Guide to the 2021 Entrance Examination

Department of Civil Engineering
Graduate School of Engineering
The University of Tokyo

Department of Civil Engineering
Graduate School of Engineering, The University of Tokyo
7-3-1 Hongo, Bunkyo-ku, Tokyo, 113-8656 JAPAN

Admission Team
Email: gsao@civil.t.u-tokyo.ac.jp

Department of Civil Engineering, Admission information webpage:
http://www.civil.t.u-tokyo.ac.jp/graduate_school/

We might need to make modifications to the contents of this guidebook (e.g. required documents, examination date, examination methods) following the future COVID-19 situation. All changes are to be announced on the department webpage. Please frequently check the webpage during the period before the application and examination.

The written exam “Civil Engineering” will be questioned in English from the FY2021 entrance examination held on August 2020. Japanese translation will be provided for technical terms. The sample of Japanese translation for technical terms is available on the department webpage. You can answer to the questions either in English or Japanese.
Guide to the 2021 Entrance Examination
Master’s program

Department of Civil Engineering
Graduate School of Engineering
The University of Tokyo
Introduction

This guidebook is intended to supplement the explanation of “Graduate School of Engineering, The University of Tokyo, Guidelines for Applicants to the 2021 Master's Program”, and describes the necessary items for taking an entrance exam to Department of Civil Engineering. Information related to entrance exam is also provided in "Notice for Examination" of Graduate School of Engineering The University of Tokyo, “Note on online examination” of Department of Civil Engineering, and the web page of Department of Civil Engineering (http://www.civil.t.u-tokyo.ac.jp). If you have any questions, please email:

Admission Team (Department of Civil Engineering): gsao@civil.t.u-tokyo.ac.jp

FY2021 entrance exam will be held in a different style to previous years due to the outbreak of COVID-19. Please carefully read the instruction below, and prepare for the application and examination. Most announcement on the entrance exam will be made by email to applicants and/or on the department webpage. Please carefully check these media during the period before the application and examination, in order not to miss the notices from the department.

1. Qualification procedures and schedule

The entrance exam for master’s program consists of writing exam, document qualification, and oral exam. It is scheduled through July-August 2020 as explained below. The result of entrance exam is planned to be announced on 10th September 2020.

Department of Civil Engineering does not conduct entrance exam on application schedule B.

1) Application and required documents

Submit the application form and required documents to School of Engineering following “Graduate School of Engineering, the University of Tokyo, Guidelines for Applicants to the 2021 Master's Program”.

In addition, please submit the below items required to take the entrance exam to Department of Civil Engineering. The submission procedure is explained in “4. Survey form required by Department of Civil Engineering” of this guidebook.

① “Self-recommendation letter”: Summarize your motivation of application to Department of Civil Engineering and your aptitude and strong points for pursuing frontier studies and researches as Self-recommendation letter. The specific letter format can be downloaded from the department webpage.

② “Score proof of English language test” (optional): Submission of the score proof of English language test is recommended. Communication skill in English required for the academic activities in Department of Civil Engineering is evaluated by the oral examination, while it might be waived if the score proof of English language test is submitted. Recommended English tests are TOEFL, TOEIC, and IELTS. We accept online score proof, score proof with expired valid date, or score proof of different English language test other than recommendation, please email the admission team (gsao@civil.t.u-tokyo.ac.jp) if you need a detailed info on the validity of the score proof.

③ Exam field to answer in writing exam: Select one exam field to answer in the writing exam “Civil Engineering”, from the six fields from Appendix 1 “Exam field and scope of ‘Civil Engineering’”. It is recommended to select a field which is related to your preferred research theme.
2) **Written exam: ‘Civil Engineering’**

Essay-style writing exam is conducted in order to evaluate the basic abilities on academic studies and logical thinking required for majoring in the Department of Civil Engineering. The overview of the questions of the writing exam are as follows:

- **【Common Question】** Essay-style question on recent problems in civil engineering, to evaluate the basic background knowledge and logical thinking ability. Answer to Common Question is mandatory.

