FORSKARUTBILDNINGSKURSER VID MEDICINSKA FAKULTETEN UMEÅ UNIVERSITET

2022

Vårterminen 2022

Deadline: 29 november 2021

Höstterminen 2022

Deadline: 30 maj 2022

Obligatoriska kurser för doktorander som deltar i fakultetens forskarutbildningsprogram annonseras i särskild ordning!

Innehåll

Kurser vårterminen 2022

Analyzing data in qualitative research, part 1 (online), 4.5 ECTS

Analys av data i kvalitativ forskning, del 1, 4,5 hp

Course director	Ida Linander Phone: +46 90 786 95 21 Email: ida.linander@umu.se
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se
Department	Department of Epidemiology and Global Health
Date	Activities 25 April – 3 June
Language	English
Number of participants	15
Form of teaching	Lectures (online) 20 hours Seminars (online) 10 hours
Knowledge test	Home examination

Contents of the course

Qualitative research is characterised by a wide range of approaches and methods of analysis. This course covers basic concepts in qualitative analysis in the field of public health and gives the opportunity to work practical and hands-on with qualitative material. We will review common features of qualitative data analysis approaches including steps of the process, and tools for interpretation. Special attention will be given to the first steps of analysis; familiarising with the material and specially the process of coding. We will also introduce categorisation/thematization of the codes. The course will mainly introduce thematic analysis as a way to identify, analyse and report patterns within data, although other traditions (for example grounded theory approaches to coding) will also be used.
This course is most appropriate for researchers who are in the beginning stages of conducting qualitative research. Participants will work with interview material provided by the course instructors but will also have the opportunity to use their own qualitative data for the final assignment.

An introduction to multilevel analysis: An epidemiological approach (online), 3 ECTS

En introduktion till flernivåanalys: Ett epidemiologiskt perspektiv, 3 hp

Course director	Masoud Vaezghasemi Phone: +46 90 786 77 30 Email: masoud.vaezghasemi@umu.se	
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se	
Department	Department of Epidemiology and Global Health	
Date	28 February – 8 April	
Language	English	
Number of participants	20	
Form of teaching	Lectures Practical training Seminars	18 hours 12 hours
Examination	Home exam	

Course content

This course is designed as an intensive, hands-on learning experience that will foster the development of basic skills in multilevel analysis with a focus on fundamental epidemiological concepts and interpretations rather than statistical or mathematical formulae. It starts with a description of why multilevel models are necessary if the data have a hierarchical structure. It then covers the basic theory of two-level models (intercept and random slopes) with emphasis on modelling strategies. Next it explains how multilevel models can be applied to analyse data when the outcome is continuous (linear regression) and when the outcome is dichotomous (logistic regression). Further topics include defining area-level variables and sample size calculation.

Grundkurs i Good Clinical Practice (GCP) i kliniskt forsknings-arbete, 4,5 hp

Basic Good Clinical Practice pertaining to clinical research, 4.5 ECTS

Kursansvarig	Anders Blomberg Telefon: +46 90 785 22 34 Epost: anders.blomberg@umu.se
Kursadministratör	Elin Lindahl Telefon: +46 90 785 26 52 Epost: elin.lindahl@umu.se
Institution	Institutionen för folkhälsa och klinisk medicin
Datum	2 – 3 mars samt 18 – 19 maj
Språk	Svenska
Antal deltagare	25
Undervisningsform	Föreläsningar 20 timmar Seminarier 12 timmar
Examinationsform	Skriftlig hemuppgift (instruktion ges vid tillfälle 1), redovisning i grupper i seminarieform (under tillfälle 2)

Kursens innehåll

I kursen ges den studerande grundläggande kunskap om gällande regelverk vid klinisk forskning: Good Clinical Practice (GCP). Vidare ges en orienterande information om de lagar och förordningar som reglerar medicinsk forskning liksom etisk och statistisk värdering av ett forskningsprojekt. Kursen ger kunskap i hur ett studieprotokoll ska vara skrivet samt hur data samlas in och dokumenteras i strukturerad form. Analys av begrepp och regelverk i relation till det egna forskningsområdet fokuseras under kursen och i grupparbeten.

Health, environment and sustainability, 3.5 ECTS
Hälsa, miljö och hållbarhet, 3,5 hp

Note! This course is under revision; syllabus will change before the course starts

Course director	Maria Nilsson Phone: +46 90 786 60 14 Email: maria.nilsson@umu.se	
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se	
Department	Department of Epidemiology and Global Health	
Date	17 - 31 January	
Language	English	
Number of participants	5	
Form of teaching	Lectures Seminars Lab/Practical sessions	X hours X hours X hours
Examination	Take home assignment	

Course content

Environmental and climate change are global threats to public health. They pose also risk for sustainability and development, in particular in low and middle-income countries.

The aim of this course is to explore interrelations between population health, dynamics in the environment, and opportunities for promoting sustainability in the context of an ever-changing world. Lectures and seminars will provide students with a comprehensive survey of the interconnectedness between health, environment and sustainability. Teaching will cover an introduction to environmental health/epidemiology, climate change and health, aspects of sustainability, environmental impact assessment, as well as policies and international efforts towards global solutions for sustainability. Research methods in the field of environmental epidemiology will be addressed in lectures and exercises.

