Public Health - master (120 ECTS)

Programme description

Implemented December 2014.

Department of Community Medicine
Faculty of Health Sciences
UiT The Arctic University of Norway
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1 INTRODUCTION

Public health is the field of medicine that is concerned with the health of the community as a whole. Given the many definitions and description of this subject of public health, it is worth to remind a century old definition that was recently cited in BMJ:

*Public health is the Science and Art of preventing disease, prolonging life, and promoting health and efficiency through organized community effort for sanitation of the environment, the control of communicable disease, the education of the individual in personal hygiene, the organization of medical and nursing services for early diagnosis and preventive treatment of disease, and the development of the social machinery to insure everyone a standard of living adequate for maintenance of health, so organizing these benefits as to enable every citizen to realize his birth right of health and longevity* (BMJ 2012;345:e5466)

In short, public health is concerned with understanding the causes of good/bad health, and in identifying effective interventions in these determinants for the purpose of improving population health. Important subject fields of study are biostatistics and social epidemiology.

Completion of the Master’s Degree Programme in Public Health qualifies for the degree Master of Public Health. The programme consists of 120 credits (ECTS) in total.

1.1 Target Group

The health service is in constant demand for qualified personnel. There is a particular need for expertise in understanding the causes of, and prevention of, communicable and non-communicable diseases as well as accidents and suicides. Etiology and prevention are central topics in this programme with its emphasis on epidemiology, and biostatistics and global health.

The programme is primarily aimed at students who hold a bachelor’s, cand. mag. or higher degree in health- or medical sciences (e.g. nursing, medicine, physiotherapy, psychology, health administration).

1.2 Admission Requirements

To be eligible for admission to the Master’s programme in Public Health (120 ECTS) it is required that the student has completed and passed a bachelor’s degree or equivalent in Health Sciences, Social Sciences or Natural sciences. For students who hold a bachelor’s degree in Social sciences or Natural sciences, the students must also document that they have some knowledge in physiopathology/human health subjects.

The **minimum average grade requirement** is:
* C - for bachelor’s degree or equivalent issued in Europe, Canada, USA, Australia and New Zealand
* B - for bachelor’s degree or equivalent issued in all other countries
The students must have English language skills enabling them to read scientific literature and understand the lectures – which are given in English. The students must master the use of a computer and have access to a PC, MacBook or laptop with internet connection. Self-financing international students must also fulfill any admission requirements set by the central administration of UiT. See: http://en.uit.no/students

1.3 Job prospectives

This master’s degree is equivalent to the English degree Master of Public Health (MPH) which is a highly recognized degree. The degree qualifies for leading positions in the health services; hospitals, community care, and governmental offices concerned with health planning, health promotion and prevention and regulations. There is a growing demand for the qualifications that a Master’s degree of Public Health provides. An MPH also provides highly relevant knowledge for international health work. The degree also qualifies for admission to doctoral degree programmes.

1.4 Language of teaching and examination

All courses are taught in English, but the written assignments and exams may also be answered in Norwegian, Danish or Swedish.

1.5 International students

The master’s programme is accepting self-financing international students. The number of international students varies between a third and half of our programme students. It is an important goal for the Department to maintain this international study environment.

The Department is planning to establish student exchange programmes with foreign universities. Courses from other universities need to be approved in advance if they are to be incorporated into this Master of Public Health programme.
2 OBJECTIVES OF THE PROGRAMME

After completing the study, it is expected that students will be able to:

- Advice policy makers on interventions that affect population health
- Critically assess the effectiveness of various public health measures
- Reflect critically on social and cultural aspects of health, illness and health service
- Apply health economic principles in the design of financing mechanism for hospitals and primary care providers
- Analyse the cost-effectiveness of alternative uses of health care resources, and make systematic comparisons for the purpose of priority setting
- Critically evaluate the methodology of scientific publications in public health
- Identify and analyse central ethical challenges in public health
- Explain the main causes of global health inequalities
- Apply the principles of evidence-based medicine and independently assess the knowledge base for interventions
- Use a set of epidemiological methods in the analysis of health-related issues
- Plan, implement and present a research project on public health

The objective of this study programme is to make students understand and be able to identify the determinants of population health, i.e. the range of biological; environmental; social; and behavioral factors that affects the condition of health in a population. Furthermore, the objective is to make students capable of judging different measures that can improve people’s health.

It is essential that students learn to apply relevant theories and methods for analysing basic health questions. Much emphasis is placed on learning to master the quantitative research methods. After completing this programme students should be able to map disease and health in a population and identify the social factors that affect health. They should be able to assess and initiate preventive health measures, evaluate the impact of health related measures and give an account of adequate solutions regarding allocations of resources.

The programme consists of nine courses, each of which has 10 credits (ECTS). Seven courses are mandatory and two elective, chosen from a list of at least four alternative elective courses.
3 ORGANIZATION AND STRUCTURE

The master programme in public health is a programme of 120 credits (ECTS) in total. The programme consists of an academic training component which in total consists of 90 credits (ECTS) and a master’s degree thesis of 30 credits (ECTS).

3.1 Programme structure

<table>
<thead>
<tr>
<th>Term</th>
<th>10 ECTS</th>
<th>10 ECTS</th>
<th>10 ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st term (autumn)</td>
<td>HEL-3005 Society, culture and public health</td>
<td>HEL-3006 Introduction to epidemiology and biostatistics</td>
<td>HEL-3007 Health economics and policy</td>
</tr>
<tr>
<td>2nd term (spring)</td>
<td>HEL-3070 Biostatistics II</td>
<td>HEL-3030 International and environmental health</td>
<td>HEL-3055 Health technology assessment and medical decision-making</td>
</tr>
<tr>
<td>3rd term (autumn)</td>
<td>HEL-3008 Ethics</td>
<td>Elective: HEL-3031 International health – analytical approach</td>
<td>Elective: HEL-3055 Implementation in global health</td>
</tr>
<tr>
<td></td>
<td>Students must choose two courses from any of the four elective courses</td>
<td>Elective: HEL-3050 Clinical epidemiology and decision analysis</td>
<td>Elective: HEL-3050 Epidemiology II</td>
</tr>
<tr>
<td>4th term (spring)</td>
<td>HEL-3950 Master’s thesis in Public Health</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The academic training component is divided into two parts. One part consists of the core courses, while the other part consists of elective courses. The core courses comprise 70 credits (ECTS) in total. The elective courses that are currently provided lie within the fields of epidemiology and global health. Students who wish to specialize within health administration are encouraged to include such courses from other universities. However, they must seek approval in advance.

It is also possible to have courses/modules which are offered by other universities incorporated in the master degree. These courses/modules must be recognized academically equal to the ones offered at UiT the Arctic University of Norway and this must be approved in advance.