- **【Field-specific Question】** Specialized essay-style question from the six fields in Appendix 1 “Exam field and scope of ‘Civil Engineering’” to evaluate the basic understanding and problem-solving ability required for academic studies in the department. Two questions are provided from each field. **Please answer to one out of the two questions from the field you selected in the application process.** You cannot answer to other fields different from your select in advance.

The questions of the writing exam will be noticed to applicants by email (or equivalent method) around the end of July. The answer of the written exam must be submitted by the specified deadline via the specified procedure. The planned submission deadline is about 1-week after the question notification, and the submission procedure will be specified at the same time of the question notification.

In the writing exam, it is allowed to answer with references such as textbook or webpage. However, the answer must be prepared and written by the applicant themself. Consultant to a third person and plagiarism are regarded as fraud. If fraud activity is detected, the exam qualification will be cancelled even after the admission.

3) **Document qualification**

If the number of the applicants largely exceeds the enrollment capacity, document qualification is to be conducted using the writing exam answer, “Self-recommendation letter”, and “Academic transcript from previous university”. Applicants who do not pass the document qualification cannot proceed to the oral examination.

The result of document qualification will be announced around middle of August. Note: the application fee cannot be refunded even applicants are disqualified by document qualification.

4) **Oral examination**

An interview is conducted to evaluate the applicant’s basic abilities on academic studies and logical thinking, as well as to the aptitude and capacity of the applicants required for academic studies. The interview time will be approximately 20 minutes.

- Based on the applicant’s answer to the writing exam, questions are asked to evaluate the understanding of the exam contents and logical thinking ability.
- Based on “Self-recommendation letter”, the motivation of application to the department and the aptitude to academic studies are confirmed.
- Communication skill in English required for the academic activities in Department of Civil Engineering is evaluated as a part of the oral examination. English skill check might be waived if the score proof of English language test is submitted.

The oral examination is scheduled between 24th and 27th August. Interview is planned to be conducted online using a web meeting system. Detailed information on the interview date and method will be notified to applicants in middle August via email (or equivalent method).

Please prepare the internet environment with video communication ability for applicant’s identification. In order to appropriately evaluate the applicant’s ability on academic studies, we never allow frauds such as getting cooperation from a third parson.
Evaluation criteria:

Entrance qualification is judged comprehensively based on the results of the writing exam, the oral exam, and the combination of both, with the below criteria:

1. Writing Exam】Understanding of the basic technology and knowledge of civil engineering;
   Ability on logical explanation.
2. Writing/Oral Exam】Logical thinking ability to develop a discussion based on the writing exam.
3. Writing/Oral Exam】Problem-solving ability necessary for academic research.
4. Oral exam】Understanding on the philosophy of civil engineering;
   Aptitude for academic studies in Department of Civil Engineering. (English skill is included in criterion 4)

2. September admission

In Department of Civil Engineering, those who have already graduated from university (undergraduate) or are expected to graduate by September 30, 2020, are eligible to apply for the master’s program to start in September 2020. Applicants must put a mark in the relevant column in the application form for master’s program in Graduate School of Engineering, The University of Tokyo.

3. Research group selection

Select preferred supervisor groups from Appendix II “List of faculty members and their field of study”. It is desirable to participate in the entrance exam guidance on May 23, 2020 and take this opportunity as a reference for selecting a preferred supervisor group. The guidance will be carried out in Japanese. The detail of the guidance is announced on the department webpage.

Mark your preference orders to supervisor groups you want to be assigned from the first to the ninth without duplicates in the online form “Additional data survey for entrance exam (Master program)”. It is not always necessary to mark your preference orders to all supervisor groups, but be aware that you will fail the exam if you are not assigned to any one of your marked group.

