Katalog kurser på forskarnivå

VT15
# Människans biologi eller sjukdomslära * Allmänvetenskapliga kurser
1280 Cellular Signalling 2015-03-16 -- 2015-03-20 (Engelska)
1383 Basic Course in Medical Statistics * 2015-02-16 -- 2015-03-06 (Engelska)
1386 Medicinsk vetenskapsteori och forskningsetik * 2015-02-16 -- 2015-02-20 (Svenska)
1386 Philosophy of science and research ethics * 2015-02-02 -- 2015-02-06 (Engelska)
1386 Philosophy of science and research ethics * 2015-03-09 -- 2015-03-13 (Engelska)
1386 Philosophy of science and research ethics * 2015-04-13 -- 2015-04-17 (Engelska)
1391 Writing science and information literacy * 2015-05-25 -- 2015-06-05 (Engelska)
1392 Vetenskapligt skrivande och informationskompetens * 2015-04-13 -- 2015-04-24 (Svenska)
1441 Non-covalent interactions in proteins 2015-05-04 -- 2015-06-05 (Engelska)
1447 Introductory course in SAS programming 2015-05-04 -- 2015-05-08 (Engelska)
1577 Epidemiology I: Introduction to epidemiology 2015-01-12 -- 2015-01-21 (Engelska)
1579 Biostatistics I: Introduction for epidemiologists * 2015-04-08 -- 2015-04-28 (Engelska)
1587 Signal transduction in brain diseases 2015-04-20 -- 2015-04-24 (Engelska)
1622 Epidemiology II. Design of epidemiological studies 2015-02-05 -- 2015-02-16 (Engelska)
1639 Application of Epidemiological Methods in Aging Research 2015-02-16 -- 2015-02-20 (Engelska)
1685 Biostatistics III: Survival analysis for epidemiologists * 2015-03-02 -- 2015-03-13 (Engelska)
1725 Cellular Imaging and Confocal Techniques 2015-05-18 -- 2015-05-29 (Engelska)
1741 Cytostatic Drugs in Research and Cancer Treatment 2015-04-13 -- 2015-04-17 (Engelska)
1814 Metoder för kvalitativ innehållsanalys 2015-02-04 -- 2015-04-01 (Svenska)
1823 Global Malaria Eradication 2015-06-01 -- 2015-06-05 (Engelska)
1832 Clinical Immunology in Infectious Diseases 2015-05-04 -- 2015-05-15 (Engelska)
1988 How to write a scientific paper - and get published * 2015-05-04 -- 2015-05-08 (Engelska)
2000 Advanced seminars in Tumor Biology 2015-01-20 -- 2015-06-09 (Engelska)
2044 Pathology # 2015-05-18 -- 2015-05-29 (Engelska)
2068 Frontiers in leadership research 2015-02-10 -- 2015-05-19 (Engelska)
2144 To communicate science in different contexts * 2015-02-04 -- 2015-02-20 (Engelska)
2204 Computer aided analysis of qualitative data in NVivo 2015-06-05 -- 2015-06-17 (Engelska)
2212 Human embryonic stem cells 2015-05-18 -- 2015-05-22 (Engelska)
2214 Redox regulation, oxidative stress and selenoproteins 2015-05-18 -- 2015-05-22 (Engelska)
2228 Genetic Epidemiology 2015-04-13 -- 2015-04-24 (Engelska)
2267 Cell death and Cancer 2015-03-09 -- 2015-03-13 (Engelska)
2302 Basic immunology 2015-01-27 -- 2015-03-05 (Engelska)
2350 Observation as research method 2015-04-13 -- 2015-05-27 (Engelska)
2355 Innovations in cancer therapy -nanomedicine 2015-06-15 -- 2015-06-18 (Engelska)
2362 Positron emission tomography imaging of the CNS 2015-03-16 -- 2015-03-20 (Engelska)
2463 Career skills for scientists 2015-02-04 -- 2015-03-12 (Engelska)
2467 Cancer risk assessment 2015-05-18 -- 2015-05-22 (Engelska)
2520 Interview techniques in health and care research 2015-03-13 -- 2015-04-16 (Engelska)
2532 Multifactorial immune mediated diseases - etiology and pathogenesis 2015-03-02 -- 2015-03-06 (Engelska)
2537 High throughput functional genomic technologies in biomedical research 2015-05-04 -- 2015-05-08 (Engelska)
2561 Writing Science and Information Literacy * 2015-01-26 -- 2015-03-20 (Engelska)
2568 Basic principles in molecular imaging for medical diagnostics through magnetic resonance physics 2015-03-16 -- 2015-03-26 (Engelska)
2570 Introduction to R statistical analysis for biologists 2015-02-09 -- 2015-02-13 (Engelska)
2601 Epigenetics and its applications in clinical research 2015-03-16 -- 2015-03-20 (Engelska)
2609 Basic Course in Medical Statistics - a distance course * 2015-06-01 -- 2015-06-12 (Engelska)
2609 Basic Course in Medical Statistics - a distance course * 2015-03-16 -- 2015-03-27 (Engelska)
2618 Write your research results and get them published * 2015-04-13 -- 2015-04-24 (Engelska)
2618 Write your research results and get them published * 2015-04-13 -- 2015-04-24 (Engelska)
2618 Write your research results and get them published * 2015-06-01 -- 2015-06-12 (Engelska)
2618 Write your research results and get them published * 2015-02-09 -- 2015-02-20 (Engelska)
2621 Klinisk forskning och Good Clinical Practice: protokoll, informerat samtycke och ansökan i enlighet med lagar/regler * 2015-01-26 -- 2015-01-30 (Svenska)
2641 Sickness absence research: theories, methods, and concepts 2015-02-09 -- 2015-04-22 (Engelska)
2644 Human physiology - an overview # 2015-02-09 -- 2015-02-20 (Engelska)
2657 Introduktionskurs i R - datahantering, -analysis och grafisk presentation 2015-04-16 -- 2015-05-08 (Svenska)
2663 Circulating tumor cells 2015-03-23 -- 2015-03-27 (Engelska)
2664 Introduction to modern test theory and test/survey methodology 2015-03-03 -- 2015-03-26 (Engelska)
2666 Methods for statistical analysis: From variance analysis to multilevel modeling * 2015-05-04 -- 2015-05-22 (Engelska)
Practical course in microarray data analysis: mRNA, DNA-methylation and DNA arrays 2015-05-04 -- 2015-05-13 (Engelska)
2667

