English Supplemental Handout

Guidelines for International Applicants to the 2019 Master's Course Program February Examination

Division of Civil and Earth Resources Engineering/
Urban Management

Department of Civil and Earth Resources Engineering
Department of Urban Management

Graduate School of Engineering
Kyoto University

※ <u>The Japanese language version is to be given precedence.</u>

Division of Civil and Earth Resources Engineering/ Urban Management (Department of Civil and Earth Resources Engineering Department of Urban Management)

The two departments hold a joint entrance examination for the two international courses. Applicants can choose their preferred laboratory and supervisor from these two departments.

Ⅰ. Study Areas

Applicants can refer to the list of study areas below, choose an area for special study during their master's research and indicate the first choice on the screen of Kyoto University Online Application. Prior to application, applicants should have contacted the preferred supervisor to discuss the research plan, and select the first choice of study area.

(1) Department of Civil and Earth Resources Engineering

Area No.	Research Topic (**Faculty**) (As of October 2018)	Educational Programs		
		Integrated Master's-Doctoral Course Program (Interdisciplinary Engineering Course Program)	Integrated Master's-Doctoral Course Program (Advanced Engineering Course Program)	Master's Course Program
1	Applied Mechanics: Particle-based computational fluid dynamics, fluid-structure interaction, turbulence modeling, mechanical stabilization of undersea tunnels, development and application of the rigid plastic finite element method (Assoc. Prof. Abbas Khayyer, Assoc. Prof. Jun Saito)	Postgraduate Integrated Course Program of Human Security Engineering	Choose a research topic from the list of study areas (excluding No.44)	Choose a research topic from the list of study areas (choose any research topic)
2	Structural Materials Engineering: Properties of structural materials including concrete, durability, maintenance, dynamics and structural control of civil infrastructures including concrete structures, structural planning and design, including scenario design (Prof. Yoshikazu Takahashi, Assoc. Prof. Takashi Yamamoto)			
3	Structural Mechanics: Structural behavior of steel/composite structures and their rational design, nondestructive evaluation of residual performance and maintenance of structures, dynamic analysis of offshore structures (Prof. Kunitomo Sugiura, Assoc. Prof. Masahide Matsumura)	Postgraduate Integrated Course Program of Applied Mechanics, Postgraduate Integrated Couse Program of Human Security Engineering		
4	Bridge Engineering: Environmental action and evaluation on the deterioration of concrete bridges, fundamental research on the durability of geopolymer concrete, aerodynamics of bridges and structures, wind engineering (Assoc. Prof. Lin An)			
5	Structural Dynamics: Dynamic instabilities of structures and their control, bridge aerodynamics, wind-induced instabilities, flow-induced vibrations, wind resistant design (Prof. Tomomi Yagi)			
6	Environmental Hydrodynamics: Air-water interfacial dynamics, coherent structure, mass transfer in vegetated flows, floodplain hydraulics, interaction between fluid and sediment, computation of turbulent flows, water related disasters (Prof. Keiichi Toda, Assoc. Prof. Michio Sanjou)	Postgraduate Integrated Course Program of Human Security Engineering		
7	Hydrology and Water Resources Research: The hydrologic cycle, hydrologic prediction, real-time hydrologic forecasting, hydrologic design, water resources management (Prof. Yasuto Tachikawa, Assoc. Prof. Yutaka Ichikawa, Jr. Assoc. Prof. Kazuaki Yorozu)			

