




- Module Handbook

Module Schedule “Global Health - Risk Management and Hygiene Policies”, Master of Science

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| First Year | Module M01: Basics of Public Health and Hygiene 6 LP | Module M02: Global Health beyond Infection 6 LP | Module M03: Prevention and Control of Infectious Diseases 6 LP | Module M04: Presentation and Writing Skills in Research 6 LP | Module M05: Health Systems and Health Management Structures 6 LP |
| | Module M06: Livestock and Food Safety through One Health Concept 6 LP | Module M07: Spatial Health Risk Assessment and Capacity Building in Public Health Action 6 LP | Module M08: Dimensions of Vulnerability and Risk Management 6 LP | Module M09: SDGs as Guiding Principles and Global Consent 6 LP | Module M10: Preparation for Research Projects and Leadership Development 6 LP |
| | Module M11: Internships 30 LP | | | | |
| | Module M12: Master thesis 30 LP | | | | |
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| Module: Basics of Public Health and Hygiene | | | | |  UNIVERSITÄT BONN |
| Module Number M 01 | Workload 180 | Credits 6 CP | Study year 1 (each WT¹) | Duration 5 weeks | Compulsory Course |
| Person(s) in charge of the module | Prof. Dr. Walter Bruchhausen | | | | |
| Unit offering the module | Section Global Health and Institute for Hygiene and Public Health (IHPH) | | | | |
| Applicability of the Module | Study Program | | | | Contact hours |
| | Global Health - Risk Management and Hygiene Policies, M. Sc. | | | | 60 |
| Learning Outcomes | <p>The students know the contested meanings of International, Global and Public Health, their main concepts and actors as well as the relevant academic disciplines and core values. They can use various indicators and tools in describing and explaining the health problems of different populations.</p> <p>The students are able to identify positive and negative effects of globalization in current health inequalities and appreciate the central importance of global health equity and the human right to health.</p> <p>The students have acquired detailed and differentiated knowledge of the hygiene concepts and historical aspects of a holistic approach in high income countries. They can analyze the determinants of Global and Public Health as measured by basic indicators (infrastructure, water supply and sanitation, energy, housing, climatic effect, healthy food, access to health services). Furthermore, they can describe current models of One Health.</p> <p>At the end of this module students are able to attribute health inequalities to different factors amenable by health protection and health promotion.</p> | | | | |
| Key competences | Applying instruments for describing, analyzing, evaluating and changing global health inequities. Able to characterize the determinants and risk factors for health in communities and societies. | | | | |
| Contents | <p>The seminar "Basics of Global Health" introduces into the recent shift from international to global health policies. It familiarizes with the series of concepts, the set of academic disciplines, the international law relevant for Global Health and the variety of actors (UN organizations, bilateral cooperation, NGOs, Public Private Partnerships) which is exemplified by students' presentation on an organization of their choice. Global Health Ethics for the allocation of scarce resources, priority setting and advocacy with the final aim of health equity is discussed. Some lessons explain the different analytical tools for measuring and explaining the frequency and impact of death and disease (mortality, morbidity, burden of disease/DALYs). It gives positive and negative examples for approaches to certain issues in Global Health, especially in the competition between vertical and horizontal approaches to health. The contribution of the international, the national, the 'traditional' and the private sector to health care are considered. Integrated into the lessons are small working groups under close supervision where the participants' previous knowledge and conception of concepts and institutions in Global Health are systematized and complemented.</p> <p>The seminar "Basics of Public health and Hygiene" gives a thorough overview of the prerequisites for a healthy population. Historical development of health infrastructure and regulation in premodern and industrialized countries with excursions in the region. Milestones in the achievement for a modern Public health action and legislation, e.g. water hygiene and sanitation, urbanization, housing, hospitals, food hygiene, traffic and security, safety in working place, surveillance systems for disease entities and reporting, One health approach, communicable and non- communicable diseases. Setting political priorities and health based risk</p> | | | | |

¹ WT = winter term (always from October to March)


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| | regulation advice demonstrated on hospital and drinking water regulation. Furthermore, students will discuss different approaches in different countries used in Public health research and methods for controlling diseases . The seminar provides a platform for students to familiarize themselves with a critical approach to Public and Global health scientific literature e.g. The Lancet Global health. | | | | |
| Prerequisites | None | | | | |
| Course elements | Teaching unit(s) | Group size | Contact hours | Independent Work [h] | Tol ² |
| | Basics of Global Health | 20 | 30 | 60 | S*, P*, E* ³ |
| | Basics of Public Health and Hygiene | 20 | 30 | 60 | S*, P*, E* |
| Examination(s) | Type of examination(s) | | | Graded/ non-graded | |
| | Oral examination | | | Graded | |
| Assignments | Attendance of workshop and excursions, completion of required presentation | | | non-graded | |
| Additional Information | <p>Recommended Reading:</p> <p>Benatar, Solomon; Brock, Gillian (2021). Global Health. Ethical Challenges. 2nd ed. Cambridge: Cambridge University Press.</p> <p>Detels, Roger; Abdool Karim, Quarraisha; Baum, Fran; Li, Liming; Leyland, Alastair H. (eds.) (2022). Oxford Textbook of Global Public Health. 7th ed. Oxford – New York, NY: Oxford University Press.</p> <p>Farmer, Paul; Kim, Jim Yong; Arthur, Kleinmann; Basilio, Matthew (2013). Reimagining Global Health. Berkeley – Los Angeles – London: University of California Press.</p> <p>Fleming, Mary Louise; Parker, Elizabeth; Correa-Velez, Ignacio (2019). Introduction to Public Health. Chatswood, NSW: Elsevier.</p> <p>Skolnik, Richard (2021). Global Health 101. 4th ed. Burlington, MA: Jones & Bartlett Learning.</p> | | | | |

