HAW HAMBURG

Module Handbook

Master's degree course

Master of Science in Health Sciences

Faculty of Life Sciences

Department of Health Sciences

Approved by the Faculty Council on January 28th 2021

Module Handbook

Master of Science

Health Sciences

setting out details of the Course-Specific Course and Examination Regulations for the Master Health Sciences degree course issued on 01.09.2021 last modified on 18.11.2021

Faculty of Life Sciences

Department of Health Sciences

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Hamburg University of Applied Sciences
Faculty of Life Sciences/ Department of Health Sciences
Ulmenliet 20, 21033 Hamburg
Tel.: +49.40.42875-0
www.haw-hamburg.de

Contents

Master of Health Sciences

The Master's program in Health Sciences is a consecutive course of study that focuses on public health research and teaches both qualitative and quantitative research methods, enriched by practical references from various areas of health sciences.

Well-trained health professionals are needed within the ever-changing health care system. The target group of the M.Sc. program are graduates who wish to acquire in-depth knowledge and skills in research in the complex field of health sciences. Students of the Master Health Sciences program learn to deal with the conditions for health and the management of disease. They learn to apply health science theories and research methods and to carry out a wide range of research tasks and projects that serve to maintain and improve the overall health situation of society.

The consecutive Master's program focuses on health problems and health determinants in a global, networked and interdisciplinary perspective and prepares students for national and international public health research through predominantly English language teaching. In order to positively influence the health of the population, the key concept is to examine how health, well-being and life expectancy of the human population can be maintained and improved in a changing world by integrating scientific research findings, practical skills and experience in data research. The program provides tools and scientific and practical skills for public health research in the areas of epidemiology, diversity, occupational and environmental health, health promotion and behaviour, health economics and health policy, thus creating the evidence base for policy and management decisions.

The Master of Science in Health Sciences (MH Sc) is a two-year, research-oriented Master's program (120 CP in total) that builds on a suitable Bachelor's degree. Participants in the Master's program are trained for positions in health research, evaluation, public administration, quality management and corporate health management in various institutions of the health care market.

Overview of degree course

First part of course	Five out of the following six modules are required. The first four modules are compulsory; the last two modules are elective compulsory modules. **Concepts and Dimensions of Health Sciences and Public Health** **and Basic Statistics and Basic Epidemiology** **Research Methods** **Ethics and Epistemology** **Digitalization and Communication in Health Sciences** **Diversity in Health and Family and Community Health Research** **Non-Communicable Disease Epidemiology and Research Interests**	1st semester
	Five out of the following six modules are required. The first three modules are compulsory; the last three modules are elective compulsory modules. **Research and Project Management** **Advanced Biostatistics** **Health Policy and Health Economics Research** **Occupational and Environmental Health Research** **Health Promotion and Health Behaviour Research** **Infectious Disease Epidemiology and Pandemic Control**	2nd semester
Second part of course	**Research Project**	3rd semester
	Master Thesis	4th semester

Assessments: types and forms of assessment

Written examination
A written examination is completed under supervision. Students must complete the set questions on their own, either without the use of study aids or with the use of specified study aids only. Written examinations last at least 60 and no longer than 240 minutes.

Presentation (or Paper)
A presentation is an oral talk lasting between 15 and 45 minutes, given on the basis of a written outline prepared by the student and followed by a facilitated discussion. Presentations should not be read out from a script; students should be able to speak spontaneously. Students must submit digital or hard copies of any presentation slides and diagrams/ charts/ images used to the examiner. Their written outline, which they must also submit to the examiner, should summarize their key findings and conclusions.

Case study
A case study is a piece of written work presenting a reasoned solution to a set problem. Students work either individually or in a group to establish, analyse and solve specific problems in practice by applying scientific and academic methods and findings. Case studies are set for specific classes, and must be completed in the same semester as the class and by the time the class ends. The programme-specific examination and study regulations may contain more detailed provisions on the time available for case studies.

Written Paper
A Written paper is a piece of written work, to be produced by the student on his or her own and outside class hours, in which the student is to prove that he or she is able to investigate and analyse a set question or subject independently. A maximum of three months is allowed for completion. If the Written paper constitutes an examination, the programme-specific examination and study regulations may specify whether or not a colloquium is to be held once the written project has been submitted. Colloquia should last between 15 and 45 minutes, and are generally to be held within one month of submission of the written work.

Project
A project is an interdisciplinary task relating to the area of industry or business for which the course is designed. The results of projects must be documented. At least 6 and no more than 26 weeks are allowed for projects. Project work is generally completed with a colloquium. The applicable programme-specific examination and study regulations may specify additional requirements in terms of the form, content and goal of the project, and may specify another form of final assessment instead of a colloquium.

Oral examination
In an oral examination, a student must demonstrate in discussion with the examiner that he or she fully understands the material on which he or she is being examined. Oral examinations generally last at least 15 and no more than 45 minutes. Oral examinations may be conducted as individual or group examinations, and are to be conducted by one examiner and one assessor. An oral examination may alternatively be conducted by two

or more examiners instead of one, i.e. by a panel of examiners; in such a case, the student is to be examined by one examiner only in each of the various examination subjects. Oral examinations are always assessed and graded by one examiner only, no matter whether they are conducted by several examiners or by an examiner and an assessor. The examiner responsible for grading in each case must consider the views of the other examiners/ the assessor before deciding on the grade to be awarded. The main aspects covered in and results of each oral examination are to be recorded. The record is signed by the examiners and assessor and is filed with the examination documents.

Portfolio examination
A portfolio examination is a form of examination consisting of a maximum of ten examination elements. At least two different forms of examination shall be used for the portfolio examination. The possible forms of examination that can be used result from the forms of examination listed in § 14 paragraph 3 APSO-INGI as well as semester-long exercises. At the beginning of the course, the lecturer determines which examination elements and with which weighting for the individual examination elements the portfolio examination should take place. In the case of an examination performance, the individual examination elements result in an overall grade for the respective portfolio examination according to their weighting. The total scope of the portfolio examination in terms of workload and degree of difficulty may not exceed the scope of the examination form if this were to be selected as the only examination element.

Master thesis
At the end of the Master degree course programme, students must each submit a final thesis (Master thesis). Based on the focus of the course programme, a Master thesis should demonstrate that the student is able to analyse and understand concepts and issues on an interdisciplinary basis, and to develop, advance and apply in practice academic and scientific and/ or artistic methods and findings.

Regulations for assessments

As a general rule, modules are assessed each semester. Students who are unsuccessful in the examination/ assessment may resit it a maximum of twice. Pursuant to the provisions of Section 23 subsection 5 APSO-INGI, if a written examination or formal assessment is graded as ‘unsuccessful’, the student concerned may apply to redeem it by undergoing an oral assessment for the failed written assessment; each student may take a maximum of three such oral assessments in total in any given degree course and a maximum of one for any given module. Students shall make their application for oral assessment to the professor responsible for the module.
If a student has to withdraw from an examination due to illness, he or she may resit the examination at the end of the following semester.

