture 13. Modern shrine architecture 14. Craftsmen and tools 15. Feedback
Student Assessment - 1 class.

[Course requirements]

It would be preferable for students to be interested in related disciplines such as Japanese history, art history, and archaeology, as well as architecture.

[Evaluation methods and policy]

Examination at the end of the term

[Textbooks]

『日本建築史図集』（彰国社） isbn{}{9784395008889}

[References, etc.]

（**Reference books**）
冨島義幸『平等院鳳凰堂―現世と浄土のあいだ』（吉川弘文館） isbn{}{9784642080323}

[Study outside of class (preparation and review)]

Read the material introduced in the class.

（Other information (office hours, etc.)）

Taking questions: questions will be accepted by e-mail at any time.

*Please visit KULASIS to find out about office hours.

Course number	U-ENG24 24059 SJ74		
Course title (and course title in English)	建築情報処理演習 Computational Practice on Architectural Design and Engineering	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Associate Professor,YANAGISAWA KIWAMU Graduate School of Engineering Associate Professor,IBA CHIEMI Disaster Prevention Research Institute Associate Professor,KURATA MASAHIRO Graduate School of Engineering Assistant Professor,NII DAISAKU Graduate School of Engineering Assistant Professor,TAKATSUKA KOHEI Graduate School of Engineering Assistant Professor,YASUDA KEI

Target year	2nd year students or above	Number of credits	2	Year/semesters	2021/Second semester
Days and periods	Fri.4,5	Class style	Seminar	Language of instruction	Japanese

[Overview and purpose of the course]

The course provides lectures and exercises to acquire fundamental knowledge for analyzing engineering problems in architecture using computers. The participants will study data processing using a programming language and learn program design, coding and data analysis.

[Course objectives]

The participants are expected to learn fundamental knowledge for solving numerical problems in architectural engineering using PCs. The course uses a programming language named Python and teaches Branching, Data Types, Data Format, Array, File Reading and Writing, and Sub-routine. The course are intended for B1 Scientific problem-solving skills, and D1 Problem Finding and Solving Skills.

[Course schedule and contents]

[Guidance] 1 class
[Introduction to programming (1st term)] 4 classes
[Application of programming (2nd term)] 1 class
[Example of the computer application for building design] 4 classes
[Intermediate programming (3rd term)] 4 classes
[Achievement test] 1 class

[Course requirements]

None

[Evaluation methods and policy]

The course grades are based on the quizzes and exercises during classes and achievement tests. The former counts for around 60% and the latter counts for around 40%.

Continue to 建築情報処理演習(2)↓↓↓

建築情報処理演習(2)

[Textbooks]

Not used

[References, etc.]

（**Reference books**）
Progate（Online programming service，980 JPY/month）https://prog-8.com/
Hajime Kitaichi: Programming Excersize Python 2019 http://hdl.handle.net/2433/245698

Architectural Institute of Japan, Information System Committee, Design Science Education Method Sub-committee. quot Introduction to Design and Computing - Generation / Analysis / Optimization of Architectural Forms and Functions using Python

Other handouts are distributed during lectures and practice.

[Study outside of class (preparation and review)]

Review the handouts distributed during the lectures before the practice sessions.

（**Other information (office hours, etc.)**）

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

Course number	U-ENG24 34060 LJ74		
Course title (and course title in English)	建築温熱環境設計 Thermal Environment Design of Architecture	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,OGURA DAISUKE Graduate School of Engineering Associate Professor,IBA CHIEMI
Target year	3rd year students or above	Number of credits	2
Year/semesters	2021/Second semester		
Days and periods	Tue.2	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

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.

