

Course Title	Credits	Semester	Course Classification	Course No.
Nature of Japan - Environmental Monitoring and Preservation -	2	Spring	Elective	S-13
Instructors	Suitable Number of Students		Keywords	
Ken-ichiro Muramoto (Faculty of Engineering) Kazuichi Hayakawa (Faculty of Pharmaceutical Sciences) Naoto Kamata (Faculty of Science) Takuya Kawanishi (Faculty of Engineering) Masayuki Mikage (Faculty of Pharmaceutical Sciences) Mamoru Kubo (Faculty of Engineering)	Maximum 20		Natural environment, Monitoring, Vegetation, Water pollution, Air pollution	
Course Subject				
Introduction to environmental science with special emphasis on monitoring associated with deforestation, desertification, and air and water pollution. Students will become familiar with basic and applied concepts in ecology, hydrology, soils, and vegetation at various scales.				
Purpose of Course				
The objective of this course is to familiarize the students with basic functions and values of natural environment, with special emphasis on environmental monitoring. Because of the interdisciplinary nature of the topic, it was imperative that the course be taught by several instructors specializing in specific areas, including pharmacology, botany, ecology, pedology, hydrology, and image processing. Although the team approach places some burden on the students, because of varying teaching styles of individual instructors, the students also benefit immensely from this approach of expertise in each discipline.				
Goal of Study				
Understand what natural environment is and why it is important. Understand the threats to environment and how they are addressed. Become familiar with the focus and purposes of environmental monitoring. Become familiar with global environment issues, methods, limitations and challenges.				
Outline of Course				
Week 1: Land and nature of Japan Week 2: Preservation of the natural environment Week 3: Environmental science and technology Week 4: Wild fauna and flora in Japan plus world natural heritage in Japan Week 5: Nature of Ishikawa: Climate and wild fauna and flora Week 6: Forest decline Week 7: Demonstration of GIS (Geographical Information System) for vegetation analysis		Week 8: Demonstration of acquirement of satellite data using NOAA receiving system. Week 9: Nature of water in Japan and how it affected our food and Sake or rice wine Week 10: Pollution of water and soil environment in Japan: a brief history Week 11: Monitoring the water and soil environment. Week 12: Environmental problems in Pan-Japan sea area Week 13: Health effects of atmospheric pollutants Week 14: Medicinal plant resources and environment		
Grading				
The grading will be based on participation in lectures and discussions, research presentation and reports. There will be no exams. The course grading breakdown is: Lecture participation 30% Discussion participation 30% Research presentation 20% Research reports 20%				
Textbooks				
Required Books: None. Study Materials: Each lecturer will provide copies of his materials. Supplemental Reading: D. Botkin, E. Keller: Environmental Science, John Willy and Sons, Inc.,				
In Addition				
Office Hours				
If you have any questions, don't hesitate to contact the lecturers via email. Ken-ichiro Muramoto: muramoto@t.kanazawa-u.ac.jp Mamoru Kubo: kubo@is.t.kanazawa-u.ac.jp Naoto Kamata: kamatan@kenroku.kanazawa-u.ac.jp Masayuki Mikage: mikage@mail.p.kanazawa-u.ac.jp Takuya Kawanishi: kwanisi@t.kanazawa-u.ac.jp Kazuichi Hayakawa: hayakawa@p.kanazawa-u.ac.jp				