Master of Health Sciences: Modules

Master Health Sciences	
Concepts and Dimensions of Health Sciences and Public Health and Basic Statistics and Basic Epidemiology	
Module number	1
Module coordinator	Prof. Amena Ahmad
Duration of module / semester(s) / frequency	One Semester / 1st Semester / Yearly
Credits (CP) / SHW	6 CP / 4 SHW
Workload	18 semester weeks (including examination period); 72 h in-class time, 108 h self-study
Type of module	Compulsory module
Required / recommended prior knowledge / skills	Recommended: first practical or field experience in the public health or healthcare sector
Language of instruction	English
Learning / competency outcomes	**Specialist competencies (knowledge and understanding)** On successful completion of this module, students will be able to … • explain the core concepts of public health and its fields of action (essential public health operations) • differentiate between and appraise the salutogenic and medicalized views on health • comprehend the historic evolution of public health and its social grounding • appraise the influence of the social, economic and political determinants of health in general and as drivers of health inequity • understand the epidemiologic and demographic transition and its implications for public health action in future • understand the role of 'global' in the context of public health • view factors influencing health from a public health perspective • understand the utility of epidemiology in public health • define and interpret basic epidemiologic parameters • define and interpret basic statistic parameters • draw connections between public health and related fields to appraise the larger picture **Methodological competencies (use, application and generation of knowledge)** On successful completion of this module, students will be able to …

	• apply public health concepts to identify challenges and conflicts in the classic approach to dealing with population health issues versus public health practice • calculate basic epidemiologic measures of association and impact using a two by two table and interpret the result in the given context • calculate the main descriptive statistical parameters and discuss the significance of the result in context **Social competencies (communication and cooperation)** On successful completion of this module, students will be able to … • confidently discuss on selected topics of public health relevance with students from other professional, regional and cultural backgrounds • discuss the stark differences in healthcare in the global context, informed by discussions with peers and lecturers and the literature • work on an assigned or self-selected public health topic within a team and present it in the group **Professional competencies (scientific identity, professional actions)** On successful completion of this module, students will be able to … • contribute to the debate and argue from a population health perspective • develop an informed point of view and see the larger picture • follow national and international debate in the field of public health and reflect critically
Content	**Concepts and Dimensions of Health Sciences and Public Health** • Introduction to the concept of Public Health, its historic evolution and its fields of action • Different perspectives, dimensions and concepts of health and disease in public health and health sciences in distinction to other health related fields • Epidemiologic and demographic transition • Determinants of health of individuals, groups and populations • Burden of disease concept • Major public health challenges, achievements and trends of population health • Selected approaches to public health, including elements and functions of the health system • Key stakeholders and their role in public health • Presentation of current health science projects and research activities at the Hamburg University of Applied Sciences **Basic Statistics and Basic Epidemiology** • Basic statistical concepts and scale levels • Univariate and Bivariate descriptive statistics and dispersion parameters

	• Inferential statistics • Data visualization • Regression • Epidemiology and its utility in Public Health • Major concepts, terms and theories • Measures of association and impact and their interpretation • Basic epidemiologic study designs • Sources of error in study designs (bias, confounding) and strategies to avoid them
Applicability	This is a foundation module, which prepares the ground for all successive modules. It provides a basis specifically for the modules dealing with research methods, epidemiology and health policy research.
Requirements for the award of credit points	Standard form of assessment: Portfolio examination (graded) At the beginning of the class, the lecturer determines whether the portfolio examination for the following examination date should take place and with which examination components with which weighting for the individual examination components.
Component courses	Concepts and Dimensions of Health Sciences and Public Health Basic Statistics and Basic Epidemiology
Type of classes; media used	Seminar-style class:: • Lecture and guided discussion • Self-directed study of literature • Group work • Student presentations • Excursion • E-learning platform
Recommended reading	<u>Please ensure you are working from the current edition in each case.</u> Tulchinsky, T. H. & Varavikova, E. A. (2014): The New Public Health. 3rd edn, Academic Press. Kawachi, I., Lang, I. & Ricciardi, W. (2020): Oxford Handbook of Public Health Practice. 4th edn, Oxford University Press, Oxford. Beaglehole, R. (2009): Global public health: a new era, 2nd edn, Oxford Univ. Press, Oxford. Merson, M., Black, R. E. & Mills, A. (2018): Global Health: diseases, programs, systems, and policies, 4th edn, Jones & Bartlett Learning, Sudbury. Carrin, G. et. al. (2010): Health Systems Policy, Finance, and Organization. 1st edn, Academic Press. Baum, F. (2008): The new public health, 3rd edn, Oxford Univ. Press, Melbourne. Wilkinson, R. & Pickett, K. (2010): The Spirit Level: Why Equality is Better for Everyone. Penguin.

	Marmot, M. (2016): The Health Gap: The Challenge of an Unequal World. Bloomsbury Paperbacks. Celentano, D. D. & Szklo, M. (2019): Gordis Epidemiology. 6th edn, Elsevier. Field, A. (2009): Discovering statistics using SPSS, Sage Publications, London. Rowntree, D. & O'Hehir, R. (1981): Statistics without tears: a primer for non-mathematicians, Penguin, Harmondsworth.

Master Health Sciences	
Research Methods	
Module number	2
Module coordinator	Prof. Dr. Zita Schillmöller
Duration of module / semester(s) / frequency	One semester / 1st semester / Yearly
Credits (CP) / SHW	6 CP / 4 SHW
Workload	18 semester weeks (including examination period); 72 h in-class time, 108 h self-study
Type of module	Compulsory module
Required / recommended prior knowledge / skills	Recommended: intermediate knowledge in research methods
Language of instruction	English (German)
Learning / competency outcomes	**Specialist competencies (knowledge and understanding)** On successful completion of this module, students will be able to … • explain advanced concepts, theories and models of research methods (mixed method, quantitative, qualitative) • identify the different approaches in the research process • combine approaches to collect and analyse data • analyse problems in the research process of the different methods • evaluate quality assessment instruments used in health and social sciences • judge the appropriateness of psychometric properties of assessment instruments **Methodological competencies (use, application and generation of knowledge)** On successful completion of this module, students will be able to … • develop adequate research designs for current research questions in health sciences • apply qualitative methods of data collection and methods of content analysis using appropriate software • perform calculations of psychometric parameters using appropriate software • perform calculation of sample sizes using appropriate software • test and apply quality criteria in qualitative and quantitative studies • develop literature search strategies • use literature databases

	• write a systematic review **Social competencies (communication and cooperation)** On successful completion of this module, students will be able to … • work autonomously on a task within a team and present the results in the group • discuss different kind of research methods for a research project **Professional competencies (scientific identity, professional actions)** On successful completion of this module, students will be able to … • develop their own point of view and present it to the group • reflect critically upon research methods and literature reviews • critically appraise different research methods in the research process • write concepts for research grants for research projects
Content	• Theoretical framework of quantitative, qualitative and mixed method research • Quality criteria for instruments • Different kind of questions, answers and scales, questionnaire construction • Qualitative methods of data collection and analysis in different research approaches • Assessment of reliability and validity (classical test theory, item response theory, validation of different qualitative approaches) • Interviewing and observation strategies in qualitative and quantitative settings • Plan, conduct and evaluate pilot tests and validation studies • Application of a systematic literature search
Applicability	This module is an advanced module of research in the 1st semester and necessary for all modules in the second semester.
Requirements for the award of credit points	Standard form of assessment: Portfolio examination (graded) At the beginning of the class, the lecturer determines whether the portfolio examination for the following examination date should take place and with which examination components with which weighting for the individual examination components.
Component courses	Advanced Qualitative Research Methods Advanced Quantitative Research Methods
Type of classes; media used	Seminar-style class: • Discussion • Self-directed study of literature • Group work • Student presentations • Excursion • Electronic platform • Computer practice

Recommended reading	Please ensure you are working from the current edition in each case. Creswell, J. W. (2008): Research design: Qualitative, quantitative, and mixed methods approaches. SAGE Publications. Howitt, D. (2019): Introduction to qualitative methods in psychology. Prentice Hall Harlow. Levy, P. S. & Lemeshow, S. (2013): Sampling of populations: methods and applications. John Wiley & Sons. Bettany-Saltikov, J. (2012): How to do a systematic literature review in nursing: a step-by-step guide. McGraw-Hill Education (UK). Current equivalent literature on test theory and research methodology in English and German.

