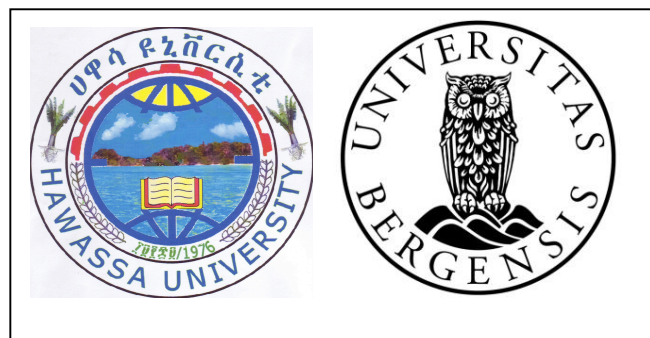


**Hawassa University**  
**College of Medicine and Health Sciences**  
**School of Public and Environmental Health**



**A Joint Doctor of Philosophy (PhD) degree (in Public Health) with  
the University of Bergen, Norway**

**Study Curriculum**

**Sep 2015**

**Hawassa, Ethiopia**

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## Background

The need for expanding tertiary level training in public health sciences is evident. The burden of health problems, increasing population pressure and economic challenges indicate the need for effective and efficient programming of public health interventions. However, the human resource crisis in contemporary Ethiopia has created a huge obstacle to implementing the health sector development plan to its fullest extent. The decentralized governance structure in the public sector and the growing number of national and international NGOs require competent professionals.

The Government policy and strategic shift to producing high level professionals and academicians to support program implementation and expansion of education opportunities have also posed a tremendous challenge to higher learning institutions. The demand for evidence-based interventions is also increasing, which necessitates the production of high-level professionals. Offering long-term training opportunity for academic staff has also been used as retention mechanism in many countries including Ethiopia.

Meanwhile, to undertake PhD level researches, that can inform policy, usually requires adequate funding and which was perceived as a limitation in low-income countries. Taking this into consideration, the effort we made to win a grant from NORAD on the NORHED scheme in order to launch a PhD program became successful and lead to the establishment of “South Ethiopia Network of Universities in Public Health (SENUPH): improving women’s participation in post-graduate education (NORHED-SENUPH)” project<sup>1</sup>. The NORHED-SENUPH project aims to achieve educational quality for which it is designed in a way that Hawassa University shall benefit from the expertise of University of Bergen (UiB)<sup>2</sup>, Norway. There will be knowledge and skill transfer with regard to PhD student supervision, providing PhD level taught courses and also running a quality PhD programme. In addition, providing a degree with a European University boosts the reputation of Hawassa University and we hope

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<sup>1</sup> South Ethiopia Network of Universities in Public Health (SENUPH): improving women’s participation in post-graduate education: NORHED-SENUPH Project Document

<sup>2</sup> <http://www.uib.no/en/node/36362>

in the future, it will be a pulling factor for foreign students. In addition, the recent experience of joint degree scheme between Makerere University of Uganda (ranked fourth in Africa) and Karolinska Institute (Sweden) showed that such partnerships between Universities of low and high-income countries have a huge potential to increase research capacity in both settings. Subsequently, Makerere has also developed joint degree arrangements with University of Bergen (Norway) and Stellenbosch University (South Africa), and Karolinska with Stellenbosch University and the National University of Singapore<sup>3</sup>. We hope that this joint degree scheme would help Hawassa University to enhance its involvement in such international partnerships in education and research.

### **Brief profile of the collaborating bodies in the joint PhD training**

The School of Public and Environmental Health is one the schools at College of Medicine and Health Sciences, Hawassa University. The school currently runs two academic programmes at undergraduate level (Public Health and Environmental Health) and one graduate programme (Masters in Public Health). The school is lead by a dean and has school commission composed of eight members. The school is organized in four modular structures: “Basic Public Health”, “Public Health Intervention”, “Environmental Health” and “Research and Community Practice”.

The Centre for International Health (CIH) is part of the Department of Global Public Health and Primary Care at the Faculty of Medicine and Dentistry at the UiB. However, research and teaching at CIH transverses departments and faculties at the University of Bergen, and in partnerships with other national and international institutions. For over 25 years, CIH has been working to improve health in low-income countries through research, postgraduate teaching as well as advanced training and capacity building. The CIH of UiB has broad expertise in epidemiology, clinical trials, medical ethics, health economics, medical anthropology and biomedical sciences, including microbiology, immunology and nutritional biochemistry. In 2011, an international panel commissioned by the Research Council of Norway awarded CIH the highest possible mark in an evaluation of biology, medicine and

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<sup>3</sup> Sewankambo N, Tumwine JK, Tomson G, Obua C, Bwanga F, Waiswa P, et al. (2015) Enabling Dynamic Partnerships through Joint Degrees between Low- and High-Income Countries for Capacity Development in Global Health Research: Experience from the Karolinska Institutet/Makerere University Partnership. PLoS Med 12(2): e1001784. doi:10.1371/journal.pmed.1001784

health research in Norway. A Centre of Excellence, the Centre for Intervention Science in Maternal and Child Health (CISMAC) was awarded to CIH in 2013.

More information about CIH can be found at our webpage: <http://www.uib.no/en/cih>

### **The need for PhD in Public Health**

The need can be viewed in three ways:

1. There was a PhD program in Public Health in the School of Public and Environmental Health in collaboration with Addis Continental Institute of Public Health. The PhD program was expected to address the need of our University in capacity development when HU Senate endorsed it. However, the collaboration was short-lived and terminated due to other reasons apart from the need of having such graduate programs. Therefore, the joint degree nature of the NORHED-SENUPH program (with the Norwegian University) will replace the external assistance we had from the aforementioned Institute in a better way to continue the PhD education. In addition, the existence of a PhD program in Public Health in some Ethiopian Universities including Addis Ababa, Gondar, Haromaya, Jimma and Mekele could not address the demands of more than thirty younger and newly emerging Universities; and there is no such a program in the southern part the country where more than seven younger/new Universities exist.
2. The NORHED-SENUPH project is based on a partnership agreement among four southern Ethiopian (Hawassa, Dilla, Wolaita Sodo and Arba Minch) Universities and one Norwegian University in order to foster quality postgraduate education in Public Health. Dilla, Wolaita Sodo and Arba Minch Universities shall launch Master programs in the field of Public Health being supported by this project, and while assessing the needs of qualified academicians to handle a postgraduate program in Public Health, we found that there were no PhD holders in all of the Ethiopian partners except two in Hawassa University. And since Hawassa University is also expected to take-over the full responsibility of this PhD program at the end of the NORHED-SENUPH project, the need to have more PhD holders in Public Health is indisputable. Therefore, this PhD program is primarily designed to build the capacities of southern partner Universities to handle quality postgraduate program in

Public Health; whereby, we train a total of 8 PhDs for Hawassa University, and 4 PhDs for each of Dilla and Wolaita Sodo Universities. The baseline data of PhD holder to graduate student ratio (in partner Universities) and the need is documented in the NORHED-SENUPH main document<sup>4</sup>.

3. The Southern Nations, Nationalities and Peoples Region has a population of about 16 million people, representing more than 50 ethnic groups that live in a variety of geographic and socioeconomic areas. As several documents indicated, the area is typical of Ethiopia with high population densities, high fertility and child mortality rates, and high maternal death rates. In addition, parts of the region have repeatedly been affected by drought, and global warming may worsen food security in vulnerable areas. Likewise, global warming may expand the current malarious areas to the densely populated highlands. Therefore, the NORHED-SENUPH project outlined three thematic areas of research to be handled by the PhD fellows. These thematic areas are: a) Improving maternal and child health, b) Preventing malaria and c) Improving community nutrition. Details of the thematic areas are provided in the NORHED-SENUPH main document<sup>5</sup>. We have also designed ways of disseminating the research findings with workable recommendations to stakeholders mainly the Regional Health Bureau.

## **Rationale**

Excellence in academia is highly dependent on research undertaking. Thus, it is mandatory for academic institutions to develop their staff capability to conduct policy relevant research. The Nation's demand for this category of professionals is also increasing due to the efforts in making policy and practice evidence based. The doctoral program focuses mainly on high-

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<sup>4</sup> South Ethiopia Network of Universities in Public Health (SENUPH): improving women's participation in post-graduate education: NORHED-SENUPH Project Document

<sup>5</sup> South Ethiopia Network of Universities in Public Health (SENUPH): improving women's participation in post-graduate education: NORHED-SENUPH Project Document

level analysis and interpretation of public health data and information. And this program is mainly designed to:

- Further expand opportunities for postgraduate training in Ethiopia with focus on capacity building within the University and other partner Ethiopian Universities of the NORHED-SENUPH project;
- Increase the number of highly trained public health personnel in order to provide:
  - Public health practitioners to support management of health services
  - Public health researchers to be involved in looking for and generating new knowledge and tools for solving the public health problems of the country; and
  - Public health educators at all levels of health training institutions

### **The need for revising the existing curriculum, and adopting and customizing the PhD curriculum of University of Bergen, Norway**

This curriculum is a revised version of the curriculum that was approved in March 2010<sup>6</sup> in collaboration with Addis Continental Institute of Public Health. In the previous curriculum, our School enrolled three PhD students (one graduated in 2014 being the first PhD graduate of Hawassa University and the others two in 2015). The current revision was basically made to suit the PhD education standards of the Norwegian University with the provisions of available funds from the NORHED-SENUPH project to run the programme for five years with the possibilities of extension. Therefore, we adopted and customized the PhD curriculum of UiB, Norway to be in-line with the joint degree scheme, and after the completion of the NORHED-SENUPH project, Hawassa University shall run the program by its own since we believe that the necessary capacity is built by the time.