The basic quota (minimum number of accepted students) and maximum quota (maximum number of accepted students) are shown in Appendix II "List of faculty members and their field of study". The rule for assigning students to a supervisor group (hereinafter simply referred to as group) is explained as follows;

- The principle is to assign first choice provisional qualified examinee to each group; however, the maximum quota shall not be exceeded.
- If there is a group that does not meet the basic quota at the first choice of qualified examinee, provisional qualified examinee will be determined based on the total score of the entrance exam.
- If there is/are group(s) which do/does not meet the basic quota at the first choice of provisional qualified examinee, move provisional qualified examinee, from the group which exceed the basic quota with the highest number, to the group of lowest number, by respecting preferred supervisor groups.
- If you did not mark your preference to some group(s) and if you were not assigned to any groups you marked your preference order(s), you could fail the exam. In that case, rounded-up provisional qualified candidates are determined to satisfy the basic quota of groups.

The determined supervisor group will be noticed after the announcement of the exam result planned on 10th September. It is posted on the web page of the Department of Civil Engineering. Your supervisor will be decided by the group accordingly.
4. Survey form required by Department of Civil Engineering

In addition to the application procedures mentioned in “Graduate School of Engineering, The University of Tokyo, Guidelines for Applicants to the 2021 Master's Program”, please submit the online survey form “Additional data survey for entrance exam (Master program)” from the department webpage. If you cannot access to the online survey form, please contact the admission team (gsao@civil.t.u-tokyo.ac.jp). The detailed method for submission is to be announced in the department webpage by the end of June.

Survey period: July 1st 2020 (Wed) 7:00 ~ July 8th 2020 (Wed) 23:59 [in JST]

<Additional data to be submitted>

- Email and other contact info: To be used for notification related to the entrance exam. Please provide the contact info which certainly reach the applicant.
- Self-recommendation letter
- Score proof of English test (optional)
- Exam field to answer in the writing exam
- Preferred supervisor group

5. Access to questions in past entrance exams

The questions in the past entrance exams is accessible online in the department webpage. Note: while the examination style is different this year, there is no change in the scope of each exam field.

Admission information Webpage:
Graduate School of Engineering: https://www.t.u-tokyo.ac.jp/soee/admission/general.html
Department of Civil Engineering: http://www.civil.t.u-tokyo.ac.jp/graduate_school/
Guide to the 2021 Entrance Examination

Doctoral program

Department of Civil Engineering
Graduate School of Engineering
The University of Tokyo
Introduction

This guidebook is intended to supplement the explanation of “Graduate School of Engineering, The University of Tokyo, Guidelines for Applicants to the 2021 Doctoral Program”, and describes the necessary items for taking an entrance exam to Department of Civil Engineering. Information related to entrance exam is also provided in "Notice for Examination" of Graduate School of Engineering The University of Tokyo, “Note on online examination” of Department of Civil Engineering, and the web page of Department of Civil Engineering (http://www.civil.t.u-tokyo.ac.jp). If you have any questions, please email:

Admission Team (Department of Civil Engineering): gsao@civil.t.u-tokyo.ac.jp

FY2021 entrance exam will be held in a different style to previous years due to the outbreak of COVID-19. Please carefully read the instruction below, and prepare for the application and examination. Most announcement on entrance exam will be made by the email to applicants and/or on the department webpage. Please carefully check these media during the period before the application and examination, in order not to miss the notices from the department.

1. Qualification procedure and schedule

The entrance exam for doctoral program consists of **primary examination** (writing exam, oral exam, and document qualification) and **secondary examination** (research presentation and discussion). Primary examination is scheduled in July-August 2020 as explained below. The result of primary examination is planned to be announced on 10th September 2020.

The secondary examination schedule depends on the preferred admission timing of the applicants. For those planning April 2021 admission, secondary examination is planned in late January 2021, and the results is announced afterwards. For those planning September 2020 admission, secondary examination is conducted in July-August 2020, and the results is announced at the same time as the primary examination.