In the first semester, students are introduced to the important methodologies of public health; biostatistics and epidemiology. The other courses this semester give the theoretical framework for critical reflections of social and cultural aspects of public health, as well as an understanding of methodologies used within health economics and policy. The second semester courses are regarded as fundamental in the study area of public health, and are therefore mandatory courses: biostatistics, international health, health technology assessment and decision-making.

The third semester consists of a final mandatory course in ethics in addition to two elective courses.

Master’s thesis

Although the thesis writing has been allocated to the 4th semester, the student will start their initial work on the thesis already in the 2nd semester. The programme offers three seminars, one in each of the three semesters, to prepare the student for the thesis writing. The first semester seminar is mainly concerned with challenges regarding how to approach such a research project. The two following seminars focus on the choice of topic, as well as method and the writing of the thesis.

Throughout the thesis the student needs to demonstrate that he/she masters relevant methods which have been dealt with during the programme. The thesis is carried out as a simple research project and can either be a discussion of a problem based on the studies of relevant literature, or an analysis of a subject where the starting point is gathered data. The master’s thesis needs to reflect the student’s ability to work individually. It also needs to reflect understanding, independent thinking and maturity within the given field of study. If a student wishes to use qualitative methodology in his/her master thesis, it may be granted by individual application. In this application the student must document adequate formal qualifications in qualitative methodology.

The master’s thesis can be written individually or by a group of two persons. If two students choose to collaborate on a thesis, they must apply for this and be able to account for each individual’s contribution.

The length of the thesis will depend on the subject and form, but it should be between 30 and 60 pages references and notes included. If two students write a thesis together the scope of the thesis should be between 80 and 100 pages references and notes included. There are specific guidelines for writing the master’s thesis, available in the course description HEL-3950, and in a thesis writing description available on Fronter.
The student and the academic supervisor must sign a contract of supervision when the draft protocol or project description has been approved. A workshop/group supervision and individual supervision are included in the academic supervision. More information about the academic supervision itself can be found in the course descriptions for the master thesis.

The master programme ends with the handing-in of the master thesis. There are three deadlines each year:

Spring term: May 15 / August 1 – Autumn term: December 1

The master thesis is evaluated by an external and an internal examiner. The grade scale used is five steps from A-E for an exam that is passed, and F for fail. The evaluation committee will be able to confer with the academic supervisor before they meet to evaluate the thesis. The deadline for grading the thesis is 3 weeks after submission; an additional two days may be added on administrative grounds.

5 APPROACH TO TEACHING AND LEARNING

The teaching consists of lectures, seminars, group work and supervision. The students themselves are encouraged to initiate the forming of study groups.

The teaching will consist of teaching gatherings on campus, normally 2-3 gatherings of 3-5 days duration per course. The number and the duration of gatherings will vary according to the different courses. Please refer to individual course description for more information. The gatherings are mandatory.

The master programme will in part be based on the use of Internet and the learning management system Fronter. This means that teaching and student work will, in part, be carried out on teaching gatherings where students and teachers meet on campus, partly in the intermediate periods where the students can work at home using the Internet and Fronter as resources.

The students will be given instructions in the use of Fronter. During the first gathering of each course emphasis will be put on allowing the students and teachers to get acquainted, groups will be established and communication using the Internet will be practiced upon.

The duration of the intermediate periods will also vary. In the intermediate periods activity and interaction between the students and between the students and the teachers will be possible. A substantial amount of the learning material and the methodology will be conveyed online.

Some of the teaching/instruction will follow the principle of “problem-based learning”. To be able to complete the programme the students are required to be active and take responsibility.
6 EXAM AND ASSESSMENT

Exam
The method of examination will be determined for each course. The Department of Community Medicine primarily uses the following methods of evaluation:

- Home exam on a given topic
- Written school examination
- Digital school examination
- Portfolio assessment on the basis of submitted exams that are a part of a course

The home exams may for instance be to solve a task by the means of calculation and interpret the results, to assess an article or to write an essay.
The obligatory assignments will be assessed as Approved or Not Approved.
Attendance is regarded as an obligatory exercise. This is specified in each course description.
All obligatory assignments must be approved in order to take the exam(s).

All the elements/modules (attendance, obligatory assignments and exams) of a course must be passed before a student has passed the course as a whole. The basis for each final grade can be found in the respective course descriptions. Both school- and home-exams are evaluated on a scale from A to E for pass and F for fail. Information about re-sit examination can be found in the individual course descriptions.

Before the student can submit the master thesis, an adequate number of courses comprising in total 90 credits must have been passed. The master thesis is also evaluated according to a grade scale, with A-E for pass and F for fail.

More information about the different methods of evaluation can be found in the different course descriptions. Students can write assignments and examinations in Norwegian, Swedish, Danish or English.

Grading scale table:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Designation</th>
<th>General, qualitative descriptions of the assessment criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Excellent</td>
<td>An excellent performance, clearly outstanding. The candidate demonstrates excellent judgement and a very high degree of independent thinking.</td>
</tr>
<tr>
<td>B</td>
<td>Very good</td>
<td>A very good performance. The candidate demonstrates sound judgement and a high degree of independent thinking.</td>
</tr>
<tr>
<td>C</td>
<td>Good</td>
<td>A good performance in most areas. The candidate demonstrates a reasonable degree judgement and independent thinking.</td>
</tr>
<tr>
<td>D</td>
<td>Satisfactory</td>
<td>A satisfactory performance, but with significant shortcomings. The candidate demonstrates a limited degree of judgement and independent thinking.</td>
</tr>
<tr>
<td>E</td>
<td>Sufficient</td>
<td>A performance that meets the minimum criteria, but no more. The candidate demonstrates a very limited degree of judgement and independent thinking.</td>
</tr>
<tr>
<td>F</td>
<td>Fail</td>
<td>A performance that does not meet the minimum academic criteria. The candidate demonstrates an absence of both judgement and independent thinking.</td>
</tr>
</tbody>
</table>
## Examination overview:

### 1st semester:

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>ECTS</th>
<th>Form of examination</th>
<th>Duration</th>
<th>Grading</th>
<th>Obligatory assignment*</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEL-3005</td>
<td>Society, culture and public health</td>
<td>10 ECTS</td>
<td>Individual, written home based exam.</td>
<td>6 hours</td>
<td>A-F</td>
<td>Written home assignment. One week, 2000-3000 words.</td>
</tr>
<tr>
<td>HEL-3006</td>
<td>Introduction to Epidemiology and Biostatistics</td>
<td>10 ECTS</td>
<td>Individual, written digital school exam.</td>
<td>6 hours</td>
<td>A-F</td>
<td>2 individual written home assignments. Two weeks, &lt;3500 words.</td>
</tr>
<tr>
<td>HEL-3007</td>
<td>Health Economics and Policy</td>
<td>10 ECTS</td>
<td>Individual, written school exam.</td>
<td>6 hours</td>
<td>A-F</td>
<td>Group, plenary presentation, 30mins.</td>
</tr>
</tbody>
</table>