Nanotoxicology - potential risks of engineered nanomaterials to human health and the environment 2015-04-20 -- 2015-04-24 (Engelska)
2669

Introduction to kvalitativa metoder 2015-02-03 -- 2015-02-25 (Svenska)
2673

Practical approaches to qualitative research - based on blended learning 2015-02-16 -- 2015-05-28 (Engelska)
2674

Developmental and Pediatric Endocrinology 2015-03-16 -- 2015-03-20 (Engelska)
2676

Introduction to teaching at KI * 2015-02-11 -- 2015-03-25 (Engelska)
2690

Basic Laboratory Safety * 2015-02-13 -- 2015-02-20 (Engelska)
2690

Basic Laboratory Safety * 2015-04-20 -- 2015-04-27 (Engelska)
2690

Molecular Epidemiology 2015-05-11 -- 2015-05-15 (Engelska)
2692

Basic inflammation 2015-03-23 -- 2015-04-15 (Engelska)
2705

Biobanking as a resource for biomedical research 2015-02-09 -- 2015-02-13 (Engelska)
2714

Breast Cancer: Research and treatment 2015-03-09 -- 2015-03-13 (Engelska)
2716

Calcium signaling 2015-05-04 -- 2015-05-08 (Engelska)
2733

Basic Training in Flow Cytometry 2015-01-19 -- 2015-01-23 (Engelska)
2747

Present your research! * 2015-03-05 -- 2015-05-28 (Engelska)
2787

Biostatistics II: Logistic regression for epidemiologists * 2015-01-28 -- 2015-02-06 (Engelska)
2797