Master Health Sciences	
Ethics and Epistemology	
Module number	3
Module coordinator	Prof. Dr. Sabine Wöhlke
Duration of module / semester(s) / frequency	One semester / 1st semester / Yearly
Credits (CP) / SHW	6 CP / 4 SHW
Workload	18 semester weeks (including examination period); 72 h in-class time, 108 h self-study
Type of module	Compulsory module
Required / recommended prior knowledge / skills	Recommended: basic knowledge in ethics
Language of instruction	English (German)
Learning / competency outcomes	The aim of the course is to focus on the analysis of ethical and moral problems that arise in public health and related areas like medicine or nursing science; to reflect the theory and philosophy of sciences; and compare different epistemological approaches in health sciences. **Specialist competencies (knowledge and understanding)** On successful completion of this module, students will be able to … • understand today's ethical research regulations by considering their historical background and development • identify knowledge claims in the various disciplines relevant for health sciences • recognize that unethical scientific and technological conduct has had a particular impact on our society and especially on vulnerable groups **Methodological competencies (use, application and generation of knowledge)** On successful completion of this module, students will be able to … • use an applied ethics approach for the application of ethical theory for the purpose of choosing an ethical action in a given issue • present well-founded decisions in the context of research projects and project conceptualization in health sciences • make well-founded consideration and decision on the research methodological approach of research projects in health sciences **Social competencies (communication and cooperation)** On successful completion of this module, students will be able to …

	• discuss ethical implications of human rights in public health and health care, considering the values of diverse stakeholders • discuss ethical matters, as well as present and justify their own opinion, based on philosophical assumptions in health sciences (principle orientated) • argue and referencing their own opinion within ethical and epistemological discourses in health sciences • actively participate in professional discourses in health sciences and health politics challenging mainstream discourses **Professional competencies (scientific identity, professional actions)** On successful completion of this module, students will be able to … • reflect ethically on the recognition of the rights of individuals in the context of communities in health-related issues • consider and respect the needs of vulnerable groups for advocacy and participation • consider various perspectives; analyse and evaluate arguments; and construct well-reasoned arguments to support their own views • consider and decide the methodological and epistemological orientation of research projects • develop a professional and responsible attitude in the context of the design and discussion of research projects • develop their own point of view and present it to others • reflect for a need of new approaches to social responsibility to ensure that progress in science and technology contributes to justice, equity and to the interest of humanity • reflect that moral sensitivity and ethical reflection itself should be an integral part of the process of scientific and technological developments • critically evaluate the justification of and supporting evidence for knowledge claims
Content	**Ethics** • Different theoretical approaches to public health ethics and related areas such as medical ethics, bioethics, nursing ethics • Public health ethics on European and International level (WHO; UNESCO; World Medical Association, WMA) • Principle ethics; discourse ethics; care ethics … • Applied ethics (e.g. bioethics, gen-ethics, environmental-ethics, care ethics; communication ethics) • Empirical ethics • Research ethics (ethical review of health related research with human participants); clinical research, empirical research; good scientific practice (including ethical approval for research proposals) **Epistemology** • What is science? • What makes scientific knowledge claims special?

	• Structures of scientific theories, standard problems and future prospects • Critical approaches to science
Applicability	Ethical and scientific theoretical knowledge is necessary in all areas of health research and modules.
Requirements for the award of credit points	Standard form of assessment: Portfolio examination (graded) At the beginning of the class, the lecturer determines whether the portfolio examination for the following examination date should take place and with which examination components with which weighting for the individual examination components.
Component courses	Ethics Epistemology
Type of classes; media used	Seminar-style class: • Discussion • Self-directed study of literature • Group work • Student presentations • Excursion • Electronic platform
Recommended reading	Please ensure you are working from the current edition in each case. ALLEA – All European Academies (2017): The European Code of Conduct for Research Integrity (Revised Edition). Benatar, S. & Brock, G. (2013): Global Health and Global Health Ethics, Cambridge. Budrys, G. (2010): Unequal health. How inequality contributes to health or illness (2nd Edition). Lanham: Rowman & Littlefield. Crisp, R. (ed.) (2013): The History of Ethics, Oxford. DFG (German Research Foundation) (2019): Code of Conduct: Guidelines for Safeguarding Good Research Practice. Düwell, M., Hübenthal, C. & Werner, M. H. (Hrsg.) (2006): Handbuch Ethik (2. Aufl.). Stuttgart: J.B. Metzler Verlag. Holland, S. (2012): Arguing about Bioethics, London. Kidd, J., Medina, J. & Pohlhaus, G. (2017): The Routledge Handbook of Epistemic Injustice, Cornwell. Lafollette, H. (ed.) (2005): The Oxford Handbook of practical Ethics, Oxford. Lenk, C.: Normative und deskriptive Gesundheitsbegriffe. In: Schröder-Beck & Kuhn (Hrsg.): Ethik in den Gesundheitswissenschaften, Beltz Juventa Weingarten, S. 35-42. Myser, C. (ed.) (2011): Bioethics around the Globe, Oxford. Nida-Ruemelin, J. (1999): Wissenschaftsethik. In ders: Einführung in die Angewandte Ethik, S. 781-805. Pfister, J. (2020): Texte zur Wissenschaftstheorie. Stuttgart.

	Schülein, J. A. & Reitze, S. (2016): Wissenschaftstheorie für Einsteiger, 4. Aufl., Wien. Steinbock, B. (ed.) (2013): The Oxford Handbook of Bioethics, Oxford. Strech, D., Marckmann, G. (Hrsg.): Public Health Ethik, Münster. Wallner, J. (2007): Health Care zwischen Ethik und Recht, Wien.

Master Health Sciences	
Digitalization and Communication in Health Sciences	
Module number	4
Module coordinator	Prof. Dr. Sabine Wöhlke
Duration of module / semester(s) / frequency	One semester / 1st semester / Yearly
Credits (CP) / SHW	6 CP / 4 SHW
Workload	18 semester weeks (including examination period); 72 h in-class time, 108 h self-study
Type of module	Compulsory module
Required / recommended prior knowledge / skills	Recommended: personal counselling experience, basics of digitalization and its application in Germany and abroad
Language of instruction	English (German)
Learning / competency outcomes	**Specialist competencies (knowledge and understanding)** On successful completion of this module, students will be able to … • name basic concepts of digitalization and communication, its fields of application, its potentials and risks and scope for future developments • inform different audiences about vital aspects of data protection or pending digital risks and risk management • identify the influence of perceptions in risk communication and identify levers to influence the process • identify and use suitable communication channels for different target groups (social media) **Methodological competencies (use, application and generation of knowledge)** On successful completion of this module, students will be able to … • apply a broad spectrum of cognitive and practical skills for counselling in digitalization and communication in different settings • apply appropriate research principles and methods in the design, conduct, analysis and interpretation of health education and health communication studies • use, apply and develop problem solving strategies concerning digital processes in the health sector, formulate alternatives and explain possible interactions • transfer existing digital processes of organizations to the health sector or health applications • communicate with different target groups and develop a suitable communication strategy for health issues