Area No.	Research Topic (**Faculty**) (As of October 2018)	Educational Programs		
		Integrated Master's-Doctoral Course Program (Interdisciplinary Engineering Course Program)	Integrated Master's-Doctoral Course Program (Advanced Engineering Course Program)	Master's Course Program
8	Geomechanics: Investigation of soil-structure interaction (static and dynamic) and its design method, simulation of deformation and failure of ground, liquefaction analysis, methane hydrate containing ground (Prof. Makoto Kimura, Assoc. Prof. Sayuri Kimoto)	Postgraduate Integrated Course Program of Human Security Engineering	Choose a research topic from the list of study areas (excluding No.44)	Choose a research topic from the list of study areas (choose any research topic)
9	Infrastructure Innovation Engineering: Structural dynamics on vehicle-bridge interaction, Environmental vibrations caused by bridge vibrations, Bridge health monitoring, Drive-by bridge inspection, Smart sensing system, Seismic performance of viaduct under traffic (Prof. Chul-Woo Kim)			
10	Geoinformatics: Remote sensing, geographic information systems, digital photogrammetry, urban LiDAR measurement, sensing of urban activity (Prof. Nobuhiro Uno, Assoc. Prof. Junichi Susaki)			
11	Urban and Landscape Design: Urban and landscape design, studies on landscape design, urban design, architecture of infrastructure and environment, cultural climate and environment, regional planning, urban history (Prof. Masashi Kawasaki, Assoc. Prof. Keita Yamaguchi)			
12	Urban Coast Design: Design and planning of urban coastal structures, particle method, computational wave dynamics, computational fluid dynamics, computational mechanics of sediment transport, computational mechanics for multiphase flow, crowd and multi-agent simulation in urban areas (Prof. Hitoshi Gotoh, Assoc. Prof. Eiji Harada)			
13	Geophysics: Geophysical exploration of shallow to deep crustal structures, geophysical modeling of geological phenomena that influence human activities, visualization of subsurface geophysical properties (Prof. Hitoshi Mikada)			
14	Earth Crust Engineering: Research on development of oil and gas, underground storage of carbon dioxide, geological disposal of radioactive waste and rock behavior in deep mines by laboratory experiments and field observation (Prof. Tsuyoshi Ishida, Assoc. Prof. Yoshitaka Nara)			

Area No.	Research Topic (**Faculty**) (As of October 2018)	Educational Programs		
		Integrated Master's-Doctoral Course Program (Interdisciplinary Engineering Course Program)	Integrated Master's-Doctoral Course Program (Advanced Engineering Course Program)	Master's Course Program
15	Measurement and Evaluation Technology: Construction and maintenance of underground structures, Nondestructive testing using magnetics, lasers and ultrasonics, monitoring of underground environment and waste repositories using dielectric tools and fiber-optics (Prof. Toshihiro Sakaki, Assoc. Prof. Kazuhiko Tsukada)	Postgraduate Integrated Course Program of Human Security Engineering	Choose a research topic from the list of study areas (excluding No.44)	Choose a research topic from the list of study areas (choose any research topic)
16	Sediment Control Engineering: Controlling sediment in mountain-river-coast systems, prediction and monitoring of sediment dynamic states in mountainous areas, developing methods to decrease damage from sedimentation disasters, evaluating the impact of sediment transport on the ecosystem (Prof. Masaharu Fujita, Assoc. Prof. Hiroshi Takebayashi)			
17	Hydroscience and Hydraulic Engineering: Three dimensional structure of flood flow and bed form, hydraulics of inundating flow and design flooding, observations and experiments on sediment transport phenomena, mechanism of river dyke breach, simulation of urban inundation and stormwater drainage, interdisciplinary hydraulics - ecology and hydrodynamics (Prof. Hajime Nakagawa, Assoc. Prof. Kenji Kawaike)			
18	Geotechnics for Hazard Mitigation: Damage estimation of geotechnical structures after large earthquakes, Combined Geo-disaster induced by rainfall and earthquake, behavior of geotechnical structures made of composite materials (Prof. Ryosuke Uzuoka)			
19	Hydrometeorological Disasters Engineering: Global climate change impact assessment on precipitation field, precipitation forecasting, radar hydrology, remote sensing by spaceborne precipitation radar, analysis and forecast of water and heat circulation in urban area, formation process of river basin (Prof. Eiichi Nakakita, Assoc. Prof. Kosei Yamaguchi)			
20	Coastal Disaster Engineering: Impact assessment and adaptation of coastal environmental change due to global warming, Countermeasures of tsunami disaster, Modeling of storm surge, ocean wave and tsunami (Assoc. Prof. Nobuhito Mori)			