Transplantation immunobiology 2015-03-09 -- 2015-03-13 (Engelska)
2803

Epigenomics methods, mechanisms and application to disease and development 2015-02-05 -- 2015-02-12 (Engelska)
2804

Calcium signaling 2015-05-04 -- 2015-05-08 (Engelska)
2733

Safety assessment in Drug Discovery and Development 2015-05-04 -- 2015-05-08 (Engelska)
2821

Motor neuron diseases and frontotemporal dementia: Practical applications of human neuropathology and stem cell modeling 2015-05-04 -- 2015-05-08 (Engelska)
2823

Health and medicine in cultural context: introduction to medical anthropology 2015-04-16 -- 2015-05-08 (Engelska)
2826


**Title**: Cellular Signalling

**Kursnummer**: 1280  
**Antal högskolepoäng**: 1.5  
**Datum**: 2015-03-16 -- 2015-03-20  
**Språk**: Engelska  
**Nivå**: Doctoral level  
**Kursansvarig institution**: Department of Laboratory Medicine  
**Särskild behörighet**:  
**Kursens lärandemål**: Kursen syftar till att ge en bred teoretisk kunskap med forskningsinriktad vetenskap inom området cellulär signalering samt väcka intresse för signaleringsvägar i normala och defekta eller sjuka vävnader. Efter genomförd kurs skall studenten:  
- kunna grundläggande teoretiska kunskaper inom cellulär signaleringsområdet.  
- få vetenska om nya moderna metoder, som används inom forskningsområdet.  
- kunna redogöra muntlig en kortfattad vetenskaplig rapport inom visst forskningsprojekt som kritiskt granskas.  
- kunna använda kunskap för sin egen forskningsprojekt.  

**Kursens innehåll**:  
**Arbetsformer**: Föreläsningar, presentationer och grupp diskussioner.  
**Examination**: Muntlig presentation  
**Obligatoriska moment**: Närvaron på alla seminarier är obligatorisk, frånvaro kompenseras med en skriftlig resumé.  
**Antal studenter**: 15 - 25  
**Urval av studenter**: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)  

**Övrig information**:  

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**Kursansvarig**:  
Beston Nore  
Institutionen för laboratoriemedicin  
08-58583657  
Beston.Nore@ki.se

Hälsövägen 7-9  
Clinical Research Center, KFC-Novum  
14186  
Stockholm

**Kontaktpersoner**:  
Hanna Gador  
Institutionen för laboratoriemedicin  
08-58583801  
Hanna.Gador@ki.se

Edvard Smith  
Institutionen för laboratoriemedicin  
Edvard.Smith@ki.se
Title: Basic Course in Medical Statistics

Kursnummer: 1383
Antal högskolepoäng: 3.0
Datum: 2015-02-16 -- 2015-03-06
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Learning, Informatics, Management and Ethics

Särskild behörighet:
Kursens lärandemål: The course participants shall after the course be able to perform and interpret basic descriptive statistics from frequency tables and graphical presentations, perform and interpret results from basic statistical analysis and test (like t-test, chi-square test, non-parametric test and Regression analysis), as well as have enhanced their ability to recognize, understand and critically view the statistics being presented in articles within the medical field of research.

Kursens innehåll: The course is an introduction to basic statistical principles and how statistics play a part in medical research. Concepts being treated are hypothesis, type I error, type II error, estimates, measurement of dispersion, regression analysis, inference making and how to present the results.

Arbetsformer: This course is a so called Team-Based Learning (TBL)-course. TBL is a special form of learning that integrates individual assessment and group work with immediate feedback. Focus will be on solving statistical problems in a group/team setting. This two weeks course consists of online preparation through video lectures and exercises, and several TBL sessions (in class meeting). The in class meetings will correspond to two-three full days each course week. The time in between meetings will be spent reading the course material, and preparing for the assessment and group application exercises.

Examination: Individual and group assessments and active participation during the group application exercises.