### 2nd semester:

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>ECTS</th>
<th>Form of examination</th>
<th>Duration</th>
<th>Grading</th>
<th>Obligatory assignment*</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEL-3070</td>
<td>Biostatistics II</td>
<td>10 ECTS</td>
<td>Individual, written school exam.</td>
<td>6 hours</td>
<td>A-F</td>
<td>2 home assignments, 2 weeks each.</td>
</tr>
<tr>
<td>HEL-3030</td>
<td>International and Environmental Health</td>
<td>10 ECTS</td>
<td>Individual, written home based exam.</td>
<td>3 weeks</td>
<td>A-F</td>
<td>3 written home assignments. 8 days. &lt;2000 words.</td>
</tr>
<tr>
<td>HEL-3055</td>
<td>Health Technology Assessment and Medical Decision-making</td>
<td>10 ECTS</td>
<td>Individual, written home based exam.</td>
<td>1 week</td>
<td>A-F</td>
<td>Written home assignment, 1 week, 2000-2500 words.</td>
</tr>
</tbody>
</table>

*Please check the course syllabus for detailed information.*
### 3rd semester:

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>ECTS</th>
<th>Form of examination</th>
<th>Duration</th>
<th>Grading</th>
<th>Obligatory assignment*</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEL-3008</td>
<td>Ethics</td>
<td>10 ECTS</td>
<td>Individual, written home based exam.</td>
<td>4 days</td>
<td>A-F</td>
<td>2 written home assignments.</td>
</tr>
</tbody>
</table>

And 2 of the following 4 elective courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>ECTS</th>
<th>Form of examination</th>
<th>Duration</th>
<th>Grading</th>
<th>Obligatory assignment*</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEL-3050</td>
<td>Clinical epidemiology and decision analysis</td>
<td>10 ECTS</td>
<td>Individual, written home based exam.</td>
<td>8 days</td>
<td>A-F</td>
<td>2 individual written home assignments. 6 days each, &lt;2200 words.</td>
</tr>
<tr>
<td>HEL-3060</td>
<td>Epidemiology II</td>
<td>10 ECTS</td>
<td>Individual, written home based exam.</td>
<td>12 days</td>
<td>A-F</td>
<td>2 individual written home assignments. 1500-2000 words. 2 weeks each.</td>
</tr>
<tr>
<td>HEL-3031</td>
<td>International Health - Analytical approach</td>
<td>10 ECTS</td>
<td>Individual, written home based exam.</td>
<td>1 week</td>
<td>A-F</td>
<td>1 individual written home assignment. One week, 2500 words.</td>
</tr>
<tr>
<td>HEL-3033</td>
<td>Implementation in global health</td>
<td>10 ECTS</td>
<td>Individual, written home based exam.</td>
<td>1 week</td>
<td>A-F</td>
<td>1 individual written home assignment. One week, 2500 words.</td>
</tr>
</tbody>
</table>

### 4th semester:

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>ECTS</th>
<th>Form of examination</th>
<th>Duration</th>
<th>Grading</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEL-3950</td>
<td>Master's Thesis in Public Health</td>
<td>30 ECTS</td>
<td>Written home based exam.</td>
<td>4 months</td>
<td>A-F</td>
</tr>
</tbody>
</table>

*Attendance to lectures and seminars are mandatory in all courses.
7 COURSE DESCRIPTIONS

Core courses:

<table>
<thead>
<tr>
<th>HEL-3005 Society, Culture and Public Health</th>
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</thead>
<tbody>
<tr>
<td>(10 ECTS)</td>
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</tbody>
</table>

**Course type**

This course is a mandatory course for students at the Master's degree programme in Public Health. Course students may be admitted if total number of students does not exceed the regulated 30 number of students at the course.

**Admission criteria**

Admission criteria: The same as for the Master's programme in Public Health. See the programme page. Application Code: 9371

**Course contents**

The course offers a theoretical framework for critical reflections of issues related to social and cultural aspects of health, illness, health care and preventive medicine.

The main topics are:

- Introduction to the study of public health, what it contains, how it is structured, and what it aims at.

- What creates health and illness? About medical and social determinants of health, with a focus on social determinants of health and how the health of the population is connected to social and political conditions in a society.

- Theories, perspectives and dilemmas in preventive medicine and health promotion.

- Social and geographical inequalities in health, what they look like, why they emerge, and how they can be reduced.

- Different perspectives on health and illness. The relation between biomedical, cultural and subjective perspectives.

- Cultural perspectives on health and illness, related to three dimensions: cross-cultural differences, historical differences and differences between lay and professional perceptions.

- Modern western conceptions of health and illness and medicalization, expressions, driving forces and implications.
- Cultural understandings of health professionals, their knowledge, practice and professional roles.

- Health care and preventive medicine as systems in various societies and their role in the welfare state.

**Learning outcomes**

**Knowledge and understanding**

After completing the study, it is expected that students will be able to:
- analyze how medical as well as social determinants shape the health of a population
- explain what social and geographical inequalities in health look like, how they emerge and how they can be reduced
- Analyze the development of health care systems, preventive initiatives and health status in different societies on the background of cultural perspectives on health and illness
- analyze how professional knowledge and clinical practice are influenced by the cultural landscape where it is created and embedded
- identify perspectives and theories from different scientific disciplines active in public health work

**Skills and Competences**

After completing the study, it is expected that students will be able to:
- apply a multidisciplinary approach to health and disease and show how it might improve our understanding and management of common health problems
- apply knowledge about the people and their culture in practical public health work

**General proficiency**

After completing the study, it is expected that students will be able to:
- enter into interdisciplinary cooperation in public health work
- identify and relate to the normative elements within professional knowledge, clinical practice and preventive medicine
- show respect for the intrinsic value of human beings, and tolerance for variations in the many different ways we live our lives.

**Teaching methods**

Lectures, video-presentations and organised group sessions during two 4 day long seminars, in addition to use of Fronter.

**Examination**

The final exam consists of an individual take home exam on a given topic. The writing time is 1 week and the text should not exceed 2500 words including references. The exam is to be handed in through Fronter if not otherwise stated. Students must have delivered and gotten the obligatory assignment approved in order to be able to take the exam. Students can write the exam in Norwegian, Swedish, Danish or English. Grading scale: A-E equals passed, F equals failed.
<table>
<thead>
<tr>
<th><strong>Re-sit exam</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>There will be organized a re-sit examination if a student fails the course. Students with valid absence from exam will be offered a re-scheduled examination.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Obligatory assignment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Home assignment (a written essay) on a given topic (2-3000 words). The students will be given one week to write the home assignment. This paper is compulsory, and it can be written alone or two and two together. The home assignment should be delivered via Fronter. Assignment will be graded as approved or not approved. Attendance to lectures and seminars is mandatory.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Teaching language</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>English. The assignments and exam can be written in Norwegian, Swedish, Danish or English.</td>
</tr>
</tbody>
</table>
# HEL-3006 Introduction to Epidemiology and Biostatistics

(10 ECTS)

## Course type

This course is a mandatory course for students at the Master's degree programme in Public Health. Course students may be admitted if total number of students does not exceed the regulated 30 number of students at the course.

