

## Module Handbook

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### MSc in Geography of Environmental Risks and Human Security

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**JM1 Theories and Concepts of Risk**

Module: <b>Theories and Concepts of Risk</b>				
Module Number <b>JM1</b>	Workload 180 h	Credit Points 6 CP	Duration 1 Semester	Frequency every year
Module Responsibility	UNU-EHS			
Module Coordinator	Dr. M. Garschagen			
Lecturers	Lecturers from UNU-EHS & Geography at University of Bonn			
Classification	Programme		Modus	Semester
	MSc Geography of Environmental Risks & Human Security		Compulsory	1
Objectives	<ul style="list-style-type: none"> <li>Ability to understand, reproduce and apply key concepts and theories of risk, vulnerability, resilience and adaptation to critically engage with and examine environmental risks and societal vulnerability in relation to human security</li> </ul>			
Key competencies	<ul style="list-style-type: none"> <li>Ability to discuss different concepts and theoretical perspectives on risk with the other course participants</li> <li>Capacity to operationalize and analyse risk related issues using relevant theoretical framings</li> </ul>			
Contents	<ul style="list-style-type: none"> <li>Introduction into key concepts and theories of vulnerability, risk, resilience, adaptation and human security</li> <li>Paradigm shifts from “natural hazards” to “social vulnerability” and “complex emergencies”</li> <li>Discussion of the main drivers of risk and vulnerability from local to global scales and between structure and agency</li> <li>Detailed discussion and analysis of selected case studies through applying key conceptual frameworks</li> <li>Overview of key discourses and policy processes dealing with vulnerability, risk and resilience – including respective international organizations (IPCC, UNFCCC, UNISDR)</li> </ul>			
Prerequisites	None			
Courses	Teaching Unit, Group Size		Hours per week	Workload [h]
	1 Seminar Theories and Concepts of Risk (24)		2	180
Examination	Examination mode		graded /non-graded	
	Written Exam		graded	
Assignments	Active in-class discussion and participation, group-work and presentation		graded /non-graded	
			non-graded	

**JM2 General Approaches to Risk & Human Security**

Module: <b>General Approaches to Risk &amp; Human Security</b>				
Module Number <b>JM2</b>	Workload 360 h	Credit Points 12 CP	Duration 1 Semester	Frequency every year
Module Responsibility	GIUB, Uni Bonn			
Module Coordinator	Prof. Dr. J. Verne			
Lecturers	Lecturers from Geography at University of Bonn & UNU-EHS			
Classification	Programme		Modus	Semester
	MSc Geography of Environmental Risks & Human Security		Compulsory	1
Objectives	<ul style="list-style-type: none"> <li>• Knowledge about different theoretical approaches to society and development and major paradigmatic turns</li> <li>• Knowledge about fundamental concepts of Earth System Science</li> <li>• Understanding of relevant social theories and earth surface processes for the analysis of risk &amp; human security in development contexts</li> </ul>			
Key competencies	<ul style="list-style-type: none"> <li>• Ability to differentiate and discuss key concepts in development geography</li> <li>• Ability to differentiate and discuss key concepts of Earth System Science</li> </ul>			
Contents	<p><b>New Approaches to Development Geography</b></p> <ul style="list-style-type: none"> <li>• The characteristics of development geography as a subdiscipline</li> <li>• Different theoretical approaches and paradigmatic shifts</li> <li>• New theoretical approaches and interdisciplinary links</li> <li>• Key themes in geographic research of development and risk</li> </ul> <p><b>and</b></p> <p><b>Earth System Science</b></p> <ul style="list-style-type: none"> <li>• Concepts and fundamental processes in and between the atmosphere, pedosphere, biosphere, hydrosphere, lithosphere, and cryosphere</li> <li>• Characteristics of geosystems</li> <li>• Scales in Earth System Science</li> <li>• Indicators and impacts of global warming (e.g. cryosphere, hydrosphere) and global environmental change</li> </ul>			
Prerequisites	None			
Courses	Teaching Unit, Group Size		Hours per week	Workload [h]
	1 Seminar New Approaches to Development Geography (24)		2	180
	1 Seminar Earth System Science (24)		2	180
Examination	Examination mode		graded /non-graded	
	In one of the seminars Presentation 40%, Essay 60% Both parts have to be passed.		graded	
Assignments	Active in-class discussion and participation, group-work and moderation		graded /non-graded	
			non-graded	

