

Faculty of Life Sciences

Module Handbook

Master of Science in Health Sciences

Module Handbook

Master of Science

Health Sciences

Specifying the subject-specific examination and study regulations for the Master of Health Sciences degree published on 30th November 2012

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Objectives

Well trained health professionals are needed to meet the growing demand within the changing field of health care. Target group of the M.Sc. programme are graduates, seeking for in-depth knowledge and skills of research in the complex field of health sciences. The Master of Science in Health Sciences (MHSc) is a two year full-time research-oriented master programme (120 CP total); that builds up on a respective Bachelor's degree. Participants of the research master programme will be trained for positions in health research, public administration, quality management and evaluation in the different institutions within the health care market, e.g. health insurances, universities, hospitals, public administration or health consulting agencies. The programme focuses on determinants of health and major health problems in a global and interdisciplinary perspective. In order to positively affect the health of populations its key concept is to preserve and enhance the health, well-being and life expectancy of human populations by integrating scientific research knowledge, practical skills and data research experience to advance health. It provides tools, scientific and practical skills for international public health research in epidemiology, diversity, occupational health, health promotion, health systems, and health economics. To emphasize its international character, the programme is held in English with a broad interdisciplinary focus.

Internship

The skills learnt will be practiced in a six month research training-semester intended in the third semester. Here, students can either be part of a research project with focus on public health located at the University of Applied Sciences in Hamburg or can choose a research project in public health at another research institution as an internship. The choice of the project and the external research institution internship needs to be approved by the examination committee. In that period students can gain not only practical skills, but also knowledge about how to actively participate in a research team and how to run a project in the field of health sciences research. The training will be supervised by a professor and accompanied by a colloquium.

Master Thesis

The fourth semester of the MHSc programme culminates in the writing of the final paper (Master Thesis). The aim is to develop a research question, to subsequently pursue the topic using a suitable study design and study methods, and to solve the analysed problem by providing profound recommendations. The concepts and methods learned during the programme will be applied.

Study Overview – Master of Science in Health Sciences

First year of study	<p>Five out of the following six modules are required</p> <p>Concepts and Dimensions of Public Health and Statistical Data Analysis</p> <p>Ethics and Epistemology</p> <p>Diversity in Health</p> <p>Family, Community, and Occupational Health</p> <p>Health Economics and Global Health</p> <p>Infectious and Non-communicable Disease Epidemiology</p>	1 st Semester
	<p>Five out of the following six modules are required</p> <p>Health Behaviour and Epidemiological Research</p> <p>Occupational and Health Promotion Research</p> <p>Health Economics and Health System Research</p> <p>Advanced Study Design and Biostatistics</p> <p>Instrument Development, Validation and Advanced Qualitative Study Design</p> <p>Research and Project Management</p>	2 nd Semester
Second year of study	<p>6 Month Research Project (Internship)</p>	3 rd Semester
	<p>6 Month Master Thesis</p>	4 th Semester

Description of the Modules – Master of Science in Health Sciences

1st Semester
5 Modules are required
5 Modules with each 6 CP/ Modules = 30 CP

Degree Programme Master of Science in Health Sciences	
Module 1, 1st Semester - compulsory elective	
Name of module	Concepts and Dimensions of Health Sciences and Public Health and Statistical Data Analysis
Module responsible	Prof. Dr. Zita Schillmoeller
Lecturer	Academic staff of the Life Sciences Faculty, external lecturers
Semester	Winter Semester (September - February)
Frequency/ Period of time	Yearly/ Within one semester
Credit Points (CP)	6 CP
Workload for Students (h)	Workload 180h: presence 60h, private study 120h
Entry Recommendations	None
Language	English
Objectives:	
<ul style="list-style-type: none"> • Describe various meanings, dimensions and concepts of Public Health. • Develop one's theoretical perspective on the roles of Public Health professionals. • Getting to know Public Health issues of actual relevance. • Assess the level of knowledge of the students from different healthcare-related Bachelor programs with respect to methods and knowledge in the context of Health Sciences. • Know why statistics are important for health sciences. • Analyse data in a descriptive way. • Estimate descriptive results. • Use the statistics program SPSS. 	

Development of competencies (*Professional, Technical, Methodological*)

Upon successful completion of the module, students will be able to:

- Identify the health status of populations and their related determinants of health and illness.
- Describe the characteristics of a population-based health problem.
- Identify Public Health issues.
- Apply tools for systematic literature review (e.g. Pub Med) and statistics (SPSS).
- Classify the science statistics in the sequence of a research study.
- Run univariate and bivariate analysis.
- Relate own results and statistical results from the literature to each other.

Personal and social skills

The students are able to:

- Discuss and interact with students from other professions, regions and cultures.
- Acknowledge the differences in the participants in respect to culture, gender, and region and respect those in communication.
- Discuss the calculated statistical results in the group.