Area No.	Research Topic (**Faculty**) (As of October 2018)	Educational Programs		
		Integrated Master's-Doctoral Course Program (Interdisciplinary Engineering Course Program)	Integrated Master's-Doctoral Course Program (Advanced Engineering Course Program)	Master's Course Program
21	Innovative Disaster Prevention Technology and Policy Research: Climate change impact on catchment at both the global and regional scale, including lakes and reservoirs, flood mitigation modeling, development of strategic approaches to prevent water-related disasters, continental-oceanic mutual interaction (Assoc. Prof. Takahiro Sayama, Jr. Assoc. Prof. Lahournat, Florence)	Postgraduate Integrated Course Program of Human Security Engineering	Choose a research topic from the list of study areas (excluding No.44)	Choose a research topic from the list of study areas (choose any research topic)
22	Waterfront and Marine Geohazards: Coastal-erosion processes and integrated sediment management, estuarine and coastal geo-hydrodynamics, remote sensing of estuarine and coastal environments (Prof. Tetsuya Hiraishi, Assoc. Prof. Yasuyuki Baba)			
23	Computational Engineering: Computational mechanics for fluids and solids, high-performance computation for hydraulics and structural engineering, computational methods (FDM, FVM, FEM), parallel computation, numerical visualization (Prof. Satoru Ushijima)			
24	International Management of Civil Infrastructure: Structural health monitoring, Nondestructive testing, Hydrologic analysis for infrastructure, Long-term design of hydrologic structures considering climate change (Assoc. Prof. Sunmin Kim, Jr. Assoc. Prof. Kai-Chun Chang)			

(2) Department of Urban Management

Area No.	Research Topic (**Faculty**) (As of October 2018)	Educational Programs		
		Integrated Master's-Doctoral Course Program (Interdisciplinary Engineering Course Program)	Integrated Master's-Doctoral Course Program (Advanced Engineering Course Program)	Master's Course Program
26	Structures Management Engineering: Durable structures, monitoring of structures, maintenance of structures, life-span management of structures, environmentally friendly materials and structures (Prof. Hirotaka Kawano, Assoc. Prof. Atsushi Hattori)	Postgraduate Integrated Course Program of Human Security Engineering	Choose a research topic from the list of study areas (excluding No.44)	Choose a research topic from the list of study areas (choose any research topic)
27	Earthquake and Lifeline Engineering: Earthquake engineering, Disaster prevention engineering, seismic risk management (Prof. Junji Kiyono, Assoc. Prof. Aiko Furukawa)			
28	River System Engineering and Management: Fundamental theory of open channel flows, River channel processes, Environmental Hydraulics on Lakes, Groundwater hydraulics, Evaluation of people's awareness to river improvement projects (Prof. Takashi Hosoda, Assoc. Prof. Shinichiro Onda)			
29	Construction Engineering Systems: Geoconstrucution engineering, international construction projects, project risk management, environmental preservation of urban groundwater, asset management (Prof. Hiroyasu Ohtsu, Assoc. Prof. Thirapong Pipatpongsa)			
30	Geofront-System Engineering: Numerical assessment of time development behavior of clay foundations, conservation procedures for historical geo-relics, geo-informatic database, mechanics of partially saturated soils from micro to macro, development of advanced numerical analysis method both for fully saturated and partially saturated soils (Prof. Mamoru Mimura, Assoc. Prof. Yosuke Higo)			
31	Earth and Resource System: Fluid flow analysis and effective enhanced recovery methods for oil and gas, environmental resources development, determination of in situ stress in deep formations and rock masses in ocean and continental drillings, and measurements of rock physical properties under high pressure and high temperature conditions (Prof. Weiren Lin, Assoc. Prof. Sumihiko Murata)			