² Tol = Type of instruction


³ Abbreviations for types of instruction: E = Excursion, I = Internship, P = Practical, S = Seminar
Courses marked with asterisk (*) are mandatory

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| Module: Global Health beyond Infection Non-communicable diseases – Mother and Child Health - Psycho-social support and access to controlled medicines | | | | |  UNIVERSITÄT BONN | |
| Module Number M 02 | Workload 180 | Credits 6 CP | Study year 1 (each WT) | Duration 5 weeks | Compulsory Course | |
| Person(s) in charge of the module | Prof. Dr. Lukas Radbruch | | | | | |
| Unit offering the module | Palliative Medicine, Gynecology and Obstetrics, Pediatrics and Global Health (UKB) | | | | | |
| Applicability of the Module | Study Program | | | | Contact hours | |
| | MSc in Global Health - Risk Management and Hygiene Policies | | | | 60 | |
| Learning Outcomes | <p>The students have got an overview on aspects of globalization in various fields of medicine and health outside the control of infectious/communicable diseases. They understand how global exchange may improve the conditions for health care by transfer of knowledge, material and persons. They are able to name specific deficiencies of some world regions in selected exemplary fields (mother and child health, metabolic disorders, cancer, psycho-social support, access to controlled medicines) and apply this analytical approach to other settings. They understand how changing needs may influence health care priorities in selected fields (e.g. balancing prevention, cure and palliative care). Furthermore, they can describe those current models for the prevention and treatment of ill-health that also cover non-communicable diseases such as the health-in-all-policies approach, Universal Health Coverage (UHC), or social marketing. At the end of this module students are able to identify specific health inequities and to design strategies to alleviate them.</p> | | | | | |
| Key competences | Able to identify scope and causes of gross health inequities outside the field of infectious diseases, especially in mother and child health, non-communicable diseases and palliative medicine, and to design improvement strategies. | | | | | |
| Contents | <ul style="list-style-type: none"> • Sexual and reproductive health • Maternal mortality and counter-measures • Etiology of non-communicable diseases (NCDs), i.e. cancer, cardiovascular disease, diabetes, respiratory diseases • Prevention of NCDs • Improving access to medical care (availability, accessibility, affordability, acceptability) • Care of the terminally ill in a global perspective • Global access to controlled medicines | | | | | |
| Prerequisites | None | | | | | |
| Course elements | Teaching unit(s) | | Group size | Contact hours | Independent Work [h] | ToI |
| | Non-communicable diseases | | 20 | 25 | 50 | S*, P* |
| | Psycho-social support and access to controlled medicines | | 20 | 15 | 30 | S*, P* |
| | Maternal and Child Health | | 20 | 20 | 40 | S*, P* |
| Examination(s) | Type of examination(s) | | | | Graded/ non-graded | |
| | Written examination (75% of final grade) | | | | Graded | |
| | Presentation (25% of final grade) | | | | Graded | |
| Assignments | attendance of workshop (S and P), completion of required presentation | | | | non-graded | |
| Additional Information | Recommended Reading: Ehiri, John (2009). Maternal and Child Health. Global Challenges, Programs, and Policies. Boston, MA: Springer. Green, Robin J. (2014). Coovadia's Paediatrics & Child Health. A Manual for Health | | | | | |

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| | <p>Professionals in Developing Countries. 7th ed. Oxford: Oxford University Press.</p> <p>Lancet Commission on Palliative Care and Pain Relief Study Group (2018). Alleviating the access abyss in palliative care and pain relief – an imperative of universal health coverage: the Lancet Commission report, in: Lancet 391, p. 1391-454.</p> <p>Lancet Commission on Global Surgery (2015). Global Surgery 2030: evidence and solutions for achieving health, welfare, and economic development, in: Lancet 386, p. 569-624.</p> <p>Roser, Max; Ritchie, Hannah; Spooner, Fiona (2021). Burden of Disease. URL: https://ourworldindata.org/burden-of-disease (last checked: 14 March 2022).</p> <p>WHO (2017). Tackling NCDs. Best buys. URL: https://apps.who.int/iris/handle/10665/259232. Lizenz: CC BY-NC-SA 3.0 IGO.</p> <p>WHO (2022): Global Health Observatory. URL: https://www.who.int/data/gho (last checked: 14 March 2022).</p> |
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| Module: Prevention and Control of Infectious Diseases | | | | |  UNIVERSITÄT BONN | |
| Module Number M 03 | Workload 180 | Credits 6 CP | Study year 1 (each WT) | Duration 5 weeks | Compulsory Course | |
| Person(s) in charge of the module | Prof. Dr. Achim Hörauf | | | | | |
| Unit offering the module | Institute of Med. Microbiology, Immunology and Parasitology (IMMIP) Institute for Hygiene and Public Health (IHPH) | | | | | |
| Applicability of the Module | Study Program | | | | Contact hours | |
| | MSc in Global Health - Risk Management and Hygiene Policies | | | | 60 | |
| Learning Outcomes | <p>This module tackles aspects of infectious diseases and possible routes of prevention before progression to the clinical phase. At the end of this module, students should have a general knowledge about infectious diseases including epidemiology and their impact on public health. Students should be aware of the potential infectious diseases (bacteria, fungal, viral and parasitic) in their own country on both a regional and national level. This knowledge should encompass the life-cycles, reservoirs, transmission routes (e.g. water, air, food, vectors, contact), incubation times and clinical symptoms (e.g. respiratory, gastro-intestinal, dermal manifestations) so that they can identify potentially susceptible communities. Students should also be able to categorize pathogens into low, medium and high impact and be able to distinguish between constant pathogens (e.g. helminth infections) and those responsible for rapid outbreaks (e.g. Ebola). Students should be aware of the importance of surveying and the necessity of good diagnostic units and specialists to identify and report, in a timely fashion, changes in pathogen/vector prevalence and outbreaks. With regards to treatment and prevention, students will learn how pathogens can be transmitted through behavioral (e.g. syphilis) or environmental (e.g. cholera) circumstances. Students should also know the advantages and disadvantages to current treatment options, vaccinations and mass drug administration programs and the ever increasing difficulties with arising drug resistance. In essence, students should develop both academic knowledge about infectious diseases and the tools for tackling such problems at the political level.</p> | | | | | |
| Key competences | Awareness and understanding of infectious diseases (bacterial, viral, fungal and parasitic), modes of transmission, prevention, control and the effects on communities and hygiene policies. | | | | | |
| Contents | <p>This module first encompasses a comprehensive lesson series with accompanying practical courses on microbiology and parasitology. Here, a broad range of infectious diseases will be covered such as tuberculosis, malaria, etc. An equally extensive foundation will be provided for mycology and virology covering important communicable diseases such as cryptococcosis, candidiasis, HIV, SARS, MERS, Ebola etc. A more practice-oriented series of lessons will covers aspects of vaccination and the consequences of mass drug administration, drug resistance, water and sewage related diseases, current prevention strategies for environmental and behavioral transmitted diseases, hospital hygiene, food hygiene and preparation. Students individually write an essay about one of these topics relevant for their home country. Groups of students are given an actual topic as a case study for developing a hypothetical strategy or policy to prevent that disease. Findings are presented and discussed.</p> | | | | | |
| Prerequisites | None | | | | | |
| Course elements | Teaching unit(s) | Group size | Contact hours | Independent Work [h] | Tot | |
| | Infectious diseases I: microbiology and parasitology | 20 | 25 | 50 | S*, P* | |