Content of module

1. Concepts and Dimensions of Health Sciences and Public Health

- Introduction of Health Sciences and Public Health
- Different perspectives, dimensions and concepts in Public Health and Health Sciences
- Overview about the influencing factors in Public Health
- Concepts of health status of populations and their related determinants of health and illness
- Presentation of current projects and research activities at the University of Applied Sciences, Hamburg
- Overview of psycho-social support structures and participation structures at HAW Hamburg

2. Statistical Data Analysis with SPSS

- Definition of statistical terms and their conditions
- Mathematical calculation of key data of the univariate analysis
- Mathematical calculation of key data of bivariate correlation analysis
- Creation of tables and charts
- Probability calculation and the definition of significance

<ul style="list-style-type: none"> • Description and interpretation of statistical results from particular topic areas of health sciences based on <ul style="list-style-type: none"> – Own calculations – Technical articles – Selected charts • Creating a data set using the statistical program SPSS • Descriptive analysis of the data set using the statistical program SPSS • Description of results 	
Teaching and Learning Strategies/ Methodology/ Media	Seminaristic instruction (<i>seminaristischer Unterricht</i>): <ul style="list-style-type: none"> • Seminar • Group work
Assessment(s)	Written assignment, oral presentation
Literature/ Working material	Beaglehole, R 2009, <i>Global public health: a new era</i> , 2nd edn, Oxford Univ. Press, Oxford. Baum, F 2008, <i>The new public health</i> , 3rd edn, Oxford Univ. Press, Melbourne. World Health Organization 2007, <i>Working for health: an introduction to WHO (2007)</i> , http://www.who.int/about/brochure_en.pdf . Keleher, H 2009, <i>Understanding health: a determinants approach</i> , 2nd edn, Oxford University Press, Oxford. Merson, M 2006, <i>International public health: diseases, programs, systems, and policies</i> , 2nd edn, Mass, Jones and Bartlett, Sudbury. Field, A 2009, <i>Discovering statistics using SPSS</i> , Sage Publications., London. Rowntree, D & O'Hehir, R 1981, <i>Statistics without tears: a primer for non-mathematicians</i> , Penguin, Harmondsworth.

Degree Programme Master of Science in Health Sciences**Module 2, 1st Semester – compulsory elective**

Name of module	Ethics and Epistemology
Module responsible	Prof. Dr. Christine Faerber
Lecturers	Prof. Dr. Christine Faerber, academic staff of the Life Sciences Faculty, external lecturers
Semester	Winter Semester (September – February)
Frequency/ Period of time	Yearly/ Within one semester
Credit Points (CP)	6 CP
Workload for Students (h)	Workload 180h: presence 60h, private study 120h
Entry Recommendations	None
Related Module	We recommend to attend <i>Diversity in Health</i>
Language	English

Objectives

The aim of the course is to focus on the systematic analysis of the ethical and moral problems that arise in public health, and to reflect the theory and philosophy of sciences and compare epistemological approaches in health sciences.

Development of competencies (*Professional, Technical, Methodological*)

Upon successful completion of the module, students will be able to:

- Discuss human rights in public health and health care, considering the values of diverse stakeholders.
- Recognize rights of individuals in the context of communities in health related issues.
- Admit and respect the needs of vulnerable groups for advocacy and participation.
- Identify knowledge claims in scientific fields relevant for health sciences.
- Critically evaluate the justification and supporting evidence of knowledge claims.

Personal and social skills

The students are able to:

- Reflect on philosophical foundations in health sciences.
- Argue substantially in ethical and epistemological discourses in health sciences.
- Write a profound scientific paper in English.
- Effectively participate in professional discourses in health sciences and health politics challenging mainstream discourses.

Content of module

- Theories, goals, structure, principles and practice of public health and medical ethics
- Public health ethics in Europe and at WHO
- Ethics and disease control and prevention and health promotion
- Ethical issues in environmental, occupational, family and community health
- Ethics in health sciences and health research, including ethical application for research proposals
- What is science? What makes scientific knowledge claims special?
- Structures of scientific theories, standard problems and future prospects
- Feminist, intersectional, postcolonial and critical approaches to science
- Current problems of knowledge claims in health sciences, life sciences and social sciences (e.g. doing gender in brain research, racism in genetics, discriminatory research designs in health promotion research)

Teaching and Learning Strategies/ Methodology/ MediaSeminaristic instruction (*seminaristischer Unterricht*):

- Discussion
- Group work
- Student presentations
- Excursion
- Electronic platform

Assessment(s)

Written assignment

Literature/ Working material

Selected recent articles from scientific journals

Current book publications and electronic documents on public health ethics and epistemology

Printed and electronic Reader

Degree Programme Master of Science in Health Sciences	
Module 3, 1st Semester – compulsory elective	
Name of module	Diversity in Health
Module responsible	Prof. Dr. Christine Faerber
Lecturers	Prof. Dr. Christine Faerber, academic staff of the Life Sciences Faculty, external lecturers
Semester	Winter Semester (September – February)
Frequency/ Period of time	Yearly/ Within one semester
Credit Points (CP)	6 CP
Workload for Students (h)	Workload 180h: presence 60h, private study 120h
Entry Recommendations	None
Related Module	We recommend to attend <i>Ethics and Epistemology</i>
Language	English
<p>Objectives</p> <p>The aim of the course is to enable students to conduct research and create interventions which identify and minimize inequalities in health internationally and to communicate in intercultural settings.</p> <p>Development of competencies (<i>Professional, Technical, Methodological</i>)</p> <p>Upon successful completion of the module, students will be able to:</p> <ul style="list-style-type: none"> • Critically evaluate theoretical conceptualizations of inequalities in health based on gender, ethnicity, socio-economic status or age, like critical theory or intersectionality. • 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. • Develop adequate intervention strategies which avoid labelling and effectively support marginalized, vulnerable and disadvantaged groups. • Reflect and compare concepts and practice of interculturality in research and professional communication. 	

