

[Title]			[Instructor]		
Social Practice of Civil Management and Engineering			each academic supervisor		
[Code]	[Credits]	[Program]	[Semester]	[Hours]	[Language of instruction]
GTC502	2	Civil and Environmental Engineering	2nd Semester	Wed./V	Japanese
[Outline and purpose]					
Practical training to enhance the experience to work with the workers/people who are engaging social/local project.					
[Objectives]					
To learn the practical aspect of civil/environmental management and communication.					
[Requirements]					
Nothing special					
[Evaluation]					
Report (50%), Evaluation by the Counterpart (Project Manager)(50%)					
[Textbooks]					
To be designated by each instructor, if necessary.					
[References]					
Nothing special					
[Schedule]					
<ol style="list-style-type: none"> 1. Basic survey on the project 2. To learn about present situation of the project 3. Analysis of present situation of the project 4. Clarification of the problem of the project 5. Survey required to solve the problem of the project 6. Listing up of solutions of the project problem 7. Selection of effective solution methods 8. Join the project(1) Understanding of present situation 9. Join the project(2) Explanation of pre-survey 10. Join the project(3) Clarification of problem 11. Join the project(4) Discussion 12. Join the project(5) Presentation of solution 13. Join the project(6) Scenario making 14. Join the project(7) Final decision 15. Presentation 					

[Title]			[Instructor]		
Environmental Preservation Engineering			Hidehiro Kaneko / Kazuhiro Mori / Keiko Hirayama		
[Code]	[Credits]	[Program]	[Semester]	[Hours]	[Language of instruction]
GTC508	2	Civil and Environmental Engineering	2nd Semester	Wed./I	Japanese English
[Outline and purpose]					
Learn about the management process and technology required for environmental engineer.					
[Objectives]					
Enhance the ability to propose the appropriate methods/plan for water/solid waste management.					
[Requirements]					
Basic knowledge about Chemistry, Biology and Environmental Engineering					
[Evaluation]					
Reports for Practical Works (100%)					
[Textbooks]					
Nothing special					
[References]					
Nothing special					
[Schedule]					
<ol style="list-style-type: none"> 1. Basic Concept of Waste Management 2. Collection and Transportation of Wastes 3. Incineration and Environmental Protection 4. Landfill and Environmental Protection 5. Practice on Waste Management 6. Basic Concept of Water Quality Management 7. Physicochemical Water Treatment Methods 8. Biological Water Treatment Methods 9. WQM and Environmental Preservation 10. Practice on Water Quality Management 11. Basic Concept of Environmental Remediation 12. Microbiological Remediation 13. Phyto-Remediation 14. Environmental Remediation and Environmental Conservation 15. Practice on Environmental Remediation 					

[Title]			[Instructor]		
Seminar in Civil and Environmental Engineering IA			all academic supervisors		
[Code]	[Credits]	[Program]	[Semester]	[Hours]	[Language of instruction]
GTC601	1	Civil and Environmental Engineering	1st Semester		Japanese English
[Outline and purpose]					
Training in order to acquire the skills required for clarifying the research/project theme is done under the supervisor group. Seminar will be held periodically and presentation and discussion will be made among supervisors and students. By doing so, skills of analysis and communication are trained, and acquire the practical and international viewpoint.					
[Objectives]					
To acquire the skills required for clarifying the research theme during master course.					
[Requirements]					
Fundamental skills and knowledge of civil and environmental engineering.					
[Evaluation]					
Based on the presentation and discussion in the seminar.					
[Textbooks]					
To be designated by supervisors					
[References]					
Nothing special					
[Schedule]					
<ol style="list-style-type: none"> 1. Collection of possible themes 2. Classification of themes 3. Consideration on the relationship between themes 4. Explanation of selected theme 5. Consideration on the literature and data collection method 6. Literature survey for previous related research/project 7. Summary of literature survey 8. Consideration of the relationship between literatures 9. Explanation of relationship between theme and literature 10. Further survey to obtain fundamental understanding of previous research/project 11. Summary of fundamental understandings 12. Further survey to obtain extended understanding of previous research/project 13. Summary of extended understandings 14. Setting of concrete theme 15. Presentation and discussion 					