[Course objectives]

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 schedule and contents]

The weather and the building, (1 time) The house is a shelter to mitigate the fluctuation of the external weather and create a comfortable space, and its form is inseparable from the weather conditions. As an overview, we discuss the relationship between weather and architectural forms, and outline the meteorological elements necessary for considering the thermal environment design of houses.
The thermophysiology of the human body, (1 time) A method to evaluate how the combination of thermal elements such as temperature, humidity, airflow, and radiation are related to human comfort based on the thermophysiology of the human body are lectured.
Thermal insulation plan (2 times) Thermal insulation is the most basic method of thermal environment control. The method of thermal insulation plan (external heat insulation, internal heat insulation, etc.) according to the external weather, and exemplifies a practical structure method and its characteristics are lectured.
Solar shading and utilization, (1 time) The thermal environment is improved by intercepting solar radiation in summer and incorporating solar radiation into the room in winter. This section describes how to use solar shading devices such as eaves and window materials, and points to keep in mind.
Use of heat capacity (2 times) In order to control the indoor thermal environment, it is necessary to provide an appropriate heat capacity to the building frame, such as walls, floors, and ceilings is outlined, and the methodology for applying it is described.
Ventilation and ventilation plan, (2 times) Ventilation in hot weather often improves indoor thermal environment, and is often actively adopted in hot areas. On the other hand, inadvertent ventilation can worsen the thermal environment. The effects of ventilation and points to consider in planning are lectured.
Indoor air pollution (2 times) The relationship between the actual state of indoor air pollution and health hazards caused by VOCs such as formaldehyde are lectured, and a method for planning a healthy house is descrived.
The merits and demerits of water (2 times) As typified by water spraying in the middle of summer, water has the effect of evaporative latent heat and improving the thermal environment. Based on the above, the environmental control plan using water is described.
The commissioning of the house, (1 time) Whether the constructed house has the intended performance at the

Continue to 建築温熱環境設計(2)↓↓↓

建築温熱環境設計(2)

time of design, mainly on the house equipment such as heat insulation / airtightness, heating / cooling equipment, and ventilation equipment are lectured.
Confirmation of learning achievement, (1 time) Confirmation of lecture understanding and proficiency

[Course requirements]

The participants are required to study Environmental engineering in Architecture I (U-ENG24 24009 LJ74) and II (U-ENG24 24010 LJ74) prior to join this course.

[Evaluation methods and policy]

The grade is evaluated by a term-end examination.

[Textbooks]

None specified. Handouts will be supplied on site.

[References, etc.]

（**Reference books**）
To be suggeted during the course.

[Study outside of class (preparation and review)]

It is recommended that students take an appropriate review through Quiz, etc., which will be presented during thelecture.

（**Other information (office hours, etc.)**）

[Office Hour] (Reception of questions, etc.) Before and after the lecture time (Students who wish to ask questions at other times must make an appointment with the teacher)

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 14061 SJ74		
Course title (and course title in English)	設計演習基礎 Atelier Practice of Architecural Design, Basis	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,HIRATA AKIHISA Part-time Lecturer,HATA TOMOHIRO Graduate School of Engineering Assistant Professor,YASUDA KEI
Target year	1st year students or above	Number of credits	2
Year/semesters	2021/Second semester		
Days and periods	Mon.4,5	Class style	Seminar
Language of instruction	Japanese		

[Overview and purpose of the course]

[Course objectives]

[Course schedule and contents]

,7times,
,7times,
,1time,

[Course requirements]

None

[Evaluation methods and policy]

[Textbooks]

[References, etc.]

（**Reference books**）

Continue to 設計演習基礎(2)↓↓↓

設計演習基礎(2)

[Study outside of class (preparation and review)]

（Other information (office hours, etc.)）

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 14064 LJ74		
Course title (and course title in English)	世界建築史 History of World Architecture	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,TOMISHIMA YOSHIAKI
Target year	1st year students or above	Number of credits	2
Year/semesters	2021/Second semester		
Days and periods	Mon.3	Class style	Lecture
Language of instruction	Japanese		

[Overview and purpose of the course]

This course will discuss the history of predominantly European architecture, with its origins in Greece and Rome, as well as Eastern architecture that has a close relationship with Japan. The objective is to give students an understanding of architectural diversity, the relationship between political systems, cultural background, and architectural space, and how architectural characteristics and trends of thought in each era have set the course of modern architecture.