Obligatoriska moment: In class attendance during TBL sessions are mandatory for passing grade. If the student misses more than one TBL occasion, the doctoral student must take the course again.
Antal studenter: 40 - 50

Urval av studenter: Date for registration as a doctoral student (priority given to earlier registration date). Please make sure that you have entered the correct registration date for doctoral education in your personal profile.

Övrig information: This course is a TBL-course. TBL, Team-Based Learning, is a special form of learning that integrates individual work, group work and immediate feedback. Focus will be on solving statistical problems in group/team setting. The course has the same content and length as the original course 1383. The course will consist of 2 - 3 full days per week for two weeks. No lectures week 9.

Kursansvarig:
Mesfin Tessma
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Kontaktpersoner:
Margareta Krook-Brandt
Institutionen för lärande, informatik, management och etik
52487118
Margareta.Krook-Brandt@ki.se
Målet med kursen är att den forskarstuderande ska få en grundläggande vetenskapsteorisk förståelse och inblick och förståelse av centrala forskningsetiska teorier, principer och riktlinjer och därmed få möjlighet att reflektera över etiska aspekter av de egna forskningen. Målet är också att den forskarstuderande ska få en förståelse av vad som är god forskningssed, samt vad gränsen går för vad som är etiskt acceptabelt både vad gäller försök med människor och med djur. Den forskarstuderande ska efter att ha gått kursen: -kunna redogöra för vetenskapsteoretiska positioner samt forskningsetiska teorier, principer och, i viss mån, riktlinjer -känna till centrala vetenskapsteoretiska termer samt vanliga forskningsetiska problemsituationer och de etiska verktygen för att hantera forskningsetiska konflikter -kunna analysera forskningsetiska konflikter och se kopplingen mellan vetenskapsteori och forskningsetik -kunna ge hållbara forskningsetiska argument för eller mot ett förfarande -ha utvecklat ett forskningsetiskt förhållningssätt

Kursens innehåll: Kursen innehåller följande moment: -Centrala forskningsetiska principer och teorier -Grundläggande värderingar för empirisk forskning samt normer för god vetenskaplig sed -Försök med människor, inklusive en genomgång av informerat samtycke, dess etiska grund och för- och nackdelar med rutiner för informerat samtycke -Etikprövningar och forskningsetiska riktlinjer, såsom Helsingforsdeklarationen -Försöksadjursetik, innefattande argument för och emot att använda djur för forskningsändamål, samt de tre R:en -Hantering av vetenskapligt författarskap -Intressekonflikter i forskningen -Centrala vetenskapliga termer och positioner

Arbetsformer: Introducerande föreläsningar, grupparbeten och plenumdiskussioner.

Examination: Deltagarna skriver en egen vetenskapsteoretisk eller forskningsetisk reflektion över sitt eget forskningsprojekt.

Obligatoriska moment: Vid frånvaro krävs särskilt utförliga svar på de fall som diskuterats. Gruppdiskussionerna och plenumdiskussionerna är obligatoriska.

Antal studenter: 30 - 35

Urval av studenter: Urvalet baseras på 1) datum för doktorandregistrering (där tidigare registreringsdatum har förts), 2) kursplanens relevans för den sökandes doktorandprojekt (enligt motivering).

Övrig information:

Kursansvarig:
Niels Lynoe
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Niels.Lynoe@ki.se

Kontaktpersoner:
Emma Karlsson
Institutionen för lärande, informatik, management och etik
08-524 83 777
emma.karlsson@ki.se
The objective of this course is for the doctoral student to gain a basic understanding of the philosophy of science and insight into and understanding of key ethical theories, principles and guidelines related to research and thereby be given the opportunity to reflect on the ethical aspects of his/her own research. The objective is also to provide the doctoral student with an understanding of what is good research practice, and also an understanding of the boundary between what is ethically acceptable or unacceptable in terms of experimentation with human beings and animals. After completing the course, the research student should:

- be able to give an account of the positions relative to the philosophy of science and research ethical theories, principles and, to some extent current guidelines
- know the most important terms within the philosophy of science and demonstrate knowledge of common problem situations in research ethics and of the ethical tools used to manage conflicts concerning research ethics
- be able to analyse ethical conflicts in research and see the connection between the philosophy of science and research ethics
- be able to construct sustainable research ethical arguments for or against a specific course of action
- have developed an ethical approach to research

The course includes the following:

- Key ethical principles and theories of research
- Fundamental values for empirical research, and standards of good scientific practice
- Experiments on humans, including a review of informed consent, its ethical basis, and the pros and cons of practices for informed consent
- Ethical tests and guidelines on how to conduct ethical research, such as the Helsinki Declaration
- Ethics and the use of laboratory animals, including arguments for and against using animals for research purposes, as well as the three Rs
- Handling of authorship in scientific writing
- Conflicts of interest in research
- Key scientific terms and positions

Arbetsformer:
Introducing lectures, group work and general discussions.

Examination:
- The doctoral students write a short informal essay on a scientific or research ethical theme related to their own research.

Obligatoriska moment:
- Attendance is mandatory for the group work and general discussions.
- If the student is absent, he or she can compensate by handling in written answers concerning the cases that have been discussed.

Antal studenter: 30 - 35

Urval av studenter: Selection will be based on 1) date for registration as a doctoral student (priority given to earlier registration date), 2) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation).

Kursansvarig:
Niels Lynoe
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Niels.Lynoe@ki.se

Kontaktpersoner:
Emma Karlsson
Institutionen för lärande, informatik, management och etik
08-524 83 777
emma.karlsson@ki.se
Title : Philosophy of science and research ethics

Kursnummer : 1386
Antal högskolepoäng : 1.5
Datum : 2015-03-09 -- 2015-03-13
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Learning, Informatics, Management and Ethics
Särskild behörighet : No

Kursens lärandemål : The objective of this course is for the doctoral student to gain a basic understanding of the philosophy of science and insight into and understanding of key ethical theories, principles and guidelines related to research and thereby be given the opportunity to reflect on the ethical aspects of his/her own research. The objective is also to provide the doctoral student with an understanding of what is good research practice, and also an understanding of the boundary between what is ethically acceptable or unacceptable in terms of experimentation with human beings and animals. After completing the course, the research student should: -be able to give an account of the positions relative to the philosophy of science and research ethical theories, principles and, to some extent current guidelines -know the most important terms within the philosophy of science and demonstrate knowledge of common problem situations in research ethics and of the ethical tools used to manage conflicts concerning research ethics -be able to analyse ethical conflicts in research and see the connection between the philosophy of science and research ethics -be able to construct sustainable research ethical arguments for or against a specific course of action -have developed an ethical approach to research

Kursens innehåll : The course includes the following: -Key ethical principles and theories of research -Fundamental values for empirical research, and standards of good scientific practice -Experiments on humans, including a review of informed consent, its ethical basis, and the pros and cons of practices for informed consent -Ethical tests and guidelines on how to conduct ethical research, such as the Helsinki Declaration -Ethics and the use of laboratory animals, including arguments for and against using animals for research purposes, as well as the three Rs -Handling of authorship in scientific writing -Conflicts of interest in research -Key scientific terms and positions

Arbetsformer : Introducing lectures, group work and general discussions.
Examination : - The doctoral students write a short informal essay on a scientific or research ethical theme related to their own research.
Obligatoriska moment : - Attendance is mandatory for the group work and general discussions. - If the student is absent, he or she can compensate by handling in written answers concerning the cases that have been discussed.
Antal studenter : 30 - 35
Urval av studenter : Selection will be based on 1) date for registration as a doctoral student (priority given to earlier registration date), 2) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation).
Övrig information :