	• assess individual and community needs for health education and health communication programs • evaluate the effectiveness of health education/ communication programs by applying the correct evaluation strategy for the program phase and by understanding the program or research question, design considerations, and conceptual framework **Social competencies (communication and cooperation)** On successful completion of this module, students will be able to … • work autonomously on a task within a team and present it in the group • foster the dissemination of complex health issues to individuals and groups • communicate and advocate for health education/ communication needs among communities as well as within the profession • articulate the influence of social context and behaviour on health with the aim of developing, implementing and evaluating solutions to pressing public health challenges in Germany and around the globe **Professional competencies (scientific identity, professional actions)** On successful completion of this module, students will be able to … • reflect on the effects of digitalization in healthcare research and its acceptance • refer knowingly on digitalization and further developments in health research to different groups • master risk communication for health hazards • address different audiences in appropriate language • plan and implement health education/ communication programs that are grounded in theory, driven by data, and sensitive to priority audience needs and preferences
Content	**Digitalization in Health Sciences** General Topics: • Basic definitions and concepts: digital health, digitalization in healthcare, e-health, m-health … • Digital healthcare strategies in the national and international context (Germany and in the EU) • Technology assessment • Legal aspects and data protection • Ethical implications Specific Topics: Introduction into a selection of specific technologies, their potentials and challenges, risks and limitations and practical application examples. • Use of Big Data/ Open Data in healthcare • Internet of Things (IoT) • E-Health • Telematics and telematics services

	• Health applications (health apps, fitness wearables, tracking, app-based prevention) • Digital based technology e.g. drones, robots, artificial intelligence in health business • Social media and health and risk communication **Communication in Health Sciences** • Basics of communication science • Basics of health communication: relation between health communication and communication science • Verbal and nonverbal communication • Health campaigns, mass media and communication, target group communication • Risk communication and risk literacy • Basics of science communication • Pseudoscience, misleading communication • Mass media – use and effects • Development, typology und function of media, media economy and media markets, sender and users of media, use and efficacy of (mass) media, choice and selection of media • Computer based communication and Web 2.0 media policy
Applicability	This module is applicable in all areas of health research and modules.
Requirements for the award of credit points	Standard form of assessment: Case study (graded); other possible form of assessment: Portfolio examination, Written paper At the beginning of the classes, the member of academic staff delivering the module shall announce the type of assessment that will take place.
Component courses	Digitalization in Health Sciences Communication in Health Sciences
Type of classes; media used	Seminar-style class: • Discussion • Self-directed study of literature • Group work • Student presentations • Excursion • Electronic platform
Recommended reading	<u>Please ensure you are working from the current edition in each case.</u> Abraham, T. (2013): Risk Communication practice and perspective in contrast to WHO outbreak communication guidelines. The European Journal of Public Health 23(suppl_1). Darmann-Finck, I., Rothgang, H. & Zeeb, H. (2020): Digitalisierung und Gesundheitswissenschaften – White Paper Digital Public Health, Das Gesundheitswesen 82(07):620-622. Dockweiler, C. & Razum, O. (2016): Digitalisierte Gesundheit: Neue Herausforderungen. Gesundheitswesen 2016, 78: 5-7. Higgs, J., Ajjawi, R., McAllister, L., Trede, F. & Loftus, S. (2012): Communicating in the Health Sciences, Third Edition. Oxford University Press.

	Hurrelmann, K. & Baumann, E. (Hrsg.) (2014): Handbuch Gesundheitskommunikation. Verlag Hans Huber, Bern. Jazbinsek, D. (Hrsg.) (2000): Gesundheitskommunikation. Westdeutscher Verlag, Wiesbaden. Rossmann, C. & Hastall M. R. (Hrsg.) (2019): Handbuch der Gesundheitskommunikation. Kommunikationswissenschaftliche Perspektiven. Springer Fachmedien, Wiesbaden. Salmon, C. T. & Poorisat, T. (2019): The Rise and Development of Public Health Communication. Health communication. Sandman, P. M. (2012): Responding to Community Outrage: Strategies for Effective Risk Communication. WHO (2020): GLOBAL STRATEGY ON DIGITAL HEALTH.

Master Health Sciences	
Research and Project Management	
Module number	5
Module coordinator	Prof. Dr. Dr. Walter Leal
Duration of module / semester(s) / frequency	One semester / 2nd semester / Yearly
Credits (CP) / SHW	6 CP / 4 SHW
Workload	18 semester weeks (including examination period); 72 h in-class time, 108 h self-study
Type of module	Compulsory module
Required / recommended prior knowledge / skills	Recommended: familiarity with the concept of research projects
Language of instruction	English
Learning / competency outcomes	**Specialist competencies (knowledge and understanding)** On successful completion of this module, students will be able to … • define the basic concepts, principles and methods used in research projects • obtain knowledge on how to design a project, with the inclusion of all its components • discuss the role of project management and the tools to be used in the evaluation of their impacts **Methodological competencies (use, application and generation of knowledge)** On successful completion of this module, students will be able to … • design a research project • identify the sources of funding for projects • deploy the tools needed to evaluate projects • apply project management methods to the conduction of a research study **Social competencies (communication and cooperation)** On successful completion of this module, students will be able to … • cooperate effectively in teams with other students • present their findings in a manner appropriate to an external audience **Professional competencies (scientific identity, professional actions)** On successful completion of this module, students will be able to … • clearly distinguish the various elements which compose a project

	• effectively communicate matters related to project design and management to external audiences
Content	• Project design and management (I): Introduction, Aims and Methodology • Project design and management (II) Project Schedule and Budgets • Project design and management (III): Monitoring and Evaluation • Reporting on project results • Sources of funding for projects • Preparation and presentation of project proposals
Applicability	This module is based on a project-based learning approach. It is applicable in all areas of health research and modules.
Requirements for the award of credit points	Standard form of assessment: Project (graded); other possible form of assessment: Portfolio examination At the beginning of the classes, the member of academic staff delivering the module shall announce the type of assessment that will take place.
Component courses	Research Design Project Management
Type of classes; media used	Seminar-style class: • Discussion • Self-directed study of literature • Group work • Student presentations • Excursion • Case study • Electronic platform
Recommended reading	Please ensure you are working from the current edition in each case. Harned, B. & Storey, G. (2017): Project Management for Humans: Helping People Get Things Done. Rosenfeld Media, ISBN- 978-1933820514. Project Management Institute (2017) Agile Practice Guide. Project Management Institute, ISBN: 978-1628251999 Wingate, L. M. (2014): Project Management for Research and Development: Guiding Innovation for Positive R&D Outcomes. Auerbach Publications, ISBN: 978-1466596290. Nickson, D. (2013): The Bid Manager's Handbook. Gower Publishing Ltd. Aldershot, UK.