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<sup>6</sup> A joint post-graduate program of Hawassa University and Addis Continental Institute of Public Health, Revised Curriculum, March 2010



## **Objective**

The aim is to provide high-level professionals capable of designing and performing independent research, teaching in graduate public health programmes and contributing to development and appraisal of public health policy and services.

## **Graduate Profile**

A prospective graduate of the doctoral program will have the following competence:

- Master the skills and methods in his or her own research field
- Provide high level technical leadership and consultancy services in major public health issues;
- Undertake academic activities and teaching at masters and doctoral levels;
- Critically analyse, evaluate and synthesize new and complex research ideas;
- Carry out research with scholarly integrity;
- Contribute original research of an academic standard appropriate for publication as part of the scientific literature in the field of question;
- Undertake large scale research projects of policy relevance; and
- Communicate with peers, the wider scholarly community and with society in general about his or her areas of expertise

## **Admission and registration**

Candidates must fulfil the criteria for admission to the PhD education, registration, training and examination at both universities and should undertake joint research projects with supervisors from both universities. Recruitment to the doctoral program is done on a one-to-one basis and can happen at any time of the academic calendar. However, a candidate must fulfil the following conditions to join the doctoral program in public health:

- Must have a Master degree (MSc/MPH/masters with thesis in related field or MPH/MIH/Masters without thesis plus one published article);
  - The published article shall be evaluated for quality and also to confirm the candidate's contribution to the article
- Must have a good research plan and funding (the funding for the first 16 PhD students will be covered by the NORHED-SENUPH project) for the research; and

- Must have identified a qualified supervisor (PhD holder with an academic rank in accordance with the legislations of both Universities) from both Universities launching this joint PhD degree programme before admission into the programme.

The Universities may support the potential candidates in identifying supervisors.

If accepted the candidate will first register at Hawassa University and then at University of Bergen. Potential supervisors at both universities must recommend the application. The registration for the joint PhD education must be done no later than one year after the candidate has been admitted to the home university.

### **Duration of studies**

Duration of the joint PhD education is 3 years full-time or up to 6 years part-time. The maximum duration of study shall be 6 years.

### **Supervision**

There shall be one supervisor at each university, one of whom should be the main supervisor. Adjunct supervisors from either university or any other university may be appointed as needed.

### **Instructional Methodology**

The course works are organized in blocks and method of instruction will be in the form of lectures and seminars that are supported by tutorials, individual assignments, project papers, and guest lectures. Most courses and seminars will be largely student centred and candidates are expected to make significant contributions to the learning process. All candidates must spend time in teaching in order to receive adequate academic stimuli to pursue academic excellence in their studies.

### **Training part**

The training component shall consist of 30 ECTS credits, equivalent to one semester's workload, and shall be relevant for the research conducted by the candidate. Students can attend and get credits for courses at both Hawassa University and at the University of Bergen. There shall be joint recognition of courses included in the study programme given at

either university. The documentation of course work shall be done through approved transcripts in English from either university.

The following courses (Table below) are available for PhD students for this joint programme. This list may be expanded later, in case there is a need. Registration to these courses will be done at the beginning of each year accordingly. With regard to elective courses, consultation with and approval of the supervisor(s) is mandatory.

Year of study	Course name	Course type	ECTS Credits	Course available at	Equivalent courses at UiB/CIH	Grading
<b>I</b>	Research Tools and Theory	Compulsory	6	HU	INTH 301	Letter grade
	Biostatistics and Basic epidemiology	Elective	5	HU	PUBH 911	Letter grade
	Observational Epidemiology: Survey, Cohort and Case-Control Studies	Elective	5	UiB	INTH 356	Letter grade
	Experimental epidemiology	Elective	5	UiB	INTH 321A	Letter grade
	Applied economic evaluation in health care	Elective	2	UiB	INTH 314	Letter grade
<b>II</b>	Research seminars on multivariate methods <sup>¥</sup>	Elective	2	HU	PUBH 921	Letter grade
	Mid way evaluation	Compulsory	1	HU and UiB	PUBH 922	Pass/Fail
<b>III</b>	Scientific presentations*	Compulsory	6	Scientific conferences, lectures, articles	PUBH 931	Pass/Fail
	Total <sup>§</sup>		30			

\*Dissemination credits can be earned by participating in national (1 ECTS per presentation), or international congresses (2 ECTS per presentation), through lectures (1 ECTS per lecture) or articles (1 ECTS per article- maximum 2 articles- the articles should be unrelated to the students PhD research work). It is expected that the student should have at least one national and one international scientific presentation.

<sup>¥</sup>Each student should be able to organize and lead a research seminar on multivariate analysis methods. Type of model to be presented should be decided by the supervisor and it should be in line with the PhD research work of the candidate.

<sup>§</sup>This refers to the total expected ECTS to be taken by the student (not the total of ECTS of courses presented here).

Students enrolled in the planned Joint Degree programme would have full access to all PhD courses at CIH. The course codes starting with "INTH" belong to the Centre for International Health of University of Bergen and this was the reason that the corresponding number codes may look inconsistent with the Senate Legislations (for course codes) of Hawassa University.

However, during the coming years, the number of courses available at Hawassa University will be expanded as we manage to provide these courses at Hawassa University, and by the time the course coding will be made in-line with the Hawassa University legislation.

### **The Dissertation**

The research work constitutes the largest part of the doctoral training and is stipulated to take two and a half years of the PhD study period. The research work is written up as a collection of articles with a synopsis. The candidate should produce three manuscripts with a quality for publication to be the bases for the synopsis.

### **Progress and reporting**

The candidates shall submit an annual progress report on progression on the PhD project to both universities.

### **Assessment of dissertation/Graduation requirement**

Basis for assessment:

The PhD candidate must satisfy:

- Approved academic training component (30 ECTS). The candidate should score, in all courses, a passing grade according to the legislations of the Universities.
- Approved written dissertation by the assessment committee; and
- An approved trial lecture on a given topic and a satisfactory defence in a public disputation (graded as “Pass”)

The candidate shall only present herself/himself to the assessment of the dissertation at either HU or UiB. HU and UiB shall appoint a joint assessment committee to evaluate the work of the PhD student. The joint assessment committee must have members from both universities, as well as external members. The candidate’s supervisors cannot serve on the assessment committee.

## **Degree Nomenclature and certificate**

The nomenclature of the degree shall be:

*“Doctor of Philosophy”*

The degree certificate for the *joint degree* shall be in English. Only one degree certificate will be issued presenting both University logos. It shall contain the title of the degree in English, the candidate’s name and sex, date of award, signatures of the two authorities and embossed University seals. The design of the degree certificate and the front page of dissertation shall reflect the joint nature of the degree.

Alternatively, the two parties may opt for issuing a *multiple degree* if preparation of joint degree is not feasible. The degree certificate for a *multiple degree* shall be in English. Two degree certificates may be issued following local procedures, if not specified otherwise by the joint PhD agreement (Annex 1). The diploma shall reflect the joint nature of the degree, whereby; the degree certificates should specify that the joint degree/multiple degree is awarded in collaboration with the other university so as not to give the impression that an individual has two PhDs.

Accompanying explanatory notes shall be in English in a form of a degree certificate Supplement. The degree certificate Supplement issued with a joint degree or a multiple degree must clearly describe all parts of the degree, and it must clearly indicate the institutions and/or study programmes at which the different parts of the degree have been earned.

## **Quality Assurance**

- Review of PhD proposals by the institutional review board
- Involving external examiners in the PhD dissertation evaluation and public defense
- Ensuring at least two publications in reputable journals as a condition of PhD completion
- Annual assessment of the program by teaching staffs
- Feedback from stakeholders and beneficiaries of the programme
- Exit questionnaire to obtain feedback from students who are completing their PhDs
- Monitoring the proportion of candidates who complete their PhDs within a stipulated period

- Establishing Alumni of graduates as a mechanism of tracing their career development

## **Available Resources**

### **Human resource**

- The number of potential supervisors from the University of Bergen that can join NORHED-SENUPH project will depend on the topics the PhD students choose. However, it is expected that four to six full professors can take part in this joint programme.
- Currently the school of Public and Environmental Health has a total of six PhD holders who may serve as co-supervisors with which they develop the necessary capacity of PhD supervision in due course to fully own the PhD programme by the end the joint agreement.
- The NORHED-SENUPH project also secured funds for adjunct supervisors (if needed) from other Universities in Ethiopia, mainly Addis Ababa University.

### **Material resource**

- College of Medicine and Health Sciences of Hawassa University arranges teaching classrooms with necessary facilities
- College of Medicine and Health Sciences of Hawassa University shall provide an office (with office equipment and internet access) to each PhD candidates during their stay at the college
- The PhD candidates are entitled to use the college library and also they can order books (from the budget in the NORHED-SENUPH project) of their choice in consultation with the supervisor and NORHED-SENUPH project coordinator
- Joint PhD students will have full access to UiB Library with online full text journals. They can also download and use software needed for their research such as SPSS, STATA, EndNote and ARCGIS.
- With the support of UiB and NORHED-SENUPH project, establishment of molecular laboratory is underway at the College of Medicine and Health Sciences that would help the PhD students who would use molecular techniques. The running cost of this laboratory will be fully covered by the NORHED-SENUPH project until 2018 with a possibility of extension.

### **Financial Resource**

The NORHED-SENUPH project secured research funds for 16 PhD students within the project life span of 2014-2018. There will be more than 500,000.00 Eth. Birr per candidate; of which around 300,000 shall be for data collection and the remaining shall be for book allowance, selected courses abroad, attending international scientific conference, copy editing, publication fees and so on. The project has also secured funds for other related expenses. The supervisor and the NORHED-SENUPH project coordinator should approve the request and expenditure of funding.