Department of Civil Engineering does not conduct entrance exam on application schedule B.

1) Application and required documents

Submit the application form and required documents to School of Engineering following “Graduate School of Engineering, the University of Tokyo, Guidelines for Applicants to the 2021 Doctoral Program”.

In addition, please submit the below items required to take the entrance exam of Department of Civil Engineering. The submission procedure is explained in “4. Survey form required by Department of Civil Engineering” of this guidebook.

① “Research proposal”: Explain the research plan in the doctoral program. Please use the proposal format which can be downloaded from the department webpage. Prepare to explain about the proposed plan in oral exam and 2nd-round qualification.

② “Score proof of English language test” (optional): Submission of the score proof of English language test is recommended. Communication skill in English required for the academic activities in Department of Civil Engineering is evaluated by the oral examination, while it might be waived if the score proof of English language test is submitted. Recommended English tests are TOEFL, TOEIC, and IELTS. We accept online score proof, score proof with expired valid date, or score proof of different English language test other than recommendation, please email the admission team (gsao@civil.t.u-tokyo.ac.jp) if you need a detailed info on the validity of the score proof.

③ Exam field to answer in writing exam: Select one exam field to answer in the writing exam “Civil Engineering”, from the six fields from Appendix 1 “Exam field and scope of ‘Civil Engineering’”. It is recommended to select a field which is related to your preferred research theme.

④ “Contact of supporter”: Provide the contact of a supporter who can write a recommendation letter to explain the applicant’s research ability. The supporter does not have to be the supervising professor of the applicant.
2) Written exam: ‘Civil Engineering’

Essay-style writing exam is conducted in order to evaluate the basic abilities on academic studies and logical thinking required for majoring in the Department of Civil Engineering.

The overview of the questions of the writing exam are as follows:

- **[Common Question]** Essay-style question on recent problems in civil engineering, to evaluate the basic background knowledge and logical thinking ability. Answer to Common Question is mandatory.

- **[Field-specific Question]** Specialized essay-style question from the six fields in Appendix 1 “Exam field and scope of ‘Civil Engineering’” to evaluate the basic understanding and problem-solving ability required for academic studies in the department. Two Questions are provided from each field. Please answer to one out of the two Questions from the field you selected in advance in the application process. You cannot answer to other fields different from your select in advance.

The questions of the writing exam will be noticed to applicants by email (or equivalent method) around the end of July. The answer of the written exam must be submitted by the specified deadline via the specified procedure. The planned submission deadline is about 1-week after the question notification, and the submission procedure will be specified at the same time of the question notification.

In the writing exam, it is allowed to answer with references such as textbook or webpage. However, the answer must be prepared and written by the applicant themself. Consultant to a third person and plagiarism are regarded as fraud. If fraud activity is detected, the exam qualification will be cancelled even after the admission.

3) Document qualification

If the number of the applicants largely exceeds the enrollment capacity, document qualification is to be conducted using the writing exam answer, “Research proposal”, “Recommendation letter”, and “Academic transcript from previous university”. Applicants who do not pass the document qualification cannot proceed to the oral examination.

The result of document qualification will be announced around middle of August.

Note: the application fee cannot be refunded even applicants are disqualified by document qualification.

4) Oral examination (Preferred supervisor / Faculty professors)

An interview is conducted to evaluate the applicant’s basic abilities on academic studies and logical thinking, as well as to the aptitude and capacity of the applicants required for academic studies.

Oral examination is held twice, one with the preferred supervisor and another one with faculty professors. The interview time will be approximately 20 minutes for each.

- Based on the applicant's answer to the writing exam, questions are asked to evaluate the understanding of the exam contents and logical thinking ability.
- Based on “Research proposal”, maturity of the research plan, with background knowledge including antecedent studies and consideration on the potential impact of research outcome, is evaluated.
- Communication skill in English required for the academic activities in Department of Civil Engineering is evaluated as a part of the oral examination. English skill check might be waived if the score proof of English language test is submitted.