[Course objectives]

B. Expertise and Basic Knowledge
B2. The ability to understand the design and planning aspects of architecture　E. International Perspective
E1. The ability to position architectural activity in diverse social systems

[Course schedule and contents]

Europe - 8 classes: 1-2. Ancient Greece and Rome 3-5. Pre-Romanesque, Romanesque, and Gothic 6-7. Renaissance and Baroque 8. 18th and 19th century architecture
China - 4 classes: 9-10. Chinese Buddhist Architecture 11. Chinese religious architecture 12. Chinese Imperial palace and housing for the people
Korean Peninsula - 1 class: 13. Architecture of the Korean Peninsula
India - 1 class: 14. India and Islamic Architecture
class: 15, Feedback
Student Assessment - 1 class

[Course requirements]

None

[Evaluation methods and policy]

An examination will be held at the end of term.

[Textbooks]

その他、『西洋建築史図集』三訂版、日本建築学会編、彰国社刊 isbn{}{4395000215}
『東洋建築史図集』日本建築学会編、彰国社刊 isbn{}{4395000878}

[References, etc.]

（Reference books）
Introduced during class

Continue to 世界建築史(2)↓↓↓

世界建築史(2)

[Study outside of class (preparation and review)]

Read the material introduced in the class.

（Other information (office hours, etc.)）

Taking questions: questions will be accepted by e-mail at any time.

*Please visit KULASIS to find out about office hours.

未更新

Course number	U-ENG24 44065 LE74		
Course title (and course title in English)	専門英語 English for Architecture	Instructor's name, job title, and department of affiliation	Part-time Lecturer,TSOI, Esther
Target year	4th year students or above	Number of credits	2
Year/semesters	2021/First semester		
Days and periods	Thu.4	Class style	Lecture
Language of instruction	Japanese and English		

[Overview and purpose of the course]

Le Corbusier said, in Vers une architecture [Towards an Architecture] (1923)

"You employ stone, wood and concrete, and with these materials you build houses and palaces. That is construction. Ingenuity is at work. But suddenly you touch my heart, you do me good, I am happy and I say: 'This is beautiful. That is Architecture. Art enters in.'"

Mies van der Rohe said, "God is in the details. "、" Less is more. "，" Architecture starts when you carefully put two bricks together. There it begins. " Mies van der Rohe was originally from Germany and had moved to America. Corbusier was originally from Switzerland and had moved to France. Architecture has local concerns, and yet its influence is global, and sometimes timeless.

Although English does not have the largest number of native speakers in the world, it is the global working language of arts and science, as well as in international project collaborations. In this class we will explore architectural issues with the use of English.

[Course objectives]

Able to use basic English for communicating and presenting architectural ideas.

A1 Communication ability
A2 Understanding architecture from different perspectives
B2 Understanding architectural design and spatial planning
C2 Understanding how architecture affects society
C3 Acting with correct judgement based on historical and social understanding
D2 Having one's unique viewpoint
E2 Understanding global and local values

[Course schedule and contents]

Wk 1: An overview and introduction to famous Western architects like Le Corbusier, Mies van der Rohe, Louis Kahn, Renzo Piano, KPF, Rem Koolhaas… plus some previous projects that I had worked on.

Wk 2: Corbusier: Dom-ino & Villas 1. Primitive hut of the modern. Introduction to first assignment to be presented on Wk 5 (design sketches and presentation of a simple villa based on the theory of 5 points.)

Wk 3: Corbusier: Dom-ino & Villas 2. Five points of a new architecture.

Wk 4: Review on technical terms. Reference to Francis Ching's Building Construction Illustrated.

Continue to 専門英語(2)↓↓↓

専門英語(2)

Wk 5*: Presentation of the villa design sketches based on Corbusier’s 5 points. Submit speech and sketch.