<p>Personal and social skills</p> <p>The students are able to:</p> <ul style="list-style-type: none"> • Give a scientific oral and written presentation (scientific paper) in English. • Effectively communicate in intercultural settings. • Reflect prejudices and stereotypes. • Develop democratic strategies to support marginalized and vulnerable groups and facilitate their participation in politics and society. 	
<p>Content of module</p> <ul style="list-style-type: none"> • Dimensions of health inequalities (gender, ethnicity/race, socio-economic status, sexual orientation, age) 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 • Concepts of intercultural communication and intercultural training 	
<p>Teaching and Learning Strategies/ Methodology/ Media</p>	<p>Seminaristic instruction (<i>seminaristischer Unterricht</i>):</p> <ul style="list-style-type: none"> • Group work • Project • Reflections • Diversity and/or Gender Training Units • Student presentations and discussion • Excursion • Electronic Platform
<p>Assessment(s)</p>	<p>Oral presentation, written assignment</p>
<p>Literature/ Working material</p>	<p>Current and classic literature on gender, race, class and health, on intersectionality, current projects (Reader)</p> <p>Electronic platform</p>

Degree Programme Master of Science in Health Sciences	
Module 4, 1st Semester – compulsory elective	
Name of module	Family, Community and Occupational Health
Module responsible	Prof. Dr. Wolf Polenz
Lecturer	Academic staff of the Life Sciences Faculty, external lecturers
Semester	Winter Semester (September - February)
Frequency/ Period of time	Yearly/ Within one semester
Credit Points (CPs)	6 CP
Workload for Students (h)	Workload 180h: presence 60h, private study 120h
Entry Recommendations	Basic knowledge in Health Promotion and Medicine
Language	English
<p>Objectives</p> <p>The first aim of the lecture is to explain and to demonstrate the interaction processes between the social environment and the individual and family health development throughout the lifespan. The second aim of the lecture is to understand principles of prevention of illness and health promotion at work sites.</p> <p>Development of competencies (<i>Professional, Technical, Methodological</i>)</p> <p>Upon successful completion of the module, students will be able to:</p> <ul style="list-style-type: none"> • Plan family health programs consistent with current theory and data. • Implement and evaluate family health programs consistent with current theory and data. • Plan family, community and worksite health promotion programs. • Develop project management skills. • Implement and evaluate family, community and worksite health promotion programs, as well as project management skills. <p>Personal and social skills</p> <p>The students are able to:</p> <ul style="list-style-type: none"> • Communicate family health needs to a broad array of students effectively. • Communicate health and health promotion issues with management, experts and employees at company level 	

Content of module	
<ul style="list-style-type: none"> • Health and development of individuals and families • Women's health programs • Child health and family interaction • Men in families • Sexual and reproductive health • Integral models of family care • Actions to promote healthy behaviour by families • WHO Family and Community Health Policy • Gender, work and health • Stress and strain at work • Worksite Health Promotion • Ageing, work environment and health • Human Resource Management • Evaluation Models 	
Teaching and Learning Strategies/ Methodology/ Media	Seminaristic Instruction (<i>seminaristischer Unterricht</i>): <ul style="list-style-type: none"> • Blended Learning
Assessment(s)	Written assignment
Literature/ Working material	<p>Sussman, MB, Steinmetz, SK & Peterson, GW (eds) 1999, <i>Handbook of marriage and the family</i>, Plenum Press, New York.</p> <p>Booth, A & Crouter, AC (eds) 1998, <i>Men in Families</i>, Lawrence Erlbaum Associates, Mahwah, NJ.</p> <p>Marmot, M & Wilkinson, RG (eds) 2006, <i>Social determinants of Health</i>, Oxford University Press, Oxford.</p> <p>Chenoweth, DH 2006, <i>Worksite Health Promotion</i>, Human Kinetics, Champaign.</p> <p>Ilmarinen, J 2005, <i>Towards a longer worklife</i>, FIOH, Helsinki.</p> <p>Wilson, JR, Corlett, EN (eds) 2005, <i>Evaluation of Human Work</i>, Routledge, Chapman & Hall, New York.</p>