Master Health Sciences	
Advanced Biostatistics	
Module number	6
Module coordinator	Prof. Dr. Joachim Westenhöfer
Duration of module / semester(s) / frequency	One semester / 2nd semester / Yearly
Credits (CP) / SHW	6 CP / 4 SHW
Workload	18 semester weeks (including examination period); 72 h in-class time, 108 h self-study
Type of module	Compulsory module
Required / recommended prior knowledge / skills	Recommended: intermediate knowledge in statistics
Language of instruction	English (German)
Learning / competency outcomes	**Specialist competencies (knowledge and understanding)** On successful completion of this module, students will be able to … • understand major methods of multifactorial and multivariate statistical analysis (Analysis of Variance and Covariance, Linear, Logistic, Cox Regression Analyses) • describe the assumptions and preconditions for the application of statistical analyses • describe the principles and application of sample size calculation • understand Mediation and Moderator Analysis **Methodological competencies (use, application and generation of knowledge)** On successful completion of this module, students will be able to … • apply multifactorial and multivariate statistical analyses with statistical software • perform sample size calculations • present the results of statistical analysis **Social competencies (communication and cooperation)** On successful completion of this module, students will be able to … • confidently discuss results of statistical analysis in the context of research methods • work on an data set with the correct statistical tools **Professional competencies (scientific identity, professional actions)** On successful completion of this module, students will be able to … • contribute to the debate and argue from research perspective

	• develop an informed point of view and see the larger picture
Content	**Advanced Biostatistics I** • Effect size indices and determinants of statistical significance • Sample size calculation • Analysis of Variance and Covariance • Linear Regression Analysis **Advanced Biostatistics II** • Logistic Regression Analysis • Cox Regression Analysis
Applicability	This module provides the statistical knowledge and skills that are needed in conducting and analysing empirical research, e.g. in the research internship or in the master thesis.
Requirements for the award of credit points	Standard form of assessment: Written examination (graded) with application of statistical software in the PC-lab; other possible form of assessment: Oral examination, Presentation At the beginning of the classes, the member of academic staff delivering the module shall announce the type of assessment that will take place.
Component courses	Advanced Biostatistics I Advanced Biostatistics II
Type of classes; media used	Seminar-style class: • Discussion • Practice demonstration of use of statistical software • Self-directed exercise of statistical analysis • Group work • Student presentations • Electronic platform
Recommended reading	Please ensure you are working from the current edition in each case. Field, A. (2017): Discovering statistics using IBM SPSS statistics (5th edition). SAGE Publications. Wollschläger, D. (2016): R kompakt: Der schnelle Einstieg in die Datenanalyse. Springer-Verlag. Levy, P. S. & Lemeshow, S. (2011): Sampling of Populations: Methods and Applications: Fourth Edition.

Master Health Sciences	
Health Policy and Health Economics Research	
Module number	7
Module coordinator	Prof. Dr. Judith Brockmann, Maître en Droit
Duration of module / semester(s) / frequency	One semester / 2nd semester / Yearly
Credits (CP) / SHW	6 CP / 4 SHW
Workload	18 semester weeks (including examination period); 72 h in-class time, 108 h self-study
Type of module	Compulsory module
Required / recommended prior knowledge / skills	Recommended: intermediate knowledge in Health Economics, Health Policy, and basic knowledge in Global Health
Language of instruction	English
Learning / competency outcomes	**Specialist competencies (knowledge and understanding)** On successful completion of this module, students will be able to … • explain basic concepts, theories and models of health economics and health policy research, including aspects of global health • identify different approaches in health economics research and health policy research (e.g. steering and governance; behavioural incentives; Regulatory Impact Assessment; health(care) system comparison) • situate and assess health economics and health policy research in the broader field of health systems and health science research • identify and address interdisciplinary aspects and challenges in research design • interpret the results of analyses in the fields of economic and political sciences in a thoughtful and critical manner • analyse problems linked to health and health systems from various, especially political, economic, and global health perspectives • evaluate the different decision-making criteria (such as efficiency, equity, and ethics) **Methodological competencies (use, application and generation of knowledge)** On successful completion of this module, students will be able to … • synthesize research results verbally and in writing, at postgraduate level

	• apply appropriate economic tools and systems knowledge to the analysis of research questions • apply economic theory and political theory to the special context of national healthcare systems as well as global health at large • develop policy approaches to address (global) health problems • formulate original health economic/ systems research questions and testable hypotheses • investigate and predict the effect of different measures (such as information, subsidies, taxation, and sanctions) on the behaviours of all stakeholders (including citizens/ patients) • develop suitable study designs (and eventually, own project, including plan) to address particular research questions in health economics and health policy research • identify challenges in interdisciplinary research and appropriately address them aiming for relevant research results that are compatible with the concepts used within other disciplines **Social competencies (communication and cooperation)** On successful completion of this module, students will be able to … • discuss health economic and health policy research concepts and applications in appropriate depth • present their own point of view in a thoughtful way and discuss it in different contexts (scientific; popular) and with different stakeholders in an appropriate way **Professional competencies (scientific identity, professional actions)** On successful completion of this module, students will be able to … • reflect critically upon health economic and global as well as domestic health policy issues • develop their own point of view and substantiate it by drawing on theoretical concepts and scientific sources • identify potential research funding programs or research grants for research projects • critically appraise (social) media broadcasts, press releases and the contemporary political debate as it relates to global and domestic health policy issues
Content	**Health Policy Research** • Health politics, actors, and implementation processes on national, European and global level • Steering and Governance as concepts in political sciences • Welfare-state models and health system models • Health(care) system comparison • Global health and health policy research • Steering and governance analysis • Regulatory Impact Assessment

	• Research funding programs and research grants as instruments of health policy **Health Economics Research** • Demand for health and health care • Demand for, and supply of, health insurance cover • Finance of health care, health systems with a third-party payer • Equity in healthcare (horizontal/ vertical; finance/ provision) • Production and costs of healthcare • Health Technology Assessment (HTA), economic evaluation, budget impact and cost-effectiveness modelling • Consumer/ patient/ insuree/ user preferences • Healthcare indicators relating to access, quality, resources, sustainability **Both courses** • Interdisciplinary aspects and challenges in health systems research • The impact of health systems research: Evidence-informed policy and policy-informed research
Applicability	This module is applicable in Health Promotion and Health Behaviour Research and Research and Project Management.
Requirements for the award of credit points	Standard form of assessment: Portfolio examination (graded) At the beginning of the class, the lecturer determines whether the portfolio examination for the following examination date should take place and with which examination components with which weighting for the individual examination components.
Component courses	Health Policy Research Health Economics Research
Type of classes; media used	Seminar-style class: • Discussion • Self-directed study of literature • Group work • Student presentations • Excursion • Electronic platform
Recommended reading	<u>Please ensure you are working from the current edition in each case.</u> Annemans, L. (2008): Health Economics for Non-Economists. Gent: Academia. Folland S., Goodman A. C. & Stano M. (2017): The Economics of Health and Health Care, 8th Ed. New York. Health at a Glance 20xx (latest version, released every 2 years, in uneven years) – OECD Indicators. Paris, OECD Publishing. Levy A., Goring, S., Gatsonis, C., Sobolev, B., van Ginneken, E. & Busse, R. (eds.) (2019): Health services evaluation, New York: Springer.

	Markle, W., Fisher, M. & Smego, R. (2013): Understanding Global Health, 2nd Ed. New York: McGraw-Hill. McInnes, C., Lee, K. & Youde, J. (eds.) (2018-2020): The Oxford handbook of global health politics, New York: Oxford University Press. Morris, S., Devlin, N. & Parkin, D. (2012): Economic Analysis in Health Care, 2nd Ed., Chichester: Wiley. Parkhurst, J., Ettelt, S. & Hawkins, B. (eds.) (2018): Evidence Use in Health Policy Making, Cham: Palgrave McMillan.