The oral examination is scheduled between 24th and 27th August. Interview is planned to be conducted online using a web meeting system. Detailed information on the interview date and method will be notified to applicants in middle August via email (or equivalent method).

Please prepare the internet environment with video communication ability for applicant’s identification. In order to appropriately evaluate the applicant’s ability on academic studies, we never allow frauds such as getting cooperation from a third parson.

5) Research presentation and discussion (secondary examination)

Academic research ability is evaluated by the presentation and discussion of applicant’s previous study (such as master-degree research) and future research plan. Please make a presentation using a slide (or relevant method). The presentation time including discussion is about 20 minutes. The detailed schedule and presentation method will be notified to the applicant by email (or equivalent method).
Evaluation criteria of primary examination:

Entrance qualification is judged comprehensively based on the results of the writing exam, the oral exam, and the combination of both, with the below criteria:

【1. Writing Exam】Understanding of the basic technology and knowledge of civil engineering; Ability on logical explanation.

【2. Writing/Oral Exam】Logical thinking ability to develop a discussion based on the writing exam.

【3. Writing/Oral Exam】Problem-solving ability necessary for academic research.

【4. Research proposal/Oral exam】Maturity of the research plan in doctoral program.

【5. Oral exam】Understanding on the philosophy of civil engineering; Aptitude for academic studies in Department of Civil Engineering. (English skill is included in criteria 5)

2. September admission

In Department of Civil Engineering, those who have already graduated from university (undergraduate) or are expected to graduate by September 30, 2020, are eligible to apply for the doctoral program to start in September 2020. Applicants must put a mark in the relevant column in the application form for doctoral program in Graduate School of Engineering, The University of Tokyo.

3. Supervisor selection

Select the preferred supervisors from Appendix II “List of faculty members and their field of study” from 1st preference to up to 3rd preference, and submit them in the online form “Additional data survey for entrance exam (Doctoral program)”. The determined supervisor will be noticed together with the final exam result announcement on the department webpage (i.e. after the secondary examination).

4. Survey form required by Department of Civil Engineering

In addition to the application procedures mentioned in “Graduate School of Engineering, The University of Tokyo, Guidelines for Applicants to the 2021 Doctoral Program”, please submit the online survey form “Additional data survey for entrance exam (Doctoral program)” from the department webpage. If you cannot access to the online survey form, please contact the admission team (gsoe@credit.t.u-tokyo.ac.jp). The detailed method for submission is to be announced in the department webpage by the end of June.

Survey period: July 1st 2020 (Wed) 7: 00 ~ July 8th 2020 (Wed) 23:59 [in JST]

<Additional data to be submitted>

- Email and other contact info: To be used for notification related to the entrance exam. Please provide the contact info which certainly reach the applicant.
- Research Proposal
- Score proof of English test (optional)
- Exam field to answer in the writing exam
- Contact of supporter
- Preferred supervisor

5. Access to questions in past entrance exams

The questions in the past entrance exams is accessible online in the department webpage. Note: while the examination style is different this year, there is no change in the scope of each exam field.

Admission information Webpage:
Graduate School of Engineering: https://www.t.u-tokyo.ac.jp/soee/admission/general.html
Department of Civil Engineering: http://www.civil.t.u-tokyo.ac.jp/graduate_school/
# 2021 Exam field and scope of ‘Civil Engineering’