Degree Programme Master of Science in Health Sciences	
Module 5, 1st Semester – compulsory elective	
Name of module	Health Economics and Global Health
Module responsible	Prof. Dr. York Zoellner
Lecturer	Prof. Dr. Zoellner, academic staff of the Life Sciences Faculty, external lecturers
Semester	Winter Semester (September - February)
Frequency/ Period of time	Yearly/ Within one semester
Credit Points (CP)	6 CP
Workload for Students (h)	Workload 180h: presence 60h, private study 120h
Entry Recommendations	None
Language	English
<p>Objectives</p> <p>The aim of this module is to familiarize students with the concepts and tools of economic and policy analysis, applied to the behaviour of all stakeholders in the healthcare system, as well as the evaluation of healthcare issues and policy measure at large.</p> <p>Development of competencies (<i>Professional, Technical, Methodological</i>)</p> <p>Upon successful completion of the module, students will be able to:</p> <ul style="list-style-type: none"> • Apply economic theory to the special context of a national healthcare system as well as global health at large. • Scrutinize and predict the effect of different measures (such as information, subsidies, taxation, and sanctions) on the behaviours of all stakeholders (including citizens/patients). • Put the different decision-making criteria (such as efficiency, equity, and ethics) into perspective. • Reflect critically upon global health issues. • Develop policy approaches to tackle global health problems. <p>Personal and social skills</p> <p>Upon successful completion of the module, students are able to:</p> <ul style="list-style-type: none"> • Discuss health economic and global health concepts and applications in reasonable depth. • Critically appraise media broadcasts, press releases and the contemporary political debate as it relates to global health policy issues. • Address different stakeholders in the healthcare system with knowledge and confidence. • Understand problems from various cultural, political, equity and economic perspectives. 	

Content of module

Health Economics:

- Demand for health and health care
- Finance of health care. Health systems with a third-party payer
- Demand elasticities and policy interventions
- Production and costs of healthcare
- Demand for health insurance
- Equity in healthcare (horizontal/vertical; finance/provision)

Global health:

- Global context of public health
- Global spectrum of diseases and epidemiological transition
- Stakeholders in global public health
- Global approaches to primary health care
- Social determinants in health
- Human Rights and health (e.g. migration and reproductive health)
- Health Belief Systems

Interdisciplinary applications and contemporary issues, e.g.

- Patents and international conventions (TRIPS, DOHA, GATTs)
- World Bank, Micro Credits, WTO
- Public private partnerships and technology transfer
- Global knowledge production and ownership

Teaching and Learning Strategies/ Methodology/ Media	Seminaristic instruction (<i>seminaristischer Unterricht</i>)
Assessment(s)	Written Exam
Literature/ Working material	<p>Morris, S, Devlin, N & Parkin, D 2007, <i>Economic Analysis in Health Care</i>, 2nd edn, Wiley, Chichester.</p> <p>Folland, Goodman, Stano, 2007, <i>The Economics of Health and Health Care</i>, 5th edn, Pearson/Prentice Hall, New Jersey.</p> <p>Lindstrand, A, Bergstrom, S, Rosling, H, Rubenson, Stenson B & Tylleskar, T 2006, <i>Global Health: an introductory textbook</i>, Studentlitteratur AB, Lund.</p> <p>Markle W, Fisher M 2007, <i>Understanding Global Health</i>, McGraw-Hill Professional, New York.</p>

Degree Programme Master of Science in Health Sciences**Module 6, 1st Semester – compulsory elective**

Name of module	Infectious and Non-Communicable Disease Epidemiology
Module responsible	Prof. Dr. Ralf Reintjes
Lecturer	Prof. Dr. Joachim Westenhoefer, Prof. Dr. Ralf Reintjes
Semester	Winter Semester (September - February)
Frequency/ Period of time	Yearly/ Within one semester
Credit Points (CPs)	6 CP
Workload for Students (h)	Workload 180h: presence 60h, private study 120h
Entry Recommendations	Epidemiology I, II (BA)
Language	English

Objectives

The aim of the course is to conduct quality research for the epidemiology, control and management of infections and infectious diseases that are of Public Health importance as well as to provide an overview and an introduction to the methods and findings in the epidemiology of non-communicable diseases.

Development of competencies

Upon successful completion of the module, students will be able to:

- 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).
- Understand the possible use of mathematical modeling.
- Describe the major non-communicable diseases and major components of their aetiology.
- Evaluate scientific literature in the field.
- Evaluate approaches to screening and prevention of non-communicable diseases.
- Compute multiple regression and logistic regression analyses using SPSS.

Personal and social skills

The students are able to:

- Apply the study designs in practice.
- Work in a team to discuss results.
- Have the flexibility and ability to work under pressure.
- Evaluate scientific literature.
- Present work results in a scientific manner.

Content of module

- 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
- Overview of non-communicable diseases
- Epidemiology of cardio-vascular disease
- Epidemiology of diabetes
- Epidemiology of cancer
- Epidemiology of mental disorders
- Concept of risk factors and approaches to prevention
- Screening
- Critical Appraisal Tools
- Literature search and Metaanalysis
- Multiple and logistic regression, Adjustment for Confounding variables

Teaching and Learning Strategies/ Methodology/ Media

Seminaristic Instruction (*seminaristischer Unterricht*):

- Group work with presentations
- Case scenarios
- Computer practice und students contributions (reports, group work)

Assessment(s)

Written exam

Literature/ Working material

Literature is provided on the e-learning platform

2nd Semester**5 Modules are required****5 Modules with each 6 CP/ Modules = 30 CP****Degree Programme Master of Science in Health Sciences****Module 7, 2nd Semester – compulsory elective**

Name of module	Health Behaviour and Epidemiological Research
Module responsible	Prof. Dr. Joachim Westenhoefer
Lecturer	Academic staff of the Life Sciences Faculty, external lecturers
Semester	Summer Semester (March - August)
Frequency/ Period of time	Yearly/ Within one semester
Credit Points (CPs)	6 CP
Workload for Students (h)	Workload 180h: presence 60h, private study 120h
Entry Recommendations	<i>Infectious and Non-Communicable Disease Epidemiology</i>
Language	English

Objectives

The aim of the lecture is to provide the students with knowledge of the current state of research in health behaviour and life-style modification.