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| | Infectious diseases II: mycology and virology | 20 | 15 | 30 | S*, P* |
| | Implications of infectious diseases on the community and policy level | 20 | 20 | 40 | S*, P* |
| Examination(s) | Type of examination(s) | | | | Graded/ non-graded |
| | Written exam | | | | Graded |
| Assignments | attendance of workshop, completion of required presentation | | | | non-graded |
| Additional Information | <p>Recommended Reading:</p> <p>Farrar, Jeremy; Manson, Patrick (2014). <i>Manson's Tropical Diseases</i>. 24rd ed. Edinburgh: Elsevier.</p> <p>Roser, Max; Ritchie, Hannah; Spooner, Fiona (2021). <i>Burden of Disease</i>. URL: https://ourworldindata.org/burden-of-disease (last checked: 14 March 2022).</p> <p>UNAIDS (2022). <i>HIV prevention 2025 road map – Getting on track to end AIDS as a public health threat by 2030</i>. URL: https://www.unaids.org/en/resources/documents/2022/prevention-2025-roadmap (last checked: 16 January 2023).</p> | | | | |

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| Module: Presentation and writing skills in research | | | | |  UNIVERSITÄT BONN | |
| Module Number M 04 | Workload 180 | Credits 6 CP | Study year 1 (each WT) | Duration 3 to 5 weeks | Compulsory Course | |
| Person(s) in charge of the module | Eva Kuhn | | | | | |
| Unit offering the module | Section Global Health, Institute for Hygiene and Public Health (IHPH) | | | | | |
| Applicability of the Module | Study Program | | | | Contact hours | |
| | MSc in Global Health - Risk Management and Hygiene Policies | | | | 60 | |
| Learning Outcomes | The students learn how to collect, analyze and communicate research data. After this module, they are able to choose an appropriate design for Global Health studies. They know how to collect primary data and how to search for secondary data, they learn how to analyze data in a multi-professional environment. They know how to structure scientific papers, essays, reports, posters or presentations. They know about the differences between multidisciplinary, interdisciplinary and transdisciplinary and understand the settings for each mode. At last, they know about possible ways of data manipulation and bias to get an access to a critical assessment of published data. | | | | | |
| Key competences | Using epidemiological, statistical and qualitative methods in Global Health research Presentation of approaches, data, discussions and conclusions in written and oral communication Understanding the requirements of addressing different target audiences | | | | | |
| Contents | <p>During this module, students will acquire skills in determining qualitative and quantitative research. This includes designing of systematic observations, experiments/trials and other interventions considering all relevant controls and the rules of good scientific practice. The module will cover methodological concepts and practical expertise for registries, public health interventions, clinical and pre-clinical experiments and the necessary ethical considerations.</p> <p>Students will also practice different forms of communication - writing, presentation, formal and informal discussions. This module will therefore cover necessary material for the student's upcoming thesis work.</p> | | | | | |
| Prerequisites | None | | | | | |
| Course elements | Teaching unit(s) | Group size | Contact hours | Independent Work [h] | Tol | |
| | Research methods for study design, data collection, data analysis and assessment of published data | 20 | 30 | 60 | S* | |
| | Presentation/communication and writing skills | 20 | 20 | 40 | S* | |
| | Multidisciplinary, interdisciplinary and transdisciplinary modes in health research | 20 | 10 | 20 | S* | |
| Examination(s) | Type of examination(s) | | | Graded/ non-graded | | |
| | Scientific presentation | | | graded | | |
| Assignments | attendance of workshops | | | non-graded | | |
| Additional Information | <p>Recommended Reading for Epidemiology: Le, Chap T.; Eberly, Lynn, E. (2016). Introductory Biostatistics. 2nd ed. Hoboken, NJ: Wiley. Rothman, Kenneth (2012). Epidemiology: an introduction. 2nd ed. New York, NY:</p> | | | | | |


Oxford University Press.