The course will constitute lectures, practical exercises, seminars, critical article readings and an individual student project.

Informationssökning, referenshantering och publicering, 1,5 hp

Information retrieval, reference management and publication, 1.5 ECTS

Kursansvarig	Mattias Lennartsson Telefon +46 90 786 52 36 E-post mattias.lennartsson@umu.se
Enhet	Medicinska biblioteket
Datum	Grupp 1: 15 – 16 mars Group 2: 22 – 23 mars
Språk	Svenska (Group 2 in English if there are any foreign participants)
Antal deltagare	36
Undervisningsform	Föreläsningar 16 timmar
Examinationsform	Hemtentamen/Exam questions

Kursens innehåll

Informationssökning, referenshantering och publicering

Kursen ger en fördjupad översikt av metoder och källor för informationssökning. Kursens tonvikt ligger på sökstrategier för informationssökning inom medicin och hälsa. Sökning sker i referens- och citeringsdatabaser samt databaser inom evidensbaserad medicin. För referenshantering ingår en genomgång av programmet EndNote. Den strategiska publiceringens roll för genomslag och synlighet ingår, samt publicering med open access. Inkluderad är även information om processer som rör manuskript, peer review, redaktionell beslutsgång och produktion.

Information retrieval, reference management and publication

The aim of this course is to learn different methods in information retrieval. The course gives knowledge about designing search strategies for literature search in medicine and health. Searches are conducted in reference- and citation databases as well as databases in evidence based medicine. Training for reference management in the software EndNote is included. The course includes how the medical publication system works, both through ordinary journals and through open access. Included are processes surrounding manuscript submission, peer review, editorial decision making, and production.

Introduction to molecular epidemiology, 1.5 ETCS
Introduktion till molekylär epidemiologi, 1,5 hp

Course director	Sophia Harlid, Anna Dahlin, Wendy Wu
Course administrator	Sophia Harlid Phone: +46 90 785 28 45 E-mail: sophia.harlid@umu.se
Department	Department of Radiation Sciences
Date	16 – 20 May
Number of participants	30
Form of teaching	Lectures 10 hours Group work/discussion 6 hours
Examination	Active participation in group discussions and oral presentation

Course content

Molecular Epidemiology is becoming increasingly important, both in academia and industry, and is, for example, an invaluable tool in the quickly progressing field of personalized medicine. With focus on different biological measurement approaches and epidemiological study designs, this course gives an introduction to how molecular and epidemiological methods can be used to understand biological processes and infer disease mechanisms. The course also describes how molecular epidemiology can be used for biomarker discovery and follow-up. Different 'Omics' technologies (e.g. genomics, epigenetics and proteomics) will be covered as part of the course.

The course will include group discussions e.g. about ethical considerations regarding use of human samples and sensitive data as well as a mandatory group work where participants design a hypothetical study.

Introductory course to doctoral studies: Research methodology and philosophy of science, 3 ECTS

Introduktionskurs till forskarstudier: Vetenskapsteori, kunskapsteori och forskningsmetoder, 3 hp

Course director	Per Gustafsson Phone: +46 90 786 95 63 Email: per.e.gustafsson@umu.se
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se
Department	Department of Epidemiology and Global Health
Date	Week: 7 + 8 (14 - 25 February)
Language	English
Number of participants	30
Form of teaching	Lectures 10 hours Group exercise 15 hours Individual tasks 10 hours
Examination	In-class presentation of group work Submission of individual tasks

Course content

This course is an introduction to philosophy of science and common concepts and theories used in research, corresponding to national goals. The course gives an overview of different methods and scientific approaches used at the Medical Faculty. Using the diversity of scientific approaches as point of departure, lectures on philosophy of science will give different perspectives of knowledge in medical research. Generic knowledge, research as part of society and how to communicate research will be in focus. Gender, equality and the importance of research in society will be discussed.

The educational format is a mixture of plenary lectures, a heavy emphasis of group and in-class discussion, participant's own presentations and two assignments to work with in two steps, individually before and in groups during the course.

Qualitative content analysis, 4.5 ECTS
Kvalitativ innehållsanalys, 4,5 hp

Course director	Ulla Hällgren Graneheim Phone: +46 90 786 92 58 Email: ulla.hallgren.graneheim@umu.se Britt-Marie Lindgren Phone: +46 90 786 92 61 Email: britt-marie.lindgren@umu.se
Course administrator	Birgitta Nilsson Phone: +46 90 786 77 18 Email: birgitta.nilsson@umu.se
Department	Department of Nursing
Date	7 – 9 February and 28 – 29 April
Language	English
Number of participants	20
Form of teaching	Lectures 10 hours Hands-on exercise 8 hours Examination seminars 10 hours
Examination	Written assignment

Course content

This course focus on qualitative content analysis and covers the method's epistemological base, basic concepts and steps in the analysis process, and provides hands-on exercise of the method. Further we discuss concepts of importance for trustworthiness. Examples on various data (e.g. texts, pictures, video recordings) are discussed. Participants are welcome to use their own data in the course.