Development of competencies (*Professional, Technical, Methodological*)

Upon successful completion of the module, students will be able to:

- Describe the current state of knowledge and research in 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 the field.
- Apply appropriate methods and designs to new research questions.

<p>Personal and social skills</p> <p>The students are able to:</p> <ul style="list-style-type: none"> • Discuss and work in groups and teams. • Present knowledge, findings and challenges in oral format and to defend new hypotheses. 	
<p>Content of module</p> <ul style="list-style-type: none"> • Theories of Health Behaviour and life-style modification • Selected new research in different areas of life-style modification (including smoking, eating, exercise, sexual behaviour) 	
<p>Teaching and Learning Strategies/ Methodology/ Media</p>	<p>Seminaristic instruction (<i>seminaristischer Unterricht</i>):</p> <ul style="list-style-type: none"> • Group work • Oral presentations
<p>Assessment(s)</p>	<p>Oral presentations</p>
<p>Literature/ Working material</p>	<p>Selected recent research articles from scientific journals</p>

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Module 8, 2nd Semester – compulsory elective

Name of module	Occupational and Health Promotion Research
Module responsible	Prof. Dr. Dr. Michael Haufs
Lecturer	Academic staff of the Life Sciences Faculty, external lecturers
Semester	Summer Semester (March - August)
Frequency/ Period of time	Yearly/ Within one semester
Credit Points (CP)	6 CP
Workload for Students (h)	Workload 90h: presence 30h, private study 60h
Entry Recommendations	<i>Family, Community and Occupational Health</i>
Language	English

Objectives

The aim of the lecture is to formulate students their own research questions within an Occupational Health Research (OHR) topic and area and illustrate how the concepts in the research question guide the research strategy.

Development of competencies (*Professional, Technical, Methodological*)

Upon successful completion of the module, students will be able to:

- Explain the research of project planning.
- Exemplify the principles of critical appraisal and study design.
- Analyse new research strategies and aspects in a changing research landscape.

Personal and social skills

The students are able to:

- Outline the general steps and procedures for carrying out a research project.
- Apply in-depth knowledge across disciplinary boundaries.
- Develop his/ her own research ideas and apply them systematically and analytically.
- Work in groups and discuss results.

Content of module	
<ul style="list-style-type: none"> • National and international current research activities in OHR • National and international research institutions in OHR • OHR disciplines: Medicine, Occupational Medicine, Mental Health, Social Science, Epidemiology • Selected current topics of research (e.g. work and cancer, work and mental health, work-related aspects of gender and ageing) 	
Teaching and Learning Strategies/ Methodology/ Media	Seminaristic instruction (<i>seminaristischer Unterricht</i>): <ul style="list-style-type: none"> • Group work • Presentations of students
Assessment(s)	Presentation of group work results (oral and written)
Literature/ Working material	Current and appropriate publications (E-pubs, e.g.) in occupational research, occupational medicine Creswell, JW 2008, <i>Research design – Qualitative, Quantitative, Mixed Methods Approaches</i> , Sage Publications, Thousand Oaks.

Degree Programme Master of Science in Health Sciences**Module 9, 2nd Semester – compulsory elective**

Name of module	Health Economics and Health System Research
Module responsible	Prof. Dr. York Zoellner
Lecturer	Prof. Dr. York F. Zoellner, academic staff of the Life Sciences Faculty, external lecturers
Semester	Summer Semester (March - August)
Frequency/ Period of time	Yearly/ Within one semester
Credit Points (CP)	6 CP
Workload for Students (h)	Workload 180h: presence 60h, private study 120h
Entry Recommendations	<i>Health Economics and Global Health</i>
Language	English

Objectives

The aim of this module is to introduce students to the tools and reasoning of health economic and health systems research, as well as to familiarise them with practical applications and the use of research results in actual decision-making.

Development of competencies (*Professional, Technical, Methodological*)

- Formulate original health economic/systems research questions and testable hypotheses.
- Develop suitable study designs to address particular research questions.
- Apply appropriate economic tools and systems knowledge to the analysis of research questions.
- Interpret the results of economic analyses in a thoughtful and critical manner.
- Synthesise research results verbally and in writing, at postgraduate level.
- Propose a full research plan to address particular health policy issues.

Personal and social skills

The students are able to:

- Discuss health economic/systems research concepts and applications in appropriate depth.
- Critically appraise original research articles in the peer-reviewed literature.
- Design a research project suitable to address a particular issue in the healthcare system.