Recommended Reading for Presentation and Writing Skills:


Cargill, Margaret; O'Connor, Patrick (2021). *Writing Scientific Research Articles*. 3rd ed. Hoboken, NJ: Wiley-Blackwell.

Skern, Tim (2019). *Writing Scientific English: A Workbook*. Wien: facultas.

Zanders, Edward D.; MacLeod, Lindsay (2018). *Presentation Skills for Scientists: A Practical Guide*. 2nd ed. Cambridge et al.: Cambridge University Press.


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| Module: Health Systems and Health Management Structures | | | | |  UNIVERSITÄT BONN |
| Module Number M 05 | Workload 180 | Credits 6 CP | Study year 1 (each WT) | Duration 4 to 5 weeks | Compulsory Course |
| Person(s) in charge of the module | Prof. Dr. Walter Bruchhausen | | | | |
| Unit offering the module | Section Global Health with lecturers and consultants from NGOs | | | | |
| Applicability of the module | Study Program | | | Contact hours | |
| | MSc in Global Health - Risk Management and Hygiene Policies | | | 60 | |
| Learning Outcomes | At the end of this module, students are aware of the different functions and components of health systems, their interaction and their impacts on health system goals attainment. They are also aware of the various goals, strategies and tools for improving the range and performance of health systems. Students are able to apply their conceptual and methodological knowledge to the analysis of health systems in their home countries and elsewhere to identify health system gaps or deficiencies, specify reform needs and develop reform measures. Students have learned how to form communication lines within the health care system (government) and with the public (press, communities). | | | | |
| Key competences | Students are able to independently apply their knowledge and problem-solving skills to improve health systems at national and local levels. Students have improved their communication skills by engaging in interdisciplinary group discussions, presentations, peer-to-peer learning and teamwork integrating cultural specifics in intercultural groups. | | | | |
| Contents | <p>The first lessons provide an overview about the different types of structures in health systems with regard to the relationship between preventive (including public health departments) and curative services, public and private sector, state and civil society or communities.</p> <p>A second series covers practical aspects of developing public health systems and providing universal health coverage (UHC) by measures on infrastructure, financing, epidemiological assessments, health technology assessment (HTA), staffing needs assessment, provision of pharmaceuticals and improving the quality of care (QoC) through health systems strengthening (HSS).</p> <p>In the part on leadership and governance, reporting and communication lines in national health systems and governmental structures and communication with press and population.</p> <p>A concluding seminar with presentations (10 min) and an accompanying report from each student provides in-depth studies of health system reforms in different countries.</p> | | | | |
| Prerequisites | None | | | | |
| Course elements | Teaching unit(s) | Group size | Contact hours | Independent Work [h] | Tol |
| | Overview of different goals, types and components of health systems and the relationship between preventive and curative services | 20 | 22 | 44 | S*, P* |
| | Practical aspects of strengthening health systems (components) and providing universal health coverage (UHC) | 20 | 32 | 64 | S*, P* |
| | The role of communication for improving health systems | 20 | 6 | 12 | S*, P* |
| Examination(s) | Type of examination(s): | | | Graded/ non-graded | |

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| | Essay (70% of final grade) and presentation (30% of final grade) | Graded |
| Assignments | Full attendance of seminars and workshops | non-graded |
| Additional Information | <p>Recommended Reading:</p> <p>Britnell, Mark (2015). In Search of the Perfect Health System. Basingstoke: Palgrave Macmillan.</p> <p>Mounier-Jack, Sandra; Griffiths, Ulla K.; Closser, Svea; Burchett, Helen; Marchal, Bruno (2014). Measuring the Health Systems Impact of Disease Control Programmes. A Critical Reflection on the WHO Building Blocks Framework, in: BMC Public Health 14:278.</p> <p>Skolnik, Richard (2021). Global Health 101. 4th ed. Burlington, MA: Jones & Bartlett Learning</p> <p>WHO (2008). Everybody's Business – Strengthening Health Systems to Improve Health Outcomes: WHO's Framework for Action. URL: https://apps.who.int/iris/handle/10665/43918 (last checked: 3 February 2020).</p> <p>WHO (2010). Monitoring the Building Blocks of Health Systems: A Handbook of Indicators and Their Measurement Strategies. URL: https://apps.who.int/iris/handle/10665/258734 (last checked: 01 March 2019).</p> <p>WHO & UNICEF (2022). Primary health care measurement framework and indicators: monitoring health systems through a primary health care lens. URL: https://www.who.int/publications/i/item/9789240044210 (last checked: 16 January 2023).</p> | |