## Admission criteria

Admission criteria: The same as for the Master's programme in Public Health. See the programme page. Application Code: 9371

## Course contents

The epidemiological syllabus will provide an introduction to, and practice of the use of epidemiological concepts, epidemiological/clinical study designs, and practice in how to read medical literature in a critical manner. The statistics part of the course will provide an introduction to commonly used methods in quantitative data analysis by SPSS.

## Learning outcomes

Knowledge:

- define central concepts in epidemiology, including demographic concepts
- explain the pros and cons of different study designs
- explain basic statistical concepts in univariate description and bi- and multivariate analysis

Skills and competences:

- apply central concepts in epidemiology, including demographic concepts
- identify the study design used in scientific medical papers
- select the correct type of epidemiological and statistical data analyses for a given data set
- use SPSS to perform statistical analyses, including univariate data description (measures of centrality and dispersion, confidence intervals), simple analysis of covariance (correlations), crosstabulation, hypothesis testing, and multivariable analysis (including linear and logistic regression)
- interpret the results from the statistical and epidemiological analyses, showing a basic understanding of relative and absolute risks, p-values and confidence intervals

## Teaching methods

There will be three gatherings lasting 3-5 days each. The course includes lectures, exercises and group work. Attendance to lectures and seminars is mandatory. The learning management system Fronten is an important tool in this course.
<table>
<thead>
<tr>
<th><strong>Examination</strong></th>
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<tbody>
<tr>
<td>The final exam consists of a six hours written university based digital exam. The exam will be held using computers through Fronter exam module (if not otherwise stated). Students must have gotten the obligatory assignments approved before taking the exam.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Re-sit exam</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>There will be a re-examination if a student fails the course. Students with valid absence from exam will be offered a re-scheduled examination.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Obligatory assignments</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The students have to pass two written assignments (up to 3 500 words) before they are allowed to take the exam. The assignments are individual exercises, and will be handed out between the first and second session on campus, and between the second and third session. The students will have two weeks for working with the assignments, which will be graded as approved or not approved. Assignments to be handed in on Fronter. Attendance to lectures and seminars is mandatory.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Teaching language</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>English. The assignments and exam can be written in Norwegian, Swedish, Danish or English.</td>
</tr>
</tbody>
</table>
### HEL-3007 Health Economics and Policy
(10 ECTS)

#### Course type

This course is a mandatory course for students at the Master's degree programme in Public Health. Course students may be admitted if total number of students does not exceed the regulated 30 number of students at the course.

#### Admission criteria

Admission criteria: The same as for the Master's programme in Public Health. See the programme page. Application Code: 9371

#### Course contents

The course gives an introduction to key issues in health economics and policy. The first part of the course explores the concepts of efficiency and equity, and explains how the assumptions of a perfect market are violated in health care. By applying basic price theory, we discuss how taxes and subsidies can affect the peoples' health related behaviour. The second part deals with health care finance; alternative sources of funding (insurance vs. taxation), as well as alternative ways of paying health care providers (activity based or not). The third part of the course explains methodologies of health economic evaluation, such as cost-effectiveness and cost-benefit analyses. Various ways of measuring health outcomes is discussed with particular emphasis on quality adjusted life years (QALYs). Finally, we discuss some priority relevant issues beyond costs and health outcomes.

#### Learning outcomes

**Knowledge and understanding**

- Students are expected to understand the key concepts of efficiency and equity, and analyse in which ways the assumptions of a perfect market are violated in health care.

- By applying price theory, students should be able to analyse how taxes and subsidies can affect the demand for (un)healthy goods. More generally, students should be able to evaluate direct and indirect interventions in the determinants of population health.

-Students should be able to identify the alternative sources of health care finance, and analyse their pros and cons given the health policy objectives that might exist.

- Explaining the principal differences in alternative payment systems for hospitals and primary care physicians is essential. Students should be able to analyse incentive mechanisms in the most widely used types of activity based financing.
- Students should be able to assess the methodologies of economic evaluation in health care (cost effectiveness analysis, CEA, and cost benefit analysis, CBA) including how to measure health outcomes (quality adjusted life years, QALYs). An understanding of normative issues on equality and fairness in health care priority setting is fundamental.

### Teaching methods

The course will require presence on campus during three teaching periods – total of eight days: 30 hours lectures and 34 hours seminar/group work.

### Examination

The grade for the course is based upon a one day written school examination (six hours) early December.

### Re-sit exam

There will be a re-examination if a student fails the course. Students with valid absence from exam will be offered a re-scheduled examination. See also examination regulations: [http://uit.no/students/studies?p_document_id=172032](http://uit.no/students/studies?p_document_id=172032)

### Obligatory assignment

Plenary presentation (30 minutes duration) of a group work on a chosen topic (3-5 students per group) to be presented on the second and third teaching week. The teacher will provide a list of topics to choose from. The presentations will be uploaded in Fronter after been accepted. Presentations must be given in English. All students have to participate in a group work in order to register for the exam. The assignment will be graded as approved or not approved. Attendance to lectures and seminars is mandatory.

### Teaching language

English. The exam can be written in Norwegian, Swedish, Danish or English.
# HEL-3030 International and Environmental Health

(10 ECTS)

<table>
<thead>
<tr>
<th><strong>Course type</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>This course is open to programme students at Master Public Health and Master Telemedicine. Course students may be admitted if total number of students does not exceed the regulated 30 number of students at the course.</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Admission criteria</strong></th>
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<tbody>
<tr>
<td>Admission criteria: The same as for the Master's programme in Public Health. See the programme page. Application Code: 9371</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Course contents</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The course will require presence on campus in two periods, one in January and one in March. See time table. On-campus activities are to include presentations, group discussions, overview lectures and planning of the interim period, group activities and cooperation with supervisors.</td>
</tr>
<tr>
<td>The course will provide an overview of environmental health / medicine (EH) and international health (IH) and explores the inter-relationships between health, poverty, environment and development; demonstrates the need for interdisciplinary co-operation; promotes student-centred, self-directed learning and critical appraisal; and optimizes the use of the internet to achieve the stated learning objectives. We want to stimulate all health workers in all health related disciplines to get a better understanding of their role in the global health setting. The students will benefit from this wherever in the world they have their daily work. Basic global health and environmental medicine, including climate change, with focus on circumpolar, subtropical, as well as tropical issues. The module consists of four sub-units, and the specific learning objectives are related to global health and environment-and-health case scenarios.</td>
</tr>
<tr>
<td>Nature of emergencies: In principle related to rapid health assessments and emergency responses using cases and scenarios for the development of skills and understanding. Infectious disease: The primary focus is on the most important infectious diseases in a global perspective; HIV/AIDS and tuberculosis; malaria; pandemics; vaccination; the international system for identifying, notifying alerting and containing important infectious threats. Poverty and hunger: To explore the relationship between poverty, hunger, food and drinking water safety and human health, with a special focus of the projected impact of global warming on these.</td>
</tr>
<tr>
<td>The course is based on extensive use of internet contact between students and supervisors through Fronter.</td>
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</tbody>
</table>
## Learning outcomes

The student should be able to:

**Knowledge and understanding**
- analyse factors that create disease and health inequalities (including services) among peoples.
- discuss the major issues in environmental health.
- discuss the major issues in international health.