[Title]			[Instructor]		
Seminar in Civil and Environmental Engineering IB			all academic supervisors		
[Code]	[Credits]	[Program]	[Semester]	[Hours]	[Language of instruction]
GTC602	1	Civil and Environmental Engineering	2nd Semester		Japanese English
[Outline and purpose]					
Training in order to obtain science communication skill is done under the supervisor group. Skills of summing-up the research/project, oral presentation, composition, and discussion, which are required for engineers, will be trained.					
[Objectives]					
To obtain science/engineering composition technique in Japanese/English by doing preparatory research on the theme chosen in "Seminar in Civil and Environmental Engineering IA".					
[Requirements]					
Fundamental skills and knowledge of civil and environmental engineering.					
[Evaluation]					
Based on the presentation and discussion in the seminar.					
[Textbooks]					
To be designated by supervisors					
[References]					
Nothing special					
[Schedule]					
<ol style="list-style-type: none"> 1. Literature survey to write introduction in Japanese 2. Composition of introduction in Japanese 3. Proposition of solving method 4. Preparatory survey based on the method in 3 5. Reconsideration of survey method 6. Preparatory survey based on the method in 5 7. Presentation of the composed article 8. Literature survey to write conclusions of the theme 9. Composition of conclusions in Japanese 10. Literature survey to write the introduction in English 11. Classification/filing of literature 12. Composition of introduction in English 13. Literature survey to write conclusions in English 14. Classification/filing of literature 15. Composition of conclusions in English 					

[Title]			[Instructor]		
Research Work in Civil and Environmental Engineering IA			all academic supervisors		
[Code]	[Credits]	[Program]	[Semester]	[Hours]	[Language of instruction]
GTC605	2	Civil and Environmental Engineering	1st Semester		Japanese English
[Outline and purpose]					
Goal of this subject is preparation for master thesis. Find suitable research theme under the supervision of several supervisors. By collecting and reading related literatures, obtain fundamental knowledge and skill required for research.					
[Objectives]					
To obtain fundamental research ability required for the research in master course.					
[Requirements]					
Fundamental skills and knowledge of civil and environmental engineering					
[Evaluation]					
Based on the presentation and discussion in the seminar.					
[Textbooks]					
To be designated by supervisors					
[References]					
Nothing special					
[Schedule]					
<ol style="list-style-type: none"> 1. How to choose research theme? 2. Collection of literature and other information related with research theme 3. How to collect literature/information? 4. Survey for previous researches in Japanese 5. Survey for previous researches in foreign languages 6. Survey for previous researches 7. Study on fundamental knowledge concerning Engineering 8. Study on fundamental knowledge concerning Natural Science 9. Study on fundamental knowledge concerning Social Science 10. Reading and explaining of collected literatures 11. Reading and explaining of collected literatures 12. Reading and explaining of collected literatures 13. Reading and explaining of collected literatures 14. Reading and explaining of collected literatures 15. Summarization 					

[Title]			[Instructor]		
Research Work in Civil and Environmental Engineering IB			all academic supervisors		
[Code]	[Credits]	[Program]	[Semester]	[Hours]	[Language of instruction]
GTC606	2	Civil and Environmental Engineering	2nd Semester		Japanese English
[Outline and purpose]					
Goal of this subject is preparation for master thesis. Find suitable research theme under the supervision of several supervisors. By collecting and reading related literatures, obtain fundamental knowledge and skill required for research.					
[Objectives]					
To obtain fundamental research ability required for the research in master course.					
[Requirements]					
Fundamental skills and knowledge of civil and environmental engineering					
[Evaluation]					
Based on the presentation and discussion in the seminar.					
[Textbooks]					
To be designated by supervisors					
[References]					
Nothing special					
[Schedule]					
<ol style="list-style-type: none"> 1. How to choose advanced research theme 2. Literature collection on previous advanced research 3. How to collect literature/relative information 4. Literature survey (Japanese papers) 5. Literature survey (Foreign papers) 6. Literature survey (Others) 7. Study on fundamental knowledge concerning Engineering 8. Study on fundamental knowledge concerning Natural Science 9. Study on fundamental knowledge concerning Social Science 10. Reading and explaining of collected literatures 11. Reading and explaining of collected literatures 12. Reading and explaining of collected literatures 13. Reading and explaining of collected literatures 14. Reading and explaining of collected literatures 15. Summarization 					