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| Module: Livestock & Food Safety through One Health Concept | | | | |  UNIVERSITÄT BONN | |
| Module Number M 06 | Workload 180 | Credits 6 CP | Study year 1 (each ST⁴) | Duration 5 weeks | Compulsory Course | |
| Person(s) in charge of the module | Dr. Jason Hayer; PD Dr. Julia Steinhoff-Wagner; N.N. | | | | | |
| Unit offering the module | University of Bonn - Faculty of Agriculture | | | | | |
| Applicability of the module | Study Program | | | | Contact hours | |
| | MSc in Global Health - Risk Management and Hygiene Policies | | | | 60 | |
| Learning Outcomes | The goal of the module is to learn key approaches for safe food production and preservation in crisis situations (from farm to folk). Based on the <i>One Health</i> concept, students should be aware of the different perspectives in order to guarantee a safe food supply chain. Besides that, basic knowledge about food microbiology and quality assurance will be imparted. Students will gain an understanding about the different technologies and logistical concepts that are required to ensure optimal cold chain conditions and thus to ensure product safety and quality. At the end of the course students should have the required knowledge to react in crisis situations (incident and outbreak management) and be able to develop tailored solutions for food delivery. | | | | | |
| Key competences | Awareness and understanding of food microbiology and quality assurance. The ability to recognize deficits in food production and implement amendments through appropriate measures. Be prepared to execute safe food protocol requirements during a crisis. | | | | | |
| Contents | The One Health approach to sustainable food production is required to prevent potential public health problems especially in crisis situations. Therefore the module includes lessons on the following key topics: One Health concept; Improving Livestock & Food safety through one health concept; Zoonotic infections and transmissions (Food Safety, Antimicrobial resistance, Global health); Basic approaches for food borne disease and outbreak management; Logistic concepts regarding food delivery in crisis situations; Packaging strategies; Cooling techniques for perishable products (food/pharmaceuticals, passive and active cooling techniques); Temperature monitoring and food logistics; Quality assurance strategies (e.g. HACCP); Risk communication especially in incident and outbreak situations. | | | | | |
| Prerequisites | None | | | | | |
| Course elements | Teaching unit(s) | Group size | Contact hours | Independent Work [h] | Tot | |
| | Food safety and quality assurance | 20 | 24 | 48 | S* | |
| | Food borne diseases and outbreak management | 20 | 16 | 32 | S* | |
| | One Health, Food quality and safety | 20 | 20 | 40 | S* | |
| Examination(s) | Type of examination(s) | | | | Graded/ non-graded | |
| | Presentation | | | | Graded | |
| Assignments | attendance of seminars, completion of required assignments and presentation | | | | non-graded | |
| Additional Information | Recommended Reading: Detwiler, Darin (2020). Food Safety: Past, Present, and Predictions. London – San Diego, CA – Cambridge, MA: Academic Press. | | | | | |

⁴ ST = Summer Term (each year from April to September)


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| | <p>FAO (wd). Codex Alimentarius. International Food Standards. URL: https://www.fao.org/fao-who-codexalimentarius/en/ (last checked: 24 May 2022).</p> <p>Robertson, Gordon L. (2013). Food Packaging: Principles and Practice. Boca Raton: CRC Press.</p> <p>Sato, Hajime (ed.) (2010). Management of Health Risks from Environment and Food: Policy and Politics of Health Risk Management in Five Countries -- Asbestos and BSE. Dordrecht: Springer.</p> <p>World Organisation for Animal Health (2013). The 'One health' concept: the OIE approach. OIE Bulletin No. 2013-1. URL : http://www.oie.int/fileadmin/Home/eng/Publications_%26_Documentation/docs/pdf/bulletin/Bull_2013-1-ENG.pdf (last checked: 4 May 2022).</p> <p>Zinsstag, Jakob; Schelling, Esther; Waltner-Toews, David; Tanner, Marcel (2011). From „one medicine“ to „one health“ and systemic approaches to health and well-being, in: Preventive Veterinary Medicine 101:3-4, p. 148-156.</p> |
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| Module: Spatial Health Risk Assessment and Capacity Building in Public Health | | | | |  UNIVERSITÄT BONN | |
| Module Number M 07 | Workload 180 | Credits 6 CP | Study year 1 (each ST) | Duration 5 weeks | Compulsory Course | |
| Person(s) in charge of the module | Prof. Dr. Thomas Kistemann, Dr. Andrea Rechenburg | | | | | |
| Unit offering the module | Institute for Hygiene and Public Health (IHPH), GeoHealth Centre | | | | | |
| Applicability of the module | Study Program | | | | Contact hours | |
| | MSc in Global Health - Risk Management and Hygiene Policies | | | | 60 | |
| Learning Outcomes | The goal of this module is to acquire skills in identifying, recording, analysing and assessing potential health risks deriving from a broad variety of factors, from local to global scale, and with a specific emphasis on the spatial perspective. Students will get to know the potential risks related to different environmental conditions (water, air, soil), to the transmission of infectious diseases, natural disasters, migration, crisis and conflict, poverty and social disparities. Furthermore students will gain insight into the effects and risks associated with poorly functioning health services, weak public health structures and the absence of effective surveillance, health information and management systems. The students will learn how to use risk assessment results within capacity and vulnerability analysis. They will learn how to involve stakeholders and communities in order to set priorities for participatory capacity building programmes. | | | | | |
| Key competences | Skills to assess and analyse health risks in various spatio-temporal contexts. Ability to contribute to improving surveillance systems Familiarity with collection and interpretation of epidemiological as well as managerial data on infection prevention and control. Competence for capacity-vulnerability-analysis to identify populations at risk. Preparedness for planning and implementation of risk reduction and capacity building programmes at relevant administrative levels. | | | | | |
| Contents | Health status of populations can be threatened by various factors including the effects of climate change, living in disaster prone regions or politically instable countries, suffering from poverty, famine or being exposed to infectious diseases. The most vulnerable groups in the particular society or community are most at risk. Once the risks are identified and vulnerabilities are known, potential capacities to cope can be developed in order to reduce the risks. Methods and methodologies to identify risks, to assess vulnerabilities and capacities, with an emphasis on health-geographic approaches, will be taught using case studies based on experiences from different countries and on specific topics or diseases. This is a prerequisite to better understand spatio-temporal conditionalities of health, ill-health and disease in order to be prepared to respond to acute disaster situations, outbreaks and epidemics, as well as to slowly emerging threats or persistent health threats caused by communicable or non-communicable diseases. | | | | | |
| Prerequisites | None | | | | | |
| Course elements | Teaching unit(s) | Group size | Contact hours | Independent Work [h] | Tot | |
| | Geographical methods for health: data gathering in the field, GIS, geostatistics, epidemiology, surveillance, Health Information Systems | 20 | 26 | 60 | S*, E* | |
| | The assessment of health status, environmental health risks (WASH) and health system capacities in specific contexts and settings | 20 | 20 | 40 | S*, E* | |