### **Sustainability**

The following are the ways designed to ensure sustainability:

- Joint supervision of PhD candidates helps the co-supervisors from Hawassa University to boost their capacity of PhD supervision
- By the support of the NORHED-SENUPH project, there will be opportunity for faculty members of School of Public and Environmental Health to travel abroad and attend PhD level courses with the intention of enabling them to take over similar courses at Hawassa University
- Some of the courses of University of Bergen will be exported to Ethiopia and this creates the opportunity to faculty members of the School of Public and Environmental Health to attend the courses/be member of facilitators of the courses and learn how to provide them by their own in the future
- By the support of the NORHED-SENUPH project, there will be training on teaching and supervisory skills (by Professors from the University of Bergen) for faculty members of the School of Public and Environmental Health in order to build such capacity needed for PhD level programmes

### **Joint PhD Governance**

- The joint PhD education shall be administered by a board composed of two members from each of the Universities as indicated in the joint agreement (Annex 1).
- The PhD candidate should sign a joint PhD agreement upon registration and should be aware of the PhD candidate's responsibilities and what is expected of the supervisory team as indicated in Annex 2.

### **Outline of PhD proposal and Dissertation**

- The general outline of the PhD proposal and dissertation is indicated in Annex 3. According to the nature of the PhD study, some modifications are acceptable given that the supervisors approve it and the necessary elements are not missing.

### **Course Descriptions**



## Research tools and theory

Course code: INTH 301

Semester:

fall

Department:

Centre for International Health

Course title: Research tools and theory

### Course content

This course provides an introduction Research tools and theory. The course includes research within ethics and philosophy of science, research methods, and how to communicate scientific results to the research community and in teaching.

### Learning outcome

#### General competence

This course will give you general skills to understand the different disciplines needed for health research relevant for middle and low-income countries.

#### Knowledge

This course will give you knowledge about:

- How to find knowledge about science, including sources of scientific knowledge
- presenting important statistical concepts
- ethical perspectives in research; integrity, accountability and social responsibility
- presenting choice of research methods
- public health and epidemiological research
- basic biomedical research within life sciences
- design of clinical trials, observational studies (cross-sectional studies , case -control studies, cohort studies), experimental methods (controlled clinical trials, intervention studies)
- Important statistical methods
- qualitative research tools

#### Skills

This course will give you the skills to:

- critically evaluate scientific knowledge
- understand scientific knowledge in light of important scientific ideas
- explain the main principles of epidemiological research
- explain the main principles of clinical studies
- elaborate on the selection and use of basic medical research methods
- apply statistical methods

- justify and explain choices of research methods
- explain and use qualitative methods such as observations, interviews and document analyses
- identify and discuss ethical problems in medicine and life sciences

## **Content**

The course includes the has the following main themes:

Philosophy and Science

Ethics

- And scientific conduct
- In human and animal studies

Methods in

- Epidemiology
- Basic medical research
- Clinical research
- Qualitative research

Scientific communication

- The Library, PubMed and use of EndNote
- The scientific paper
- Posters
- Successful lecturing

Grant applications

Statistical issues

## **Format:**

A mixture of lectures, individual and group exercises and individual study

## **ECTS credits: 6**

Contact hours: 100

Group work: 30

Individual assignments: 50

Total SIT: 180 hours

## **Assessment:**

Written home exam to be delivered in the first week of January

Writing an abstract based on a research paper using quantitative or qualitative research methods.

**Reading list:**

Laake P, Benestad, HB, and Olsen BR. Research methodology in the medical and biological sciences. Academic Press. 2007.

Journal articles:

Swift JA and Tischlert V (2010): Qualitative research in nutrition and dietetics: getting started. *Journal of Human Nutrition and Dietetics*, 23:pp 559-566

Draper A and Swift JA (2010): Qualitative research in nutrition and dietetics: data collection issues. *Journal of Human Nutrition and Dietetics*, 24:pp 3-12

Fade SA and Swift JA: (2010): Qualitative research in nutrition and dietetics: data analysis issues. *Journal of Human Nutrition and Dietetics*, 24:pp 106-114

Pilnick A and Swift JA: (2010): Qualitative research in nutrition and dietetics: assessing quality. *Journal of Human Nutrition and Dietetics*, 24: pp 209-214

Rekdal, O. B. (2014). "Academic citation practice: A sinking sheep?" *portal. Libraries and the Academy* Volume 14, Number 4, October 2014

## **Biostatistics and Basic Epidemiology**

**Course code:** PUBH 910

**ECTS Credits:** 5

### **Course Objectives**

At the completion of the course students will be:

- 1) Critical consumers of the public health and medical literature by understanding the basic principles and methods of epidemiology, including disease (outcome) measures, measures of association, study design options, bias, confounding, and effect modification.
- 2) Able to interpret descriptive epidemiologic results in order to develop hypotheses about possible risk factors for a disease.
- 3) Able to design valid and efficient studies to address public health and clinical problems.
- 4) Able to organize, summarize, and display quantitative data.
- 5) Comfortable with statistical methods for calculating summary estimates, measures of variability, and confidence intervals.
- 6) Aware of and able to manipulate probabilities and the Normal and Binomial distributions.
- 7) Able to carry out and interpret a variety of tests of significance, including two-group comparisons using t-tests, Wilcoxon tests, chi-square tests, Fisher exact tests, McNemar's test, ANOVA, Kruskal-Wallis Test and so on.
- 8) Familiar with power and sample size calculations.
- 9) Familiar with basic principles and uses of linear and logistic regression models for public health research.
- 10) Able to carry out data analyses using SPSS

### **Course contents**

- Biostatistics: Introduction, Philosophy
- Epidemiology: Introduction, Outcome Measures
- Probability: Concepts, Terminology, Rules
- Graphical Displays of Data
- Measures of Effect
- Summary Statistics
- Computer Lab: Summary Statistics & Graphs
- Normal Distribution and Central Limit Theorem
- Study Design: RCT
- Tests, P-values and Confidence Intervals
- Two-Sample T-Test
- Study Design: Cohort Studies
- Confidence Intervals for Comparing Two Means
- Study Design: Case Control Studies
- Two-Sample Wilcoxon Rank Sum Test
- Computer Lab: Crude Analysis – Continuous Outcome
- Binomial and Poisson Distributions
- Study Design: RCT Redux and Time Trend Designs (Notes)
- Inference on One Proportion
- Comparing Two Proportions
- Confounding & Bias
- Fisher's Exact Test and Chi-Square Test
- Computer Lab: Crude Analysis – Binary Outcome
- Stratified Analysis
- Effect Modification
- Power and Sample Size
- Computer Lab: Power and Sample Size
- Chi-Square Trend Tests
- Computer Lab: Stratified Analysis
- Paired Binary Data: Kappa & McNemar's Test
- Matching (Notes)
- Paired Continuous Data: T-Test & Wilcoxon
- Analysis of Variance & Kruskal-Wallis Test
- Test Evaluation & Screening (Notes)
- Pearson and Spearman Correlations
- Overview of Regression in Public Health Research
- Linear Regression
- Logistic Regression
- Propensity Scores (Notes)
- Overview of Causal Inference (Notes)
- Computer Lab: Data analysis including regression analysis

- Critique of the Literature
- Introduction to Meta-analysis

### Teaching methods

Lectures, reading notes, computer practical sessions

### Evaluation

- Assignments on Epidemiological topic (10%)
- Data analysis exercise (20%)
- Critical appraisal of scientific article (presentation) (10%)
- Final Exam (60%)

### Reading materials

- **Epidemiology text:** Rothman, KJ. *Epidemiology: An Introduction. (Second Edition)* Oxford University Press, New York. 2012.
- **Biostatistics text:** Kirkwood B. And Sterne J. *Medical Statistics*. 2<sup>nd</sup> edition 2006; and Douglas G. Altman. *Practical Statistics for Medical Research*. Chapman & Hall/CRC 1991
- **Biostatistics text:** Douglas G. Altman. *Practical Statistics for Medical Research*. Chapman & Hall/CRC 1991

## **Observational Epidemiology: Survey, Cohort and Case-Control Studies**

Course code           INTH356

ECTS credits           5

Teaching semester    Spring

Number of semesters 1

Teaching language    English

Study level            Postgraduate Courses

Resources             

- [Schedule](#)
- [Reading list](#)

Belongs to            [Department of Global Public Health and Primary Care](#)

### **Contact Information**

Centre for International Health

Tel.: +47 55588569/70; e-mail: studie.cih@uib.no

### **Objectives and Content**

This course addresses critical methodological aspects of clinical and epidemiological studies relevant for interventions against poverty related diseases, including HIV infection, tuberculosis and malaria.

The lectures in the course cover the following:

- Epidemiology: - an overview.
- What is a survey?
- Random v non-random sampling, Simple random sampling,
- Sampling variability, estimates and confidence intervals,
- Alternative sampling (Systematic, Stratified, Cluster, Two-stage),

- Consequences for sample size calculation and data analysis exemplified with a simple data set.
- Stratification and clustering in survey.
- HIV related surveys.
- Demographic and health surveys: use of sample weights.
- Exercise: Estimation of sample size and confidence intervals (using formula, monograms, tables and computer)
- Overview of the cohort design
- Types of cohort studies
- Demographic surveillance sites
- Sample size calculations for surveys, cohort studies and case control studies
- Measures of disease occurrence, incidence, person-time
- Calculation of person years and incidence rates
- Bias in cohort, case control and survey studies
- Confounding and effect modification
- Interaction and confounding
- Poisson regression
- Points to remember in the planning and evaluation of cohort studies
- General principles of case-control studies
- Comparing case control studies with cohort studies
- Types of case-control studies, including nested case-control studies
- Sample size adequate power and matched case-control studies
- Sample size precision(didn't we include this Rajiv)
- Measurement of disease and exposure



- In a cohort and in the corresponding case-control dataset
- Odds vs. prevalence of disease
- Odds vs. prevalence of exposure
- Rare disease assumption is not always required
- Case selection to reduce bias
- Control selection to reduce bias
- Measures of association odds ratio as a measure in itself, as an approximation of relative risk and as a measure of incidence rate ratio
- Analyses of matched case-control studies
- Analyses of nested case-control studies
- Interaction
- Evaluation of bias and confounding
- Controlling confounding
- Mantel-Haenszel pooled OR estimate
- Brief introduction to logistic regression

The group work also covers the development of proposal and protocol.