## JM3 Research Methods I

Module: <b>Research Methods I</b>						
Module Number <b>JM3</b>	Workload 180 h	Credit Points 6 CP	Duration 1 Semester	Frequency every year		
Module Responsibility	GIUB, Uni Bonn					
Module Coordinator	Prof. Dr. K. Greve					
Lecturers	Lecturers from Geography at University of Bonn & UNU-EHS					
Classification	Programme		Modus	Semester		
	MSc Geography of Environmental Risks & Human Security		Compulsory	1		
Objectives	<ul style="list-style-type: none"> <li>Theoretical knowledge of selected research methodologies</li> <li>Ability to design an empirical research project according to selected methodologies</li> <li>Knowledge about appropriate methods for analysing empirical data/material</li> </ul>					
Key competencies	<ul style="list-style-type: none"> <li>Ability to assess and critically argue for or against selected research methodologies in relation to theoretical perspectives and concrete research questions</li> <li>Awareness of intercultural, postcolonial and ethical issues in research practice</li> <li>Ability to handle empirical data/material, interpret/analyse and structure it</li> <li>Ability to select and apply appropriate tools and methodologies for data generation in an interdisciplinary context</li> </ul>					
Contents	<ul style="list-style-type: none"> <li>Epistemological considerations and theoretical background of selected methodologies</li> <li>Potential and limits of selected research methods</li> <li>Focus on e.g. qualitative methodologies, discourse analysis, ethnography, text analysis, visual methods, digital methods, project planning &amp; evaluation, quantitative methods, GIS, remote sensing, inter- or transdisciplinary methods, as well as methods used in physical geography such as geomorphological approaches, dendroecology or hydrological modelling.</li> </ul>					
Prerequisites	None					
Courses	Teaching Unit, Group Size			Hours per week	Workload [h]	CP
	1 Seminar on Research Methods I (24)			2	180	6
Examination	Examination mode			graded /non-graded		
	Presentation 40%, Essay 60% Both parts have to be passed.			graded		
Assignments	Active in-class discussion and participation, group-work, moderation and exercises			graded /non-graded		
				non-graded		

**JM4 Academic & Intercultural Skills**

Module: <b>Academic &amp; Intercultural Skills</b>				
Module Number <b>JM4</b>	Workload 180 h	Credit Points 6 CP	Duration 1 Semester	Frequency every year
Module Responsibility	UNU-EHS			
Module Coordinator	Dr. Z. Sebesvari			
Lecturers	Lecturers from UNU-EHS & Geography at University of Bonn			
Classification	Programme		Modus	Semester
	MSc Geography of Environmental Risks & Human Security		Compulsory	1
Objectives	<ul style="list-style-type: none"> <li>• High familiarity with academic argumentation in writing &amp; presentation</li> <li>• Experience with target group oriented presentations and moderations</li> <li>• Knowledge of relevant search engines, journal databases etc. for academic literature research</li> </ul>			
Key competencies	<ul style="list-style-type: none"> <li>• Familiarity with the writing and structuring of essays,</li> <li>• Ability to communicate research outcomes in different ways (visually, textually, orally) to a variety of audiences and moderate/mediate between them</li> <li>• Ability to handle different media &amp; tools of presentation</li> </ul>			
Contents	<ul style="list-style-type: none"> <li>• Analyses of exemplary presentations, self- &amp; buddy-evaluation of class works</li> <li>• Standard formats of academic writing, esp. essays and journal articles</li> <li>• Principles &amp; tools of visualization in relation to accessible media</li> <li>• Rules, principles &amp; instruments of moderation</li> <li>• Time management, revising and proof-reading of academic work</li> <li>• Working in intercultural settings</li> </ul>			
Prerequisites	None			
Courses	Teaching Unit, Group Size		Hours per week	Workload [h]
	1 Seminar Intercultural & Moderation Skills (24)		1	90
		1 Seminar Academic Writing Skills (24)	1	90
Examination	Examination mode		graded /non-graded	
	None			
Assignments	Active in-class discussion and participation, individual exercises and group-work		graded /non-graded	
			non-graded	