Content of module	
<ul style="list-style-type: none"> • Microeconomic tools • Consumer preferences, decisions under uncertainty, discrete choice experiments • Economic efficiency and equity • Cost-effectiveness analysis • Utility elicitation, Cost-utility analysis 	
Teaching and Learning Strategies/ Methodology/ Media	Seminaristic instruction (<i>seminaristischer Unterricht</i>): <ul style="list-style-type: none"> • Hands-on analysis of primary and secondary data • Own case study (group work)
Assessment(s)	Written exam Voluntary submission and/or presentation of case study for extra credit (in line with examination statutes)
Literature/ Working material	<p>OECD Health Data (current edition)</p> <p>Jones, AM (ed.) 2006, <i>The Elgar Companion to Health Economics</i>, Edward Elgar, Cheltenham, UK/Northampton, MA.</p> <p>Drummond, MF, Sculpher, MJ, Torrance, GW & O'Brien, B 2005, <i>Methods for the economic evaluation of health care programmes</i>, 3rd edn, Oxford University Press, Oxford.</p> <p>Steven, J, Kumarayanake, L, Roberts, J & Hanson, K (eds) 2005, <i>Economic Analysis for Management and Policy (Understanding Public Health)</i>, Open University Press, Maidenhead.</p> <p>Black, N & Gruen, R 2005, <i>Understanding Health Services (Understanding Public Health)</i>, Open University Press, Maidenhead.</p> <p>Briggs A, Claxton K, Sculpher M 2006, <i>Decision Modelling for Health Economic Evaluation</i>, Oxford University Press, Oxford.</p>

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Module 10, 2nd Semester – compulsory elective

Name of module	Advanced Study Design and Biostatistics
Module responsible	Prof. Dr. Joachim Westenhofer
Lecturers	Prof. Dr. Joachim Westenhofer, Prof. Dr. Zita Schillmoeller
Semester	Summer Semester (March - August)
Frequency/ Period of time	Yearly/ Within one semester
Credit Points (CPs)	6 CP
Workload for Students (h)	Workload 180h: presence 60h, private study 120h
Entry Recommendations	Basic Knowledge in Statistics
Language	English

Objectives

The aim of the course is to understand the background and application of advanced study designs and biostatistics and to be able to use SPSS to conduct such analyses.

Development of competencies (*Professional, Technical, Methodological*)

Upon successful completion of the module, students will be able to:

- Apply appropriate advanced study designs.
- Evaluate research questions.
- Interpret results from advanced biostatistical analyses.
- Plan different study designs appropriately.
- Analyse different study designs appropriately.
- Use statistical software (SPSS, EPIINFO; GPOWER) for planning and analysing a variety of study designs.
- To evaluate whether requirements and pre-conditions for the different analyses and designs are fulfilled.

Personal and social skills: The students are able to work in groups.

Content of module	
<ul style="list-style-type: none"> • Multifactorial design (ANOVA) • Within-subjects Designs • Multivariate Analysis (Multiple Regression Analysis, General Linear Model) including Dummy Coding and Interaction terms • Sample size and power calculation • Parametric and Nonparametric tests for differences (Mann Whitney U, T-Test, Kruskal Wallis) • Regression (Linear and Binary Logistic Regression) • Survival analysis (Cox regression, Kaplan Meier, Log Rank Test, Life Table) 	
Teaching and Learning Strategies/ Methodology/ Media	Seminaristic instruction (<i>seminaristischer Unterricht</i>): <ul style="list-style-type: none"> • Practical in Application of Statistical Software • Case Studies • Group work with oral presentations
Assessment(s)	Written examination or written assignment
Literature/ Working material	<p>Field, A 2009, <i>Discovering statistics using SPSS</i>, 3rd edn, Sage Publications, London.</p> <p>Cohen, J, Cohen, P, West, SG & Aiken, LS 2002, <i>Applied Multiple Regression/ Correlation Analysis for the Behavioral Sciences</i>, 3rd edn, Lawrence Erlbaum Associates, Manwah, NJ.</p> <p>Parkin, DM & Hakulinen, T, 'Analysis of survival', in OM. Jensen, DM Parkin, R MacLennan C.S. Muir & R.G. Skeet (eds), <i>Cancer Registration: Principles and Methods</i>, IARC Scientific Publication No. 95, pp. 159–76 <www.iarc.fr/en/publications/pdfs-online/epi/index.php>.</p>

Degree Programme Master of Science in Health Sciences	
Module 11, 2 nd Semester – compulsory elective	
Name of module	Instrument Development, Validation and Advanced Qualitative Study Design
Module responsible	Prof. Dr. Christine Faerber
Lecturers	Prof. Dr. Christine Faerber, Prof. Dr. Joachim Westenhoefer
Semester	Summer Semester (March – August)
Frequency/ Period of time	Yearly/ Within one semester
Credit Points (CPs)	6 CP
Workload for Students (h)	Workload 180h: presence 60h, private study 120h
Entry Recommendations	Statistical data analysis, experience with SPSS <i>Diversity in Health</i>
Language	English
<p>Objectives</p> <p>The aim of the course is to apply, critically reflect and develop research instruments in quantitative, qualitative and mixed method approaches in health sciences.</p> <p>Development of competencies (<i>Professional, Technical, Methodological</i>)</p> <p>Upon successful completion of the module, students will be able to:</p> <ul style="list-style-type: none"> • Evaluate quality assessment instruments used in health and social research. • Judge the appropriateness of psychometric properties of assessment instruments. • Perform calculations of psychometric parameters using appropriate software. • Apply qualitative methods of data collection and methods of content analysis using appropriate software. • Combine approaches to collect and analyse data, and develop adequate research designs for current research questions in health sciences. • Effectively use computer software for data collection and data analysis (MAXQDA, SPSS). <p>Personal and social skills</p> <p>The students are able to:</p> <ul style="list-style-type: none"> • Effectively work in groups. • Adequately present the results of their work in oral and written form (scientific paper). 	