**Skills and competences**
- attain proficiency about global health policy and health systems.
- discuss the different aspects of IH and EH with an independent and mature understanding.

**General Proficiency**
- master report writing using appropriate scientific method, language and literature.
- master critical appraisal.
- explore and assess different data sources and evaluate the accuracy and quality of the different information sources.

## Teaching methods

The course has a variety of teaching and supervising methods; plenary, lectures, group processes, internet methods etc. (Fronter).
The lectures are given during two plenaries, one 3 days and one lasting 4 days.

## Examination

The final grade is based on an individual home exam on a given topic. The exam should be approximately 6000 words excluding references. Writing time: 3 weeks. Obligatory assignments must be approved before taking the final exam. The final exam is individual. Details are given in the full course description, available on the web.

## Re-sit exam

There will be a re-examination if a student fails the course. Students with valid absence from exam will be offered a re-scheduled examination.

## Obligatory assignments

The students must hand in two obligatory assignments on a given topic. The first assignment will be handed out between first and second student gathering (plenaries), the second after the second student-gathering (plenary). Each student may receive a short evaluation on the first and second assignment. Additionally, during the second gathering there will be a group assignment to be presented in class.
The assignments will be graded as approved or not approved. All three assignments must be approved in order to take the final exam. The students will be divided in groups to work on the assignments. There will be at least 8 days between the presentation of the assignments.
to deadline for handing in the assignments. The answers should be maximum 2000 words, not including references. Assignments to be handed in on Fronter. Attendance to lectures and seminars is mandatory.

<table>
<thead>
<tr>
<th>Teaching language</th>
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<tbody>
<tr>
<td>English. The assignments and exam can be written in Norwegian or English.</td>
</tr>
</tbody>
</table>
**HEL-3055 Health Technology Assessment and Medical Decision-making**  
(10 ECTS)

### Course type

This course is a mandatory course for students at the Master's degree programme in Public Health. Course students may be admitted if the total number of students does not exceed the regulated 30 number of students at the course.

### Admission criteria

Recommended prerequisite: Basic epidemiology.  
Admission criteria: Basic medical statistics (HEL-1002 or equivalent).  
Admission criteria: The same as for the Master's programme in Public Health. See the programme page. Application Code: 9371

### Course contents

The first part of the course gives an introduction to the key principles for systematic reviews and health technology assessment (HTA). This includes literature searching, different study designs and risk of bias assessment, and understanding metaanalyses.

The second part of the course will cover health economic evaluations, ethical, organizational and legal issues for medical decision-making and priority setting in health care, as well as different decision making processes on the introduction of health care technologies.

### Learning outcomes

**Knowledge:**

The student should be familiar with the principles of health technology assessment, and the role of health technology assessment in decision-making. The student should be able to:

- To apply the principles of systematic literature searching  
- To assess the risk of bias in different study designs  
- To explain the core principles of metaanalyses  
- To explain different principles of health economic evaluations and modelling approaches  
- To identify ethical, organizational and legal issues to be analysed in an HTA.  
- To explain different decision-making processes in health care

### Teaching methods

The course will require presence on campus during two teaching periods each lasting 3 days; one in January and the second in April. Attendance to the on-campus teaching is mandatory.
Teaching will be given as lectures, seminars and group works. Teaching is in English, but written assignments and exam can be answered in English, Norwegian, Swedish or Danish.

<table>
<thead>
<tr>
<th>Examination</th>
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</thead>
<tbody>
<tr>
<td>The exam is a home written exam on a given topic. Writing time is 5 days. The extent is set at 2500-3000 words, excluding tables. In order to take the exam, the obligatory assignment must be approved.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Re-sit exam</th>
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</thead>
<tbody>
<tr>
<td>There will be a re-examination if a student fails the course. Students with valid absence from exam will be offered a re-scheduled examination.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Obligatory assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>One individual home assignment 3-5 days writing time, the paper should be 2000-2500 words long. Marked as approved or not approved. Attendance to the on-campus teaching is mandatory. Assignment and exam are individual exercises and may be written in English, Norwegian, Danish or Swedish.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Teaching language</th>
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</thead>
<tbody>
<tr>
<td>English. The assignments and exam can be written in Norwegian, Swedish, Danish or English.</td>
</tr>
<tr>
<td>HEL-3070 Biostatistics II</td>
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<td>--------------------------</td>
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<tr>
<td>(10 ECTS)</td>
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</table>

**Course type**

This course is a mandatory course for students at the Master's degree programme in Public Health. Course students may be admitted if total number of students does not exceed the regulated 30 number of students at the course.

**Admission criteria**

Recommended prerequisite: HEL-3006 Introduction to Epidemiology and Biostatistics.  
Admission criteria: Basic medical statistics (HEL-1002 or equivalent)  
Other: The same as for the Master's programme in Public Health. See the programme page.  
Application Code: 9371

**Course contents**

The course will focus on four different methods (analysis of variance including repeated measurements, regression analysis, logistic regression analysis and survival analysis); using SPSS.

**Learning outcomes**

The course will teach the students modern statistical methods of analysis commonly used in clinical and epidemiological research. The students shall be able to:

**Knowledge and understanding**

- Analyse data using the methods multivariable linear regression, logistic regression, and analysis of survival data (included Kaplan-Meier survival function, log rank test, and Cox proportional hazard regression).

**Skills and competences**

- Prepare a set of raw data for statistical analysis  
- Provide relevant descriptive statistics corresponding to the selected model of analysis  
- Identify different types of explanatory variables and correctly implement them in a regression model.  
- Select the correct analysis method to study the relationship between one or more explanatory variables on one response variable.

**General Proficiency**
- Master the most commonly used regression analyses methods in clinical and epidemiological research.
- Differentiate between the effect sizes from the various regression models and interpret the results.
- Evaluate the model assumptions of the regression models.
- Evaluate results from publications in medical journals where the different regression models are applied, and critically assess the validity of its use.

**Teaching methods**

There are two mandatory student-gatherings, where each of them lasts one week. Lectures are combined with analysing sets of data using SPSS.

**Examination**

The final exam consists of one 6 hour written university based exam.

**Re-sit exam**

There will be a re-examination if a student fails the course. Students with valid absence from exam will be offered a re-scheduled examination.

**Obligatory assignment**

Attendance to lectures and seminars is mandatory.