Kursansvarig :
Niels Lynoe
Institutionen för lärande, informatik, management och etik
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Kontaktpersoner :
Emma Karlsson
Institutionen för lärande, informatik, management och etik
08-524 83 777
emma.karlsson@ki.se
The objective of this course is for the doctoral student to gain a basic understanding of the philosophy of science and insight into and understanding of key ethical theories, principles and guidelines related to research and thereby be given the opportunity to reflect on the ethical aspects of his/her own research. The objective is also to provide the doctoral student with an understanding of what is good research practice, and also an understanding of the boundary between what is ethically acceptable or unacceptable in terms of experimentation with human beings and animals. After completing the course, the research student should: -be able to give an account of the positions relative to the philosophy of science and research ethical theories, principles and, to some extent current guidelines -know the most important terms within the philosophy of science and demonstrate knowledge of common problem situations in research ethics and of the ethical tools used to manage conflicts concerning research ethics -be able to analyse ethical conflicts in research and see the connection between the philosophy of science and research ethics -be able to construct sustainable research ethical arguments for or against a specific course of action -have developed an ethical approach to research.

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Arbetsformer : Introducing lectures, group work and general discussions.
Examination : - The doctoral students write a short informal essay on a scientific or research ethical theme related to their own research.
Obligatoriska moment : - Attendance is mandatory for the group work and general discussions. - If the student is absent, he or she can compensate by handling in written answers concerning the cases that have been discussed.
Antal studenter : 30 - 35
Urval av studenter : Selection will be based on 1) date for registration as a doctoral student (priority given to earlier registration date), 2) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation).

Kursansvarig : Niels Lynoe
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Kontaktpersoner :
Emma Karlsson
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08-524 83 777
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Title : Writing science and information literacy

Kursnummer : 1391
Antal högskolepoäng : 3.0
Datum : 2015-05-25 -- 2015-06-05
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Karolinska Institutet University Library

Kursens lärandemål : After the course, you should be able to demonstrate: -understanding of how to write an original scientific article and submit it for publication -the ability to write other types of texts required for a scientific career -the ability to give, take and make use of constructive criticism -the ability to search and manage the medical sciences literature in a structured way -the ability to use resources which facilitate choosing a journal to publish your research in -the ability to describe aspects of post-publication evaluation and processing of the medical sciences literature

Kursens innehåll : Scientific writing, Popular science writing, Grant writing, Thesis writing, Figures and tables, Revising structure and style, Ethical issues in writing, Publication process, Principles of medical information retrieval, Databases, Reference management, Choosing a journal and Evaluating published science

Arbetsformer : Individual writing and rewriting, lectures, working in pairs and groups, web-based teaching, demonstrations, computer exercises and individual study.

Examination : Writing a grant application (including references) with popular science summary and rewriting based on peer and teacher feedback. There are also three assignments in which participants demonstrate development of their information literacy.

Obligatoriska moment : The course writing assignment is obligatory and has to be submitted about 10 days BEFORE course start. All scheduled teaching is compulsory (except where clearly stated otherwise). Absence can usually be compensated for by reading and individual work after consultation with course leaders.

Antal studenter : 30 - 34

Urval av studenter : Selection will be based on 1) the relevance of the course syllabus for the applicant’s doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Ovrig information :

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Kontaktpersoner :
Efter kursen ska du kunna visa:
- förståelse för hur man skriver en vetenskaplig artikel och skickar in den för publikering
- förmåga att skriva andra typer av texter som en del i det vetenskapliga arbetet - förmåga att ge, ta emot och använda konstruktiv kritik
- förmåga att söka och hantera den vetenskapliga litteraturen på ett strukturerat sätt
- förmåga att använda olika resurser som stöd vid valet av tidskrift att publicera sig i
- förmåga att beskriva aspekter av hur man kan utvärdera publicerad vetenskap

**Kursens lärandemål:**

- Scientific writing
- Popular science writing
- Grant writing
- Thesis writing
- Figures and tables
- Revising structure and style
- Ethical issues in writing
- Publication process
- Principer för medicinsk databassökning
- Databaser
- Referenshantering
- Val av tidskrift och Evaluera publicerad vetenskap

**Kursens innehåll:**

- Individuella skrivuppgifter och revision, föreläsningar, par- och grupparbeten, webbaserat lärande, demonstrationer, datorövningar och individuella studier.
- Skrivande av en anslagsansökan (på engelska) med populärvetenskaplig sammanfattning (på svenska) samt bearbetning (med referenser) baserat på "peer"- och lärrarkommentarer. Det finns också tre uppgifter som demonstrerar utvecklingen av deltagarnas informationskompetens.