Master Health Sciences	
Research Project	
Module number	8
Module coordinator	Internship Officer
Duration of module / semester(s) / frequency	One semester / 3rd semester / Yearly
Credits (CP) / SHW	30 CP
Workload	22 weeks full-time for full-time students 6 seminars
Type of module	Compulsory module
Required / recommended prior knowledge / skills	Required: Acquisition of 60 CP in total (10 modules from the 1st and 2nd semester with each 6 CP) Exceptions require approval by the Examination Board.
Language of instruction	English (Languages other than English require approval by the first supervisor)
Learning / competency outcomes	**Specialist competencies (knowledge and understanding)** On successful completion of this module, students will be able to … • gain a comprehensive and in-depth knowledge about the current developments in the respective area of research **Methodological competencies (use, application and generation of knowledge)** On successful completion of this module, students will be able to … • independently apply and further develop the theoretical and methodological knowledge and understanding gained in the course of study **Social competencies (communication and cooperation)** On successful completion of this module, students will be able to … • actively participate in a research team • conduct professional and target group-specific communication, e.g. with cooperation partners and respondents • proactively seek advice in the event of questions, problems and conflict **Professional competencies (scientific identity, professional actions)** On successful completion of this module, students will be able to … • integrate theoretical scientific knowledge and methodology into Public Health research • apply research project management skills

	• present their own research in line with academic standards • critically reflect on Public Health and Health Sciences issues • retrieve, assess and use of relevant literature/ material
Content	The skills acquired during the Master Health Sciences program will be applied and practiced in the third research training-semester. Here, students will be part of a research project conducted either at the Hamburg University of Applied Sciences or at another, relevant institution focusing on Public Health. Students will gain both practical skills, teamwork experiences and learn how to run a project in the field of Health Sciences research. The training will be supervised by a professor and accompanied by seminars for scientific exchange.
Applicability	The Research Project (Internship) serves as a way to acquire practical skills and competencies in order to be able to address and successfully answer current research questions. • It serves as a way to gain insight into respective health research agencies • It serves to investigate and evaluate special tasks which will be experienced in the students' future professions in research • It should be used by the students to put scientific knowledge and methods into practice Possible fields of work are concentrated in the areas of conception and conduction of research projects in the fields of Health Sciences (Hamburg University of Applied Sciences/ external suitable internship positions – authorization required).
Requirements for the award of credit points	Participation in the seminars for scientific exchange Comprehensive Research Project with Internship Certificate and Internship Report Standard form of assessment: Presentation (graded)
Component courses	Research Project Scientific Exchange

Type of classes; media used	• Participation in concomitant seminars amounting to no more than a maximum of six days
	• When the internship is to be completed in an overseas country, the seminars have to be attended electronically
	• Supervision
	  ○ First supervision by a professor and a second member of the academic staff of the Hamburg University of Applied Sciences
	  ○ In case of external internship placements a second supervisor in the institution is mandatory

Recommended reading	Please refer to the current information sheet on internship rules and regulations for the Research Project.

Master Health Sciences	
Master thesis	
Module number	9
Module coordinator	Head of the Examination Board
Duration of module / semester(s) / frequency	One semester / 4th semester / Yearly
Credits (CP) / SHW	30 CP
Workload	900 h (6 months)
Type of module	Compulsory module
Required / recommended prior knowledge / skills	Required: Acquisition of 90 CP in total (10 modules from the 1st and 2nd semester with each 6 CP and 30 CP Research Project from 3rd semester) Exceptions require approval by the Examination Board.
Language of instruction	English (Languages other than English require approval by the Examination Board)
Learning / competency outcomes	**Methodological competencies (use, application and generation of knowledge)** On successful completion of this module, students will be able to … • systematically approach and analyse an academic topic, incorporating the identification of relevant issues in the field of Public Health and Health Sciences • research relevant and current literature, identify a research gap and formulate an appropriate research question • develop and implement a suitable research design and methodology for the purpose of responding to the research question • independently carry out research with considerations to ethical aspects • document the research process and critically interpret its results/ findings in the context of Public Health research **Social competencies (communication and cooperation)** On successful completion of this module, students will be able to … • work independently and conduct professional and target group-specific communication, e.g. with cooperation partners and respondents • proactively seek advice in the event of questions, problems and conflict • communicate with an academic audience/ readership

	Professional competencies (scientific identity, professional actions) On successful completion of this module, students will be able to … • integrate theoretical scientific knowledge and methodology into Public Health research • present their own research in line with academic standards • complete a piece of academic work within the specified timeframe • critically reflect on Public Health and Health Sciences issues • retrieve, assess and use of relevant literature/ research material • advance their knowledge and skills in scientific writing
Content	The Master thesis is a comprehensive theoretical, empirical and/ or experimental exploration of a specific topic, which requires prior approval by the Head of the Examination Board.
Applicability	The aim of the thesis for students is to demonstrate their capacity to apply scientific methods and generate scientific findings. Students independently explore a topic taken from the field of work associated with their degree course, addressing the issue in interdisciplinary contexts and independently expanding and further developing their academic knowledge.
Requirements for the award of credit points	Master thesis (graded)
Component courses	Master thesis In the context of the supervision of the master thesis, the guidance for scientific work takes place.
Type of classes; media used	• Supervision o First supervision by a professor of the faculty of life sciences or other faculty of Hamburg University of Applied Sciences o Second supervision by a member of the academic staff of Hamburg University of Applied Sciences An external supervisor with approved qualifications may also be appointed. A copy of the relevant academic qualification of the external supervisor has to be presented with the application of the master thesis.
Recommended reading	Please ensure you are working from the current edition in each case. Lindsay, D. (2011): Scientific writing: Thinking in words (No. 651.7 LINs). CSIRO Pub. Glasman-Deal, H. (2010): Science research writing for non-native speakers of English. World Scientific. Potochnik, A., Colombo, M., & Wright, C. (2018): Recipes for science: an introduction to scientific methods and reasoning. Routledge. Galvan, J. L., & Galvan, M. C. (2017): Writing literature reviews: A guide for students of the social and behavioural sciences. Taylor & Francis.

Master Health Sciences	
Diversity in Health and Family and Community Health Research	
Module number	10
Module coordinator	Prof. Dr. Johanna Buchcik
Duration of module / semester(s) / frequency	One semester / 1st semester / Yearly
Credits (CP) / SHW	6 CP / 4 SHW
Workload	18 semester weeks (including examination period); 72 h in-class time, 108 h self-study
Type of module	Elective compulsory module
Required / recommended prior knowledge / skills	Recommended: intermediate knowledge in health and diversity
Language of instruction	English (German)
Learning / competency outcomes	The aim of this course is to enable students to understand and conduct research and develop interventions in the context of diversity to minimize health inequalities. **Specialist competencies (knowledge and understanding)** On successful completion of this module, students will be able to … • reflect and compare concepts and practice in the context of diversity in research and professional communication • reflect processes of discrimination, stigmatization and marginalization which lead to diverging health outcomes • contrast scientific approaches and research designs to assess and identify inequalities in health • understand low-threshold accesses, networking and communication in health promotion of vulnerable individuals and groups **Methodological competencies (use, application and generation of knowledge)** On successful completion of this module, students will be able to … • develop adequate intervention strategies which avoid labelling and effectively support marginalized, vulnerable and disadvantaged groups • develop low threshold strategies to achieve and support vulnerable groups, families and community members and facilitate their participation in health promotion and disease prevention programs • plan, implement and evaluate intervention strategies consistent with current theory and data

	Social competencies (communication and cooperation) On successful completion of this module, students will be able to … • effectively communicate health and health promotion needs/ issues of vulnerable individuals and groups • give a scientific oral and written presentation (scientific paper) **Professional competencies (scientific identity, professional actions)** On successful completion of this module, students will be able to … • critically evaluate theoretical and practical conceptualizations of inequalities in health based on diversity aspects (e.g. gender, age, ethnicity, religion, disability, socio-economic and sociodemographic status) • effectively communicate in intercultural and intersectional settings
Content	**Diversity in Health – Gender, Ethnicity, Class and Age** • Theories and concepts of diversity and gender • Health promotion and disease prevention in the context of diversity • Dimensions of health inequalities (gender, ethnicity, socio-economic status, sexual orientation, age, disability) and their intersectionality • Strategies to reduce inequalities for vulnerable groups like empowerment, gender mainstreaming, diversity management, affirmative action and their application in health research, health policy and health promotion • Low threshold health promoting interventions • Concepts of intercultural communication and intercultural training **Family and Community Health Research** • Theories and concepts of health of individuals, families and communities • Health programs addressing diversity aspects • Actions to promote healthy behaviour by women and men (gender and health) • Actions to promote health behaviour by families
Applicability	Diversity in Health is applicable in all areas of health research and modules. Family and Community Health Research is applicable in Health Promotion and Health Behaviour Research and Research and Project Management.
Requirements for the award of credit points	Standard form of assessment: Written paper (graded); other possible form of assessment: Portfolio examination, Presentation At the beginning of the classes, the member of academic staff delivering the module shall announce the type of assessment that will take place.
Component courses	Diversity in Health – Gender, Ethnicity, Class and Age

