



SEMESTER STUDY PLAN

Study program: Master of Environmental Science

Faculty: Graduate School

Subject:	Research I	Code: CIL-8-133	Credit: 5 (12 ECTS)	Sem:1
Supporting lecturer:	Supervisor Co-supervisor			
Learning Outcomes Subject:	<ul style="list-style-type: none"> Students are able to compile or design (C6) research I in one of the research fields (Abiotic, Biotic and Cultural). Students are able to explain (C2) the linkage of components A (Abiotic), B (Biotic) or C (Culture) in the development of environmental science and or solving environmental problems. Students are able to analyze (C4) one of the components of A (Abiotic), or B (Biotic), or C (Culture) in the development of environmental science and or solving environmental problems. Students are able to arrange (C6) research II on one of the components A (Abiotic), or B (Biotic), or C (Culture) in the development of environmental science and or solving environmental problems. 			
Short Description of Courses:	This Research Course I discusses research preparation I emphasizes observing component A (Abiotic), or component B (Biotic) and component C (Culture) in the development of environmental science and or solving environmental problems.			

1	2	3	4	5	6	7	
Week	Final Ability of each learning stage	Study Materials/ Subjects	Learning methods	Time	Student Learning Experience	Evaluation	
						Criteria & Indicators	Weight (%)
1.	Able to explain and prepare research implementation 1	Fundamental concept of research implementation	Discussion, Field and Laboratory Practice	220 minutes (0.75 ECTS) Consist of: • Supervisor/Co.Supervisor discussion = 2x 50 minutes • laboratory/studio = 2 hours/day	Discussion and Q&A	Activeness and Punctuality	5
2.	Able to carry out research 1, collect field data	Understand the standards, manuals, and guidelines for	Discussion, Field and Laboratory Practice	220 minutes (0.75 ECTS) Consist of: • Discussion	Discussion and Q&A	Activeness and Punctuality	5

		conducting research II		<i>Supervisor/Co.Supervisor = 2x 50 minutes</i> • <i>laboratory/studio = 2 hours/day</i>			
3.	Able to analyze field data-Regional profile assistance	Analysis of problems in topics based on field conditions	Discussion, Field and Laboratory Practice	220 minutes (0.75 ECTS) Consist of: • <i>Discussion Supervisor/Co.Supervisor = 2x 50 minutes</i> • <i>laboratory/studio = 2 hours/day</i>	Discussion and Q&A	Activeness and Punctuality	5
4.	Able to classify field data	Research guidance and evaluation includes research preparation and implementation techniques	Discussion, Field and Laboratory Practice	220 minutes (0.75 ECTS) Consist of: • <i>Discussion Supervisor/Co.Supervisor = 2x 50 minutes</i> • <i>laboratory/studio = 2 hours/day</i>	Discussion and Q&A	Activeness and Punctuality	5
5.	Able to analyze components A (Abiotic) , or B (Biotic) , or C (Culture)	Research guidance and evaluation includes research preparation and implementation techniques	Discussion, Field and Laboratory Practice	220 minutes (0.75 ECTS) Consist of: • <i>Discussion Supervisor/Co.Supervisor = 2x 50 minutes</i> • <i>laboratory/studio = 2 hours/day</i>	Discussion and Q&A	Activeness and Punctuality	5
6.	Able to analyze field data-Comprehensive analysis assistance	Research guidance and evaluation includes research preparation and	Discussions, Field and Laboratory Practices and presentations	220 minutes (0.75 ECTS) Consist of: • <i>Discussion Supervisor/Co.Supervisor = 2x 50 minutes</i> • <i>laboratory/studio =</i>	Discussion and Q&A	Activeness and Punctuality	5