**Teaching language**

English.
The assignments and exam can be written in Norwegian, Swedish, Danish or English.
**HEL-3008 Ethics**  
(10 ECTS)

### Course type

This course is a mandatory course for students at the Master's degree programme in Public Health. Course students may be admitted if total number of students does not exceed the regulated 30 number of students at the course.

### Admission criteria

Admission criteria: The same as for the Master's programme in Public Health. See the programme page. Application Code: 9371

### Course contents

The course gives an introduction to key issues in public health ethics. A major difference between (clinical) medical ethics and public health ethics is that in public health, many decisions are motivated by explicit utilitarian considerations: what policies will yield the greatest good for the greatest number of people? Therefore, a critical examination of utilitarianism is important in public health ethics.

Public health interventions are usually implemented by governments. The aim is to advance the health of populations. This population perspective creates inherent tensions between what benefits the population as a whole and the potential infringement of individual liberties. Attention will be given to core concepts in political philosophy, such as liberalism and communitarianism. Topics include claims of individual autonomy vs. the protection and improvement of public health, personal integrity and the collection of health information, ethical issues in epidemiology, health concepts and health promotion, research ethics: principles and guidelines.

### Learning outcomes

The student should be able to identify, describe, reflect upon, analyse, and discuss central topics in public health ethics.

**Knowledge and understanding:**
- The student should be able to explain main aspects of consequentialist and non-consequentialist ethics.
- The student should be able to explain main topics in political philosophy.
- The student should be able to explain different health concepts.
- The student should be able to explain basic research ethical principles and rules of conduct.

**General proficiency:**
- The student should be able to analyse ethical dilemmas in health promotion and prevention.

**Teaching methods**

The teaching will consist of 2 on-campus classes of 3 days duration, one in January and one in March or April. On-campus activities are to include lectures, seminars, presentations and group discussions. In addition, teaching will be based on the use of Internet by means of the learning management system Fronter.

**Examination**

One individual home-based examination. The student must write a paper on a given topic, and the paper should have an extent of 1800-2000 words. The students will be given four days to write the paper. The paper shall be handed in on Fronter.

**Re-sit exam**

There will be a re-examination if a student fails the course. Students with valid absence from exam will be offered a re-scheduled examination.

**Obligatory assignments**

The students have to hand in and pass two written assignments before they can take the exam, the assignments are individual. Assignments shall be handed in on Fronter. The assignments will be graded as approved or not approved. The obligatory assignments must be passed in order to take the final exam. Attendance to lectures and seminars is mandatory.

**Teaching language**

English.
The assignments and exam can be written in Norwegian, Swedish, Danish or English.
### Elective courses:

<table>
<thead>
<tr>
<th>HEL-3050 Clinical epidemiology and decision analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>(10 ECTS)</td>
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</tbody>
</table>

#### Course type

This course is an optional course for students at the Master's degree programme in Public Health. Course students may be admitted if total number of students does not exceed the regulated 30 number of students at the course.

#### Admission criteria

Recommended prerequisite: HEL-3006 Introduction to Epidemiology and Biostatistics. Admission criteria: Basic medical statistics (HEL-1002 or equivalent). Other: The same as for the Master's programme in Public Health. See the programme page. Application Code: 9371

#### Course contents

**Topics to be discussed:**

- Medical decision making
- Methods for measuring agreement, Altman-plot, Kappa-statistics
- The relation technical characteristics, sensitivity, specificity and predictive values
- Prevalence and case-mix
- Diagnostics and outcome. Logistic regression in evaluation of diagnostic methods
- Bayes’ theorem
- Likelihood ratio for levels of test results
- Comparing tests, ROC-curves
- Multiple testing
- Conditional independence
- Deciding clinic usefulness of diagnostic tests
- Screening
- Randomised clinical trials
- Meta-analyses

#### Learning outcomes

**Knowledge:**

The student should be able to

- explain the principles of medical decision analysis.
- explain the relationship between prevalence and diagnostic features, and identify problems related to multiple testing and to dependence between tests.
- explain the effect of different cut-off-values on test properties  
- explain methods for describing and analyzing inter-and intra-observer agreement.  
- identify the effects of case mix on the test characteristics  
- explain the data sources and the principal methods for the analysis of availability, consumption and quality of health services  

**Skills**

The student should be able to  
- apply decision tree on medical problems  
- apply kappa statistics on medical problems  
- apply likelihood ratio, including likelihood ratio of various levels of test results  
- apply Bayes theorem on simpler medical problems  

**Teaching methods**

There are 3 student gatherings during the course, lasting 3, 2 and 3 days, respectively. Attendance to the lectures are mandatory.  
The teaching will be given as lectures, seminars and group works with individual presentations and plenary discussions.  
During the periods between the gatherings, the students are expected to get a deeper understanding of relevant topics by studying given textbook chapters and scientific literature. The teaching will be given in English.

**Examination**

The grade for the course will be based on a final home examination. The home examination will consist of several questions regarding given topics. It will take place some days after the third student gathering. The answers are to be given in writing, and the students have to give individual answers. There will be at least 8 days between the presentation of an assignment to deadline for handing in the answer. The answers should be max. ten pages long (4-5000 words).  
The student will hand in the exam paper on Fronter.

**Re-sit exam**

There will be organized a re-sit examination if a student fails the course.  
Students with valid absence from exam will be offered a re-scheduled examination. See also examination regulations: http://uit.no/students/studies?p_document_id=172032

**Obligatory assignments**

In the period between first and second student-gathering, and between second and third student-gathering, the students must write individual obligatory hand-in exercises on given topics. The assignments are given as individual exercises to be solved at home. The answer paper on each exercise should be maximum 2200 words in length. A minimum of six days will be given to write the assignments. Each student will receive a short written evaluation of
the answers to the two assignments. There will not be given separate grades on these exercises. The assignments will be graded as approved or not approved. The student must pass both hand-in exercises before they can start writing on the final course examination. Assignments to be handed in on Fronter.
Attendance to lectures and seminars is mandatory.

**Teaching language**

English.
The assignments and exam can be written in Norwegian, Swedish, Danish or English.
# HEL-3060 Epidemiology II  
(10 ECTS)

## Course type

This course is an optional course for students at the Master's degree programme in Public Health. Course students may be admitted if total number of students does not exceed the regulated 30 number of students at the course.

## Admission criteria

Recommended prerequisite: HEL-3006 Introduction to Epidemiology and Biostatistics.  
Admission criteria: The same as for the Master's programme in Public Health. See the programme page.  
Application Code: 9371

## Course contents

The course aims to increase the understanding of the importance of systematic errors in epidemiological studies and improve the interpretation of such errors in published figures.  
Priority will be given to show and assess the different types of bias in different designs. Bias is related to the selection of study populations or participants and to the collection of information from either questionnaires or biochemical analyses.  
Additionally aspects of validity and reliability will be incorporated as will also research ethics and quality control. Unified this should lead to a better interpretation of postulated causal relationships.