Research ethics, 3 ECTS, (online)

Etik i forskningen, 3 hp

Course director	Klas-Göran Sahlén Phone: +46 90 786 63 58 Email: klas-goran.sahlen@umu.se
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se
Department	Department of Epidemiology and Global Health
Date	28 February - 3 March
Number of participants	30
Form of teaching	Online Lectures 20 hours Online Seminars 10 hours
Knowledge test	Home exam

Contents of the course

Basic concepts and history of research ethics. Ethical reflections on different kind of data. Application to ethical review board. Research on groups with limited autonomy. Misconduct in research. Publication ethics. Archives, openness and secrecy for research data. Data management plan. Introduction to ethics in animal research. Discussion on students' own project.

Research methodology with biostatistics, 7.5 ECTS
Forskningsmetodik med grundläggande statistik, 7,5 hp

Course director	Håkan Jonsson Phone: +46 90 786 61 01 Email: hakan.jonsson@umu.se
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se
Department	Department of Epidemiology and Global Health
Date	Course week 1: 14 – 17 March (v11) Course week 2: 4 – 7 April (v14)
Language	English
Number of participants	35
Form of teaching	Lectures 32 hours Practical exercises 16 hours
Examination	Home exam

Course content

The course is an introduction to epidemiology and biostatistics. Basic epidemiological and statistical concepts are covered, and issues of study design and validity are discussed. In biostatistics, lectures focus on sampling, descriptions of data and common tools for data analysis. Practical exercises are also included.

Writing science: How to write and publish scientific papers, 5 ECTS

Vetenskapligt skrivande: Att skriva och publicera vetenskapliga artiklar, 5 hp

Course director	Ludvig Lizana Email: ludvig.lizana@umu.se Barbara Sixt Email: barbara.sixt@umu.se
Course administrators	Lisa Hed Phone: +46 90 786 52 16 Email: lisa.hed@umu.se
Department	Faculty of science and technology
Date	18/2, 25/2, 4/3, 11/3, 18/3 och 25/3, kl 9-12
Language	English
Number of participants	30
Form of teaching	Lectures Writing group discussions and exercises Concluding classroom discussions
Examination	Mandatory attendance. Writing/editing/reviewing exercise for each meeting that builds on the same short article. Analysis and peer review of a set of published papers.

Course content

This is an advanced course in scientific writing. To succeed as a scientist the ability to write scientific papers is a central and very important skill. The aim of the course is that students should acquire tools and learn the craft to become skilled scientific writers. It includes the three components of effective communication: content, structure and language. We present the purpose and significance of the major general structure of a scientific paper. Here we highlight why an article must contain the topic of the research, a knowledge gap, a clear research question, a description of methods, results, discussion and conclusions. We present different narrative techniques and analyse how they can be used for better flow and continuity within and between sections. We develop writing skills down to the detailed level of internal structures of paragraphs and sentences.

We meet once a week for six weeks. Each meeting starts with a short lecture focused on scientific writing in practice and based on experience with, for example, journals and editors. Then we make a short introduction to the writing exercise and split into small writing groups of three students. Each student has prepared a text, or revised

the text according to the specific exercise, and the other students in the group have commented on the result. Together the students analyze, discuss, and revise the texts to further improve them. The exercises derive from the book Writing Science, which from chapter to chapter provides new tools to better tell the story. Each week, we cover three chapters and the corresponding exercises. Finally we reunite, summarize, conclude, and present the exercise for the next meeting.

Kurser höstterminen 2022

A practical introduction to biobank research, 3.5 ETCS (online)

En praktisk introduktion till biobanksforskning, 3,5 hp (online)

Course directors	Sophia Harlid, Christel Häggström, Lena Maria Nilsson, Elin Thysell, Maria Wennberg
Course administrator	Maria Wennberg Email: maria.wennberg@umu.se
Date	Mandatory seminars 4 October and 6 December
Number of participants	15
Form of teaching	On-line lectures 15 hours, On-line Seminars 15 hours, Examination task 63 hours
Knowledge test	Presenting a proposal for withdrawal of biobank data and samples according to the routines of the NSHDS cohort. Giving feedback on another student's proposal.

Contents of the course

A large proportion of research carried out utilizes research cohorts including biobank samples and survey data combined with other register data. To use already collected cohort data or stored biological samples for research purposes requires planning and preparing the project, and other kinds of practical and methodological considerations. This course will guide you through some of these issues, with examples from the Northern Sweden Health and disease study cohort (NSHDS) and refined NSDHS data from the Northern Sweden Diet database (NSDD). The aim with this course is to give practical knowledge on how to plan and perform observational studies in the NSHDS framework. The knowledge may also be applied on other similar cohorts. In brief, students who successfully complete this course will be able to (1) Overview available data in NSHDS cohort including NSDD. (2) Describe the process and time required for the data application and acquisition. (3) Describe the feasibility and limitations of already collected cohort data for research purposes. (4) Describe pros and cons of the designs nested case-control and cohort studies. (5) Handle missing data. (6) Handle temporal changes in data collection. (7) Handle data on nutrition from NSHDS as a main or secondary exposure, including nutritional biomarkers. (8) Handle biological measures. (9) Consider and handle ethical issues including orientation of GDPR. (10) Use knowledge obtained in this course in order to write applications based on samples and/or data from the NSHDS cohort or other similar cohorts.