The computer laboratory exercises include generating random numbers, calculating trial size, importing files, data exploration, baseline comparisons, main effects, adjustment for confounding, adjustment for confounding, sub-group analysis and interaction

By the end of this optional module students should be able to:

At the end of the course, the students shall:

1. be able to define and discuss the principles of case-control studies, cohort studies and survey research - and know how the three designs differ from each other and from the design of randomized controlled trials

2. be able to distinguish between the different types of cohort studies, i.e. prospective, retrospective and double cohorts
3. be able to suggest relevant designs (plan) for case control and cohort studies and surveys
4. be able to discuss the principles and consequences of density based sampling of controls in case control studies and the importance of using incident rather than prevalent cases
5. be able to identify and evaluate the direction and magnitude of selection- and information biases in case-control studies, cohort studies and surveys and discuss how to minimize the above mentioned biases during design and conduct of studies
6. be able to calculate sample sizes for cohort studies, matched and unmatched case control studies, and surveys based on simple random sampling and two-stage cluster sampling with stratification
- 7: be able to analyze data sets from case-control, cohort studies and surveys
8. using STATA - accounting for precision and design effect in cluster sample surveys
9. define alternative sampling methods (stratified, systematic, cluster, two-stage, non-random)
10. using STATA - do cluster sampling with probability proportional to cluster size based on a given data set
11. with an emphasis on stratified analysis, know how to identify potential confounding and interaction and ways to differentiate between the two. Know how to adjust for confounding factors using Mantel-Haenszel adjusted relative risk estimates and how best to present and interpret a stratified presentation of effect measures when interaction is present. This knowledge should be based on an understanding and ability to identify effect measure modification
12. critically appraise the design, analysis and interpretation of studies conducted by other investigators
13. communicate effectively with those involved in conducting public health research

### **Teaching Methods and Extent of Organized Teaching**

The pre-reading provides necessary background information to follow the course. Each day has a mixture of lectures and practical sessions, with group work or individual work on specific assignments and the use of the computer laboratory for data analysis under

supervision. The lectures are interactive, and course participants are encouraged to ask questions and discuss during all sessions. The reference literature will be made available on the first day of the course through internet ("My Space"). Each week new scientific papers will be handed out for reading, group work group and presentations/discussions in plenary together with the course facilitators/lecturers.

About 40% of the course is lectures, 40% individual assignments or group assignments with supervision and work/discussions and 20% individual reading and lab exercises.

### **Semester of Instruction**

Spring

### **Level of Study**

Master and PhD

### **Learning Outcomes**

At the end of the course the students should be able to

- distinguish the principles of surveys, case-control and cohort studies - and how the three designs differ from each other and from the design of randomized controlled trials
- calculate sample sizes for surveys, cohort studies, and matched and unmatched case control studies, based on simple random sampling and two-stage cluster sampling with stratification
- compare alternative sampling methods (stratified, systematic, cluster, non-random)analyse data sets from surveys, cohort, and case-control studies
- calculate precision and account for design effect in cluster sample surveys
- distinguish the different types of cohort studies, i.e. prospective, retrospective and double cohorts
- distinguish the different types of case-control studies
- suggest relevant designs (plan) for case control and cohort studies and surveys
- compare principles and consequences of density based sampling of controls in case control studies and the importance of using incident rather than prevalent cases
- evaluate the direction and magnitude of selection- and information biases in case-control studies, cohort studies and surveys and discuss how to minimize the above mentioned biases during design and conduct of studies
- distinguish in stratified analysis potential confounding and interaction and ways to differentiate between the two, i.e. adjust for confounding factors using Mantel-Haenszel adjusted relative risk estimates and how best to present and interpret a stratified presentation of effect measures when interaction is present. This

knowledge should be based on an understanding and ability to identify effect measure modification

- critically appraise the design, analysis and interpretation of studies conducted by other investigators
- communicate effectively with those involved in conducting public health research

### **Required Previous Knowledge**

Students admitted to a Master`s degree Programme may join this course (e.g. TropEd Europe network). Good working knowledge of English (TOEFL score of at least 550 points paper-based or 213 points computer-based, or an equivalent approved test).

### **Forms of Assessment**

4-hour written exam consisting of short questions and problem-solving questions and calculation.

### **Grading Scale**

Grading scale A-F

### **Course Evaluation**

Students evaluate the teaching according to the quality assessment requirements of the University of Bergen. The evaluation method is through an online electronic form.

## **Experimental Epidemiology**

Course code            INTH321A

ECTS credits           5

Teaching semester    Spring

Number of semesters 1

Teaching language    English

Study level            Postgraduate Courses

Resources             

- [Schedule](#)
- [Reading list](#)

Belongs to            [Department of Global Public Health and Primary Care](#)

### **Contact Information**

Centre for International Health

Tel.: +47 55588569/70; e-mail: [studie.cih@uib.no](mailto:studie.cih@uib.no)

### **Objectives and Content**

This course addresses critical methodological aspects of clinical and field trials and a special effort is made to address trials that will measure the impact of relevant interventions against poverty related diseases, including HIV infection, diarrhoea and pneumonia. The lectures in the course cover the following: General principles of field trials, literature review: what & how to read, randomisation & blinding, review of basic statistics (Mean, SD, SE, 95%CI), proportions, 2X2 tables, trial size for adequate precision and power, cluster design, data management and study implementation, interaction & confounding, effect measures (Risk ratio, rate ratio, difference in means), relative risk reduction, measurement: validity & reproducibility, analysis plan, data exploration, baseline comparison, main effects, analysis of community-based studies, hypothesis tests & precision of effect, analysis of repeated outcomes, data collection (questionnaire design, field organisation, training & standardisation) & quality control, interpretation of negative trials and ethical aspects of clinical trials in developing countries.

The group work covers the development of proposal and protocol, the structure of baseline and main effect tables, randomisation & blinding.

The computer laboratory exercises include generating random numbers, calculating trial

size, importing files, data exploration, baseline comparisons, main effects, adjustment for confounding, adjustment for confounding, sub-group analysis and interaction.

### **Teaching Methods and Extent of Organized Teaching**

Each day has a mixture of lectures and practical sessions. The course includes group work on specific topics as well as literature review. Most afternoons are dedicated computer laboratory for sample size estimation and data analysis.

### **Semester of Instruction:**

Spring

### **Level of Study**

Master and PhD

### **Access to the Course**

Open to all registered students at Master and/or PhD level at the University of Bergen.

Students admitted to a Master's Degree Programme may also join this course (e.g. tropEd European Network).

### **Learning Outcomes**

*At the end of the module the student should be able to:*

- demonstrate understanding of the principles of clinical and field trials,
- genuinely contribute to the planning and conduct of clinical and field trials in accordance with the EU Directive 2001/20/EC on Good Clinical Practice and the highest ethical principles, including those reflected in Article 6 of the Treaty on the European Union, in the Charter of Fundamental Rights of the European Union and the Council of Europa's Convention on Human Rights and Biomedicine
- assess and select relevant designs for clinical/field trials,
- For both individually and community-randomized trials, conduct:
  - sample size estimations
  - random allocation
  - blinding/masking
- analyse clinical and field trial data-sets, also from community-randomised trials
- Understand the principles behind adjustment for repeated measurement of outcomes in the same individuals
- Identify interaction (in trials with stratified as well as un-stratified randomisation)

- Be able to identify and adjust for any confounding effect (mainly relevant for trials with limited sample size).
- Critically interpret published results from clinical/field trials, write a competitive research grant proposal for funding of a clinical/field trial.

### **Required Previous Knowledge**

Students admitted to a Masters degree or PhD Programme may join this course (e.g. TropEd Europe network). Proficiency in English at a level corresponding to TOEFL 550 or IELTS 6.0 is required.

Physicians and dentists specialising in epidemiology and public health and other health workers and managers who have already acquired basic skills in epidemiology and biostatistics and with special interest in experimental epidemiology (randomised clinical and field trials).

Basic knowledge of epidemiology and biostatistics is required. Applicants are requested to describe their background, including that in epidemiology and biostatistics in their applications.

### **Reading List**

Essential:

1. Lecture notes/slides: Will be uploaded ahead of the course
2. Field trials of health interventions in Developing Countries: A toolbox. 2nd. edition. Eds: Smith PG and Morrow RH. Macmillan Press Ltd. ISBN 0-333-64058-6. Can be purchased during course.

Supplementary reading: Rothman K. J. Epidemiology: An Introduction. Oxford University Press. 2002. ISBN 0-19-513554-7

### **Forms of Assessment**

Groups of 4-5 students work together on a research grant proposal for funding of a clinical/field trial. Documented contribution to this proposal, which is presented in a plenary session is a prerequisite for taking the course examination. The course examination is in the form of an open-book 4-hour written test with 8-10 main questions, some with sub-sections. These 8-10 questions make up 60%-80% of the weight of the total exam score. The remaining 20%-40% of the total weight of the total exam score is constituted by the student's response to specific questions pertaining to a scientific article reporting on a randomized controlled trial, an article which is handed out to the students the day prior to

the course test. The complexity and length of this article and the number and level of complexity of the specific questions addressing the article decides whether it is weighted at 20%, 40% or somewhere in between.