## Learning outcomes

The course gives a broad conceptual introduction to epidemiological thinking and a further elaboration and application of the epidemiological tools.

**Knowledge and understanding:**

- explain and discuss commonly used epidemiological concepts and methods  
- identify sources of error in epidemiological research and describe how errors can be eliminated / minimalized  
- identify and assess ethical challenges in epidemiological research

**Skills and competence:**

- apply epidemiological concepts and methods  
- master methods for preventing /minimalizing errors in epidemiological research  
- identify / discuss ethical problems in epidemiological studies  
- read and critically interpret results from epidemiological studies  
- plan and perform an epidemiological study
### General proficiency:

- communicate epidemiological findings and problems to other researchers and to the society
- ability to continue learning and professional development

### Teaching methods

There will be three on-campus sessions, each of three days. The course has multiple teaching approaches (lectures, seminars, work-shops and presentations), and active use of the Learning Management System Fronter is mandatory. Attendance to lectures and seminars is mandatory.

### Examination

There will be an individual home-based written exam. The exam comprises a number of different tasks to be solved and the answer submitted in Fronter within 10 days. The extent of the written answer could be 6-7 A4-pages (2200-2800 words).

### Re-sit exam

There will be organized a re-sit examination if a student fails the course. Students with valid absence from exam will be offered a re-scheduled examination.

### Obligatory assignments

Two home assignments (one after each session on campus) must be approved before the final exam. The assignments consist of questions to be answered individually. The answer shall be submitted in Fronter after two weeks and the extent should be 1500-2000 words. The assignments will be graded as approved or not approved, and the students will get a written feed-back from the teacher. Attendance to lectures and seminars is mandatory.

### Teaching language

English.
The assignments and exam can be written in Norwegian, Swedish, Danish or English.
**HEL-3031 International Health - Analytical approach**

(10 ECTS)

<table>
<thead>
<tr>
<th>Course type</th>
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<tbody>
<tr>
<td>This course is an optional course for students at the Master's degree programme in Public Health. Course students may be admitted if total number of students does not exceed the regulated 30 number of students at the course.</td>
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<table>
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<tr>
<th>Admission criteria</th>
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<tbody>
<tr>
<td>Admission criteria: HEL-3030 international and Environmental Health. Other: The same as for the Master’s programme in Public Health. See the programme page. Application Code: 9371</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course contents</th>
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<tbody>
<tr>
<td>The students will be given an overview and understanding of the global health and the problems and factors (political, economic, administrative and other factors) causing the global health and health care gradients between populations and nations.</td>
</tr>
<tr>
<td>The themes to be covered:</td>
</tr>
<tr>
<td>- The epidemiology of global health. The description of the health status of the world, distribution of diseases indifferent part of the world</td>
</tr>
<tr>
<td>- The methods of describing health, disabilities, illnesses and diseases in a global perspective</td>
</tr>
<tr>
<td>- Different methods for estimation of the burden of diseases, benchmarking and standardization</td>
</tr>
</tbody>
</table>

Analysis of the Global Health situation, different explaining factors and mechanisms behind the inequity:

- International politics.
- International economy and trade.
- National and international governing.
- Infrastructure.
- Analysis of the different health systems and the international criteria for comparison.

<table>
<thead>
<tr>
<th>Learning outcomes</th>
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</thead>
<tbody>
<tr>
<td>The students should be able to analyse the single factors relative importance. And have knowledge of strength and weaknesses of the methods used to describe the global epidemiology.</td>
</tr>
<tr>
<td>The must know of the different organizations of health care and be able to give an assessment of the strengths and weaknesses of the different systems.</td>
</tr>
</tbody>
</table>
**General Proficiency:**
- Students will be able to identify global health problems and the social conditions that create disease and inequalities in health between different population groups, nations and regions.
- Students will be able to explain the various factors' relative importance.
- Students will be able to apply the methods currently used to describe the global epidemiology.
- Students will be able to provide a critical description of the advantages and disadvantages of the various health systems.

**Teaching methods**

Lectures, seminars/group work. The course is normally organized in two periods, each period lasting three days. Attendance to lectures and seminars is mandatory. The lectures are given in English.

**Examination**

An individual home-based examination, 8-10 pages in length (4000-5000 words), on a given topic. The students are given 1 week to write the exam.

**Re-sit exam**

There will be organized a re-sit examination if a student fails the course. Students with valid absence from exam will be offered a re-scheduled examination. See also examination regulations: [http://uit.no/students/studies?p_document_id=172032](http://uit.no/students/studies?p_document_id=172032)

**Obligatory assignment**

The students must write and pass one obligatory given home-assignment, maximum 5 pages in length (2500 words) before they can take the final exam. The students must write the assignment individually. One week will be given for the student to write the assignment. The assignment will be graded as approved or not approved. The assignment must be approved in order to take the exam. Attendance to lectures and seminars is mandatory.

**Teaching language**

English.
The assignments and exam can be written in Norwegian, Swedish, Danish or English.
**HEL-3033 Implementation in global health**  
*(10 ECTS)*

### Course type
This course is open to course students as well as programme students.

### Admission criteria
Recommended prerequisite: HEL-3031 International Health - Analytical Approach.  
Admission criteria: HEL-3030 International and Environmental Health.  
Other: The same as for the Master's programme in Public Health. See the programme page.  
Application Code: 9371

### Course contents
- This course will be based on the following issues –

Determinants of global health with examples from:
- Poverty  
- Gender  
- Reproductive health  
- Malnutrition  
- Armed Conflicts  
- Natural Disasters  
- Water and sanitation  
- Education  
- Environment  
- Climate  
- Globalization

International institutions and interventions with examples from:
- Human rights  
- International Humanitarian laws  
- Millennium Development Goals (MDG)  
- Important international actors (UN, Red Cross, NGOs, WB, IMF)  
- GAVI, GATM, 3 by 5, DOTS, Stop TB, Greenlight Committee, PPP  
- Transparency  
- Good Governance  
- Good Donorship  
- Military Interventions  
- Peace through health (PAHO/WHO)  
- Global Health Research  
- Quality issues
Individual skills:
- Cultural understanding
- Rapid Health Assessments
- Stress management and Security
- Project planning (Logistical Framework (LFA))
- Camp management
- Vulnerability assessments
- Monitoring and Evaluation
- Field study

**Learning outcomes**

The students should be able to assess the main determinants of the global health, like: poverty, gender, nutrition, education, climate, environment, reproductive health, conflicts, disasters and catastrophes, water supply and sanitation.

The students should know the complex mechanisms causing the inequity in health globally, and describe the relative importance of the different factors involved.

The student shall know the international strategies and the programmes of the international agencies and organizations in order to reduce the gradients in health and health care in the world.

The students shall have knowledge of "tools" to use in practical international health work; in disasters and catastrophes, as well as in promoting health development.

**Skills and competences:**

- Students will be able to analyse an international health problem and develop proposals for effective and adequate response.