Area No.	Research Topic (**Faculty**) (As of October 2018)	Educational Programs		
		Integrated Master's-Doctoral Course Program (Interdisciplinary Engineering Course Program)	Integrated Master's-Doctoral Course Program (Advanced Engineering Course Program)	Master's Course Program
32	Infrastructure Planning and Management Theory: Public investment policy, transportation and communication behavior, asset and risk management for infrastructures (Prof. Kiyoshi Kobayashi, Assoc. Prof. Kakuya Matsushima)	Postgraduate Integrated Course Program of Human Security Engineering	Choose a research topic from the list of study areas (excluding No.44)	Choose a research topic from the list of study areas (choose any research topic)
33	Urban and Regional Planning: Urban planning, urban policy, public transportation policy (Assoc. Prof. Ryoji Matsunaka)			
34	Urban Management Systems: Development and public use of tunnel and underground space, Mechanical and hydromechanical of fractured rock, Mechanical-Hydromechanical-Thermal-Chemical coupling process and its modeling on rocks and soils, Advanced approach of the geo-sequestration of energy byproducts, Construction issues on tunnel and geo-infrastructure (Prof. Kiyoshi Kishida)			
35	Intelligent Transport Systems: Optimization of transport and logistics systems, Traffic and public transport management using big data and ITS, Shared mobility and integrated transport, Reliability analysis of transport network, Experimental approach to traffic engineering (Prof. Tadashi Yamada, Assoc. Prof. Jan-Dirk Schmöcker)			
36	Travel Behavior Analysis: Public psychology, social dilemmas, behavioral decision making, practical social science research on community development, behavioral analysis of transportation demand (Prof. Satoshi Fujii)			
37	Environmental Geosphere Engineering: Distribution analyses of mineral, water, and energy resources using remote sensing and mathematical geology; reservoir evaluation for storage properties of crustal gases and fluids; and assessment and spatio-temporal modeling of crustal environments from shallow to deep depths (Prof. Katsuaki Koike, Assoc. Prof.Tadanori Goto)			
38	Dynamics of Foundation Structures: Earthquake engineering, engineering seismology, seismic design, soil-structure interaction, seismic performance of structures, innovative structure to resist seismic vibrations (Prof. Sumio Sawada, Assoc. Prof. Hiroyuki Goto)			
39	Regional Water Environment System: Comprehensive environmental dynamics model, integrated water resources management, assessing the impact of climate change on flood and drought (Prof. Shigenobu Tanaka, Assoc. Prof. Kenji Tanaka)			

Area No.	Research Topic (**Faculty**) (As of October 2018)	Educational Programs		
		Integrated Master's-Doctoral Course Program (Interdisciplinary Engineering Course Program)	Integrated Master's-Doctoral Course Program (Advanced Engineering Course Program)	Master's Course Program
40	Water Resources Engineering: Water resources systems management, global water dynamics, modeling of human response to water hazards, prevention and mitigation of water-related disasters (Prof. Tomoharu Hori)	Postgraduate Integrated Course Program of Human Security Engineering	Choose a research topic from the list of study areas (excluding No.44)	Choose a research topic from the list of study areas (choose any research topic)
41	Disaster Risk Management: Methodology of disaster risk analysis and assessment, Natech, industrial risk management, chemical accident, sustainable management of infrastructure and local assets, economic growth theory under catastrophic risks (Prof. Ana Maria Cruz, Assoc. Prof. Muneta Yokomatsu)			
42	Environmental Disaster Mitigation Management: Risk management of water resources, integrated management of sediment routing systems, biodiversity conservation, ecosystem management in river basins (Prof. Tetsuya Sumi, Assoc. Prof. Yasuhiro Takemon, Assoc. Prof. Sameh Ahmed Kantoush)			
43	Urban Flood Control: Compound urban disasters, dynamics of fluid-structure coupled systems, structural design for extreme events, dynamic response control, assessment and maintenance of deteriorating urban facilities, urban flood disaster, hydraulics of water-related disasters, water disaster prevention for underground space, tsunami disaster prevention (Prof. Akira Igarashi, Assoc. Prof. Nozomu Yoneyama)			
44	Sustainable Geoenvironmental Engineering: Environmental infrastructure engineering, Soil and groundwater contamination, Geotechnics for waste management, Environmental risk assessment, Environmental geotechnics (Prof. Takeshi Katsumi)	*	*	
45	International Urban and Regional Development: Urban and regional freight transportation, humanitarian logistics, remediation of geoenvironmental problems (Assoc. Prof. Ali Gul Qureshi, Assoc. Prof. Giancarlo Augusto Flores Barron)	Postgraduate Integrated Course Program of Human Security Engineering	Choose a research topic from the list of study areas (excluding No.44)	

・ A Study Area with the ＊ mark (No. 44) does not have an Integrated Master's-Doctoral Course Program (Interdisciplinary Engineering Course Program and Advanced Engineering Course Program).