<table>
<thead>
<tr>
<th>Exam field</th>
<th>Scope of the exam</th>
<th>Corresponding courses at the Department of Civil Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Field 1</strong> (Structures / Design)</td>
<td>Structural mechanics (beam/column mechanics, energy principle, stability/instability problems), Fundamentals of continuum mechanics, Basics of structural design, Basics of structural vibrations and earthquake resistant designs</td>
<td>Structural mechanics, Structural dynamics, Planning and design of structures</td>
</tr>
<tr>
<td><strong>Field 2</strong> (Concrete engineering / Geotechnical engineering)</td>
<td>Fresh concrete and construction work plan, Mechanical performance of reinforced concrete structures, Hydration, early-age properties and durability of cementitious materials, Maintenance of concrete structures, Recycling in concrete engineering, Mechanics of geomaterials (consolidation, shear, compaction, permeability), Earth structures (foundation, embankment, retaining wall, excavation, slope)</td>
<td>Planning and design of structures, Concrete engineering, Soil mechanics, Mechanics of materials, Civil engineering design and technology</td>
</tr>
<tr>
<td><strong>Field 3</strong> (Hydrospheric engineering)</td>
<td>Hydrostatics, Laws of conservation of mass and momentum, Bernoulli’s principle, Potential flows, Laminar and turbulent flow, Pipe and open channel flow, Basics of surface wave (small amplitude wave theory, shoaling of regular waves, long wave), River and coastal planning</td>
<td>Fundamental fluid mechanics, Hydraulics, Coastal engineering, Basics of hydrospheric engineering and design</td>
</tr>
<tr>
<td><strong>Field 4</strong> (Transportation / Spatial information engineering)</td>
<td>Transportation planning, Transportation policy, Travel behavior analysis, Transportation economics, Surveying, Geographic information system, Remote sensing</td>
<td>Transportation, Spatial information 1, Spatial information 2</td>
</tr>
<tr>
<td><strong>Field 5</strong> (Urban / Landscape)</td>
<td>Outline of urban policy and planning from premodern to modern ages, Basics of urban or regional analysis, Basics on urban planning system and urban design, Landscape design theory and landscape analysis / prediction / assessment, Meaning of landscape / traditional landscape, Basic knowledge on the aesthetic design of civil engineering structures</td>
<td>Urban policy, Planning and design</td>
</tr>
<tr>
<td><strong>Field 6</strong> (International project / Management)</td>
<td>Construction project management, Construction industry, Public procurement, Engineering ethics, Social decision making, Basic knowledge about international aid to developing countries, Basis of development economics, Socio-technology, Social innovation</td>
<td>Principles of management, Project management, Development and infrastructure, Studies on socio-technology</td>
</tr>
</tbody>
</table>