### **Grading Scale**

ECTS credits A-E (F=Fail)

### **Course Evaluation**

Students evaluate the teaching according to the quality assessment requirements of the University of Bergen. The evaluation method is through an online questionnaire (My Space).



## **Applied Economic Evaluation in Health Care**

Course code           INTH314

ECTS credits           3

Teaching semester    Spring

Number of semesters 1

Teaching language    English

Study level            Postgraduate Courses

Resources             

- [Schedule](#)
- [Reading list](#)

Belongs to            [Department of Global Public Health and Primary Care](#)

### **Contact Information**

Centre for International Health

Tel: 55588560; e-mail: [studie.cih@uib.no](mailto:studie.cih@uib.no)

### **Objectives and Content**

Economic evaluation is the comparative science in which health interventions are compared in terms of both their costs and their effectiveness. The module is divided into one theoretical part, where the focus is on developing an understanding the basic principles, potential roles and limitations of economic evaluation, and one practical part with focus on developing economic evaluation modelling skills.

Theoretical part (days 1-5):

1. The structure of economic evaluation, different types of economic evaluation, their usefulness and limitations
2. Costing in economic evaluation
3. Measuring health benefits in economic evaluation
4. Interpreting cost-effectiveness results
5. Uncertainty in economic evaluation

Practical part (days 6-10):

1. The basics of TreeAge, and building a simple decision tree model
2. Building a Markov life cycle model
3. Working with large models and Integrating TreeAge with Excel
4. Incorporating uncertainty through one-way and probabilistic sensitivity analyses
5. Extending the use of the models: Expected Value of Perfect Information analyses and Microsimulation

Applied part (for PhD level), days 11-17:

- Use the above skills to develop a decision model for an actual research question
- Write term paper explaining objectives, methods and results of the decision model

### **Teaching Methods and Extent of Organized Teaching**

The teaching is based on residential teaching at University of Bergen.

The first five days are largely theoretical, and consists of a mixture of lectures and group work/discussions on the main topics described above. Students are required to participate in group work on assigned topics. This includes daily student active teaching exercises, with alternating group compositions and presentation of results for the class.

The following five days are largely practical, and students will work through exercises on their own laptops on a "learning by doing" principle. Each day will be organised around a number of assignments that must be completed individually. The softwares TreeAge Pro Suite 2013 and Microsoft Excel will be used throughout the module.

Finally, students who would like to have credits accepted for PhD level must develop a decision model and complete a one week home essay on a topic of the students' choice.

### **Compulsory Assignments and Attendance**

Compulsory attendance in lectures and group work. Compulsory use of personal computers with preinstalled software (see below).

### **Semester of Instruction**

Spring

### **Level of Study**

Master and PhD

### **Access to the Course**

The maximum number of students is 10, and priority will be given to the following criteria:

- Enrolment to complete PhD version of this module
- Relevance of economic evaluation for planned research activities
- Master- and PhD students enrolled at the University of Bergen
- Students in the Erasmus Mundus program MSc in Int Health
- Other tropEd students

### **Learning Outcomes**

The module has duration of two weeks for master level, and three weeks for doctoral level. The module is designed to equip students with knowledge about the basic theoretical foundations of Economic Evaluation, and to enable them with the practical skills to undertake health economic decision modelling.

By the end of the first week of the module, students should be able to:

- Know how different types of economic evaluations and modelling techniques can help address policy questions in health care
- Be able to describe and discuss issues on measuring and valuing resource use in health and non-health service costs
- Be able to describe and discuss issues on measuring and valuing health consequences
- Know the basic requirements for presenting output from economic evaluations, be able to correctly interpret results and discuss how results should be applied in priority setting
- To be able to appraise the quality and usefulness of economic evaluations in low-income settings.

By the end of the second week of the module, students should in addition be able to:

- Build and apply a decision analytic model based on a decision-tree
- Build and apply a decision analytic model based on a Markov life cycle model
- Incorporate and analyse uncertainty through one-way and probabilistic sensitivity analyses
- Understand the basic principles of Expected Value of Perfect Information and Microsimulation analyses
- Present and interpret cost-effectiveness results

By the end of the last 7 days students who enrol as PhD students should be able to plan, undertake and present the results of an economic evaluation of an actual health intervention of their own choice.

### **Required Previous Knowledge**

Good working knowledge of English (TOEFL score of at least 550 points paper-based or 213 points computer-based, or an equivalent approved test). Participants must be proficient Excel users. Students admitted to a Master's Degree or a PhD Programme may join this course (e.g. TropEd\Network).

### **Recommended Previous Knowledge**

Economists, other social scientists, medical doctors, psychologists, nurses, dentists and others with training at the bachelor level or higher in a relevant subject at a recognized institution can be admitted to the MSc level course.

Applicants with similar background and training at the MSc level or higher in at a recognized institution can be admitted to the PhD level course.

Candidates with practical experience from policy making at local, national or international level will be given priority.

### **Reading List**

Reading list:

- Alastair M. Gray et al. (2011). Applied Methods of Cost-effectiveness Analysis in Health Care. Oxford University Press. ISBN 978-0-19-922728-0.
- Supplementary scientific articles (will be provided during the course)

Personal computer (laptop), with adequate specifications

Mandatory software (must be obtained and installed before the start of the module):

- Microsoft Excel
- TreeAge Pro Suite ([www.treeage.com](http://www.treeage.com) )

(A "student course licence" costs US\$ 45 is sufficient for the module and lasts 6 months. Upgraded licence versions are mandatory for undertaking actual research activities for publication).

### **Forms of Assessment**

The module is continuously assessed and all the daily mandatory assignments must be accepted in order to pass the module. Students will receive separate grades (A-F) for the theoretical and practical parts of the module, as well as a final grade (A-F) that will appear on the course certificate. The grades of the two weeks are weighted equally in the final grade.

Students who register for the doctoral version of the course must in addition produce an essay of 2000-2500 words + references. The essay should serve to explain the objectives, methods and results of a decision analytical model that students will develop, based on their own choice. The topic for the essay/model must be accepted by the course-coordinator before the end of the second week of the module.

The essay is graded (A-F), and represent 50% of the total module grade for doctoral candidates, while the first two weeks are each weighted 25%.

Students who receive an F on the grading are allowed to re-sit according to standard procedures at the University of Bergen.

### **Grading Scale**

ECTS credits A-E (F=Fail)

### **Course Evaluation**

Online questionnaire (My Space)

## **Annexes**

**Annex 1: Draft agreement governing Joint Degrees and Cotutelles of Doctoral Candidates between Hawassa University and University of Bergen, Norway**

## **DRAFT 20.3.15**

# **Agreement governing Joint Degrees and Cotutelles of Doctoral Candidates between Hawassa University and University of Bergen, Norway (UiB)**

### **PREAMBLE**

This agreement sets out on the basis of existing common scientific cooperation between the University of Bergen and Hawassa University.

The agreement is in accordance with the Norwegian Act Relating to Universities and University Colleges of April 1 2005 and the Regulations for the Philosophiae Doctor (PhD) degree at the University of Bergen, of June 20, 2013. In addition, this agreement is in accordance with the Senate Legislation of the Hawassa University 2015 as in Article 97.4 stating the General Provisions on Graduate Program.

All parties commit themselves to act in conformity with the institutions' regulations and codes of practice covering doctoral awards and to seeking the resolution by mutual consent of any difficulties that might arise in the interpretation of those regulations.

### **Integrated joint PhD education**

An integrated joint PhD education is a study programme for which the collaborating partners are jointly responsible for the research, learning outcome, management of the study programme, quality assurance and evaluation of the education. The education is organized by a board with faculty members from the collaborating partners. The partner institutions work out the content and curriculum jointly and cooperate on admission, progress and examinations.

The principle of the joint degree is to admit the candidates to a joint PhD-education at the collaborating universities and to fulfil the requirements of these universities, while making only one final examination, producing only one dissertation/thesis and earning one degree. The Joint PhD-agreement must ensure that candidates accepted are not given a double workload.

An integrated joint PhD education may lead to the award of a double or a joint PhD degree. The name of the doctoral degree shall be Doctor of Philosophy/Philosophiae Doctor (PhD).

### **ARTICLE 1) DEFINITIONS**

**Joint degree:** A single diploma issued by at least two higher education institutions offering an integrated joint PhD-education and recognized officially in the countries where the degree-awarding institutions are located.

**Double or multiple degree:** Two or more diplomas issued by two or more higher education institutions on the basis of an integrated joint PhD-education and recognized officially in the countries where the degree-awarding institutions are located.<sup>7</sup>

**Home university:** The institution where the PhD candidate will spend the majority of time of the PhD period.

### **ARTICLE 2) BOARD**

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<sup>7</sup> These definitions are based on the Erasmus Mundus definitions, which are developed by the European Commission on the basis of the Recommendation on the Recognition of Joint Degrees (Council of Europe/UNESCO: 2004)

The joint PhD education will be administered by a board. Each university shall appoint two members to the board consisting of members from the involved faculties of the universities. The board shall cooperate on all aspects, mentioned in this Agreement, related to the education. The board shall not deliberate and decide unless two thirds of the members are present. Decisions shall be taken by simple majority. A coordinator must be identified for each joint PhD agreement.

### **ARTICLE 3) ADMISSION AND REGISTRATION**

#### **a) Eligibility**

Candidates must fulfil the criteria for admission to the Joint PhD education, registration, training and examination at both universities and should undertake joint research projects with supervisors from both universities.