Minimal required prior knowledge: "Research ethics, 3 ECTS" and "Introductory course to doctoral studies: research methodology and philosophy of science, 3 ECTS"

Design of intervention studies within patient-based research (online), 3 ECTS

Design av interventionsstudier inom patientnära forskning (online), 3 hp

Course directors	Erik Rosendahl Phone: +46 90 786 91 37 Email: erik.rosendahl@umu.se Marlene Sandlund Phone: +46 90 786 95 30 Email: marlene.sandlund@umu.se
Course administrator	Maria Berglind Phone: +46 90 786 53 86 Email: maria.berglind@umu.se
Department	Department of Community Medicine and Rehabilitation
Date	5 – 6 October and 16 – 17 November Online (or at Campus, if only students living in Umeå)
Language	English (or Swedish, if only Swedish-speaking students)
Number of participants	16
Form of teaching	Lectures (online) 12 hours Seminars/Workshops (online) 20 hours Assignment 40 hours
Examination	Written assignment about study design relevant to own research project, and active participation in workshops and seminars.

Course content

The course includes theoretical and practical aspects of planning, conducting and evaluating randomized controlled trials, as well as studies with other designs aiming at evaluating interventions within patient-based research. The course gives an overview of criteria and guidelines on how studies should be conducted and reported in papers to achieve high quality, as well as the use of rating scales to assess the quality. The course will also give an insight into Patient and Public Involvement and the concept Complex Interventions. During the course, the student will judge advantages and disadvantages with various designs based on own ongoing or planned study within patient-based research.

Equity and health, 3.5 ECTS
Den jämlika hälsan, 3,5 hp

Course directors	Anna-Karin Hurtig Phone: +46 90 786 68 12 Email: anna-karin.hurtig@umu.se Lars Lindholm Phone: +46 90 786 96 53 Email: lars.lindholm@umu.se
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se
Department	Department of Epidemiology and Global Health
Date	14 – 28 September
Language	English
Number of participants	20
Form of teaching	Lectures 20 hours Seminars 14 hours Group-discussions Home assignments (Seminars and home assignments are mandatory)
Examination	Written assignment

Course content

Inequities in health have got more and more attention, both in the national and global agendas. However, there are different opinions both regarding the definition of equity, and regarding which policies that are appropriate and justified to increase equity. This course introduces the theories which so far have been most influential in health care and public health – utilitarianism, Rawl's theory of justice, fair procedures, communitarianism and feminism. The course investigates how these theories have influenced both research and policy-making.

Evidence based public health, 4 ECTS
Evidensbaserat folkhälsoarbete, 4 hp

Course director	Lars Lindholm Phone: +46 90 786 96 53 Email: lars.lindholm@umu.se
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se
Department	Department of Epidemiology and Global Health
Date	29 August – 13 September
Language	English
Number of participants	20
Form of teaching	Lectures 30 hours Seminars 10 hours
Examination	Take home assignment

Course content

It is desirable to found public health policies on best possible evidence. Almost no potential policy can meet the conditions necessary for randomized control trials. On the other hand, too low evaluation standards can imply that ineffective or even harmful policies are implemented. Research aimed at a foundation for policy-making further requires an understanding of the decision-making process in public organizations. Decision-makers have to balance more or less legitimate interest of different stakeholders, and even make decisions when the evidence is far from perfect. They commonly act under economic and legitimate constraints, such as respect for human rights. Frameworks for compiling available evidence from different sources such as realistic synthesis and Markov-modelling will be presented and discussed. Most of the practical experience of compiling different aspects of health technologies can be found in the health technology assessment literature. Concrete and timely examples will be studied.

Gender-based violence, health, and healthcare, 5 ECTS (online)

Genusbaserat våld, hälsa och sjukvård, 5 hp (online)

Course director	Isabel Goicolea Phone: +46 90 786 54 66 Email: isabel.goicolea@umu.se Fredinah Namatovu Phone: +46 90 786 58 77 Email: fredinah.namatovu@umu.se
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se Hanna Bäckström Email: hanna.backstrom@umu.se
Department	Department of Epidemiology and Global Health
Date	12 September – 23 November
Language	English
Number of participants	7
Form of teaching	Lectures 15 hours Seminars 3 hours Compulsory group meetings 3 hours
Examination	Participation in compulsory meetings, final written assignment

Course content

The course aims to provide an overview of gender-based violence from both an international and national perspective, focusing on the relationship between gender-based violence and health, and the role of the healthcare system in responding to gender-based violence. The course is structured in four parts, each of them including lectures and a seminar/panel discussion. The first and second parts focus on the extent of the problem of gender-based violence, its connection with health, theoretical explanations and definitions and the evolution of institutional responses to gender-based violence. The third part focuses on the healthcare responses to gender-based violence, both from an international and national perspective, including a critical analysis of the consequences of the (bio)medicalization of gender-based violence. The fourth part examines gender-based violence in relation to different groups. Here, issues regarding e.g. functional variation, age, sexuality and racialization are examined.