Content of module	
<ul style="list-style-type: none"> • Quality criteria for instruments • Different kinds of questions, answers and scales, questionnaire construction • Qualitative methods of data collection and analysis in different research approaches (narration, ethnography, case study, phenomenology, grounded theory) • 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 	
Teaching and Learning Strategies/ Methodology/ Media	Seminaristic Instruction (<i>seminaristischer Unterricht</i>): <ul style="list-style-type: none"> • Discussion • Group work and presentations • Practical application of software in tutorial • Mini Project to develop a questionnaire • Electronic platform
Assessment(s)	Written assignment
Literature/ Working material	Lord, FM & Novick, MR 1974, <i>Statistical theories of mental test scores</i> , Addison-Wesley, Reading, MA. Cresswell, JW 2013, <i>Inquiry and Research Design. Choosing among five approaches</i> , Sage, Thousand Oaks. Current equivalent literature on test theory and research methodology in English and German. Material on the Electronic platform Reader

Degree Programme Master of Science in Health Sciences	
Module 12, 2nd Semester – compulsory elective	
Name of module	Research and Project Management
Module responsible	Prof. Walter Leal
Lecturer	Prof. Walter Leal, academic staff of the Life Sciences Faculty, external lecturers
Semester	Summer Semester (March - August)
Frequency/ Period of time	Yearly/ Within one semester
Credit Points (CPs)	6 CP
Workload for Students (h)	Workload 180h: presence 60h, private study 120h
Entry Recommendations	None
Language	English
<p>Objectives</p> <p>The course aims at providing knowledge and developing skills which are necessary to successfully write a research project proposal and to implement and manage a research project.</p> <p>Development of competencies (<i>Professional, Technical, Methodological</i>)</p> <p>Upon successful completion of the module, students will be able to:</p> <ul style="list-style-type: none"> • Evaluate calls for research proposals. • To transfer a research issue into a research proposal. • Write research project proposal (including application for ethical approval, implementation and management plan, budgeting). • Identify some strengths and weaknesses in research proposals. • Apply potential criteria used to select proposals for funding. • Manage a project (including monitoring and reporting requirements). <p>Personal and social skills</p> <p>The students are able to:</p> <ul style="list-style-type: none"> • Critically reflect results of their work. • Discuss critically in groups their own work results. • Organize their own work and workload. 	

<p>Content of module</p> <p>During the course of this module students will work in research groups of up to 6 participants. Each research group will design a research proposal which will be presented at the end of the module and assessed. The aim of this exercise is for research groups to apply the skills, knowledge and experience gained from the teaching and reading of the module in order to develop a thorough, appropriate, realistic and well-planned research proposal.</p> <p>Acquired knowledge will include</p> <ul style="list-style-type: none"> • Ethical approval • Project management methods • Principles of Good Clinical Practice or Good Epidemiological Practice • Budgeting 	
<p>Teaching and Learning Strategies/ Methodology/ Media</p>	<p>Seminaristic instruction (<i>seminaristischer Unterricht</i>):</p> <ul style="list-style-type: none"> • Case scenarios • Students contributions (reports, group work) • Combination of problem oriented project work with seminars and lectures
<p>Assessment(s)</p>	<p>Written proposal and presentation</p>
<p>Literature/ Working material</p>	<p>Geever, JC & McNeill, P 1997, <i>The Foundation Center's Guide to Proposal Writing</i>, Revised Edition. New York. Excerpted as Proposal Writing Short Course at: http://fdncenter.org/learn/shortcourse/prop1.html.</p> <p>Locke, LF, Spirduso, WW, Silverman, SJ 1993, <i>Proposals that Work</i>, 3rd edn, Sage Publications, Thousand Oaks. (<i>Oriented to dissertations and research grants</i>)</p> <p>Krathwohl, DR 1988, <i>How to Prepare a Research Proposal</i>, 3rd edn, Syracuse University Press, Syracuse, NY. (<i>Oriented to dissertations in the social & behavioural sciences</i>)</p>

Degree Programme Master of Sciences in Health Sciences	
Module 13, 3rdSemester- compulsory	
Name of Module	Research Project
Module Responsible	Prof. Dr. Ralf Reintjes
Lecturers/Supervisors	The research project will be supervised by one professor and a second member of the academic staff of the University of Applied Sciences. In case of external internship placements a second supervisor in the institution is mandatory.
Semester	3 rd Semester ¹ The research project may only be started once all examination credits from the first part of the course have been successfully completed. Exceptions require approval from the Examination Board.
Credit Points (CP)	30 CP
Workload	22 weeks full-time for full-time students
Entry Requirements	Acquisition of 60 CPs in total (10 Modules from the 1 st and 2 nd semester with each 6CP)
Language	English. Exceptions require approval from the first supervisor.
<p>Objectives</p> <p>An internship “Scientific Project” serves as a way to acquire practical skills and competencies in order to be able to address and successfully answer current research questions (see Studien und Prüfungsordnung § 6 (1)).</p> <ul style="list-style-type: none"> • 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 students to put scientific knowledge and methods into practice. <p>Possible fields of work are concentrated in the areas of conception and conduction of research projects in the fields of health sciences (HAW/ external suitable internship positions – authorization required) (see: <i>Internship Rules and regulations for the Scientific Project §2</i>).</p>	

¹This directed towards full-time study. Individual study plans will be arranged for part-time students.