#### **b) Admission and registration**

If accepted the candidate will first register at her/his home university and then at the partner university. On the application forms for partner institution and UiB respectively, the candidate must specify that he/she wishes to register for the joint doctoral education according to this agreement. The application must be recommended by potential supervisors at both universities.

If a PhD candidate wishes to register for the joint PhD education according to this agreement after first having been registered only at the home university, this must be done no later than one year after the candidate has been admitted to the home university.

### **ARTICLE 4) DURATION OF STUDIES**

Duration of the joint PhD education is 3 years full time or up to 6 years part time. At UiB the Norwegian University Act regulates duration of PhD study programmes to 3 years. (Cf. *Regulations for the Philosophiae Doctor (PhD) at the University of Bergen*, section 5.4.<sup>8)</sup>

### **ARTICLE 5) SUPERVISION**

There shall be one supervisor at each university, one of whom should be the main supervisor. . Adjunct supervisors from either university or any other university may be appointed as required. (Cf. *Regulations for the Philosophiae Doctor (PhD) at the University of Bergen*, section 6.<sup>9)</sup>

### **ARTICLE 6) TRAINING COMPONENT**

The training component should consist of 30 ECTS credits, equivalent to one semester's workload and shall be relevant for the research conducted by the candidate.<sup>10</sup> (Cf. *Regulations for the Philosophiae Doctor (PhD) at the University of Bergen*, section 7.<sup>11)</sup>

There shall be joint recognition of courses included in the study programme given at either university. Care should be taken to avoid overlap between courses. This is mainly the supervisors' responsibility. Documentation of course work must be done through approved transcripts in English from either university.

### **ARTICLE 7) FORMAT OF THESIS**

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<sup>8</sup> If needed, add equivalent reference to the PhD regulations at the partner institution

<sup>9</sup> If needed, add equivalent reference to the PhD regulations at the partner institution

<sup>10</sup> The UiB uses the ECTS system for student workload and grading ([http://ec.europa.eu/education/programmes/socrates/ects/index\\_en.html](http://ec.europa.eu/education/programmes/socrates/ects/index_en.html)). At the PhD level the ECTS is applied to the taught part only. The normal semester course load for the specific joint programme is described in the programme outline.

<sup>11</sup> If needed, add equivalent reference to the PhD regulations at the partner institution



The format of the thesis and the mode of submission must agreed upon by the two universities. (Cf. *Regulations for the Philosophiae Doctor (PhD) at the University of Bergen*, section 10<sup>12</sup>).

## **ARTICLE 8) PROGRESS AND REPORTING**

The candidates will have to submit an annual progress report on progression on the PhD project to both universities. (Cf. *Regulations for the Philosophiae Doctor (PhD) at the University of Bergen*, section 9.<sup>13</sup>)

## **ARTICLE 9) ASSESSMENT OF DISSERTATION/THESIS**

### **Basis for assessment:**

The PhD candidate must satisfy:

- a) Approved academic training component (30 ECTS)
- b) Approved written dissertation/thesis; and
- c) An approved trial lecture on a given topic and a satisfactory defence in a public disputation (graded as “Pass”)

The candidate shall only present herself/himself to the assessment of the dissertation/thesis at one of the universities, following local procedures if not specified otherwise in the joint PhD agreement. A joint assessment committee must be appointed by the regular appointing bodies of the two universities and must have members from both universities, as well as external members. The candidate’s supervisors cannot serve on the assessment committee.

## **ARTICLE 10) DIPLOMA**

The diploma for the *joint degree* shall be in English. Only one diploma will be issued presenting both university logos. It shall contain the title of the degree in English, the candidate’s name and sex, date of award, signatures of the two authorities and embossed university seals. The design of the diploma and the front page of dissertation/thesis shall reflect the joint nature of the degree.

The diploma for a *multiple degree* shall be in English. Two or more diplomas may be issued following local procedures, if not specified otherwise by the joint PhD agreement. The diploma shall reflect the joint nature of the degree.

Accompanying explanatory notes shall be in English in form of a Diploma Supplement. The Diploma Supplement issued with a joint degree and a multiple degree must clearly describe all parts of the degree, and it must clearly indicate the institutions and/or study programmes at which the different parts of the degree have been earned.

A PhD doctorate shall be presented at graduation ceremonies of both universities and announced as a joint award. The PhD candidate may decide which graduation ceremony to attend in order to receive the diploma and may attend both convocations.

## **ARTICLE 11) USE OF INTELLECTUAL PROPERTY**

Issues related to IPR and the regulations of rights, when relevant, must be formalized in a separate agreement. (Cf. *Regulations for the Philosophiae Doctor (PhD) at the University of Bergen*, section 10,5.<sup>14</sup>)

## **ARTICLE 12) OPEN ACCESS**

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<sup>12</sup> If needed, add equivalent reference to the PhD regulations at the partner institution

<sup>13</sup> If needed, add equivalent reference to the PhD regulations at the partner institution

<sup>14</sup> If needed, add equivalent reference to the PhD regulations at the partner institution

Published research results will be made available through free electronically available databases. At the University of Bergen open access to the dissertation will be made available through Bergen Open Research Archive - BORA).<sup>15</sup>

### **ARTICLE 13) MOBILITY**

PhD candidates under the joint degree cooperation should stay at either university for a substantial part of their studies to be specified by the individual agreement.

### **ARTICLE 14) FINANCIAL MATTERS**

#### **a) Funding**

Candidates must have secured from funding sources prior to registration and for the entire duration of the education.

#### **b) Fees**

Candidates will pay any applicable fees to their home university, also while they are attached to UiB. PhD candidates under the agreement financed by student scholarships will be registered as PhD candidates at UiB and must pay the student welfare fee (*semesteravgift*). PhD candidates who are employed should not pay the student welfare fee at UiB.

PhD candidates having UiB as home university will not pay tuition fees.

### **ARTICLE 15) COMMITMENT**

This joint PhD agreement must ensure participation from partner institution and UiB throughout the whole process from admission to the completion of the degree.

### **ARTICLE 16) JOINT PhD STUDY PROGRAMME OUTLINE**

The study programme outlining the joint PhD degrees is seen in the Appendix to this agreement.

### **ARTICLE 17) CONTINUATION, WITHDRAWAL, APPEAL AND TERMINATION OF CANDIDATURE**

The prevailing conditions for continuation, withdrawal, appeal and termination of candidatures of the candidate's home university will apply.

In case a candidate wishes to leave the joint PhD programme in order to pursue a degree at one of the universities, this will be allowed following approval by both institutions. The decision must take into consideration what should happen to the work done under the joint PhD programme.

### **ARTICLE 18) APPLICABLE LAW AND SETTLEMENT OF DISPUTES**

Should a dispute arise, the parties shall endeavor to settle their disputes amicably. Any dispute, controversy or claim arising out of or relating to this Agreement shall be settled by negotiation between the boards of postgraduate studies of the two universities. In the event, and to the extent, that the boards have not resolved the dispute within two months of the commencement of the negotiation the dispute shall be referred to the rectors of the universities for mediation.

### **ARTICLE 19) EFFECTIVE DATE AND TERMINATION**

This Agreement is valid for a period of five years and it is automatically extended by five years unless terminated by either university with a notice period of one year. If terminated, it will not affect the registered PhD candidates until the degree is awarded according to the regulations.

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<sup>15</sup> Recommendations on Open Access adopted by EUA council 26 March 2008.

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**UNIVERSITY OF BERGEN**  
**RECTOR**

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**HAWASSA UNIVERSITY**  
**PRESIDENT**

## Annex 2: Joint PhD agreement and information for the candidate

**Joint PhD Agreement**  
**for candidate: .....**  
**by and between**  
**Hawassa University, Ethiopia (HwU)**  
**and**  
**University of Bergen, Norway (UiB)**

### Preamble

This agreement sets out on the basis of existing agreement as of [date] governing Joint Degrees of Doctoral candidates between the two institutions.

Doctoral candidate: [name of doctoral candidate]

At the University of [institution 1]

and the University of [institution 2]

leading to the award of the joint degree of Doctor of Philosophy/Philosophiae Doctor

The title of the doctoral candidate's research project is:

[Specify the title of the research project]

The Joint PhD agreement must be effective no later than one year after the candidate has been admitted to the home university.

### Article 1. Admission and registration

1. [Mr/Ms.....] is to be admitted as a doctoral candidate at Hawassa University:  
[School of Public and Environmental Health]

Mr/Ms..... is also to be admitted as a doctoral candidate at the **Centre for International Health**, University of Bergen.

The candidate must meet all formal requirements for admission to doctoral studies in both institutions.

The candidate must register in both institutions, but with a registration fee exemption in one of the institutions during the period of joint supervision.

The candidate will have to pay the registration fee at HwU, with a registration fee exemption at the University of Bergen during the period of joint supervision.

2. Ms/Mr .....holder of a Master Degree or equivalent in **field/subject** from **[school/unit]** fulfils all the conditions for admission to doctoral studies in both institutions.
3. The admission of the candidate to doctoral studies in both institutions is on the basis of the funding of the doctoral candidate by funding scheme of the **NORHED-SENUPH Project**.

## **Article 2. Doctoral Programme**

### Duration

1. The admission of the candidate is effective from: **[date]**.  
The expected length of the PhD education is set to 3 years.

The dissertation/thesis defence is hence expected to take place during the academic year: **[specify academic year]**.

This length can only be extended in exceptional cases on proposition by the supervisors, and after a favourable opinion given by the two institutions and any sponsoring bodies.

### Mobility

2. The doctoral candidate and his/her supervisors will agree on how the doctoral candidate's time is to be divided between the two institutions, taking into account the needs of the research and circumstances of the doctoral candidate. An outline timetable

is set out in the appendix 2 of this agreement. Variations to the timetable will be agreed between the doctoral candidate and his /her co-supervisors.