Genomic and epigenomic medicine, 4.5 ECTS
Medicinsk genomik och epigenomik, 4,5 hp

Course director	Andreas Hörnblad Phone: +46 90 786 92 06 Email: andreas.hornblad@umu.se
Course administrator	Lina Sollén Phone: +46 90 786 52 76 Email: lina.sollen@umu.se
Department	Umeå Centre for Molecular Medicine
Date	5 – 23 September
Language	English
Number of participants	3-10
Form of teaching	Lectures 24 hours Group discussions 20 hours Practical sessions 48 hours Individual studies 28 hours
Examination	Oral presentation, active participation in group discussions, lab work and seminar

Course content

The course provides an in-depth knowledge of genomics, epigenomics and comparative genomics, and its importance in human disease and translation into clinical tools. The course touches upon *cutting- edge* technologies such as CRISPR-(epi)genome editing, RNA-seq, ChIP-seq, ATAC-seq, 3C (Chromosome Conformation Capture-methods, eg. HiC, 4C-seq), as well as recent advances in optogenetics and chemogenetics, and the use of different model organisms. Together with the methods, current research findings and clinical applications will be conveyed and discussed throughout the course, with focus on the impact on human diseases (e.g enhanceropathies: human diseases related to genetic/epigenetic/structural disruption of enhancer function). In this course, the students will have the chance to perform CRISPR-Cas genome editing experiments, as well as ChIP (chromatin immunoprecipitation) to assess the effect of a cancer drug on the epigenetic status of gene promoters and enhancers.

Grundkurs i Good Clinical Practice (GCP) i kliniskt forsknings-arbete, 4,5 hp

Basic Good Clinical Practice pertaining to clinical research, 4.5 ECTS

Kursansvarig	Anders Blomberg Telefon: +46 90 785 22 34 Epost: anders.blomberg@umu.se
Kursadministratör	Elin Lindahl Telefon: +46 90 785 26 52 Epost: elin.lindahl@umu.se
Institution	Institutionen för folkhälsa och klinisk medicin
Datum	7 – 8 september samt 16 – 17 november
Språk	Svenska
Antal deltagare	25
Undervisningsform	Föreläsningar 20 timmar Seminarier 12 timmar
Examinationsform	Skriftlig hemuppgift (instruktion ges vid tillfälle 1), redovisning i grupper i seminarieform (under tillfälle 2)

Kursens innehåll

I kursen ges den studerande grundläggande kunskap om gällande regelverk vid klinisk forskning: Good Clinical Practice (GCP). Vidare ges en orienterande information om de lagar och förordningar som reglerar medicinsk forskning liksom etisk och statistisk värdering av ett forskningsprojekt. Kursen ger kunskap i hur ett studieprotokoll ska vara skrivet samt hur data samlas in och dokumenteras i strukturerad form. Analys av begrepp och regelverk i relation till det egna forskningsområdet fokuseras under kursen och i grupparbeten.

Grundläggande forskningsmetodik för kliniska doktorander, 15 hp

Basic research methodology for doctoral students in clinical research, 15 ETCS

Kursansvarig	Olov Rolandsson Telefon: +46907853571 E-post: olov.rolandsson@umu.se
Kursadministratör	Maria Sandström Telefon: +46 90 786 75 02 E-post: maria.sandstrom01@umu.se
Institution	Institutionen för folkhälsa och klinisk medicin
Datum	24 augusti 2022 – 25 maj 2023
Språk	Svenska
Antal deltagare	20
Undervisningsform	Föreläsningar, gruppövningar, praktiska datorövningar, seminarier och eget arbete.
Examination	Individuell hemtentamen

Kursens innehåll

Kursens innehåll avser att ge grundläggande kunskaper och färdigheter inom ämnena epidemiologi, biostatistik och kvalitativa forskningsmetoder. Inom kursen går vi igenom grundläggande begrepp, steg i analysprocessen och forsknings trovärdighet. Teori varvas med praktiska övningar och studenterna är välkomna att använda sitt eget data. Inom kursen ges också Good Clinical Practice (GCP 4,5 hp) samt introduktion till olika vanliga metoder relaterade till klinisk forskning.

How to write grant applications, 3 ECTS

Att skriva ansökningar om forskningsanslag, 3 hp

Course director	Karl-Erik Renhorn Phone: +46 70 242 98 58 Email: karl-erik.renhorn@umu.se
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se
Department	Department of Epidemiology and Global Health
Date	14 November – 2 December
Language	English
Number of participants	20
Form of teaching	Lectures 20 hours Seminars 10 hours Exercises 15 hours
Examination	Presentation of take-home assignments, level of attendance and participation in exercises.

Course content

The course will help participants to understand research funding and funding systems; to structure and focus their proposal writing, and to compile high-quality research applications, thus increasing their chances for success. The content includes policy background and rationale for public and private research funding, the procedures, and processes of research funding systems; preparation and planning of grant proposals, and language and writing style. A large part of the course will be devoted to individual and group exercises.