**JM5 Advanced Debates on Risk & Human Security**

Module: <b>Advanced Debates on Risk &amp; Human Security</b>						
Module Number <b>JM5</b>	Workload 360 h	Credit Points 12 CP	Duration 1 Semester	Frequency every year		
Module Responsibility	GIUB, Uni Bonn					
Module Coordinator	Prof. Dr. M. Evers					
Lecturers	Lecturers from Geography at University of Bonn & UNU-EHS					
Classification	Programme		Modus	Semester		
	MSc Geography of Environmental Risks & Human Security		Compulsory	2		
Objectives	<ul style="list-style-type: none"> <li>• Practicing scientific discussion in the context of cutting-edge debates on particular dimensions of risk &amp; human security (more than 50%)</li> <li>• In-depth engagements with particular theoretical perspectives and key concepts in the natural and/or social sciences</li> </ul>					
Key competencies	<ul style="list-style-type: none"> <li>• Ability to participate in academic discourse and situate oneself in more specialized discussions related to risk &amp; human security</li> <li>• Interdisciplinary reflexion on socio-ecological and risk concepts</li> </ul>					
Contents	<p>Seminars offered in this module focus either on the environmental dimension or the human dimension of risks &amp; human security, depending on their basis in physical or human geography. Some seminars will try to integrate both perspectives.</p> <p><b>Environmental Dimension</b> - possible topics include:</p> <ul style="list-style-type: none"> <li>• The role of ecosystems for Disaster Risk Reduction</li> <li>• Socio-ecological systems and Ecosystem services</li> <li>• Development and characteristics of different types of natural hazards, forecast and prediction</li> <li>• Integrative concepts on natural hazards such as socio-hydrology</li> </ul> <p><b>Human Dimension</b> - possible topics include:</p> <ul style="list-style-type: none"> <li>• Different concepts of human-nature relationships</li> <li>• Knowledge and Ignorance</li> <li>• Global technologies in risk governance</li> <li>• Processes of securitization</li> </ul>					
Prerequisites	None					
Courses	Teaching Unit, Group Size		Hours per week	Workload [h]	CP	
	1 Seminar (human/environment/integrative) (24)		2	180	6	
		1 Seminar (human/environment/integrative) (24)		2	180	6
Examination	Examination mode		graded /non-graded			
	In both seminars Presentation 40%, Essay 60% Presentation 40%, Essay 60% Both parts have to be passed.		graded graded			
Assignments	Active in-class discussion and participation, group-work and moderation		graded /non-graded			
			non-graded			