Wk 6: (a break) “From Shinto to Ando”: a discussion on Japanese architecture phenomenon.

Wk 7: Mies: Use of materials. Read Steen Eiler Rasmussen’s “Experiencing Architecture”.

Wk 8: Look through some architectural examples in “Architecture Inside+Out”.

Wk 9: A review on high rises -examples from Mies, KPF and Mori Building.

Wk 10: Building Skins: a look at facade details.

Wk 11*: Test: fill-in-the-blank technical terms. A review on Hong Kong Bank by Norman Foster.

Wk12: (a break) Landscape and art: Maya Lin, Michael Heizer, Richard Serra, James Turrell, Robert Smithson, Andy Goldsworthy. A look at Kazuyo Sejima’s 21st Century Museum in Kanazawa. Introduction to final assignment on proposing an exhibition space for an artist.

Wk 13: A look at museum designs and review on terms. Preliminary presentation.

Wk 14*: Final presentation on an exhibition space proposal.

Wk 15: Feedback class. Follow-up

No final examination.
The schedule may be subject to change.

[Course requirements]

None

[Evaluation methods and policy]

Students will need to listen and read different texts, and solve the related problems. Students are expected to be able to write, discuss and present architecture in English at the end of the class. There will be no final examination. Attendance, class participation and exercise completion is important. No plagiarism. Students who have less than 60% in attendance will fail. Late arrival for more than 10 minutes or leaving early without satisfactory explanation will be considered non-attendance.

Homework - 40% Presentations - 40%. Attendance - 20%.

[Textbooks]

Steen Eiler Rasmussen, Experiencing Architecture, MIT Press, 1992.

Francis D.K. Ching, Building Construction Illustrated, John Wiley and Sons, 1991.

Continue to 専門英語(3)↓↓↓

専門英語(3)

Francis D.K. Ching, A Visual Dictionary of Architecture, John Wiley and Sons, 2011.

Le Corbusier, Towards a New Architecture, Dover, 1986.

John Zukowsky & Robbie Polley, Architecture Inside+Out, Thames & Hudson, 2018.

Christian Schittich, in Detail Building Skins, Birkhauser, 2001.

Kevin Lynch, The Image of the City, Harvard-MIT Joint Center for Urban Studies Series, 1964.

[References, etc.]

（Reference books）

Kenneth Frampton, Modern Architecture: A Critical History, Thames and Hudson, 1992. https://doubleoperative.files.wordpress.com/2009/12/kenneth-frampton_modern-architecture.pdf

Junichiro Tanizaki, In Praise of Shadows, Leet’s Island Books, 1997. http://wwwedu.artcenter.edu/mertzel/spatial_scenography_1/Class%20Files/resources/In%20Praise%20of%20Shadows.pdf

Italo Calvino, Invisible Cities, Harcourt Brace & Co., 1972.

Gunter Nitschke, From Shinto to Ando, Academy, 1993.

Christian Schittich, in Detail Japan, Birkhauser, 2002.

Graphic Anatomy Atelier Bow-Wow, Toto, 2007.

Christian Norberg-Schulz, Genius Loci: Towards a Phenomenology of Architecture, Academy Editions Ltd, 1980.