Ⅱ. Number of students to be accepted

Limited

Ⅲ. Eligibility and its screening

Refer to "Eligibility and its screening" on pages 4, 5, 21 and 22 of Guidelines for International Applicants to the 2019 Master's Course Program written in Japanese as well as English（平成 31 年度修士課程外国人留学生学生募集要項）.

IMPORTANT NOTE:

- **It is highly recommended to be staying in Japan as a research student as of February 2019.**
- **A person who has graduated (or, is expected to graduate) from Undergraduate School of Global Engineering, Faculty of Engineering, Kyoto University, is highly recommended to take the exam (General Academic Selection) in August.**

Ⅳ. Date of Examination

Details of entrance examination including examination schedule and venue will be posted on a notice board close to Room 191, C Cluster C-1.

Examination Site: Room 171 and other rooms, C Cluster C-1, Katsura Campus

Date	Time and Examination Subjects
Either February 12nd (Tue) or 13rd (Wed)	9:00 ~ Oral Exam I・Oral Exam II

※Details of oral examination such as examination schedule and venue will be sent by postal mail or other communication method.

○Important Notice for Academic Examination

- ・Be sure to come to the waiting room (Room 192, C Cluster C-1) at least 15 minutes before the examination starts.
- ・ Be sure to bring your examination voucher with you and follow the instructions of the supervisor and other staff.
- ・ Refrain from taking your mobile phone or other electronic devices into the room. If you take those electronic devices into the room, turn off the power, keep the devices in your bag and put your bag in the designated place. If you carry those electronic devices with you, you could be deemed to conduct fraudulent act.
- ・ Be sure to switch off the alarm on your watch.
- ・ A projector is provided in the interview room while you bring a portable PC with a presentation file installed. Also please prepare five copies of your presentation material in case of equipment trouble. You cannot use any electric devices in the room other than what you need for presentation.
- ・ If there is any change in oral exam schedule, you will be notified in advance.

Ⅴ. Details for Entrance Examination

(1) Examination Subjects

(a) English (200 points/1000 points): evaluated based on candidate's TOEFL, TOEIC or IELTS scores. Native speakers of English can submit "Letter of English Proficiency Statement"

(Form-M3) instead of English official scores. Applicants who have submitted Form-M3 will be evaluated for their English proficiency through Oral Exam II.

○Assessment of English Ability

- English ability will be evaluated by the score on the TOEFL Score Report, TOEIC Official Score Certificate or IELTS Test Report Form. These scores are valid only if attained after February 1st, 2017. If you use TOEFL score to prove your English-language proficiency, you need to submit a copy of "Test Taker (Examinee) Score Report" or online "Test Taker Score Report" printed out by yourself as well as to ask ETS to send your Official Score Report to the Division with the designated Institution Code.
- Submit the above-mentioned official score report to the following office by no later than 16:00 (JST) on February 4 in 2019. The official score report must be submitted in person or sent by "kakitome-bin (書留便)". Submission of the official score report after the above-mentioned deadline will not be accepted for any reason.
- For TOEFL, only the TOEFL-iBT (internet-Based Test) and TOEFL-PBT (Paper-Based Test) are acceptable. For TOEIC, only the official TOEIC Listening & Reading test is acceptable. For IELTS, only IELTS (Academic Module) is acceptable. Score certificates of group tests such as TOEFL-ITP or TOEIC-IP are invalid.
- For TOEIC and IELTS, the original score certificates must be submitted; copies are not acceptable. Successful applicants will be disqualified if submitted documents are later found to be fraudulent.

(b) Oral Exam I (550 points/1000 points)

The Oral Exam I in Japanese or English will last approximately 20 minutes and will mainly focus on the applicant's basic knowledge of specialized field of one of the following five and mathematical knowledge. The fields correspond to the research that applicants intend to pursue after admission.

