

MF9010E Introductory Course to the Medical PhD Programme (INTRO I English), Spring 2016

WEEK 21 2016	MONDAY 23.05.2016 Lille Auditorium Domus Medica	TUESDAY 24.05.2016 Nye Auditorium 13 Domus Medica	WEDNESDAY 25.05.2016 Lille Auditorium Domus Medica	THURSDAY 26.05.2016 Auditorium 1 Harald Schjelderups hus	FRIDAY 27.05.2016 Runde Auditorium R-105 Domus Medica	
0900-0945	Welcome and introduction to the course <i>Kåre Moen</i>	Philosophy of science I: What is scientific knowledge? <i>Bjørn Hofmann</i>	Epidemiology <i>Per Nafstad</i>	Biomedicine and bioinformatics <i>Robert Lyle</i>	Statistics <i>Magne Thoresen</i>	
1000-1045	Group work 1	Philosophy of science I: What is scientific knowledge? <i>Bjørn Hofmann</i>	Epidemiology (cont'd) <i>Per Nafstad</i>	A critical review of research methodology <i>Nina K Vøllestad</i>	Statistics <i>Magne Thoresen</i>	
1100-1145	What is medical and life science research? <i>Ludvig Munthe</i>	Group work 2	Qualitative research <i>Anne-Lise Middelthon</i>	Article workshop Introduction by <i>Kåre Moen & Uta Sailer</i>	Statistics <i>Magne Thoresen</i>	
1145-1230	Lunch	Lunch	Lunch	Lunch	Lunch	
1230-1315	Methods in medical research <i>Magne Nylenna</i>	Philosophy of science II: Explanation and causality <i>Bjørn Hofmann</i>	Qualitative research (cont'd) <i>Anne-Lise Middelthon</i>	Medical history/ historization <i>Christoph Gradmann</i>	Research ethics incl the Health Research Act <i>Jan Helge Solbakk</i>	
1330-1415	Methods in medical research (cont'd) <i>Magne Nylenna</i>	Philosophy of science II: Explanation and causality <i>Bjørn Hofmann</i>	Workshop 2: Basic research	Molecular and cellular biology <i>Jason Matthews</i>	Research ethics (cont'd) <i>Jan Helge Solbakk</i>	
				Nutrition <i>Kjetil Retterstøl</i> General practice research <i>Anh Thi Tran</i>		
1430-1515	Workshop 1: Health and Society	Community medicine <i>Øyvind Næss</i> Global health <i>Andrea Winkler</i>	Philosophy of science III: Understanding and interpretation <i>Per Nortvedt</i>	Translational research <i>Kjetil Tasken</i>	Medical research <i>Hanne Løvdal Gulseth</i> Surgical research <i>Jøran Hjelmæsæth</i>	Ethics of science <i>Jan Helge Solbakk</i>
1530-1615		Minority health <i>Anne Karen Jenum</i> Health economics <i>Tor Iversen</i>	Review of lectures and group work <i>Kåre Moen & Uta Sailer</i>	Stem cells <i>Jan Brinchmann</i>	Psychological research <i>Deborah Reas</i> Psychiatric research <i>Linda Elise C Wüsthoff</i>	Review of course & intro to course exam <i>Kåre Moen & Uta Sailer</i>
			Workshop 3: Clinical research			

Course aims

The overall aim of the *Intro I* course is to introduce basic knowledge in the philosophy, history, ethics and methods of science with specific focus on convergence and interdisciplinary approaches.

Medical research has become interdisciplinary. Cross-disciplinary cooperation and integration of multiple research fields has allowed the development of new knowledge and enabled new applications. This development is often called convergence. In this course, we will exemplify convergence by showing how a multifaceted problem can be addressed from different angles. We have chosen morbid obesity as our case; this thematic area will be engaged with in order to give participants concrete examples of general principles and approaches. Note, however, that the course is not meant as a formalized introduction to obesity research – obesity is merely used as a case to exemplify modern research trends.

Multiple, integrated methods and tools can be applied to elucidate this thematic area, including randomized controlled trials, R&D initiatives in primary health care, municipal initiatives, programs for increased physical activity, and cooperation with NGOs are examples. In the social context, prevention requires increased awareness in schools and in the public, as well as enhanced knowledge about nutrition, public health initiatives, product innovation, dissemination of healthcare products and political decision making.

