

Department of Environmental Dynamics and Management (Master's Program)

Segment	Class Subject	Credit	Grade	Registration and Requirement		
Compulsory	Research for Academic Degree Dissertation *	8	1 • 2	○Registration		
	Science Seminar (A) (Note <sup>1</sup> ) *	2	1 • 2			
Compulsory but optional	① Science and Engineering Ethics	1	1 or 2	1 Compulsory 10 Credits * No need to register by the students.		
	② General Biosphere Science (1)	2	1 or 2			
	③ General Biosphere Science (2)	2	1 or 2			
	④ Graduate general education subjects (Basic) (Note <sup>2</sup> )	1 or 2	1 or 2			
	Select 1 subject from ①-④ above				2 Compulsory but optional 12 Credits (Should be selected after discussion with the Academic Supervisor)	
	Basic subjects					
	Main Issue of Biogeochemical Cycling in Terrestrial Ecosystems under Warming					● 1 subject from the basic subjects 1 or 2 credits
	Atmosphere-Hydrosphere Dynamics II					※ Excess credits over 1 obtained from the basic subjects can be counted as those of the optional subjects.
	Environmental Analytical Chemistry of Atmosphere and Hydrosphere					From the Core Subjects
	Advance in Aquatic Environmental Ecology					
	Numerical Model Analysis of Marine Ecosystem (Fundamental Course)					● Exercise designated by the Academic Supervisor 2 Credits
	Plant Nutritional Ecology					● Practice designated by the Academic Supervisor (Experiment/Practice) 1 Credit
	Introduction to Molecular Physiology of Plant Nutrition					● Other Core subjects than those above 8 Credits
	Management of Coastal Ocean Environment in Seto Inland Sea					
	Management of Coastal Marine Environment					※ Excess credits over eight obtained from the core subjects can be counted as those of the optional subjects.
	Agricultural Meteorology II					3 Optional 8 Credits or more
	Applied Biocontrol					
	Exercises in Modeling and Management of Environmental Dynamics(A)					Should be selected from list of class subjects in this Graduate School. In addition, up to five credits obtained from class subjects provided by other graduate school can be incorporated.
	Practice in Modeling and Management of Environmental Dynamics					
	Marine Ecosystem Dynamics					
	Food Chain Dynamics					
	Marine Microbial Dynamics					
	Biology of Symbioses between Marine Animals and Microorganisms II					
	Deep Sea Ecology II					
	Deep-Sea Biology II					
	Conservation and Management of Seagrass, Algae and Tidal-flat Ecosystems-II					
	Evaluation of Plant Environment					
Assessment of Nutrient Cycling in Soil Ecosystem						
Evaluation of Soil Environment						
Assessment of Soil Microbial Environments						
Exercises in Assessment of Environmental Dynamics (A)						
Practice in Assessment of Environmental Dynamics						
				○Requirement for completion		
				1 Specialized subjects Compulsory 10 Credits Compulsory but optional 12 Credits Optional 8 Credits or more Total 30 Credits or more		
				2 Research Guidance		
				3 Master's Thesis		

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Optional	Introduction to Biogeochemical Cycling in Terrestrial Ecosystems under Warming	1	1 or 2	
	Exercises in Environmental Education	1	1 or 2	
	Atmosphere-Hydrosphere Dynamics I	1	1 or 2	
	Practicum in Environmental Analytical Chemistry of Atmosphere and Hydrosphere	1	1 or 2	
	Introduction to Aquatic Environmental Ecology	1	1 or 2	
	Numerical Model Analysis of Marine Ecosystem (Applied Course)	1	1 or 2	
	Applied Techniques in Plant Nutritional Physiology and Ecology	1	1 or 2	
	Exercises in Molecular Physiology of Plant Nutrition	1	1 or 2	
	Introduction for Management of Coastal Ocean Environment in Seto Inland Sea	1	1 or 2	
	Management of Coastal Marine Environment (Introduction)	1	1 or 2	
	Agricultural Meteorology I	1	1 or 2	
	Introductory Biocontrol	1	1 or 2	
	Introduction to marine ecosystem dynamics	1	1 or 2	
	Exercises in Food Chain Dynamics	1	1 or 2	
	Marine Microbial Dynamics Practice	1	1 or 2	
	Biology of symbioses between marine animals and microorganisms I	1	1 or 2	
	Deep Sea Ecology I	1	1 or 2	
	Deep-Sea Biology I	1	1 or 2	
	Conservation and Management of Seagrass, Algae and Tidal-flat Ecosystems I	1	1 or 2	
	Evaluation of Plant Environment: Introduction	1	1 or 2	
Introduction to Assessment of Nutrient Cycling in Soil Ecosystem	1	1 or 2		
Practical Exposition for Evaluation of Soil Environment	1	1 or 2		
Exercises in Assessment of Microbial Environments	1	1 or 2		

Note<sup>1</sup> See details in "Notes on Course Registration (1)".

Note<sup>2</sup> Select 1 subject in the lists of the "Graduate general education subjects (Basic)".