*: Corresponding previous course names in FY2018 Syllabus: Structural mechanics, Dynamics, control and monitoring of structures
<table>
<thead>
<tr>
<th>Group</th>
<th>Basic quota (Max. quota)</th>
<th>Faculty member’s name</th>
<th>Field of study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation engineering and planning</td>
<td>4 (10)</td>
<td>Prof. Eiji Hari</td>
<td>Urban planning and transportation engineering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Takamasa Eno (IPS)</td>
<td>Network traffic studies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Takashi Ogasaki (IPS)</td>
<td>Traffic management and control, Traffic flow analysis, Road geometric design, Mobility innovation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Hidetsugu Komatsuishi (IPS)</td>
<td>Transport policy</td>
</tr>
<tr>
<td>Spatial information</td>
<td>5 (12)</td>
<td>Prof. Takashi Fuse</td>
<td>Spatial information, Regional dynamics analysis, Integration of measurement and simulation, Photogrammetry, Image processing, 3D visualization</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Watanuki Takeshi (IPS)</td>
<td>Remote sensing of environment and disaster, Interaction between terrestrial ecosystem and human society</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Tatsuya Ichimura (ERI)</td>
<td>Urban and social simulation, Computational science, Earthquake engineering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Yoshihiko Sekizume (IPS)</td>
<td>People flow simulation, Real-time urban monitoring, Data distribution platform, Digital urban design</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Lelis Weseugah (ERI)</td>
<td>Computational failure mechanics, System integration, Multi-agent based simulation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ass. Prof. Yu Miwaishi</td>
<td>Conflict management and negotiation, development aid policy and practice, project evaluation, inter-cultural communication</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project Prof. Muneo Hori (IPS)</td>
<td>Computational earthquake engineering, 3-D Construction system studies, Applied mechanics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project Ass. Prof. Pungan Chan (DFS)</td>
<td>Infrastructure maintenance with the use of ICT, 3-D Construction system studies</td>
</tr>
<tr>
<td>Infrastructure development and management</td>
<td>2 (5)</td>
<td>Prof. Masahide Hotta (GSFS)</td>
<td>Public management, Social decision-making theory, Business system design, International conflict management</td>
</tr>
<tr>
<td>Design and landscape</td>
<td>1 (5)</td>
<td>Prof. Yutaka Hotta</td>
<td>Civic design, Landscape design, Civil engineering history</td>
</tr>
<tr>
<td>Hydromechanics and environment</td>
<td>7 (17)</td>
<td>Prof. Koji Bando</td>
<td>River engineering, Water and disaster management, Conservation and restoration of river environment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Yoshinori Tamao</td>
<td>Coastal hydrodynamics, Coastal protections and beach topography changes, Mitigations and management of flood disaster</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Ken Yoshimura (IPS)</td>
<td>Isotope meteorology, Land surface processes, Dynamical downscaling, Earth system model development, Civilization and climate change</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Takashi Chihara</td>
<td>Ecosystem management in a river basin, River morphology, River engineering, River environmental protection and restoration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Takanori Shimozono</td>
<td>Wave modeling, Coastal morpho-dynamics and Disaster prevention</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Yutaka Sakeuchi</td>
<td>Hydroclimatological disaster prediction, Simulation-observation integration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Dai Yamazaki (IIS)</td>
<td>Hydrology, Global hydrodynamics, Modelling and remote sensing of surface waters, Hydro-topography analyses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Kenta Ono (JS)</td>
<td>Global monitoring for ecology and environment, River basin management with RS and GIS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Ass. Prof. Hyugynn Kim (JS)</td>
<td>Coupled natural-human systems and Sustainable development, Climate-land feedback and energy water cycles, Remote sensing hydrology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Ass. Prof. Nakaya Kageishi (JS)</td>
<td>Monsoon variation climatology, Hydrology and climate change, Rainfall phenomena in monsoon Asia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Ass. Prof. Takeshi Yoshikazu (JS)</td>
<td>Regional Earth System Modelling, Local-scale weather prediction using AI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Yuko Kobayashi (GSFS)</td>
<td>Water environment in coastal zone, Water quality, ecosystem, material flow and simulation, Environmental planning in coastal zone</td>
</tr>
<tr>
<td>Infrastructure technology and design (A)</td>
<td>3 (8)</td>
<td>Prof. Junichi Koeki</td>
<td>Seismic stability of retaining walls, Deformation properties of geomaterials, Liquefaction, Ground improvement and soil reinforcement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Ryoko Koyama (IIS)</td>
<td>Laboratory soil test, Long-term behavior of bunted/earth structure, Ground cave-in, Internal erosion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Kenji Watanabe</td>