**JM6 Practical Training**

Module: <b>Practical Training</b>					
Module Number <b>JM6</b>	Workload 360 h	Credit Points 12 CP	Duration 2 Semester	Frequency every year	
Module Responsibility	GIUB, Uni Bonn				
Module Coordinator	Prof. Dr. D. Müller-Mahn				
Lecturers	Lecturers from Geography at University of Bonn & UNU-EHS				
Classification	Programme		Modus	Semester	
	MSc Geography of Environmental Risks & Human Security		Compulsory	2+3	
Objectives	<ul style="list-style-type: none"> <li>Ability to design and assess practical procedures in risk &amp; disaster management in a small group</li> </ul>				
Key competencies	<ul style="list-style-type: none"> <li>Ability to work and communicate decision making processes in teams</li> <li>Knowledge and ability to discuss the potential and limitations of different workflows and simulation exercises</li> </ul>				
Contents	<p><b>Practical Training</b></p> <ul style="list-style-type: none"> <li>Examples of how geospatial technologies are used in the fields of risk management, disaster preparedness and response.</li> <li>SDI: Principles of interoperability and web based services, interface standards, esp. OWS, SOA</li> <li>Early Warning Systems and Geospatial technologies in support of Disaster Risk Reduction (DRR) and Emergency Response</li> <li>Scenario-based simulation exercise</li> <li>Safety and Security, UN eLearning course “Basic Security in the Field”</li> </ul>				
Prerequisites	None				
Courses	Teaching Unit, Group Size		Hours per week	Workload [h]	CP
	1 Practical Training (24)		2	360	12
Examination	Examination mode		graded /non-graded		
	Presentation 40%, Project Report 60% Both parts have to be passed.		graded		
Assignments	Active in-class discussion and participation, group-work and moderation		graded /non-graded		
			non-graded		

**JM6/JM7 Research Project**

Module: <b>Research Project</b>				
Module Number <b>JM6/JM7</b>	Workload 540 h	Credit Points 18 CP	Duration 2 Semester	Frequency every year
Module Responsibility	GIUB, Uni Bonn			
Module Coordinator	Prof. Dr. D. Müller-Mahn			
Lecturers	Lecturers from Geography at University of Bonn & UNU-EHS			
Classification	Programme		Modus	Semester
	MSc Geography of Environmental Risks & Human Security		Compulsory	2+3
Objectives	<ul style="list-style-type: none"> <li>• Ability to identify and work on relevant research questions independently</li> <li>• Ability to design and undertake a research project in a small group</li> <li>• Ability to select appropriate methods to adequately address the research question</li> <li>• Ability to interpret or analyse empirical material in relation to theoretical debates</li> <li>• Ability to communicate the research process and outcomes verbally, visually and in written form</li> </ul>			
Key competencies	<ul style="list-style-type: none"> <li>• Knowledge and experience to develop and pursue a research project, produce and analyse empirical material and present results</li> <li>• Ability to work and communicate research in teams</li> <li>• Critical reflection and creativity</li> </ul>			
Contents	The topics should be related to cutting-edge debates on risk & human security and will be derived from the spectre of contemporary geographic research in the Department of Geography in the fields of „governance & space“, „globalisation & development“, „environmental systems under change“ or GIS and remote sensing.			
Prerequisites	None			
Courses	Teaching Unit, Group Size		Hours per week	Workload [h]
	1 Research Seminar (24)		6	540
Examination	Examination mode		graded /non-graded	
	Presentation 40%, Project Report 60% Both parts have to be passed.		graded	
Assignments	Active in-class discussion and participation, group-work and moderation		graded /non-graded	
			non-graded	

**JM7 Research Methods II**

Module: <b>Research Methods II</b>				
Module Number <b>JM7</b>	Workload 180 h	Credit Points 6 CP	Duration 1 Semester	Frequency every year
Module Responsibility	GIUB, Uni Bonn			
Module Coordinator	Prof. Dr. K. Greve			
Lecturers	Lecturers from Geography at University of Bonn & UNU-EHS			
Classification	Programme		Modus	Semester
	MSc Geography of Environmental Risks & Human Security		Compulsory	2
Objectives	<ul style="list-style-type: none"> <li>Theoretical knowledge of selected research methodologies</li> <li>Ability to design an empirical research project according to selected methodologies</li> <li>Knowledge about appropriate methods for analysing empirical data/material</li> </ul>			
Key competencies	<ul style="list-style-type: none"> <li>Ability to assess and critically argue for or against selected research methodologies in relation to theoretical perspectives and concrete research questions</li> <li>Awareness of intercultural, postcolonial and ethical issues in research practice</li> <li>Ability to handle empirical data/material, interpret/analyse and structure it</li> <li>Ability to select and apply appropriate tools and methodologies for data generation in an interdisciplinary context</li> </ul>			
Contents	<ul style="list-style-type: none"> <li>Potential and limits of selected research methods</li> <li><i>Focus on GIS and Remote Sensing</i>: Data structures, mapping principles, projections, platforms, sensors, image processing etc.</li> <li>GIS and Earth Observation for disaster risk reduction</li> </ul>			
Prerequisites	None			
Courses	Teaching Unit, Group Size		Hours per week	Workload [h]
	1 Seminar on Research Methods II (24)		2	180
Examination	Examination mode		graded /non-graded	
	Practical Exercises		graded	
Assignments	Active in-class discussion and participation, group-work, moderation and presentation		graded /non-graded	
			non-graded	