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| | Managerial aspects of the provision and monitoring of health services, prevention programmes, health-attentive regional planning | 20 | 14 | 20 | S*, E* |
| Examination(s) | Type of examination(s) | | | Graded/ non-graded | |
| | Written examination (30% of final grade) | | | Graded | |
| | Presentation (30% of final grade) | | | Graded | |
| | Essay (40% of final grade) | | | Graded | |
| Assignments | attendance of seminars, workshop and excursions, completion of required assignments and presentation | | | non-graded | |
| Additional Information | <p>Recommended Reading</p> <p>Brown, Tim (ed.) (2010). <i>A Companion to Health and Medical Geography</i>. Chichester: Wiley-Blackwell.</p> <p>Brown, Tim; Moon, Graham (2012). <i>Geography and Global Health</i>, in: <i>Geographical Journal</i> 178:1, p. 13-17.</p> <p>Emch, Michael; Root, Elisabeth Dowling; Carrel, Margaret (2017). <i>Health and Medical Geography</i>. 4th ed. New York: Guilford Publications</p> <p>Gatrell, Anthony C.; Elliott, Susan J. (2015). <i>Geographies of Health: An Introduction</i>. 3rd ed. Chichester – Malden, MA: Wiley-Blackwell.</p> <p>Gesler, Wilbert M.; Kearns, Robin, A. (2002). <i>Culture/place/health</i>. London et al.: Routledge.</p> <p>The Sphere Project (2018): <i>Humanitarian Charter and Minimum Standards in Humanitarian Response</i>. 3rd ed. ISBN: 978-1-908176-00-4.</p> <p>WHO (2022). <i>Compendium of WHO and other UN guidance on health and environment, 2022 update</i>.</p> | | | | |


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|--|---|------------------------|----------------------------------|----------------------------|--|-----|
| Module: Dimensions of Vulnerability and Risk Management | | | | |  UNIVERSITÄT BONN | |
| Module Number M 08 | Workload 180 | Credits 6 CP | Study year 1 (each ST) | Duration 5 weeks | Compulsory Course | |
| Person(s) in charge of the module | Prof. Dr. Jörg Szarzynski, Karen Hattenbach, Christian Daniels | | | | | |
| Unit offering the module | UNU-EHS | | | | | |
| Applicability of the module | Study Program | | | | Contact hours | |
| | MSc in Global Health - Risk Management and Hygiene Policies | | | | 40 | |
| Learning Outcomes | <ul style="list-style-type: none"> • Knowledge of vulnerability and risk frameworks in socio-economic, social and environmental dimensions • Knowledge of challenges in climate change and social mobility • Understanding on how social ecological systems are affected by environmental hazards • Understanding the development and importance of SDG's • Understanding of international disaster management and humanitarian aid • Capability to estimate basic safety and security related aspects • Knowledge of potential and application of remote sensing and GIS in spatial epidemiology • Basics of cartography and GIS for disease mapping • Basics of Spatial Analysis • Spatial Data Infrastructures and services | | | | | |
| Key competences | Capability to apply vulnerability and risk frameworks in socio-economic, social and environmental dimensions. Knowledge of the impacts and natural hazards on social-ecological systems. Comprehensive knowledge of structures, workflows, and practical challenges of international organizations, particularly UN organizations, dealing with disaster management and humanitarian response. Basic Knowledge about GIS, Remote Sensing Principles, Sensor, Platforms, Workflows and their outcome. | | | | | |
| Contents | <ul style="list-style-type: none"> • Conceptual frameworks and scientific methods to assess socio-economic vulnerability and risk • SDGs and their implementation (indicators and assessment frameworks) • International Disaster Management and Humanitarian Response • Vulnerability and resilience of social-ecological systems • Development pathways and shifts in risk profiles • Climate Change and Human Mobility • Global water quality monitoring (with case studies) • Safety and Security, Disaster Assessment and Coordination • Concept and application of spatial epidemiology/ spatial disease risk assessment • Remote sensing of biophysical factors in spatial epidemiology • Geospatial Technologies I - III | | | | | |
| Prerequisites | None | | | | | |
| Course elements | Teaching unit(s) | | Group-size | Contact hours | Independent Work [h] | Tot |
| | Lessons | | 20 | 40 | 20 | S* |
| | Working Groups and Presentation Hands-on exercise (full scenario or tabletop) | | 1 | | 120 | P* |
| Examination(s) | Type of examination(s) | | | | Graded/ non-graded | |
| | Written examination | | | | Graded | |