- Students will be prepared for work internationally in both emergency situations and more development-oriented health care.

**General Proficiency:**

- Students will be able to identify the most important determinants of global health: poverty, gender, nutrition, education, climate, environment, reproductive health, conflict, accidents and disasters, water and sanitation.

- Students will be able to evaluate the complex mechanisms that create inequality and explain the various factors' relative importance.

- Students will be able to analyse the key strategies of the different and the various programs that the major international organizations are doing to improve health conditions in different parts of the world.
**Knowledge and understanding:**

- Students will be able to explain international laws and regulations and international conventions and agreements relevant to the topic. They should have an overview of the international actors: the UN, World Bank and other major agencies and organizations and their mandates and policies.

**Teaching methods**

Lectures and seminars/group work. The course is normally organized in two periods, each lasting three days. Attendance to lectures and seminars is mandatory. The lectures are given in English.

**Examination**

A given individual home-based written examination, maximum 10 pages in length (5000 words), on a given topic. The students are given 1 week to write the exam.

**Re-sit exam**

There will be organized a re-sit examination if a student fails the course. Students with valid absence from exam will be offered a re-scheduled examination.

**Obligatory assignments**

The students must write and pass one mandatory given home-assignment, maximum 5 pages (approx. 2500 words) in length before they can take the final exam. The assignment must be solved individually by each student. Assignments to be handed in one week after they are presented. The assignments will be graded as approved or not approved. Attendance to lectures and seminars is mandatory.

**Teaching language**

English.

The assignments and exam can be written in Norwegian, Swedish, Danish or English.
## HEL-3950 Master's Thesis in Public Health

(30 ECTS)

### Course type

This course is open programme students at Master Public Health only.

### Course contents

The master thesis consists of 30 ECTS-credits, which is equivalent to the workload of one semester. Normally this workload is distributed over several semesters. For this reason it might be a challenging to divide the work with the master thesis in a correct manner, work systematically and utilize the given time properly.

The thesis is to be carried out as a simple research project. It can either be an empiric study based on an existing data set or the student may choose to collect new data within a chosen field of interest. The thesis can also be a discussion of a problem based on studies of relevant literature or a thesis of a more theoretical or methodological nature. The master thesis must contain a precise research question, choice of methodology and an explanation why the student plans to use this methodology, and systematic argumentation. The students themselves are responsible for choosing a topic for the thesis. The student must have completed all other courses in the programme before the thesis can be handed in. Meaning the obligatory 90 ECTS must be passed.

### Learning outcomes

The master thesis is a mandatory part of the Master Programme of Public health. By completing this course, mandatory supervision (and the writing-/supervision seminar) included, the student shall be able to form small scale research projects. The student will be able to explain how the results from a study should be reported in order to comply with standard scientific criteria.

Through the thesis the student needs to demonstrate that he/she masters relevant methods that have been demonstrated during the programme, the ability to work independently, demonstrate insight, reflection and maturity within the given field of study. If a student wishes to use qualitative methodology in his/her master thesis, it may be granted by individual application. In this application the student must document adequate formal qualifications in qualitative methodology.
The student should -

**Knowledge and understanding:**

- Be able to do an autonomous in depth study on a defined topic
- Be able to demonstrate a critical attitude to the source material and literature

**Skills:**

- Be able to demonstrate the ability to formulate precise research questions and conduct a small research project
- Relate to existing research

### Teaching methods

The institute arranges three obligatory, collective supervision seminars, lasting three hours each. These gatherings are obligatory to be able submit the Master Thesis.

First semester: Seminar on thesis writing:

The students get an introduction to working on the thesis from idea to formulation of a problem statement to a finished product. This includes an introduction to preparing a project description, literature searches and use of references, rules for research ethics, approval and the supervision arrangement.

Second semester: Seminar on writing a Project Description

A further introduction is given on how to set up a Project Description. Primarily, the student him/herself will decide on the topic for the Master Thesis, and recruit a supervisor. Deadline for submitting the tentative Title and the name of the supervisor, is in June (the specific date will be announced). It might be a challenge to find someone perfect for your selected topic, and it is of utmost importance to start looking for a supervisor early. Attention is drawn to the fact that not all topics/ supervisor requests can be fulfilled.

Third semester: Developing the Project

The project description will be developed together with the supervisor. For students not able to develop their master topic, we will in the beginning of 3. semester allocate proposed titles from supervisors. The deadline for submitting the Project Description is in October (the specific date will be announced). This description must describe the topic or problem statement for the thesis, background or theoretical approach, research methods, relevant source materials or data, as well as a schedule (2-5 pages). It is the supervisor’s responsibility to make sure that the project is sent for necessary assessment by REK or that the Privacy Ombudsman, NSD, is informed. Workshop seminar: All students will present their Project Description to fellow students in the 3. seminar.

Fourth semester: Students will finish up the work on the master thesis.
Examination

Scope
The thesis has a workload equivalent to 30 credits. The length of the thesis will depend on the topic and form, but should normally be between 30 and 60 pages, including references and notes.
Two students may collaborate on a task, but it must be applied for in advance. Students must describe each individual’s effort, and length of such a task should be 80 to 100 pages.

Scripture should have font size 12, spacing 2. The first page shall state the title, student name, supervisor’s name, time and place, Master of Public Health, ISM, UiT the Arctic University of Norway. Templates for thesis cover pages are found in Fronter. It is recommended that either Vancouver or Harvard referencing styles are used. Other academic forms of presentation can also be used in consultation with the supervisor. The thesis can be written in Norwegian, Swedish, Danish or English. If a non-English language is used, the thesis must contain a 1-2 page summary in English.

Submission
In order to hand in the thesis, all other courses at the Master's program must be completed. There are three submission deadlines each year: May 15th, August 1st or December 1st. The deadline for submission is May 1st four years after the start of an experience-based master’s program of 90 ECTS, or five years after the start of a master of the 120 ECTS (corresponding to the duration of the admission cf. Regulations for studies at the University of § 16). Thesis submitted electronically via MUNIN as a .pdf file.

Evaluation
The thesis is assessed by an external and an internal examiner (examination committee). The thesis will be graded from A to E, or fail (F). Deadline for grading the thesis is 6 weeks, as set by the exam regulations at UiT. An additional two days may be added on administrative grounds. The student’s supervisor cannot be an internal examiner. It is adopted by the University Board (21.06.2007, case S25/07) that examination committee may have a short conversation with the supervisor before the assessment meeting. If necessary, the examining committee will ask the supervisor to provide a written explanation of the counselling process.

Appeals
The student may ask for Explanation about the awarding of grades within three weeks after the announcement of the grade for the thesis. A candidate may file a written complaint about a grade awarded for his/her own performances. Complaints about the awarding of grades shall be submitted within three weeks of the announcement of the examination results.

Teaching language

English.
The thesis can be written in Norwegian, Swedish, Danish or English.