Subject	Range of Questions
(1) Structural Mechanics	Force equilibrium, Sectional forces, Influence lines, Stress and strain, Mechanical properties of materials, Sectional properties, Stability of structures and static determinate/indeterminate, Statically determinate structures, Deformation of structures, Elastic buckling of columns, Statically indeterminate structures, Equations of elasticity, Work and energy, Virtual work, Energy principle
(2) Hydraulics	Fundamentals of fluid motion, Hydrostatics, Dynamics of perfect fluids, Water waves, Viscous flows and turbulence, Dimensional analysis and similarity law, Steady pipe flows, Steady open-channel flows
(3) Soil Mechanics	Physical properties and classification of soils, Permeability and seepage, Consolidation, Shear strength, Compaction, Earth pressure, Bearing capacity, Stress distribution, Slope stability, Ground improvement, Liquefaction, Seismic behavior
(4) Planning and Management	Linear Programming, Nonlinear programming, Dynamic Programming, Game theory, Network analysis, Cost-benefit analysis, Regression analysis, Urban and Regional Planning, Transportation Planning

Subject	Range of Questions
(5) Earth Resources Engineering	Basic theory of elastic and electromagnetic wave including reflection, refraction and diffraction, Theory of seismic survey (refraction surveying and reflection surveying) and electric / electromagnetic survey, Basics of physical measurements (measurement of force, displacement, motion / vibration, fluid, and temperature), Characteristics of sensor response, Electrical and electronic circuit for measurement

(c) Oral Exam II (250 points/1000 points)
Applicants should prepare a presentation (approximately 5 minutes in length) on their graduation research or their current main research. The presentation may be given in English or Japanese. In a presentation, applicants can use liquid-crystal projector and PC. The interview will be conducted after presentation (Total time: approximately 10 minutes, including the presentation).

(2) Examination Criteria

Applicants who have secured 500 or more out of the total score (1000 points) are eligible for selection. Final successful applicants are selected among eligible applicants with 500 points or more.

(3) Announcement of Successful Applicants

Refer to "VI. Announcement of Entrance Examination Results" in the Guidelines.

VI. Application Procedures

(1) Additional Required Documents

Aside from documents submitted to Katsura Campus, Cluster B Administration Complex, all applicants must submit documents below by registered mail (kakitomebin) or in person to Cluster C, Graduate Student Section. Some documents may take some time to obtain. Therefore, it is highly recommended that applicants prepare for these documents early.

(a) Submission Deadline
January 17, 2019 (Additional required documents must reach the C Cluster Office by no later than 5:00 PM on January 17, 2019)

(b) Place of Submission
Cluster C, Graduate Student Section, Graduate School of Engineering, Kyoto Daigaku-Katsura, Nishikyo-ku, Kyoto, 615-8540 (Admissions for the Department of Civil and Earth Resources Engineering and the Department of Urban Management)
TEL: 075-383-2967

(c) Additional Required Documents (The forms can be downloaded from the website of Graduate School of Engineering)

- Checklist of necessary documents (Form-M1)
- Statement of Research Activity and Study Plan in English (Five copies) (Describe your past/current research activities and your study/research plan in the graduate program approved by the prospective supervisor. Complete your statement within three A4 pages.

Fill in Form-M2 and gain your supervisor's stamp or signature. Attach the Form-M2 to your statement as a cover sheet.)

- Score certificate of TOEFL, TOEIC or IELTS. For the native speakers of English, "Letter of English Proficiency Statement (Form-M3)" is acceptable. (If applicants can't submit a copy of Test Taker (Examinee) Score Report for TOEFL, or original Official Score Certificate of TOEIC or original IELTS Test Report Form by the above-mentioned deadline, they should submit these documents by registered mail (kakitomebin) or in person to Cluster C, Graduate Student Section, Graduate School of Engineering, Kyoto University (Admissions for the Department of Civil and Earth Resources Engineering and the Department of Urban Management) by 4:00 pm, February 4, 2019. Envelopes should be marked with "Document for Admission (Master/English)" in red ink. When mailing, use registered mail (kakitome-bin).
- Documents detailing the candidate's source of tuition and living expenses while in Japan. International students who will be supported by scholarships from the government of Japan or other countries (e.g. the candidate's home country), do not need to submit this document.
- Statement of Course Selection (Form-M4)

Ⅶ. Outline of International Courses and Degree Requirements

i) Outline of international courses

(1) International Course in Management of Civil Infrastructure

This master's course program in the Department of Civil and Earth Resources Engineering started in April 2011. All classes and research guidance are provided in English.