Development of competencies (Professional, Technical und Methodological)

Upon successful completion of the thesis, students will be able to:

- Gain a comprehensive and in-depth knowledge about the current developments in the respective area of research.
- Independently apply and further develop the theoretical and methodological knowledge and understanding gained in their course of study.

Personal and social skills

The students are able to:

- Critically reflect on Public Health and Health Sciences issues.
- Retrieve, assess and use relevant literature / research material.
- Actively participate in a research team.
- Apply research project management skills.

Content of module

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 University of Applied Sciences or at another, relevant institution focusing on public health. Students will gain both practical skills, team work 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 a colloquium.

Teaching and Learning Strategies/ Methodology/ Media	<ul style="list-style-type: none"> • Supervision • Participation in concomitant colloquia meetings amounting to no more than a maximum of six days • When the internship is to be completed in an overseas country, the colloquia have to be attended electronically (E-learning / Skype)
Assessment(s)	<ul style="list-style-type: none"> • Presentation with subsequent discussion according to §6 (3) Studien- und Prüfungsordnung combined with an • Comprehensive Research Project and Internship Report
Literature/Working materials	Please refer to the current information sheet on <i>Internship Rules and regulations for the Scientific Project</i> .

Degree Programme Master of Sciences in Health Sciences**Module 14, 4thSemester- compulsory**

Name of Module	Master Thesis
Module Responsible	Prof. Dr. Christine Färber
Lecturers	<p>The master thesis will be supervised by one professor of the University of Applied Sciences Hamburg and a second supervisor.</p> <p>The choice of the second supervisor can be made by the student to be either a member of the academic staff of the University of Applied Sciences Hamburg or a person from their professional background who has at least attained a master's degree.</p> <p>The supervisors have to be approved by the examination board.</p>
Semester	<p>4th Semester²</p> <p>The master thesis may only be started once all examination credits from the first part of the course have been successfully completed. Exceptions require approval from the Examination Board.</p>
Credit Points (CP)	30 CP
Workload	900 hrs (6 months)
Entry Requirements	<p>Acquisition of 90 CPs in total</p> <p>(10 Modules from the 1st and 2nd semester with each 6 CP and 30 CP Research Project from 3rd semester)</p>
Language	English. Exceptions require approval from the Examination Board.
Objectives <p>The aim of the thesis is to prove students' capability to apply scientific methods and findings, to independently handle an issue taken from the field of work associated with their degree course, addressing the issue in interdisciplinary contexts and independently expanding and further developing their scientific knowledge.</p>	

² This directed towards full-time study. Individual study plans will be arranged for part-time students.

Development of competencies (Professional, Technical und Methodological)

Upon successful completion of the thesis, students will be able to:

- Gain a comprehensive and in-depth knowledge about the current developments of topics in the field of Public Health and Health Sciences issues dealt with.
- Identify relevant themes, focus and structure a specific topic and apply suitable methods to answer the research question
- Apply acquired theoretical scientific knowledge, methodology and analysis into public health research
- Independently carry out research with considerations to ethical aspects

Personal and social skills

The students are able to:

- 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 (use of terminology, language, presentation)

Content of module

The master thesis is a comprehensive theoretical, empirical and/or experimental examination of a subject. The topic is approved by the Chairperson of the Examination Board. Theses in a language other than English must be approved by the Examination Board

Teaching and Learning Strategies/ Methodology/ Media

- First supervision by a professor of the faculty of life sciences or other faculty of HAW Hamburg
- Second supervision by a member of the academic staff of HAW Hamburg. 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.

Assessment(s)

- Master thesis

Literature/Working materials

Please refer to the current information sheet on compilation of a master thesis.

Regulations for Assessments

Generally, modules are assessed every semester. The exam can be repeated twice. According to § 23 (5) APSO-INGI students who failed their third written module exam can apply for an oral exam. This is limited to three times per study course and one time for each module.

If a student cannot participate in an exam due to illness or if an exam has been failed, a repetition of the exam is possible at the end of the following semester.

Oral re-examination can be applied for at the professor responsible for the module.

Lecturers

Professors

Prof. Dr. Christine Adis

Prof. Dr. Christine Faerber

Prof. Dr. Dr. Michael Haufs

Prof. Dr. Wolf Polenz

Prof. Dr. Ralf Reintjes

Prof. Dr. Annette C. Seibt

Prof. Dr. Zita Schillmoeller

Prof. Dr. Joachim Westenhofer

Prof. Dr. York F. Zoellner

Scientific Staff

Dipl. Sozialpaedagogin Claudia Duwe, MPH

External Lecturers

Amena Ahmad

Aisha Boettcher

Johanna Buchcik

Christiane Deneke

Dr. Arnd Hofmeister

Manfred Köhnen

Ute Papkalla

Prof. Dr. Mardie Townsend (Deakin University)

and other scientists, please refer to current schedule