Ms/Mr [doctoral candidate] shall carry out her/his research predominantly at [institution], but shall also be in residence at [institution] for a period of [time].

#### Training component

3. The training component will be carried out at Hawassa University for the courses related to Research tools and theories, Biostatistics and Basic Epidemiology, Research Seminar on Multivariate methods, Mid-way evaluation and Scientific Presentations; and at University of Bergen for courses related to Observational Epidemiology, Experimental Epidemiology and Applied Economic Evaluation in Health Care.

#### Dissertation/thesis

4. Ms./Mr [doctoral candidate's] doctoral dissertation/thesis is provisionally titled [title of dissertation/thesis].
5. The dissertation/thesis shall contain a summary of the complete dissertation/thesis work bound up with published papers and manuscripts

#### Supervision

6. The joint supervision is carried out within the framework of the common research project between the institutions: NORHED-SENUPH project
7. The supervisor at Hawassa University [Academic title] .....

The supervisor at the University of Bergen is [Academic title] .....

The supervisors undertake to carry out to the full extent the role of supervisor of the doctoral candidate, as defined by the regulations in force at their respective institutions, and to support each other in the execution of their duties as supervisors. The supervisors will confer regularly with regard to the progress of the doctoral candidate. See appendix for rights and duties of supervisors and doctoral candidate in the supervision-candidate relationship.

Should one of the supervisors leave their institution, the normal procedures for replacing the supervisor will be followed, with the involvement of the other supervisor.

### Progression

8. The candidate shall report on progression in the following way
  - Annual progress report
  - Mid-way evaluation

### Submission

9. The submission of the dissertation/thesis is given in agreement between the institutions in conformity with their regulations and preferably after a favourable opinion of the supervisors.

### Assessment of dissertation/thesis

10. Before the defence, the assessment committee will give an evaluation of the dissertation. The assessment is to be submitted to School of Public and Environmental Health of Hawassa University and to CIH of University of Bergen. Both partner institutions will receive [X number copies (hardcopies or electronic copies to be decided)] of the PhD dissertation/thesis for their records.

The PhD dissertation/thesis defence will be performed in a unique session at Hawassa University or University of Bergen.

11. The doctoral dissertation/thesis will be written in English or in other language if applicable.

The dissertation/thesis must be accompanied by a substantial summary in English.

The doctoral dissertation/thesis will be defended in English, and the discussion that follows will occur in English or other language if applicable.

The doctoral dissertation/thesis will on its front page include the logos of both universities and mention that the dissertation/thesis results from a joint PhD agreement.

### Resubmission

12. A thesis which is not approved for public defence may be submitted in a revised form no earlier than [to be decided based on the amendments to be made with the suggestion of the board of examiners] months after the institution made this decision. A new assessment can only be made once.

In the event of resubmission, the PhD candidate must clearly state that the work has been assessed previously and not found worthy of a public defence.

#### Award of degree and diploma

13. Based on the assessment of the dissertation and the defence Ms./ Mr. ....will be awarded the degree of Philosophiae doctor (PhD) from Hawassa University and from the University of Bergen.

The doctoral candidate will be awarded the diploma from the partner institutions in accordance with the institutional agreement.

#### **Article 3. Funding**

1. The following funds (please specify) are available within this project and will serve to assist research, travel and accommodation expenses necessary for conducting the dissertation/thesis work of Ms/Mr [doctoral candidate]:
- NORHED-SENUPH project
2. Expenses related to the dissertation/thesis defence will be paid by:  
NORHED-SENUPH Project

#### **Article 4. Social security and civil liability**

1. The following conditions affect the social security and civil liability cover of the Ms/mr [doctoral candidate]:
- .....
- .....
- .....

#### **Article 5 Open Access**

1. Published research results will be made available through free electronically available databases. At the University of Bergen open access to the dissertation will be made available through Bergen Open Research Archive - BORA).<sup>16</sup>

#### **Article 5. Exchange of information**

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<sup>16</sup> Recommendations on Open Access adopted by EUA council 26 March 2008.



1. Administrative contact persons at each institution must be established and any information concerning the execution of this agreement will be addressed in English or other administrative language agreed upon to.

.....[name of administrative contact unit for UiB]

.....[name of administrative contact unit for partner institution 1]

.....[name of administrative contact unit for partner institution 2]

## **Article 6. Termination of agreement**

1. In the case the Ms/M [candidate's name] does not meet the terms of the agreement the institutions may consider to bring the present agreement to an end, by a joint decision. If the candidate transfers to one of the institutions to complete the doctoral education, the doctoral degree which then may be awarded, will not be a joint degree. In such a case the PhD degree will only be awarded according to the regulation of the institution's country in which the enrolment has been maintained.

2.

For Hawassa University:

E-mail: Administrative contact person, NOT scientific contact person!

For the University of Bergen:

University of Bergen

Department

Address

Norway

Tel:

E-mail:

Hawassa

For the Hawassa University

Bergen

For the University of Bergen

---

Prof.

President/rector

---

Prof.

Rector, UiB

---

Prof.

Responsible of doctoral programme where  
candidate is enrolled

---

Prof.

Dean of the Faculty where candidate is  
enrolled

---

Prof.

Supervisor

Prof. ....

Supervisor

---

Ms. /Mr. ....

The PhD candidate

## Information for the candidate

The rights and duties explained in the following sections are from the *PhD handbook* Recommended by The Research Board, UiB 10.03.09 and based on the PhD regulations at UiB, the PhD-contract and the regulations for employees with a university fellowship, and the regulations for conducting research (ethical regulations). And this is adopted to be the case at Hawassa University.

## The PhD candidate's responsibilities

Your responsibilities as a PhD candidate are:

1. To carry out your research effectively, to a high standard and within the prescribed period of study
2. To attend PhD events at the university, faculty and department and to attend the courses agreed with your main supervisor
3. To agree and strictly abide by a timetable for regular contact with the main supervisor, at least once a month, and for the submission of your written work
4. To submit your written work by agreed deadlines to allow sufficient time for comment and discussion. Drafts or parts of the thesis should be submitted at regular intervals, in accordance with the PhD regulations section 4.3, at least three times per semester.
5. To present your work or findings at seminars/conferences from time to time if encouraged by the main supervisor
6. To comply with the ethical standards for research that apply to the academic field in question
7. To submit an annual standard report by 1 November to the department/faculty about the progress of your doctoral training, in consultation with your main supervisor
8. To participate in a midway evaluation of the progress of your doctoral training
9. To responsibly keep track of all documentation of the courses, seminars and activities you complete as part of the training component
10. To inform your main supervisor about all matters that may have a bearing on supervision. You should feel free to bring any problems, including problems of a social or medical nature, to the attention of your main supervisor or head of department/administrative PhD coordinator.
11. To consult in confidence the head of department/administrative PhD coordinator if you feel that a change of supervisor is desirable for any reason
12. To consult the co-supervisor when advised to do so by your main supervisor

13. To inform the external party (for those financed or supported otherwise by an external party) about any matters that could have a significant bearing on the cooperation and the progress of the project

14. To follow the procedures for study leave or interruption of doctoral training. If you have sickness absence or other types of approved study leave, you must inform your assigned PhD administrative coordinator.

15. To discuss all matters regarding expenses relating to the financing of your research project with your supervisor at UiB, or, if relevant, with representatives of the institution that is financially responsible for your position

16. To keep track of all working hours spent as part of your 25% obligatory workload for PhD candidates with university fellowships of four years. Expect your supervisor to help you keep within the workload limits for duty work.

NB: Regular contact can be maintained by e-mail, meetings or phone contact; it is not necessary to present written documentation of all supervision contact.

## Expectations of the supervisory team

### Main supervisor

You can expect your main supervisor to:

1. Participate actively in discussing and designing your research project and in selecting relevant courses and activities for your training component
2. Be responsible for your budget for project expenses
3. Provide quality advice/supervision of your research work, consider which hypotheses and methods may be suitable, and provide you with feedback on written texts as they develop (outline, contents, writing style, documentation etc.)
4. Ensure that it is possible to complete the thesis work within the normal timeframe of three years for doctoral training
5. Provide you, within a reasonable timeframe, with constructive criticism and reactions to submitted draft work in order to facilitate timely completion of your thesis. Such follow-up should take place at least three times per semester.
6. Introduce you to specialist literature and basic data sources (libraries, archives etc.)
7. Introduce you to the department, its facilities and procedures, and to other PhD candidates and relevant staff, and encourage attendance at events and seminars related to doctoral training in general and to your research field in particular. To allow for the planning of relevant study-

abroad periods, the supervisor shall at an early stage of your studies introduce you to other relevant academic environments outside the department, also internationally.

8. Advise you on the name of the person in charge of doctoral training (PhD-coordinator) in the department/faculty and ensure that you can contact him/her to discuss relevant matters, including difficulties that may arise in your relationship with your supervisors and your study progress

9. Decide, in consultation with the Head of Department, at the start of your PhD project, whether assignment of Intellectual Property Rights (IPR) is necessary and, if so, ensure that an agreement on IPR is established at the outset of the project

10. Ensure that a risk assessment of any laboratory and/or field-based activities has been carried out in accordance with departmental procedures and that you receive the necessary safety training.

11. Ensure that ethics approval has been obtained in accordance with the regulations, and provide guidance on questions of research ethics related to the thesis work. Arrange for you to familiarise yourself with your responsibility to avoid any form of misconduct.