（Related URLs）

http://corner-college.com/udb/cprogXw0KwCalvino_Italo_Invisible_Cities-pp5-23.pdf(Italo Calvino, Invisible Cities, Harcourt Brace & Co., 1972.)
https://openlab.citytech.cuny.edu/12101291coordination/files/2011/06/Rasmussen_and_Elam_Proportions.pdf(Steen Eiler Rasmussen, Experiencing Architecture, MIT Press, 1992.)
https://1drv.ms/w/s!AhVq_riAFrGsgSxgYqC1w03iiTBf(Mathematics of Ideal Villa)
https://cisematakblog.files.wordpress.com/2016/11/towards-a-new-architecture1-1.pdf(Le Corbusier, Towards a New Architecture, Dover, 1986.)
https://1drv.ms/b/s!AhVq_riAFrGsgSrsJ912MYAUaID3(Domino: Archetype)
http://www.east-asia-architecture.org/downloads/research/MA_-_The_Japanese_Sense_of_Place_-_Forum.pdf(Gunter Nitschke, From Shinto to Ando, Academy, 1993.)
http://www.miguelangelmartinez.net/IMG/pdf/1960_Kevin_Lynch_The_Image_of_The_City_book.pdf(Kevin Lynch, The Image of the City, Harvard-MIT Joint Center for Urban Studies Series, 1964.)
https://marywoodthesisresearch.files.wordpress.com/2014/03/genius-loci-towards-a-phenomenology-of-architecture-part1_.pdf(Christian Norberg-Schulz, Genius Loci: Towards a Phenomenology of Architecture,

Continue to 専門英語(4)↓↓↓

専門英語(4)

Academy Editions Ltd, 1980.)
https://1drv.ms/b/s!AhVq_riAFrGsgSl7_073rYqfkLCx(Construction History)
http://www.icomos-poland.org/pl/?option=com_dropfiles&format=&task=frontfile.download&catid=67&id=66&Itemid=10000000000000(Visual Dictionary of Architecture (by Francis Ching, 2011.))
http://www.east-asia-architecture.org/aotm/index.html(Hand or Machine (by Esther Tsoi, 2012.))
https://art21.org/artists/(Art21 (PBS))

[Study outside of class (preparation and review)]

Please read materials from the above URL. Research the meaning of words in advance and at your leisure.

（Other information (office hours, etc.)）

About me: http://linkedin.com/in/kyokoto
I can be reached by e-mail. Assignments will have to be handed in class.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category
A course with practical content delivered by instructors with practical work experience

(2) Details of instructors’ practical work experience related to the course
I worked in both government and private sector, in Civil & Structural Engineering & Architecture.

(3) Details of practical classes delivered based on instructors’ practical work experience
These are essential academic background materials in Western Architecture for young professionals.

Course number	U-ENG24 14072 PJ74		
Course title (and course title in English)	建築造形実習 Fundamental Training in Architectural Design	**Instructor's name, job title, and department of affiliation**	Graduate School of Engineering Senior Lecturer,KOMIYAMA YOSUKE Part-time Lecturer,IKEI TAKESHI Graduate School of Engineering Assistant Professor,YASUDA KEI
Target year	1st year students or above	**Number of credits**	2
Year/semesters	2021/First semester		
Days and periods	Mon.3,4	**Class style**	Practical training
Language of instruction	Japanese		

[Overview and purpose of the course]

To acquire basic skills in presentation through a basic understanding of architectural form and spatial organisation, and training in their visual representation.

The course is divided into two sections, in which students taking both architectural hand drawing and CG/CAD in the first and second halves of the semester.

[Course objectives]

C. Practical skills, C1. Ability to realise architectural objects

The student will have an accurate understanding of architectural form and spatial composition and be able to express this understanding using basic presentation techniques such as architectural hand drawing, computer graphics and CAD.

[Course schedule and contents]

Assignment briefing, 1 time, Lecture on architectural drawing and CG/CAD in architectural design and presentation, and assignment briefing. [Teachers in charge: Komiyama, Ikei].

Architectural hand drawing, 6 times, Students learn elementary architectural drawing techniques using pencil and inking, and learn the theory, composition and beauty of architecture through drawing. [Teacher in charge: Komiyama].

CG/CAD, 6 times, Students will learn the basic operations of 2D CAD software and 3D CG software, learn how to express architecture, and build a foundation for design and presentation using digital tools. [Teacher in charge: Ikei].

Review, 1 time, A joint critique of architectural hand drawing, CG and CAD will be held. [Teachers in charge: Komiyama, Ikei].

Evaluation of learning achievement, 1 time, Evaluation of learning achievement regarding the contents of this practical training. [Teachers in charge: Komiyama, Ikei].