	Family and Community Health Research
Type of classes; media used	Seminar: • Group work • Self-directed study of literature • Student presentations and discussion • Diversity and/ or gender training units • Excursion • Electronic platform
Recommended reading	Please ensure you are working from the current edition in each case. Current and classic literature on diversity, gender and health. Bundeszentrale für gesundheitliche Aufklärung - BZgA (eds.) (2015): Criteria for good practice in health promotion addressing social determinants. Developed by the German Cooperation Network 'Equity in Health. First published November 2015. Marmot, M. & Wilkinson, R. G. (eds.) (2006): Social determinants of health, Oxford University Press, Oxford. Additional literature is provided on the e-learning platform.

Master Health Sciences	
Non-Communicable Disease Epidemiology and Research Interests	
Module number	11
Module coordinator	Prof. Dr. Joachim Westenhöfer
Duration of module / semester(s) / frequency	One semester / 1st semester / Yearly
Credits (CP) / SHW	6 CP / 4 SHW
Workload	18 semester weeks (including examination period); 72 h in-class time, 108 h self-study
Type of module	Elective compulsory module
Required / recommended prior knowledge / skills	Recommended: basic knowledge in statistics and epidemiology
Language of instruction	English
Learning / competency outcomes	**Specialist competencies (knowledge and understanding)** On successful completion of this module, students will be able to … • describe major non-communicable diseases and their major risk factors • evaluate advantages and limitations of study designs for research questions **Methodological competencies (use, application and generation of knowledge)** On successful completion of this module, students will be able to … • analyse data from major epidemiological study designs with statistical software • appropriately present results from epidemiological studies and databases • critically appraise publications of epidemiological studies and discuss their clinical and/ or political relevance • apply appropriate publication guidelines for major study designs (including systematic reviews) **Social competencies (communication and cooperation)** On successful completion of this module, students will be able to … • work autonomously on a task within a team and present it in the group **Professional competencies (scientific identity, professional actions)** On successful completion of this module, students will be able to … • develop their own point of view and present it to the group

	• advocate for health promotion needs in communities and political and professional contexts
Content	**Non-Communicable Disease Epidemiology** • Major non-communicable diseases and their major risk factors • Reporting guidelines and critical appraisal of major study designs • Measures of effect and association, confidence intervals and significance tests • Confounding and adjustment • Systematic literature reviews **Research Interests** • This course will focus on a contemporary issue related to international cooperation or ongoing research projects Examples are: European Health Reporting, Urban Health, Social Epidemiology
Applicability	This course provides basic knowledge and skills for health research and all modules. This is recommended for and used in the module Advanced Biostatistics.
Requirements for the award of credit points	Standard form of assessment: Written examination (graded); other possible form of assessment: Written paper, Oral examination, Presentation At the beginning of the classes, the member of academic staff delivering the module shall announce the type of assessment that will take place.
Component courses	Non-Communicable Disease Epidemiology Research Interests
Type of classes; media used	Seminar: • Discussion • Self-directed study of literature • Group work • Student presentations • Electronic platform
Recommended reading	Please ensure you are working from the current edition in each case. Haynes, R. B. (eds.) (2006): Clinical epidemiology: How to do clinical practice research (3rd ed.). Lippincott Williams & Wilkins. Rothman, K. J., Greenland, S., & Lash, T. L. (2008): Modern epidemiology (3rd ed., thoroughly rev. and updated). Wolters Kluwer Health/ Lippincott Williams & Wilkins.

Master Health Sciences	
Occupational and Environmental Health Research	
Module number	12
Module coordinator	Prof. Dr. André Klußmann
Duration of module / semester(s) / frequency	One semester / 2nd semester / Yearly
Credits (CP) / SHW	6 CP / 4 SHW
Workload	18 semester weeks (including examination period); 72 h in-class time, 108 h self-study
Type of module	Elective compulsory module
Required / recommended prior knowledge / skills	Recommended: familiarity with environment and occupational health issues
Language of instruction	English
Learning / competency outcomes	**Specialist competencies (knowledge and understanding)** On successful completion of this module, students will be able to … • define the basic concepts, principles and methods of risk assessment • identify levels of and trends in the most significant environmental and occupational exposures and their relationship to health • discuss the impact of climate change on health **Methodological competencies (use, application and generation of knowledge)** On successful completion of this module, students will be able to … • conduct a study addressing environmental and/ or occupational exposures • apply project management methods to the conduction of a research study • interpret environmental and occupational impacts on health to the end of developing a coherent strategy for preventing and managing hazards that pose risks to human health and safety **Social competencies (communication and cooperation)** On successful completion of this module, students will be able to … • cooperate effectively in teams with other students • present their findings in a manner appropriate to the target group **Professional competencies (scientific identity, professional actions)** On successful completion of this module, students will be able to …

	• clearly distinguish between scientific knowledge, assumptions and uncertainties • critically analyse the impact of environmental and occupational factors on health • effectively communicate health-related issues to clients, staff, management and experts
Content	**Occupational Health Research** • Overview of general and currently relevant aspects of occupational health and occupational health research • In-depth consideration of selected aspects of occupational health like e.g. o Work-related musculoskeletal disorders and risk assessment of physical exposures at work o Environmental conditions at work and risk assessment of selected exposures • Laboratory practice with occupational medicine and occupational science experiments with a focus on: test set-up, measuring, recording, evaluating, interpreting, presenting in connection with an applied research project **Environmental Health Research** • In-depth consideration of selected environmental influences to health, e.g. o Climate Change and Health o Environmental Contaminants o Fine particle emissions and their impacts on the environment and health o Plastics and Health Risks
Applicability	This module is applicable in Health Promotion and Health Behaviour Research, Research and Project Management and Infectious Disease Epidemiology and Pandemic Control.
Requirements for the award of credit points	Standard form of assessment: Case study (graded); other possible form of assessment: Portfolio examination At the beginning of the classes, the member of academic staff delivering the module shall announce the type of assessment that will take place.
Component courses	Occupational Health Research Environmental Health Research
Type of classes; media used	Seminar with Lab work: • Discussion • Self-directed study of literature • Group work • Student presentations • Case study • Electronic platform

Recommended reading	Please ensure you are working from the current edition in each case. Gatchel, R. J. & Schultz, I. Z. (eds.) (2012): Handbook of Occupational Health and Wellness. Springer. – Available as an e-book at HIBS Leal Filho, W., Azeiteiro, U. A. & Santos, F. (eds) (2016): Climate Change and Health. Springer, Berlin. Moeller, D. W. (2005): Environmental Health. Harvard University Press, Cambridge, MA. USA. – Available as an e-book on the EMIL platform