Intervjuer och observationer som kvalitativa datainsamlingsmetoder, 3 hp

Interviews and observations as qualitative data collection methods, 3 ECTS

Kursansvarig	Britt-Marie Lindgren Telefon: +46 90 786 92 61 Epost: britt-marie.lindgren@umu.se Jenny Molin Telefon: +46 90 786 95 91 Epost: jenny.molin@umu.se	
Kursadministratör	Birgitta Nilsson Telefon: +46 90 786 77 18 Epost: birgitta.nilsson@umu.se	
Institution	Institutionen för omvårdnad	
Datum	19 – 21 september och 24 – 25 november	
Språk	Svenska	
Antal deltagare	20	
Undervisningsform	Lektioner Praktiska övningar Examinationsseminarium	10 timmar 8 timmar 10 timmar
Examinationsform	Skriftlig uppgift	

Kursens innehåll

Intervjumetoder som presenteras är; individuella intervjuer som till exempel strukturerade, semi-strukturerade och ostrukturerade intervjuer, narrativa och reflekterande intervjuer samt fokusgruppsintervjuer. Vidare omfattar kursen deltagande och icke-deltagande observationstekniker. Kursen behandlar också tekniker för insamling och utskrift av data.

Introductory course to doctoral studies: Research methodology and philosophy of science, 3 ECTS

Introduktionskurs till forskarstudier: Vetenskapsteori, kunskapsteori och forskningsmetoder, 3 hp

Course director	Per Gustafsson Phone: +46 90 786 95 63 Email: per.e.gustafsson@umu.se
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se
Department	Department of Epidemiology and Global Health
Date	Week: 39 + 40 (26 September - 7 October)
Language	English
Number of participants	30
Form of teaching	Lectures 10 hours Group exercise 15 hours Individual tasks 10 hours
Examination	In-class presentation of group work Submission of individual tasks

Course content

This course is an introduction to philosophy of science and common concepts and theories used in research, corresponding to national goals. The course gives an overview of different methods and scientific approaches used at the Medical Faculty. Using the diversity of scientific approaches as point of departure, lectures on philosophy of science will give different perspectives of knowledge in medical research. Generic knowledge, research as part of society and how to communicate research will be in focus. Gender, equality and the importance of research in society will be discussed.

The educational format is a mixture of plenary lectures, a heavy emphasis of group and in-class discussion, participant's own presentations and two assignments to work with in two steps, individually before and in groups during the course.

Introduktion till registerforskning, 1,5 hp
Introduction to register-based research, 1,5 ECTS

Kursansvarig	Christel Häggström Telefon: +46 90 785 72 80 Epost: christel.haggstrom@umu.se
Kursadministratör	Ulrika Järvholm Telefon: +46 90 786 71 43 Epost: ulrika.jarvholm@umu.se
Institution	Institutionen för epidemiologi och global hälsa
Datum	7 – 11 november
Språk	Svenska
Antal deltagare	20
Undervisningsform	Föreläsningar 18 timmar Seminarier 12 timmar Praktiska exempel 8 timmar
Examinationsform	Att medverka i och klara av praktiska övningar på seminarier

Kursens innehåll

Detta är en introduktionskurs i registerforskning. Kursen avser att ge generell teoretisk kunskap om och grundläggande praktiska färdigheter för forskning på kvalitetsregister.

Longitudinal data analysis, 1.5 ECTS
Longitudinell analys, 1,5 hp

Course director	Johan Sommar Phone: +46 90 785 34 53 Email: johan.sommar@umu.se	
Course administrator	Elin Lindahl Phone: +46 90 786 96 54 Email: elin.lindahl@umu.se	
Department	Department of Public Health and Clinical Medicine	
Date	28 November – 1 December	
Language	English	
Number of participants	20	
Form of teaching	Lectures Data exercise	12 hours 9 hours
Examination	Practical assignment	

Course content

The course deals with statistical analysis in studies with repeated or time dependent outcomes.

- Introduction to longitudinal data and longitudinal study designs
- Characteristics and description of longitudinal data
- Introduction to Mixed models with random and fixed effects for longitudinal analysis
- Introduction to General Estimation Equation models
- Covariance structures and their implementation within longitudinal analysis
- Model fitting in longitudinal analysis

The course is given in form of lectures, seminars, and practical computer exercises.

The course is intended for students with practical and theoretical knowledge of biostatistics corresponding to the course Research methodology with biostatistics, 7.5 ECTS (see page 13 and 36).

Methods in social epidemiology, 3 ECTS
Metoder inom social epidemiologi, 3 hp

Course director	Miguel San Sebastián Phone: +46 90 786 51 50 Email: miguel.san.sebastian@umu.se
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se
Department	Department of Epidemiology and Global Health
Date	12 – 16 December
Language	English
Number of participants	5 at PhD-level
Form of teaching	Lectures 18 hours Practical training 12 hours Seminars

Lectures will be held in the mornings and computer sessions with applied exercises will follow in the afternoon after each lecture session. Hands-on practical session in the computer labs will use Stata software. *Previous knowledge of Stata is required.*

Examination Home exam

Course content

Socioeconomic inequalities in health are a major challenge for health policy. Monitoring the changes in the magnitude of these inequalities is essential to assess the effectiveness of health policy interventions. There is a wide variety of summary measures for the magnitude of socioeconomic inequalities in health. These measures choose different perspectives, and it is recommended to assess the magnitude of health inequalities based on a set of diverse measures that together cover all the relevant perspectives. Both simple and sophisticated summary measures are available for each of these perspectives.