**JM8 Fieldtrips**

Module: <b>Fieldtrips</b>					
Module Number <b>JM8</b>	Workload 180 h	Credit Points 6 CP	Duration 1 Semester	Frequency every year	
Module Responsibility	UNU-EHS				
Module Coordinator	Dr. M. Hagenlocher				
Lecturers	Lecturers from UNU-EHS & Geography at University of Bonn				
Classification	Programme		Modus	Semester	
	MSc Geography of Environmental Risks & Human Security		Compulsory	2	
Objectives	<ul style="list-style-type: none"> <li>• Insights in institutions working in the field of environmental risks &amp; human security</li> <li>• Learning from professionals actively engaged in the field of environmental risks &amp; human security</li> <li>• Ability to lead and participate in expert interviews</li> <li>• Learning the principles of geographic observation</li> </ul>				
Key competencies	<ul style="list-style-type: none"> <li>• Ability to apply theoretical and methodological knowledge in specific settings and professional working environments</li> </ul>				
Contents	Students have to take part in at least five days of fieldtrips. They will be organised to convey a deeper insight into topics relevant to the wider understanding of environmental risks & human security.				
Prerequisites	None				
Courses	Teaching Unit, Group Size		Hours per week	Workload [h]	CP
	Excursions (min. of 5 days) (24)		2	180	6
Examination	Examination mode		graded /non-graded		
	None				
Assignments	Preparatory reading and exercises, active discussion and participation, group-work, presentation		graded /non-graded		
			non-graded		

**JM9 Applied Topics on Risk & Human Security**

<b>Module: Applied Topics on Risk &amp; Human Security</b>				
Module Number <b>JM9</b>	Workload 360 h	Credit Points 12 CP	Duration 1 Semester	Frequency every year
Module Responsibility	UNU-EHS			
Module Coordinator	S. Kreft			
Lecturers	Lecturers from UNU-EHS & Geography at University of Bonn			
Classification	Programme		Modus	Semester
	MSc Geography of Environmental Risks & Human Security		Compulsory	3
Objectives	<ul style="list-style-type: none"> <li>Gain a profound understanding of how theoretical concepts are translated and adapted to practical concerns, economic considerations and humanitarian response mechanisms.</li> <li>Familiarity with major policy fora (international / UN, regional, national) to promote risk management and govern environmental risks</li> </ul>			
Key competencies	<ul style="list-style-type: none"> <li>Readiness to accept and constructively handle competing concepts of environmental governance and climate risk management and their implementation</li> <li>Comprehensive knowledge of structures, workflows, and practical challenges that international organizations, particularly UN organizations, are facing</li> </ul>			
Contents	<p>Possible course foci include:</p> <ul style="list-style-type: none"> <li>Basics and best practices in Disaster Management and Humanitarian Response</li> <li>Structures and mechanisms of national civil protection, EU and UN, other international organizations, NGO's, private sector</li> <li>Introduction of important international policy making processes (UNFCCC, Sendai, SDGs, G7, G20) and how they address and deal with issues like climate risk management.</li> <li>Concepts of hazard and exposure modelling and how to value benefits of adaptation measures based on the Economics of Climate Adaptation (ECA) method.</li> <li>Loss &amp; Damage</li> <li>Environmental Migration</li> <li>Climate Insurance</li> </ul>			
Prerequisites	None			
Courses	Teaching Unit, Group Size		Hours per week	Workload [h]
	1 Seminar on applied topics (24)		2	180
	1 Seminar on applied topics (24)		2	180
Examination	Examination mode		graded /non-graded	
	Written Exam Written Exam		graded graded	
Assignments	Active in-class discussion and participation, group-work, moderation and presentation		graded /non-graded	
			non-graded	