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| Assignments | attendance of group work and exercises, completion of paper and presentation | non-graded |
| Additional Information | <p>Recommended Reading:</p> <p>Birkmann, Jörn (2013). Measuring vulnerability to promote disaster resilient societies and to enhance adaptation: Discussion of conceptual frameworks and definitions, in: Jörn Birkmann (ed.), Measuring vulnerability to natural hazards: Towards disaster resilient societies. 2nd ed. Tokyo - New York: United Nations University, pp. 9-79.</p> <p>Kern, Manfred J. (2016). Global Epidemics, Pandemics, Terrorism: Risk Assessment and European Responses, in: ISPSW Strategy Series No 421.</p> <p>Walz, Yvonne; Wegmann, Martin; Dech, Stefan; Vounatsou, Penelope; Poda, Jean-Noël; N'Goran, Eliézer K.; Utzinger, Jürg; Raso, Giovanna (2015). Modeling and Validation of Environmental Suitability for Schistosomiasis Transmission Using Remote Sensing. PLoS Negl Trop Dis 9(11):e0004217. doi: 10.1371/journal.pntd.0004217</p> <p>Wisner, Ben; Blaikie, Piers; Cannon, Terry; Davis, Ian (2004). At rRsk. Natural hazards, people's vulnerability, and disasters. 2nd ed. London - New York: Routledge.</p> | |

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| Module: SDGs as Guiding Principles and Global Consent | | | | |  UNIVERSITÄT BONN | |
| Module Number M 09 | Workload 180 | Credits 6 CP | Study year 1 (each ST) | Duration 5 weeks | Compulsory Course | |
| Person(s) in charge of the module | Prof. Dr. Christian Borgemeister, Dr. Timo Falkenberg | | | | | |
| Unit offering the module | University of Bonn – Center for Development Research | | | | | |
| Applicability of the module | Study Program | | | | Contact hours | |
| | MSc in Global Health - Risk Management and Hygiene Policies | | | | 60 | |
| Learning Outcomes | <p>Upon completion of the module, the students have gained thorough insight into the formulation of global goals, the development of indicators and their implementation and monitoring. They know the successes and failures of the MDGs and understand how these lessons can improve the implementation of the SDGs. The students are aware of the health benefits induced by the health-related SDGs, as well as understanding the role and health implications of non-health SDGs.</p> <p>Furthermore, students learned about the local and regional inequalities and how to account for these in a global framework. The students are introduced to the challenges of translating universal SDG targets into effective local actions. The role of priority setting as well as local and regional adaptations is well understood and students are aware of the tools required for its formulation. The students know the difference between top-down and bottom-up processes for target monitoring, assessment, and accountability and are sensitive to the advantages and disadvantages of each process.</p> | | | | | |
| Key competences | <p>Awareness of the global public health challenges and the interactions between health and social, economic and environmental systems. Knowledge of health systems and their differences. Analysis of conditions in different countries with regards to the SDGs. Adaptation and adoption of general regulations and requirements at the local and regional level. Understanding the importance of global goals and targets as well as the need for monitoring and evaluation. Applying the instruments of evaluation of the MDGs and SDGs in different situations.</p> | | | | | |
| Contents | <p>In the year 2000, the MDGs were officially introduced and significant progress has been achieved. Despite many goals being reached on a global level, regional inequalities persist. A critical review of the MDG process reveals multiple lessons that informed the post-2015 development agenda. Since 2015, the SDGs have replaced the MDGs. The SDGs entail more goals and targets compared to the MDGs, broadening the focus to include economic, social and environmental objectives. The limited focus of the MDGs has led to the verticalization of health programs and failure to strengthen health systems. The ‘one-size-fits-all’ approach to development planning adopted by the MDGs induced inequity, as the community needs differ starkly between and even within regions. The SDGs build upon the strengths of the MDG progress and aims to overcome its shortcomings. The integrative approach adopted by the SDGs highlights that progress towards a certain target could also induce benefits in other areas. Health, in particular is considered crosscutting, thus rendering it both a major contributor and beneficiary of sustainable development.</p> <p>The module is taught by ZEF and UNU-EHS scientists with additional contributions from the international health and development scene in Bonn (e.g. WHO, DIE, GIZ, NGOs). In a series of lessons, the students learn about the development and implementation of the SDGs as well as the successes and failures of the MDGs. Seminars and workshops teach the tools required for effective monitoring and evaluation, as well as practical guidance for the formulation of local and regional adaptations.</p> | | | | | |
| Prerequisites | None | | | | | |
| Course elements | Teaching unit(s) | | Group- | Contact | Independent | Tol |

| | | size | hours | Work [h] | |
|------------------------|--|------|-------|--------------------|----|
| | Theory and Concepts of SDG Target Formulation, Monitoring and Evaluation | 20 | 16 | 32 | S* |
| | Implementation and Local Adaptation of SDGs in Developing Countries | 20 | 20 | 40 | S* |
| | Practical Implementation of Monitoring and Evaluation Frameworks | 20 | 24 | 48 | S* |
| Examination(s) | Type of examination(s) | | | Graded/ non-graded | |
| | Presentation (40% of final grade) | | | Graded | |
| | Written Assignment (60% of final grade) | | | Graded | |
| Assignments | attendance of special seminars/workshops, completion of required presentation and written assignment | | | non-graded | |
| Additional Information | <p>Recommended Reading:</p> <p>Geoghegan, Tighe; D'Errico, Stefano; Garcia Acuña, Martin; El-Saddik, Kassem; Lucks, Dorothy; Ocampo, Ada; Piergallini, Ilenia (2019) Evaluating sustainable development: how the 2030 Agenda can help. IIED, London. ISBN: 9781784317034</p> <p>Gupta, Shivam; Motlagh, Mahsa; Rhyner, Jakob (2020). The Digitalization Sustainability Matrix: A Participatory Research Tool for Investigating Digitainability, in: Sustainability 12(21):9283. DOI: 10.3390/su12219283</p> <p>Sachs, Jeffrey D.; Lafortune, Guillaume; Kroll, Christian; Fuller, Grayson; Woelm, Finn (2022). Sustainable Development Report 2022. DOI: 10.1017/9781009210058</p> <p>WHO (2015). Health in 2015: From MDGs to SDGs. ISBN: 9789241565110</p> | | | | |