This course is designed as an intensive, hands-on learning experience that will foster the development of theoretical knowledge and basic skills in calculating and interpreting different health inequality measurements. The different measurements included in the course are: the relative index of inequality and the concentration index, the principal component analysis applied to socioeconomic status, the measurement of intersectionality, how to conduct a decomposition analysis and propensity matching score. Further topic includes methodological issues when carrying out life course studies and the advantages of multilevel analysis.

Previous knowledge on biostatistics and epidemiology are pre-requisite for taking this course.

Expected learning outcomes

Students who successfully complete this course will be able to:

- Differentiate various measures of health inequalities and judge their weaknesses and strengths.
- Understand the theoretical concepts behind the health inequality measurements.
- Calculate the measures of health inequalities presented in the course.
- Interpret the results of the health inequality measurements.

Omvårdnadens teori och begrepp i relation till forskning och klinisk praxis, 4,5 hp (online)

Nursing theory and concepts in relation to research and clinical practice, 4.5 ECTS (online)

Kursansvarig	Senada Hajdarevic Telefon: +46 90 786 91 24 Epost: senada.hajdarevic@umu.se Åsa Hörnsten Telefon: +46 90 786 91 59 Epost: asa.hornsten@umu.se
Kursadministratör	Birgitta Nilsson Telefon: +46 90 786 77 18 Epost: birgitta.nilsson@umu.se
Institution	Institutionen för omvårdnad
Datum	8 september – 15 december
Språk	Svenska
Antal deltagare	20
Undervisningsform	Introduktion med föreläsningar 8 sep Litteraturseminarium 27 okt Stödseminarium 17 nov Examinationsseminarium 15 dec
Examinationsform	Individuella papers som diskuteras vid ett examinationsseminarium

Kursens innehåll

Kursen belyser omvårdnadsämnets utveckling och har fokus på omvårdnadens teori och begrepp. Den modell för omvårdnad, som används och har utvecklats successivt vid Institutionen för omvårdnad, Umeå universitet, fungerar som utgångspunkt för kursen. De olika aspekterna i modellen utgörs av patient och vårdare, närstående, uppgift och relation, hälsa, miljö, organisation, samhälle, vårdfilosofi och etik. Modellen fungerar som stöd i att systematisera och beskriva omvårdnad, i såväl teori, forskning som klinisk praxis. Utifrån den egna forskningsinriktningen är målet sedan att fördjupa förståelsen för relevanta teorier/begrepp och reflektera över dess betydelse för klinisk praxis.

Kursen bygger huvudsakligen på självstudier och är delvis nätburen. Två sammankomster planeras på kursorten. Det första tillfället, två heldagar vid kursstart, omfattar främst föreläsningar och det andra tillfället, en heldag vid kursslut, ägnas åt examinationsseminarium. Via nätet förs diskussioner och obligatoriska seminarier, bland annat om omvårdnadsämnets teoriutveckling.

Oral presentation, 1.5 ECTS
Muntlig presentation, 1,5 hp

Course director	Lars Larsson, UPL
Course administrator	Marie Friman, UPL
Department	Centre for educational development (UPL)
Date	7 December, 8 December (morning), 9 December (morning), and 14 December (morning)
Language	English
Number of participants	25
Form of teaching	Workshops Practical assignments Group work Exercises
Examination	Mandatory assignments Mandatory workshops

Course content
The goal of the course is to give the students an opportunity to develop skills in oral presentation, with focus on presentations at conferences. To make this possible, the course includes sessions about on rhetoric and body language. We will work with Power point presentations, presentation using the headline technique and poster presentations to give the students the opportunity to develop an array of presentation skills. There will be several opportunities to practice these methods and the teachers and students will give feedback to the different presentations that each student will perform. There will also be opportunities to learn how to respond to feedback and how to use it to improve presentation skills.

The course is built on John Dewey´s concept “learning by doing” and David Kolb´s theories about experiential learning.

Application: https://www.kursadm.upc.umu.se/kurosawa/student/course/apply/OralMe

Qualitative data analysis, 7.5 ECTS
Kvalitativ dataanalys, 7,5 hp

Course director	Isabel Goicolea Phone: +46 90 786 54 66 Email: isabel.goicolea@umu.se Kristina Lindvall Phone: +46 90 786 59 06 Email: kristina.lindvall@umu.se
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se
Department	Department of Epidemiology and Global Health
Date	29 September – 31 October
Language	English
Number of participants	10 at PhD-level
Form of teaching	Lectures 22 hours Seminars 12 hours Group works 12 hours Group supervision 5 hours
Examination	Literature seminar, course project, individual paper and article analysis

Course content

The course focuses on the basic principles and steps of Qualitative Data Analyses using examples from mainly Grounded Theory method but also other methods. Participants will perform the basic steps of analyzing qualitative data (their own or of a teacher-provided). Moreover, participants will examine and discuss critically various examples of scientific studies that employ Grounded Theory method and other Qualitative methods.