Continue to 建築造形実習(2)↓↓↓

建築造形実習(2)

[Course requirements]

None

[Evaluation methods and policy]

Students will be assessed on the basis of their architectural drawings and CG/CAD submissions.

[Textbooks]

Instructed during class

[References, etc.]

（**Reference books**）

Introduced during class

[Study outside of class (preparation and review)]

Instructions will be given in class when necessary.

（**Other information (office hours, etc.)**）

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category

A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

Course number	U-ENG24 44073 LJ74		
Course title (and course title in English)	建築設備計画法 Design Theory of Building Systems	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,TAKANO YASUSHI Graduate School of Engineering Professor,HARADA KAZUNORI Graduate School of Engineering Professor,OGURA DAISUKE Graduate School of Engineering Associate Professor,ISHIDA TAIICHIROU Graduate School of Engineering Associate Professor,OOTANI MAKOTO Graduate School of Engineering Associate Professor,IBA CHIEMI Disaster Prevention Research Institute Associate Professor,NISHINO TOMOAKI Part-time Lecturer,KOBAYASHI YOICHI

Target year	4th year students or above	Number of credits	2	Year/semesters	2021/First semester
Days and periods	Wed.4	Class style	Lecture	Language of instruction	Japanese

[Overview and purpose of the course]

There are various facilities in buildings, including air conditioning system, water supply and drainage facilities, lighting equipment, and acoustic equipment. In this lecture, the outline of various building facilities is introduced, and the design theory of building facilities including planning and maintenance is explained.

[Course objectives]

Acquisition of design theory including practical work such as planning and maintenance of building facilities. Corresponding learning and educational goals: B. Expertise and basic knowledge, B4. Ability to understand the environmental engineering aspects of architecture.

[Course schedule and contents]

Introduction, 1 week
what kind of equipment is in the building and what kind of concept it is designed from the viewpoint of the relationship with the building is outlined. In particular, the importance of air-conditioning equipment in the context of the global environment era is lectured from the standpoint of energy-saving design considering the life cycle, and the importance of comprehensive planning with buildings is lectured.

Design of lighting equipment, 2 weeks
The lecture will cover lighting methods, light sources used in architecture, clear vision, and perceptual brightness of a space. Also recent advances in lighting systems using daylight will be introduced.

Planning of electrical facilities, 1 week
The basic information such as power receiving system, electric equipment capacity, distribution main facilities, power/light electrical equipment in buildings are explained. Also the recent power generation/ storage systems are introduced.

Acoustical design of equipment, 3 weeks
Design of electroacoustic/information equipment for recording, reproduction, broadcasting, and loudspeaker

Continue to 建築設備計画法(2)↓↓↓

建築設備計画法(2)

according to the purpose and scale of the building is explained with emphasis on ensuring clarity in room, preventing howling, precautions for emergency broadcasting, and measures against noise from equipment.

Design of fire safety system, 2 weeks
The schematics of fire safety system, such as fire detection, suppression and egress guidance, are introduced in connection with building design.

Seismic design of building equipment, 1 week
The state-of the-art of seismic damage to building equipment is introduced followed by principle of seismic design for them.

Maintenance and optimal operation, 1 week
Extending the service life of building equipment is very important from the viewpoint of the life cycle. The maintenance management using BEMS / HEMS, its effectiveness, and the periodic reporting system are lectured.

Introduction to actual design projects, 2 weeks
Examples of superior design of building equipment are introduced.

Lecture by a practitioner, 1 week
Special lecture is hold to listen to an end-cutting engineer to understand the actual state of practical design.

Evaluation of achievement, 1 week
Achievement on above items will be evaluated.