12. Ensure that you maintain records of your research data in a systematic manner so that they can be consulted and understood by anyone with a legitimate right to enquire, such as the evaluation committee

13. Discuss incidents with you that may seem to be related to research misconduct or plagiarism and report to the department on any suspected instance of research misconduct, including plagiarism

14. Organise and take part in your midway evaluation

15. Agree with you after your midway evaluation on a realistic timetable for completion of the research and writing up of your thesis

16. Submit annually by 1 November to the department/faculty, as appropriate, a standard report about the progress of your doctoral training

17. In consultation with co-supervisors and the department/faculty, make satisfactory arrangements for supervision if the main supervisor is absent for a period of more than four weeks. Keep you informed about all matters that could have significant bearing on the supervision.

18. Encourage you to present your work in progress from time to time and attend relevant conferences, meetings and workshops, and to consult relevant sources of information and advice inside and outside your department

19. Encourage you to develop and improve your general and transferable skills

20. Help you to ensure that duty work does not exceed 25% of your total workload

## **Co-supervisor**

You can expect your co-supervisor to:

1. Participate in planning your research project and the training component, which is necessary for your admission and enrolment as a PhD candidate
2. Supervise you in connection with your research project
3. Keep updated on the progress of your work and be present at (at least) quarterly supervisory team meetings.
4. Provide quality advice concerning your research work, consider which hypotheses and methods may be suitable, and provide you with feedback on written texts as they develop. This is to ensure that you are able to complete the thesis within the normal timeframe, which is three years for PhD studies.
5. Improve the effective supervision of your work by contributing a second opinion or additional areas of expertise, if the main supervisor considers it desirable
6. Provide for continuity of supervision in the event of the absence or departure of the main supervisor. Arrange (in consultation with the main supervisor and the department) for a replacement in the event of his or her parallel absence with the main supervisor.
7. Take part in your midway evaluation

## **Annex 3: Format for a NORHED funded PhD research proposal and dissertation**

### **A) The PhD research proposal**

These recommendations are intended to help you conceptualise and prepare a PhD research proposal. If you plan to register for a PhD study, you are expected to hand in a "detailed and precise description of study or research proposal as well as information on any previous study or research projects of particular relevance to a decision of award."

The purpose of the proposal is to ensure the candidates have done sufficient preliminary reading of about their interest that they have thought about the issues involved and can provide more than a broad description of the topic which they are planning to research.

Some general comments about writing style of the research proposal:

Please verify that the title, the abstract and the content of your proposal clearly correspond to each other.

Keep a reasonable, clear, declarative writing style (active verbs!) throughout the document. Remember to number your pages.

Make sure your PhD proposal does not contain any grammatical or spelling mistakes or typos.

### **The protocol should contain the following elements:**

#### **Title-Page**

The title states the main purpose or the principal research question.

The title should be short (not more than 15 words) and informative. It should indicate the research area, research question and research design. The title requires much more careful consideration per word than any other section.

To develop a clear title, you must also be clear about the focus of your research.

On the title-page, please also indicate a realistic time frame toward project completion, followed by the name(s) of your supervisor(s), and information about other academics with whom you plan to collaborate.

#### **Summary**

This one page summary focuses on the research topic, its new, current and relevant aspects. The summary should

- Be a research protocol in miniature
- Give the key points only



- Not exceed the length or space allowed (400 words)
- Please use the following subheadings: Background, Objectives, Methods and Relevance of study.

## **Background**

This should include a short and precise overview (about 3 pages) about the current state of research that is immediately connected with your research project. Reference the most important contributions of other scientists. Discuss the theoretical scope or the framework of ideas that will be used to back the research.

Indicate the open problem, which then will be the motive for your project. State clearly how your research will contribute to the existing research.

The background gives an introduction to your study. You should include the following:

- The importance of the topic
- A brief review of current research
- The need for further research
- The broad long-term goals of proposed research

## **Objective of the research project**

Give a concise and clear outline of the academic objectives that you want to achieve through your project. This section is where you should list the hypotheses your study will test or the research questions it will address.

The aims of your study should be briefly stated, and you may include four specific objectives. Do not include aims for which your study cannot provide results.

## **Plan**

This is the central part of your research outline. The plan of the investigation presents the study design in detail. It is the longest section of the Application, often running to 4 or 5 pages.

The Plan of the Study should

- Give an overview
- Specify the study design
- Define the study subjects/patients
- Describe how the data will be collected
- Outline the study procedures
- Describe briefly the statistical analysis.

For each of the planned papers write a brief summary (½ page) using the following headlines:

- Objective:
- Method:
- Study design:
- Sample size:
- Primary outcome:
- Comparison group:
- Covariate variables:

### **Sample size**

Formal sample size calculations are required for all research studies. These indicate how many study subjects are needed so that, if the research ideas are correct, it is very likely that a statistically significant result will be obtained. If the study is too small a real effect may be overlooked. If it is too large, resources will be wasted.

A reference should be made to the method used for the calculation. In simple cases, sufficient information should be in your application for a reviewer to check your calculation. You should calculate sample size for all of your outcome measures or specific objectives as needed.

### **Purpose and Potential**

We would encourage you to explain the likely impact of the study findings on health care delivery.

You may feel it is self-evident that your topic is crucial and that there is no need for a justification. But you must still give the rationale in the application. Explain what the results will do for public health, policy, or patient care, or how they will improve it, or save money. Clarify how the implications are not limited to the narrow confines of the project, but will carry across to much wider areas of health care.

### **Ethics**

The main ethical concerns are whether the research will place the subjects under undue risk, and whether the subjects are fully informed about the nature of the study. The ethics committee will review the study documentation, including the procedures to obtain informed consent.

### **Timetable and Milestones**

The timetable should explain what activities will take place at specified times during the study. It may be helpful to use a project management chart to illustrate the timing of activities, particularly if they overlap each other in time.

## **Financial Plan**

The financial plan is not a section which can be hurriedly completed at the last minute. If you have a good project, it can be ruined by a failure to ask for enough resource to complete it. On the other hand you can harm your project if you ask for costs that are not relevant for the study.

Here is a list of items you should think about under each section of the financial plan. These may include: Additional support staff, equipment, consumables and travel and subsistence

## **Justification of costs**

The NORHED project will meet reasonable costs encountered during the conduct of a research study. However you must explain why the specified costs are reasonable.

## **References**

The Vancouver style for references is recommended as it is used by almost all medical journals. It uses numbers in the text and lists the references in numerical order. The advantage of this style in grant applications is that it minimizes the space used for references in the Plan, the one place where space is at a premium.

The following advice is based on the instructions given by the British Medical Journal.

References should be numbered in the order in which they appear in the Plan. In the list of references you should give the names and initials of all authors (unless there are more than six, when only the first six should be given followed by et al). The authors names are followed by the title of the article: the title of the journal abbreviated according to the style of Index Medicus (see list of journals indexed, printed yearly in the January issue of Index Medicus): the year of publication; the volume number: and the first and last page numbers:

21 Soter NA, Wasserman SI, Austen KF. Cold urticaria: release into the circulation of histamine and eosinophil chemotactic factor of anaphylaxis during cold challenge. *N Engl J Med* 1976;294:687-90.

References to books should give the names of any editors, place of publication, editor, and year:

22 Osler AG. Complement: mechanisms and functions. Englewood Cliffs: Prentice-Hall, 1976.

Information from manuscripts not yet in press, papers reported at meetings, or personal communications should be cited only in the text, not as a formal reference.

You should use a reference manager preferably EndNote to handle your references.

## **Supervision**

Please state the name of your supervisors (minimum two supervisors), and attach a letter of recommendation from the main supervisor.

**Curriculum vitae**

Your CV should be brief and certainly not more than one page. It should include:

Your name.

Your age.

Your degrees, where obtained and the year awarded.

Your current and past appointments.

References to your own papers in the field or related fields.

## **B) Brief outline of PhD Dissertation**

The PhD dissertation shall have the following sections:

1. Title page
2. Dedication page (Optional)
3. Acknowledgment
4. Summary
5. List of original papers
6. Abbreviations
7. Chapter I: Introduction (divided into sub-sections)
8. Chapter II: Objectives
  - a. General
  - b. Specific
9. Chapter III: Methods
10. Chapter IV: Results (organized according to objectives/original papers)
11. Chapter V: Discussion
  - a. Methodological discussion
  - b. Discussion of main findings
  - c. Implications for policy
12. Chapter VI: Conclusions and Recommendations
  - a. Conclusions
  - b. Recommendations
13. References
14. Original articles
15. Study instruments or any thing that need to be annexed

## Annex 4: Letter of Intent



UNIVERSITY OF BERGEN  
*Department of Global Public Health and Primary Care*  
Centre for International Health

Bergen March 23, 2015

Dr Eskindir Loha  
SENUPH Coordinator  
Hawassa University

### **Joint PhD degree between Hawassa University and University of Bergen.**

In 2014 NORHED project document "*South Ethiopia Network of Universities in Public Health (SENUPH): improving women's participation in postgraduate education*", the Hawassa University and the University of Bergen agreed to set up a joint PhD programme.

We signed the agreement with the understanding that this PhD programme will be a joint programme between Hawassa University and the University of Bergen. The long-term goal is to set up an independent PhD training at Hawassa University. The University of Bergen still supports this idea, and we have recently been working on outlining agreements between Hawassa University and the University of Bergen on a Joint PhD degree.

And, while we work out the details of the agreement for a joint project, the Centre for International Health at the University is willing to accept PhD students from Hawassa to take the necessary courses at the University of Bergen, and to take part in supervising PhD students at Hawassa University.

Yours sincerely

A handwritten signature in dark ink, appearing to read 'Bernt Lindtjørn'.

Bernt Lindtjørn  
Norwegian coordinator SENUPH project

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Telephone +47 55 58 61 00  
Org. no. 874 789 542

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International Health

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