Regression models in medical sciences, 3 ECTS (online)

Regressionsmodeller för medicinska vetenskaper, 3 hp (online)

Course director	Marie Lindkvist Phone: +46 90 786 61 04 Email: marie.lindkvist@umu.se
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se
Department	Department of Epidemiology and Global Health
Date	31 October – 27 November
Language	English
Number of participants	20
Form of teaching	Web lectures Web seminars Written exercises Computer exercises
Knowledge test	Home examination

Contents of the course

The PHD-students must have access to SPSS on their own computer. The emphasis of the course is on the understanding of statistical reasoning in the analysis of epidemiological data analysis and in medical and public health research.

Regression analysis is a statistical technique used for analysing the relationship between the outcome (dependent variable) and the explanatory variables (independent variables). In this course, several regression models will be described and applied. The course will start with a repetition of linear regression model which deals with a continuous outcome variable. After that, binary logistic regression (for binary outcome variable) and Cox regression (for "time to event" outcome variable) will be introduced and applied. Basic concepts in survival analysis, including censoring, survival function and hazard function, will be discussed. Finally, regression models where the outcome is counts are processed (Poisson regression and negative binomial regression).

Students will further practice the application of different analytical approaches in computer exercises. During the course, medical and epidemiological research articles till be discussed and evaluated with focus on the statistical methods.

Research ethics, 3 ECTS (online)

Etik i forskningen, 3 hp (online)

Course director	Klas-Göran Sahlén Phone: +46 90 786 63 58 Email: klas-goran.sahlen@umu.se	
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se	
Department	Department of Epidemiology and Global Health	
Date	12 – 15 September	
Number of participants	30	
Form of teaching	Online Lectures Online Seminars	20 hours 10 hours
Knowledge test	Home exam	

Contents of the course

Basic concepts and history of research ethics. Ethical reflections on different kind of data. Application to ethical review board. Research on groups with limited autonomy. Misconduct in research. Publication ethics. Archives, openness and secrecy for research data. Data management plan. Introduction to ethics in animal research. Discussion on students' own project.

Research methodology with biostatistics, 7.5 ECTS
Forskningsmetodik med grundläggande statistik, 7,5 hp

Course director	Will be announced later	
Course administrator	Ulrika Järvholm Phone: +46 90 786 71 43 Email: ulrika.jarvholm@umu.se	
Department	Department of Epidemiology and Global Health	
Date	Course week 1: 3 October – 6 October Course week 2: 24 – 27 October	
Language	English	
Number of participants	35	
Form of teaching	Lectures Practical exercises	32 hours 16 hours
Examination	Home exam	

Course content

The course is an introduction to epidemiology and biostatistics. Basic epidemiological and statistical concepts are covered, and issues of study design and validity are discussed. In biostatistics, lectures focus on sampling, descriptions of data and common tools for data analysis. Practical exercises are also included.

Writing science: How to write and publish scientific papers, 5 ECTS (online)

Vetenskapligt skrivande: Att skriva och publicera vetenskapliga artiklar, 5 hp (online)

Course directors	Magnus Andersson Phone: +46 90 786 63 36 Email: magnus.andersson@umu.se Anders Eklund Phone: +46 90 785 40 24 Email: anders.eklund@umu.se
Department	Faculty of Science and Technology
Date	20/10, 27/10, 3/11, 10/11, 17/11, 24/11
Language	English
Number of participants	30
Form of teaching	Lectures Writing group discussions and exercises Concluding classroom discussions
Examination	Mandatory attendance. Writing/editing/reviewing exercise for each meeting that builds on the same short article. Analysis and peer review of a set of published papers.

Course content

This is an advanced course in scientific writing. To succeed as a scientist the ability to write scientific papers is a central and very important skill. The aim of the course is that students should acquire tools and learn the craft to become skilled scientific writers. It includes the three components of effective communication: content, structure and language. We present the purpose and significance of the major general structure of a scientific paper. Here we highlight why an article must contain the topic of the research, a knowledge gap, a clear research question, a description of methods, results, discussion and conclusions. We present different narrative techniques and analyse how they can be used for better flow and continuity within and between sections. We develop writing skills down to the detailed level of internal structures of paragraphs and sentences.

We meet once a week for six weeks. Each meeting starts with a short lecture focused on scientific writing in practice and based on experience with, for example, journals and editors. Then we make a short introduction to the writing exercise and split into small writing groups of three students. Each student has prepared a text, or revised the text according to the specific exercise, and the other students in the group have commented on the result. Together the students analyze, discuss, and revise the texts

to further improve them. The exercises derive from the book Writing Science, which from chapter to chapter provides new tools to better tell the story. Each week, we cover three chapters and the corresponding exercises. Finally we reunite, summarize, conclude, and present the exercise for the next meeting.