Master Health Sciences	
Health Promotion and Health Behaviour Research	
Module number	13
Module coordinator	Prof. Dr. Johanna Buchcik
Duration of module / semester(s) / frequency	One semester / 2nd semester / Yearly
Credits (CP) / SHW	6 CP / 4 SHW
Workload	18 semester weeks (including examination period); 72 h in-class time, 108 h self-study
Type of module	Elective compulsory module
Required / recommended prior knowledge / skills	Recommended: intermediate knowledge in health promotion and health behaviour
Language of instruction	English (German)
Learning / competency outcomes	**Specialist competencies (knowledge and understanding)** On successful completion of this module, students will be able to … • describe the current state of knowledge and research in health promotion, health behaviour and life-style modification research • identify areas of open research questions and leading-edge research in these fields • describe methods and approaches of research in these fields • understand the transmission of theories into health promoting practices • understand advantages and disadvantages/ challenges in applying theories into practice **Methodological competencies (use, application and generation of knowledge)** On successful completion of this module, students will be able to … • apply appropriate methods and designs to new research questions • apply health behaviour theories and concepts for health promoting strategies/ interventions **Social competencies (communication and cooperation)** On successful completion of this module, students will be able to … • critically discuss and work in groups and teams • present knowledge, findings and challenges in oral format and to defend new hypotheses

	Professional competencies (scientific identity, professional actions) On successful completion of this module, students will be able to … • reflect on the use of health behaviour models and concepts in health behaviour promotion • plan, implement and evaluate health programs/ interventions based on current scientific literature/ good scientific practice
Content	• Definitions of health promotion, health behaviour and life-style modification • Intrapersonal, interpersonal and community level of health theories and concepts • Theories and models of health behaviour and life-style modification • Selected new research in different areas of life-style modification (including smoking, eating, nutrition, exercise) • Putting theory into practice
Applicability	The aim of this module is to provide students with knowledge of the current state of research in health promotion and health behaviour research. This module is applicable in all areas of health research and modules.
Requirements for the award of credit points	Standard form of assessment: Written paper (graded); other possible form of assessment: Portfolio examination, Presentation At the beginning of the classes, the member of academic staff delivering the module shall announce the type of assessment that will take place.
Component courses	Health Promotion Research Health Behaviour Research
Type of classes; media used	Seminar: • Group work • Self-directed study of literature • Student presentations and discussion • Electronic platform
Recommended reading	Please ensure you are working from the current edition in each case. Current and classic literature from scientific journals. National Cancer Institute (eds.) (2005): Theory at a Glance: A Guide for Health Promotion Practice. U.S. Department of Health and Human Services, National Institutes of Health. Additional literature is provided on the e-learning platform.

Master Health Sciences	
Infectious Disease Epidemiology and Pandemic Control	
Module number	14
Module coordinator	Prof. Dr. med. Ralf Reintjes
Duration of module / semester(s) / frequency	One semester / 2nd semester / Yearly
Credits (CP) / SHW	6 CP / 4 SHW
Workload	18 semester weeks (including examination period); 72 h in-class time, 108 h self-study
Type of module	Elective compulsory module
Required / recommended prior knowledge / skills	Recommended: intermediate knowledge in epidemiology as for example in Epidemiology I, II (BA)
Language of instruction	English
Learning / competency outcomes	**Specialist competencies (knowledge and understanding)** On successful completion of this module, students will be able to … • describe major communicable diseases and major components of their aetiology • identify key factors for the spread of infectious diseases • understand Surveillance Systems (Infectious Disease Information System, different types of surveillance, Capture-recapture analysis to assess the sensitivity of surveillance systems) • discuss about the use of specific study designs • understand the possible use of mathematical modelling **Methodological competencies (use, application and generation of knowledge)** On successful completion of this module, students will be able to … • perform outbreak investigations • evaluate approaches to screening and prevention of communicable diseases • evaluate scientific literature in the field • apply appropriate research principles and methods in the design, conduct, analysis and interpretation of studies in the control of infectious diseases with a focus on epidemics and pandemics **Social competencies (communication and cooperation)** On successful completion of this module, students will be able to … • work autonomously on a task within a team and present it in the group

	• foster the dissemination of complex health issues to individuals and groups • communicate and advocate for health education/ communication needs among communities as well as within the profession • articulate the influence of social context and behaviour on health with the aim of developing, implementing and evaluating solutions to pressing public health challenges in Germany and around the globe **Professional competencies (scientific identity, professional actions)** On successful completion of this module, students will be able to … • master risk communication for health hazards • address different audiences in appropriate language
Content	• Surveillance – Infectious Disease Information System • Principles of Capture-recapture analysis: Assessing the sensitivity of surveillance systems • Outbreak investigations – systematic search for the source and transmission route • Distribution of epidemics by WHO regions • Key factors for the spread of infectious diseases • Epidemiologic studies – answering predefined questions • Mathematic modelling in infectious disease epidemiology • Concept of risk factors and approaches to prevention • Screening • Critical Appraisal Tools • Literature search and meta-analysis • Multiple and logistic regression, adjustment for confounding variables
Applicability	This module is applicable in all areas of health research and modules.
Requirements for the award of credit points	Standard form of assessment: Written examination (graded); other possible form of assessment: Portfolio examination, Presentation, Written paper At the beginning of the classes, the member of academic staff delivering the module shall announce the type of assessment that will take place.
Component courses	Infectious Disease Epidemiology Pandemic Control
Type of classes; media used	Seminar: • Discussion • Self-directed study of literature • Group work • Student presentations • Case scenarios • Electronic platform • Computer practice

Recommended reading	Please ensure you are working from the current edition in each case. Hawker, J., Begg, N., Reintjes, R. et al. (2019): Communicable Disease Control and Health Protection Handbook. 4. Auflage, Wiley-Blackwells, Oxford. Additional literature is provided on the e-learning platform.

Overview of modules and required courses

No	Module	Courses/ Classes
1	Concepts and Dimensions of Health Sciences and Public Health and Basic Statistics and Basic Epidemiology	Concepts and Dimensions of Health Sciences and Public Health
		Basic Statistics and Basic Epidemiology
2	Research Methods	Advanced Qualitative Research Methods
		Advanced Quantitative Research Methods
3	Ethics and Epistemology	Ethics
		Epistemology
4	Digitalization and Communication in Health Sciences	Digitalization in Health Sciences
		Communication in Health Sciences
5	Research and Project Management	Research Design
		Project Management
6	Advanced Biostatistics	Advanced Biostatistics I
		Advanced Biostatistics II
7	Health Policy and Health Economics Research	Health Policy Research
		Health Economics Research
8	Research Project	Research Project
		Scientific Exchange
9	Master thesis	Master Thesis
10	Diversity in Health and Family and Community Health Research	Diversity in Health – Gender, Ethnicity, Class and Age
		Family and Community Health Research
11	Non-Communicable Disease Epidemiology and Research Interests	Non-Communicable Disease Epidemiology
		Research Interests
12	Occupational and Environmental Health Research	Occupational Health Research
		Environmental Health Research
13	Health Promotion and Health Behaviour Research	Health Promotion Research
		Health Behaviour Research
14	Infectious Disease Epidemiology and Pandemic Control	Infectious Disease Epidemiology
		Pandemic Control

Academic staff

Professors

Prof. Amena Ahmad

Prof. Dr. Judith Brockmann, Maître en Droit

Prof. Dr. Johanna Buchcik

Prof. Dr. André Klussmann

Prof. Dr. Dr. Walter Leal

Prof. Dr. Ralf Reintjes

Prof. Dr. Zita Schillmöller

Prof. Dr. Joachim Westenhöfer

Prof. Dr. Sabine Wöhlke

Prof. Dr. York F. Zöllner