

**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 2022		Spring 2023		Fall 2023		Spring 2024	
	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
<b>Advanced Specialized Subjects (Min. 6 credits)</b>								
<b>Structural &amp; material</b>	Advanced Steel Structures (2◎) E				Technics of Seismic Isolation and Structural Control (2◎) E		Advanced Concrete Engineering (2◎) E	Advanced Structural Analysis (2◎) E
<b>Geotechnical</b>	Advanced Geotechnical Modeling and its Application (2◎) E Geo-disaster Prevention and Mitigation (2◎) E		Geo-environmental System Engineering (2◎) E Mechanics of Geomaterials (2◎) E		Advanced Foundation Design and Constructions (2◎) E		Risk Management in Natural Disaster Prevention (2◎) E	
<b>Hydraulic &amp; water resources</b>	Advanced Ocean and Coastal Engineering(2◎) E			River Engineering (2◎) E			Environmental Fluid Mechanics (2◎) E	
<b>Planning</b>	Urban Development Project (2◎) E Land Development and Disaster Risk Management in Japan (2◎) E		Urban Transport Planning (2◎) E				Practical Application of Aesthetic Design in Civil Engineering (2◎) E	
<b>Environmental</b>			Biological Water Quality Control Engineering (2◎) E		Material Cycles and Waste Management(2◎) E Advanced Ecological Engineering (2◎) E		Environmental Planning (2◎) E Groundwater Environmental Systems(2◎) E	
<b>Professional Skill Development (Min. 6 credits)</b>		Problem Solution Seminar B (2◇) E(J) Presentation Exercise (2◇) E	Practice in Environmental Studies (2◇) J(E)					
	Internship Program (2◇)							

**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