**JM10 Internship**

Module: <b>Internship</b>				
Module Number <b>JM10</b>	Workload 360 h	Credit Points 12 CP	Duration 8 weeks	Frequency every year
Module Responsibility	UNU-EHS			
Module Coordinator	K. Hattenbach			
Lecturers	Lecturers from UNU-EHS & Geography at University of Bonn			
Classification	Programme		Modus	Semester
	MSc Geography of Environmental Risks & Human Security		Compulsory	3
Objectives	<ul style="list-style-type: none"> <li>Understanding structures and workflows within national / international key organizations related to the topics of this Master Programme</li> <li>Professional experience within national / international organizations or collaborative networks</li> </ul>			
Key competencies	<ul style="list-style-type: none"> <li>Successful application of knowledge and skills acquired during the Master Programme within a professional working environment</li> </ul>			
Contents	<p>The internship may take place in any UN organisation, other national / international institutions, or an organisation working in thematic fields relevant to this programme. The placement in UN organisations is supported by UNU-EHS.</p> <p>Students choose their own work placement in fields relevant to this Master Programme</p>			
Prerequisites	None			
Courses	Teaching Unit, Group Size		Hours per week	Workload [h]
	Individual Internship in UN or other national / international organization		8 weeks	360
Examination	Examination mode		graded /non-graded	
	None			
Assignments	Internship proposal, final report		graded /non-graded	
			non-graded	

**8000 Master Thesis**

Module: <b>Master Thesis</b>					
Module Number <b>8000</b>	Workload 900 h	Credit Points 30 CP	Duration 1 Semester	Frequency every semester	
Module Responsibility	GIUB, Uni Bonn				
Module Coordinator	Prof. Dr. J. Verne				
Lecturers	Lecturers from UNU-EHS & Geography at University of Bonn				
Classification	Programme		Modus	Semester	
	MSc Geography of Environmental Risks & Human Security		Compulsory	4	
Objectives	<ul style="list-style-type: none"> <li>• Solve a well-defined, significant research problem under supervision, but in principle independently</li> <li>• Knowledge about theoretical, methodological and thematic context of the chosen research topic</li> <li>• Ability to argue convincingly according to scientific principles</li> </ul>				
Key competencies	<ul style="list-style-type: none"> <li>• Write a scientific documentation of considerable length according to established scientific principles of form and style, in particular reflecting solid knowledge about the state-of-the-art in the field</li> <li>• Time-management</li> </ul>				
Contents	<p>Topics of the Master Thesis may be chosen from any relevant field of the Master Programme's curriculum with approval from the supervisor</p> <p>All theses should include the development of a research focus, its theoretical and methodological contextualisation, a thorough discussion of relevant literature or the analysis/interpretation of (original) empirical material and conclusive thoughts.</p>				
Prerequisites	Min. of 60 CP must have been achieved within the Master Programme				
Courses	Teaching Unit, Group Size		Hours per week	Workload [h]	CP
	Independent preparation and writing of Master Thesis with individual supervision		6 months	900	30
Examination	Examination mode		graded /non-graded		
	Master Thesis		graded		
Assignments	Participation in Masterkolloquium at GIUB, Exposé		graded /non-graded		
			non-graded		