This course provides an introduction to a variety of scientific perspectives and skills that are required to address such a complex issue. The course focuses on research ethics and philosophy of science, and introduces a breadth of research methods, including epidemiology, statistics, and qualitative research. In addition, genetic studies, basic research studies, cell physiology and pathophysiology, and studies of laboratory animals are introduced. The students will work in groups to elucidate the issue from their own point of view.

About the course

This one week course consists of preparatory work, lectures, workshops, group work and an “article workshop”,

- **Preparatory work:** Before the start of the course, you must submit a description of yourself and your own research project. These descriptions are actively used as examples by several lecturers in the course (e.g., in the lecture entitled “Methods in Medical Research”).
- **Workshops:** The course has three ‘workshops’ during which research in different medical disciplines are discussed with a special focus on research methodology (with examples from ongoing research at UiO).
- **Group work:** The course has two group work sessions during which you will have the chance to engage in discussions with other participants about core topics covered in the course.
- **Article workshop:** In preparation for the *Article workshop* (which also has a group work format), you should search PubMed with the aim of identifying an article that you will present to the other members of your group. The article should be from your own research field/research tradition and have a focus on obesity. Please distribute the article to the other group members at least one day before the Article workshop. During the workshop, each group member will present his or her article to the others, and provide a discussion of it that critically reviews the research methods used.

Course Exam

The course exam has 3 parts.

Each question must be answered individually by course participants. However, you are allowed, even encouraged, to discuss the exam questions with other course participants, your supervisors, or other researchers in your group.

All of the exam questions require that you use references (from the course literature, other publications, lectures, etc.) and cite these appropriately and correctly. (For basic information on referencing, you may want to consult <http://www.ub.uio.no/english/writing-referencing/> and <http://sokogskriv.no/en/sources-and-references/>).

When typing up your exam, use the Times new Roman font, font size 12.

Upload your exam paper as one single document in Fronter no later than 2 weeks after the end of the course.

Task 1

Based on the discussion in Group work 1, with additional input from later lectures and relevant literature, please provide an overview of the range of research methods that may be used to research various aspects of obesity. (Max 2 pages).

Task 2

Prepare a summary of the article you presented in the *Article workshop*. The summary should contain a brief description of the aim of the study, the research methods used, findings, and conclusions. Discuss strengths and weaknesses of the study, and provide an assessment of whether the method(s) used were appropriate to address the research question under consideration.

Task 3

Write a short reflection note on one of the following themes (minimum 2 pages, maximum 4 pages):

- Ethical challenges in medical research
- Convergence in life science and medical research: Possibilities and challenges
- Causality in medical research

You may use your own research, obesity, or any other topic as example. Draw on perspectives that have been presented during this course.

Course literature

Required reading:

Laake P., H.B. Benestad and B.R. Olsen. **Research in Medical and Biological Sciences - From Planning and Preparation to Grant Application and Publication (2nd Edition)**. Amsterdam (2015): Elsevier Science Publishing Co Inc.

Kindle edition: http://www.amazon.com/Research-Medical-Biological-Sciences-Preparation-ebook/dp/BooZC9oGWG/ref=mt_kindle?encoding=UTF8&me=

Individual chapters: <http://www.sciencedirect.com/science/book/9780127999432>

Other readings:

Biomedical laboratory research

Haakon B. Benestad & Jens-Gustav Iversen: [An introduction to biomedical laboratory research, 1999](#)

Theory of science, research ethics and science ethics:

Hofmann, Bjørn; Holm, Søren; Iversen, Jens Gustav Heber. Philosophy of Science. In: Research Methodology in the Medical and Biological Sciences. London: Elsevier 2007. ISBN 978-0-12-373874-5. p. 1-32

Holm, Søren. Ethics and Scientific Conduct. In: P Laake, HB Benestad and B Olsen: Research Methodology in the Medical and Biological Sciences. London: Elsevier 2007. ISBN 978-0-12-373874-5. p. 33-52.

Iversen BG, Hofmann B, Aavitsland P. [Questions on causality and responsibility arising from an outbreak of Pseudomonas aeruginosa infections in Norway. Emerging Themes in Epidemiology 2008; 5: 22. doi:10.1186/1742-7622-5-22](#)

Hofmann, B. That's not science! The role of moral philosophy in the science/non-science divide. Theor Med Bioeth. 2007;28(3):243-56.

Hofmann B, Holm S, Myhr AI: [Scientific dishonesty—a nationwide survey of doctoral students in Norway. BMC Medical Ethics 2013 14:3.](#)