

**Master's degree minimum requirements**

**【Civil Engineering Program】**

Students shall be required to complete master thesis and to acquire at least 30 credits.

Students shall be required to pass intermediate presentation exam and final presentation.

“Advanced Civil and Environmental Engineering (2 credits)” and “Practice in Civil and Environmental Engineering (2 credits)” for master thesis can be included the requirements of 30 credits.

Master's candidate must fulfill the requirements of “Registration Information” .

**【Graduate school of Engineering】**

Master thesis & 30 credits listed below;

1. 6 or more credits from “Advanced Subjects” are to be included in the total credits.
2. 6 or more credits from “Advanced Specialized Subjects” are to be included in the total credits.
3. 6 or more credits from “Professional Skill Development” are to be included in the total credits.

	Fall 2021		Spring 2022		Fall 2022		Spring 2023	
	Autumn	Winter	Spring	Summer	Autumn	Winter	Spring	Summer
<b>Master theis</b>	(Review) (Plan)					(Intermediate presentation exam)		Final presentation
<b>Advanced Subject (Min. 6 credits)</b>			Advanced Data Analysis (2☆)♦J(E) Field Survey Method (2☆)♦J(E) Research Planning (2☆)♦J(E) Numerical Analysis (2☆) E Geo-Spatial Information Science (2☆)♦J(E) Advanced Earthquake Engineering (2☆) E Urban Engineering & Economics (2☆) E					Advanced Civil and Environmental Engineering (2◇) Practice in Civil and Environmental Engineering (2◇)
<b>Advanced Specialized Subjects (Min. 6 credits)</b>								
<b>Structural &amp; material</b>	Technics of Seismic Isolation and Structural Control (2◎) E		Advanced Concrete Engineering (2◎) E Advanced Structural Analysis (2◎) E		Advanced Steel Structures (2◎) E			
<b>Geotechnical</b>	Advanced Foundation Design and Constructions (2◎) E		Risk Management in Natural Disaster Prevention (2◎) E		Advanced Geotechnical Modeling and its Application (2◎) E		Geo-environmental System Engineering (2◎) E Mechanics of Geomaterials (2◎) E	
<b>Hydraulic &amp; water resources</b>	Environmental Fluid Mechanics (2◎) E				Advanced Ocean and Coastal Engineering(2◎) E		River Engineering (2◎) E	
<b>Planning</b>	Land Development and Disaster Risk Management in Japan (2◎) E		Practical Application of Aesthetic Design in Civil Engineering (2◎) E		Urban Development Project (2◎) E		Urban Transport Planning (2◎) E	
<b>Environmental</b>	Material Cycles and Waste Management(2◎) E Advanced Ecological Engineering (2◎) E		Environmental Planning (2◎) E Groundwater Environmental Systems(2◎) E				Biological Water Quality Control Engineering (2◎) E	
<b>Professional Skill Development (Min. 6 credits)</b>	Presentation Exercise (2◇) E Internship Program (2◇)	Problem Solution Seminar B (2◇) E(J)	Practice in Environmental Studies (2◇) J(E)					

**Legend**

Subject: Advanced Data Analysis (2☆) E

Thick line : compulsory  
Thin line : elective

Language:  
J : Japanese-based  
E : English-based  
J(E) : Japanese & English  
E(J) : English & Japanese

Credit(s): ☆, ◎, ◇

Category:  
☆: Advanced  
◎: Advanced specialized  
◇: Professional skill developments