

Partial Change of Entrance Examination
(Summer 2019 Examination for Enrollment in April 2020)

Department of Civil and Earth Resources Engineering/Department of Urban Management
Graduate School of Engineering
Kyoto University

©“Oral Exam I” will be changed as described below. As the words “Oral Exam I/II (800 points)” are used in the following description, Oral Exam II will not be affected. Only Oral Exam I will be changed. This change will be applied from summer 2019 examination (for enrollment in April 2020).

Before Change :

Oral Exam I/II (800 points):

Oral Exam I will last approximately 20 minutes and will mainly focus on the applicants’ basic knowledge of specialized fields and mathematical knowledge. The fields correspond to the research that applicants intend to pursue after admission.

After Change :

Oral Exam I/II (800 points):

The Oral Exam I will last approximately 20 minutes and will mainly focus on **the applicants’ mathematical knowledge and basic knowledge on any of the specialized subjects listed below (Structural Mechanics, Hydraulics, Soil Mechanics, Planning and Management, and Earth Resources Engineering)**. The subjects correspond to the research that applicants intend to pursue after admission. **The table below shows the ranges of questions for each subject.**

Subject	Range of Questions
Mathematics	Calculus, Linear Algebra, Vector Analysis, Complex Functions, Fourier Transform, Laplace Transform, Differential Equations, Probability and Statistics
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

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
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
Planning and Management	Linear Programming, Nonlinear Programming, Dynamic Programming, Game theory, Network analysis, Cost-benefit analysis, Regression analysis, Urban and Regional Planning, Transportation Planning
Earth Resources Engineering	Mechanics and hydraulics in rock; Geological survey methods and resource geology; Principles, data processing/interpretation in geophysical exploration using seismic, electrical, and electromagnetic methods

※Guidelines for International Applicants to the 2020 Master's Course Program will be announced in January 2019. Please make sure to check the guidelines for detailed information.

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