The Department of Civil and Earth Resources Engineering endeavors to achieve the following:

1) Contribute to the sustainable development of the human race from a standpoint of engineering science and technology. This includes issues such as achieving a stable supply of natural resources and harmonizing with the global environment.
2) The development of fundamental key technologies that support public infrastructure and energy development.
3) The creation and development of new versatile technologies and design methods concerning the construction, improvement, operation, and maintenance of public infrastructure and disaster mitigation measures, as well as technologies related to the exploration, development, and utilization of the natural environment, natural resources and energy.
4) The experimental and theoretical integration and deployment of those technologies in the framework of computational mechanics and applied mechanics.

The fundamental policy of the Department of Civil and Earth Resources Engineering is to provide a through basic education and cultivate real-world skills. We also aim to provide an education which nurtures the ability to discover new technologies and develop flexible thinking skills. Ultimately, we aim to cultivate experts who can utilize intellectual, information and communication technologies in new ways. Our approach to education prioritizes information analysis, with a focus on computational dynamics. We ensure that our students master the basic and rational technologies that will enable them to become leading engineers who can contribute to the public infrastructure.

In light of the major shift in the locus of public infrastructure development and resource development from Japan to other countries, we are well aware of the need to nurture highly-qualified engineers from other countries to produce engineers who can make broad

contributions at the cutting-edge of conventional civil engineering, resource engineering, and environmental engineering. It is our policy to actively invite highly-accomplished researchers and corporate researchers from Japan and other countries to participate in seminar course that are held by the Department of Civil and Earth Resources Engineering to discuss the latest developments and societal needs.

(2) International Course in Urban and Regional Development

A new master's course program in the Department of Urban Management started in April 2011. All classes and research guidance are provided in English. As this is an international course, we require that students have English language competence.

The Department of Urban Management is striving to integrate advanced information communication technology with social infrastructure technology in order to realize sustainable, safe, and internationally competitive urban systems that can ensure a high quality of life. To achieve this goal, the department aims to make advances in social analysis technology utilizing urban engineering, traffic engineering, and environmental system engineering to analyze human activities in cities. We also seek to make advances in planning technology methods such as urban planning and traffic planning to realize safe and sustainable urban systems, as well as advances in urban infrastructure relating to constructing foundations and rivers. Building upon the foundation of these engineering technologies, the department is working to establish methodologies and engineering techniques for the comprehensive management of urban systems, incorporating assessments of the sustainability of cities based on a cutting-edge research and an interdisciplinary perspective that embraces the social sciences and humanities. To realize these goals, the department is ambitiously striving to construct state-of-the-art urban systems for advanced information societies, and to cultivate the human resources needed to support them.

In addition to lecture-based subjects, the department also offers seminar-based subjects. In the seminar-based subjects, students independently plan and implement project surveys and company seminars. They then summarize the results and make presentations on their findings. These exercises greatly enhance students' skills of preparing reports, giving presentations and conducting discussions. The exercises also improve the students' ability to work independently and boost their self-confidence,

Ⅷ. Educational Program

【The International Courses】

Department of Civil and Earth Resources Engineering and Department of Urban Management offer International Course in Management of Civil Infrastructure and International Course in Urban and Regional Development, respectively. These international courses aim to cultivate human resources who contribute to solving civil infrastructure issues and environmental problems. All classes of the courses are provided in English.

Ⅸ. Others

○ Inquiries

Inquiries should be addressed to the following office.

Administrative Office of the International Courses
Department of Civil and Earth Resources Engineering and Department of Urban Management
Graduate School of Engineering, Kyoto University

E-mail: icp_master@t.kyoto-u.ac.jp

Reference URL:

- International Course in Management of Civil Infrastructure in the Department of Civil and Earth Resources Engineering: http://www.ce.t.kyoto-u.ac.jp/mci/en
- International Course in Urban and Regional Development in the Department of Urban Management: http://www.um.t.kyoto-u.ac.jp/urd/en