<td>Seismic stability of earth structure, Performance based design, Reinforcement of existing earth structure/dike against earthquake and heavy rainfall</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Ass. Takeshi Kiyota</td>
<td>Geo-disaster mitigation engineering, Field damage survey, Liquefaction assessment, Landslide</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Takeshi Ishikawa</td>
<td>Wind engineering, Wind energy, Typhoon disaster mitigation, Computational fluid dynamics, Structural dynamics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Tetsuya Iwashita</td>
<td>Nonlinear mechanics of aging concrete, Multi-scale and multi-chemo-physics of structural concrete</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Toshikazu Kashi (JS)</td>
<td>Material science of concrete, Durability of RC structures, Self-curing concrete, Fresh property, Rheology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Toshiaki Yamasaki</td>
<td>Bridge engineering, Structural control and monitoring, Integration of structural and vitiological dynamic models and observation, Structural load</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Takanori Nagaishi (JS)</td>
<td>Concrete engineering, Micro-scale analysis, Fiber, Reinforced cementous concrete, Anchorhead performance of RC, Infrastructural management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Takeshi Taniguchi (JS)</td>
<td>Big data construction of infra-surfacestructural surface, Real-time analysis, Radar/Laser sensing, Vibration, Digital signal processing/Image processing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Yoichi Satoh (IIS)</td>
<td>Construction materials engineering, Recycling, Nondestructive testing, Mass transfer in concrete, Highspeed impact test</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Ass. Prof. Ayutthaya Yamaguchi (UCRL)</td>
<td>Wind engineering, Wind power engineering, Wind resource and site assessment, Load estimation on wind turbine, Wind speed and power forecasting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Ass. Prof. Tsuji So</td>
<td>Structural simulation, Dynamics of bridge structures, Structural health monitoring</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Yoichi Takahashi</td>
<td>Durability mechanics of reinforced concrete, Thermo-hydro physics of cementitious composites, Life-span assessment and planning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Project Ass. Prof. Go Iwashita (UCRL)</td>
<td>Numerical simulation on structural performance of new cementitious materials and structure, Long-term durability of construction materials</td>
</tr>
<tr>
<td>Infrastructure technology and design (B)</td>
<td>11 (27)</td>
<td>Prof. Hiroshi Kanai</td>
<td>International transportation studies, Transportation planning, Transportation policy, Transportation economics, Transportation finance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Takeshi Oka</td>
<td>Human Geoscience, Water/Climate Change and Sustainable Development, Risk Management on Global Environmental Changes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Daisuke Fukuwara</td>
<td>Planning theory for smart city/mobility, International standardization of smart city/mobility, Evaluation of transportation network reliability, Data engineering for urban redesign</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Shunsaku Komatsuishi</td>
<td>Public policy studies, Institutional studies on infrastructure development, Social innovation, Case study of international project</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Tsukasa Tsuchiya (JS)</td>
<td>Public administration, Public policy, Participatory and anticiporative governance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prof. Riki Honda (GSFS)</td>
<td>Social regelience, Social network, Earthquake engineering, Technology transfer, Sustainable management engineering</td>
</tr>
<tr>
<td>International project</td>
<td>5 (17)</td>
<td>Adjunct members: Prof. Kiniro Meguro, Prof. Tetsuya Iida, Prof. Yoshinori Tamao, Prof. Watanuki Takeshi</td>
<td>Comprehensive disaster management strategy, Structural and non-structural countermeasures for disaster reduction, International cooperation for disaster reduction</td>
</tr>
<tr>
<td>Earthquake and disaster mitigation engineering</td>
<td>2 (4)</td>
<td>Prof. Kiniro Meguro (BSRI)</td>
<td>Disaster Process Engineering, Disaster management, Training/Educational system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assoc. Prof. Shinobu Nomura (BSRI)</td>
<td>Comprehensive disaster management strategy, Structural and non-structural countermeasures for disaster reduction, International cooperation for disaster reduction</td>
</tr>
</tbody>
</table>

Note 1: (*) represents a concurrent professor. Concurrent professors cooperate with delivering lectures at graduate school of civil engineering, however, they are not in charge of students’ dissertation guidance as a general. Note 2: Principal affiliation of faculty member is as follows; (BS) Institute of Industrial Science, (ERI) Earthquake Research Institute, (CFS) Graduate School of Frontier Sciences (GSB) Graduate School of Interdisciplinary Information Studies, (IEI) Institute of Engineering Innovation , (UCRL) University-Community Relations Laboratory, (DFS) Donated Fund Laboratory, (PSL) Program-Specific Laboratory Note 3: The supervisors in each group will be decided after consultation. The research content is just an example, and the research theme of the student is decided after admission.