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|---|--|------------------------|----------------------------------|-----------------------------|--|--------|
| Module: Preparation for Research Projects and Leadership Development | | | | |  UNIVERSITÄT BONN | |
| Module Number M 10 | Workload 180 | Credits 6 CP | Study year 1 (each ST) | Duration 21 weeks | Compulsory Course | |
| Person(s) in charge of the module | Eva Kuhn | | | | | |
| Unit offering the module | Institute for Hygiene and Public Health (IHPH) | | | | | |
| Applicability of the module | Study Program | | | | Contact hours | |
| | MSc in Global Health - Risk Management and Hygiene Policies | | | | 60 | |
| Learning Outcomes | Definition of Master's thesis project and required preparation. The student should provide a realistic concept of their proposed thesis to their supervisor. They should be aware of the elements that require prior organization (e.g. ethics, permissions) in their own country. Learn how to work well in a multi-cultural and multi-ethnic environment, being sensitive to cultural differences. Role playing scenarios in groups will give the opportunity to be both team player and leader. | | | | | |
| Key competences | Planning and organization of a research or health project. Ability to prioritize work and multitask. Identification of personal strength and weaknesses and improvement of interpersonal skills. Demonstrate the ability to be a team player and a leader. | | | | | |
| Contents | One to one discussions with project supervisor on the intended master thesis. The student should prepare a realistic plan for preparation including literature research, discussions with relevant departments and institutions in their own country about the potential to perform thesis work. Obtaining permission/ethical clearance for the intended project. Discussions about regulations of scientific work (plagiarism, style, contents, references etc.,). | | | | | |
| Prerequisites | None | | | | | |
| Course elements | Teaching unit(s) | | Group-size | Contact hours | Independent Work [h] | Tol |
| | Elements of thesis | | 20 | 25 | 50 | S*, P* |
| | Journal Club | | 20 | 20 | 50 | |
| | Soft and leadership skills | | 20 | 15 | 20 | S*, P* |
| Examination(s) | This module is non-graded. | | | | | |
| Assignments | attendance of special seminars/workshops, completion of required presentation | | | | | |
| Additional Information | Recommended Reading: Gilmore, Barry (2009). Plagiarism: A How-Not-to Guide for Students. Heinemann. Greetham, Bryan (2022). How to write better essays. 5 th ed. London – New York: Bloomsbury Academic. Helm-Murtagh, Susan (2022). Leadership in Practice: Essentials for Public Health and Healthcare Leaders. New York: Springer. | | | | | |

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| Module: Internships | | | | |  UNIVERSITÄT BONN |
| Module Number M 11 | Workload 900 | Credits 30 CP | Study year 2 (WT) | Duration 24 weeks | Compulsory Course |
| Person(s) in charge of the module | Eva Kuhn, Prof. Dr. Walter Bruchhausen | | | | |
| Unit offering the module | Section Global Health Institute for Hygiene and Public Health (IHPH) Institute of Med. Microbiology Institutions offering the placement | | | | |
| Applicability of the Module | Study Program | | | | |
| | MSc in Global Health - Risk Management and Hygiene Policies | | | | |
| Learning Outcomes | Translation of skills (educational and communication) learnt during the Masters course in a professional setting. Become accustomed to the different structures and workflows in professional organizations. Build collaborative networks in an international environment. | | | | |
| Key competences | Gain experience whilst interacting with small and large consortiums. Develop and implement communication skills in multi-cultural environments. Become aware of potential difficulties when communicating in a multi-ethnic setting (sensitivity and respect for diversity). Development of long-lasting potential networks with international organizations. | | | | |
| Contents | Placements can be at any UN organization (access assisted by the UNU-EHS), other national or international institutions (Ministeries or Local Health Departments) or in any organization (including universities), in a thematic or research field related to the overall course. Students are encouraged to organize their own internship in one (6 months) or two (each 3 separately month parts) | | | | |
| Prerequisites | None | | | | |
| Course elements | Teaching mode | Topic | | Group-size | Workload [h] |
| | Internship (P*) | 24 week placement | | 1 | 900 |
| Assessment | Project report of 2-5 pages. | | | | non-graded |

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| Module: Master thesis | | | | |  UNIVERSITÄT BONN |
| Module Number M 12 | Workload 900 | Credits 30 CP | Study year 2 (ST) | Duration 22 weeks | Compulsory Course |
| Person(s) in charge of the module | Prof. Dr. Walter Bruchhausen | | | | |
| Unit offering the module | Section Global Health and supervising institutions | | | | |
| Applicability of the module | Study Program | | | | |
| | MSc in Global Health - Risk Management and Hygiene Policies | | | | |
| Learning Outcomes | Execute a well defined and significant research project in an independent manner. | | | | |
| Key competences | Problem recognition and solving, interpretations of data, assessment of success and/or limitations of the project, discussion and implications of findings in a well written thesis. Or development of a practical regulation in consideration of the program's teaching and learning content. | | | | |
| Contents | How to resolve problems and issues that arise during the project. At least monthly contact with supervisors including progress updates Fulfillment of aims jointly defined during M10. | | | | |
| Prerequisites | Completion of M10 and 60 CP | | | | |
| Examination | Written Master thesis | | | | graded |
| Additional Information | Recommended Reading: Defined previously in M10 and further reading upon discussions with supervisors | | | | |