[Course requirements]

Knowledge on Environmental Engineering in Architecture I(U-ENG24 24009 LJ74) and II(U-ENG24 24010 LJ74) are necessary. In addition, it is desirable that the participants have joined the following courses; Building equipment system(U-ENG24 34018 LJ74), Lighting and Acoustics in Architecture (U-ENG24 34032 LJ74), Urban Environment Engineering (U-ENG24 34052 LJ74), Thermal Environment Design of Architecture(U-ENG24 34060 LJ74).

[Evaluation methods and policy]

【Evaluation method】
Evaluation will be based on one written examination.

[Textbooks]

None specified. Exercise sheet will be provided during the lecture.

[References, etc.]

（**Reference books**）

Continue to 建築設備計画法(3)↓↓↓

建築設備計画法(3)

[Study outside of class (preparation and review)]

Use handout/exercise sheet for review.

（**Other information (office hours, etc.)**）

[Office hour] Questions are accepted at occasion. Contact lecturers for the arrangement of office hours.

*Please visit KULASIS to find out about office hours.

[Courses delivered by instructors with practical work experience]

(1) Category

A course with practical content delivered by instructors with practical work experience

(2) Details of instructors' practical work experience related to the course

(3) Details of practical classes delivered based on instructors' practical work experience

未更新

Course number	U-ENG24 44999 GJ74		
Course title (and course title in English)	特別研究 Graduation Thesis	Instructor's name, job title, and department of affiliation	Graduate School of Engineering Professor,KANKI KIYOKO

Target year	4th year students or above	Number of credits	0	Year/semesters	2021/Intensive, year-round
Days and periods	Intensive	Class style	Seminar	Language of instruction	Japanese

[Overview and purpose of the course]

Students are required to set a new topic in the fields of planning, design, structure, or environment, with regard to either architectural, urban, and regional history or spaces/systems, or to structural technology, environmental factors, and their physiological/psychological effects; to develop the ability to provide solutions to the set topic; and to compile the research results in the form of Graduation Thesis or Diploma Design.

[Course objectives]

From a new, previously unexamined perspective, with an understanding of both global and local values, based on their personal viewpoint, students must acquire the skills to effectively and sufficiently express a verifiable method of research or design related to architectural planning, design, structure, or environment.
From the learning and educational goals listed by the Department:
A; Comprehension ability
A1; Communication and presentation skills
A2; Multi-faceted understanding of the values of architecture
C; Practical ability
C2; Understanding of the social role of designing or building architecture
D; Innovation
D2; Attaining an imaginative perspective

[Course schedule and contents]

For each lesson, proceed with discussions and guidance by the supervisor of your laboratory.
1st - 3rd
Setting the research and design task.
4th - 6th
Collecting examples of previous studies or advanced design techniques.
Consideration of research method or design direction.
7th #8211 9th
Establishment of research hypothesis, design research plan, or design process.
10th - 16th
Implementation of surveys, experiments, theoretical studies, numerical analysis, or consideration of basic design.
17th - 22th
Examination of the results obtained from former stage, or proceeding with design drawings and models.
23rd - 29th
Writing Graduation Thesis, or proceeding with drawing and making models of Diploma Design.

Continue to 特別研究(2)↓↓↓

特別研究(2)

30th
Presentation of the Graduation Thesis or Diploma Design.

[Course requirements]

Satisfy requirements for "Graduation Thesis" enrollment depend on year of admission

[Evaluation methods and policy]

Based on the submitted Graduation Thesis or Diploma Design, grading will be determined as either passed or failed. The degree of achievement will be graded according to whether or not the thesis or design work expresses a new or unique viewpoint and addresses a previously unexamined topic, whether or not it demonstrates a verifiable method, and whether or not it is expressed effectively and sufficiently.

[Textbooks]

Supervision by your laboratory instructor.

[References, etc.]

（Reference books）
Supervision by your laboratory instructor.

[Study outside of class (preparation and review)]

Engaging in advance preparation and review, with active discussions between supervisor and student outside seminar times, and opportunities for multi-faceted consideration of research and design issues.

（Other information (office hours, etc.)）

*Please visit KULASIS to find out about office hours.