		implementati on techniques		2 hours/day			
7.	Able to analyze field data- Assistance on study findings	Research guidance and evaluation includes research implementati on and research data	Discussions, Field and Laboratory Practices and presentations	220 minutes (0.75 ECTS) Consist of: • Discussion Supervisor/Co.Supervisor = 2x 50 minutes • laboratory/studio = 2 hours/day	Discussion and Q&A	Activeness and Punctuality	5
8.	UTS	Can be done in accordance with the agreement with the supervisor including UTS is the implementation of Conferences and Seminars Equivalent to 35 working hours					
9	Able to analyze the relationship of field data	Research guidance and evaluation includes research implementati on and research data	Discussion, Practice Field and Laboratory and presentation	220 minutes (0.75 ECTS) Consist of: • Discussion Supervisor/Co.Supervisor = 2x 50 minutes • laboratory/studio = 2 hours/day	Discussion and Q&A	Activeness and Punctuality	5
10	Able to analyze data linkages including components A (Abiotic), or B (Biotic), or C (Culture) by solving environmental problems observed based on theories	Guidance and evaluation of the latest developments in field data analysis	Discussion and Q&A	220 minutes (0.75 ECTS) Consist of: • Discussion Supervisor/Co.Supervisor = 2x 50 minutes • laboratory/studio = 2 hours/day	Discussion and Q&A	Activeness and Punctuality	10
11	Able to analyze field data analysis-Review the completeness of the draft discussion session	Research data processing techniques II	Discussion and Q&A	220 minutes (0.75 ECTS) Consist of: • Discussion Supervisor/Co.Supervisor = 2x 50 minutes • laboratory/studio = 2 hours/day	Discussion and Q&A	Activeness and Punctuality	10

12	Able to prepare review data for the completeness of the discussion session draft	Guidance and evaluation of the development of data processing with software	Discussion and Q&A	220 minutes (0.75 ECTS) Consist of: • <i>Discussion Supervisor/Co.Supervisor = 2x 50 minutes</i> • <i>laboratory/studio = 2 hours/day</i>	Discussion and Q&A	Activeness and Punctuality	10
13	Able to interpret field data	Data statistics and interpretation	Discussion and Q&A	220 minutes (0.75 ECTS) Consist of: • <i>Discussion Supervisor/Co.Supervisor = 2x 50 minutes</i> • <i>laboratory/studio = 2 hours/day</i>	Discussion and Q&A	Activeness and Punctuality	10
14	Able to interpret field data and analyze data linkages based on theories	Guidance and evaluation related to statistical data results and interpretation	Discussion and Q&A	220 minutes (0.75 ECTS) Consist of: • <i>Discussion Supervisor/Co.Supervisor = 2x 50 minutes</i> • <i>laboratory/studio = 2 hours/day</i>	Discussion and Q&A	Activeness and Punctuality	10
15	Able to write research reports 1	Report writing	Discussion and Q&A	220 minutes (0.75 ECTS) Consist of: • <i>Discussion Supervisor/Co.Supervisor = 2x 50 minutes</i> • <i>laboratory/studio = 2 hours/day</i>	Discussion and Q&A	Activeness and Punctuality	10
16	UAS	Can be done in accordance with the agreement with the supervisor including the implementation of Conferences and Seminars Equivalent to 45 working hours					
8.Reference List:		1. YK Sing, Environmental Science, 2006, New Age International Publisher. Access from https://www.hzu.edu.in/bed/E%20V%20S.pdf 2. Khoiyangbam, RS, and N Gupta. 2012. Introduction to Environmental Sciences. New Delhi: TERI					

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| | <ol style="list-style-type: none">3. Bojie Fu, Yanxu Liu, Yan Li, Cong Wang, Changjia Li, Wei Jiang, Ting Hua, Wenwu Zhao, 2021, The research priorities of Resources and Environmental Sciences, Geography and Sustainability, Volume 2, Issue 2, Pages 87-94,https://doi.org/10.1016/j.geosus.2021.04.001.4. Nikolai Attard, 2018, WASP (Write a Scientific Paper): Writing an academic research proposal, Early Human Development, Volume 123, Pages 39-41,https://doi.org/10.1016/j.earlhumdev.2018.04.011. |
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