**Examination:**

Examen består av en skrivuppgift, och ett flaggande är underlagt vad rör "peer"- och lärrarkommentarer. Det finns också tre uppgifter som demonstrerar utvecklingen av deltagarnas informationskompetens.

**Urval av studenter:**

- Urvalet baseras på 1) kursplanens relevans för den sökandes doktorandprojekt (enligt motivering), 2) datum för doktorandregistrering (där tidigare registreringsdatum har förtur)

**Övrig information:**

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**Kontaktpersoner:**

David Herron
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08-524 841 13
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Berzelius 7B

17177
Stockholm
Title: Non-covalent interactions in proteins

Course number: 1441
Number of university credits: 7.5
Date: 2015-05-04 -- 2015-06-05
Language: English
Level: Doctoral level

Department of Biosciences and Nutrition

Kursansvarig institution: Department of Biosciences and Nutrition

Basic knowledge in chemistry or physics from university.

After the course, the students should have reached correct understanding of the physical basis of the different types of non-covalent interactions and their role in functional properties of protein. Furthermore, the students should have acquired the capacity to correctly devise an experimental strategy within the subject and to correctly interpret experimental results relevant to the topic.


Arbetsformer: Lectures by invited speakers, home works, seminars and roundtable discussions.

Examination: Written exam: three tasks should be solved, solutions should be defended.

Obligatoriska moment:

Antal studenter: 6 - 20

Urval av studenter: Priority will be given to students working on projects that require knowledge in biophysics or physical chemistry. Applications with inadequately expressed motivation are not considered.


Kursansvarig:
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Kontaktpersoner:
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Andrey.Karshikoff@ki.se

Matti Nikkola
Institutionen för cell- och molekylärbiologi
Matti.Nikkola@ki.se
Title : Introductory course in SAS programming

Kursnummer : 1447
Antal högskolepoäng : 1.5
Datum : 2015-05-04 -- 2015-05-08
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Public Health Sciences
Särskild behörighet : Basic computer skills

Kurslärandestamål : After successfully completing this course you as a student are expected to be able to:
- apply the SAS system when importing and exporting data.
- manipulate data using SAS labels and formats.
- manipulate data using SAS functions and programming statements.
- perform descriptive statistics using adequate SAS procedures.
- describe how to use the SAS help manual (SAS OnlineDoc).

Kursens innehåll : The course is designed to give fundamental insights in the SAS system and basic skills in the SAS programming language. The course embraces commands for definition, description, modification, selection and analysing of data, and covers:
- Introduction to the SAS Windows
- SAS data sets, creating, importing and exporting data
- Data handling, programming statements and SAS functions
- SAS procedures for descriptive statistics

Arbetsformer : Full-time in supervised computer lab with a mixture of interactive lectures and exercises. Every morning a quiz, recapitulating the previous days' lectures.

Examination : To pass the course, the student has to show that the learning outcomes have been achieved. The course will end with an examination consisting of both an individually written and individually computerized exam where the covered commands are used. Students who do not obtain a passing grade in the first examination will be offered a second chance to resubmit the examination within two months of the final day of the course. Students who do not obtain a passing grade at the first two examinations will be given top priority for admission the next time the course is offered.

Obligatoriska moment : Only the examination is compulsory.

Antal studenter : 15 - 20
Urval av studenter : Eligible doctoral students will be prioritized according to 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date). To be considered, submit a completed application form. Give all information requested, including a short description of current research training and motivation for attending, as well as an account of previous courses taken.

Övrig information : The course is held at Karolinska Institutet Campus Solna. Full-time in supervised computer lab with a mixture of interactive lectures and exercises. Every morning a quiz, recapitulating the previous days' lectures. Basic computer skills are required.

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Title : Cardiovascular Research 1. Vascular Cell Biology

Kursnummer : 1544
Antal högskolepoäng : 1.5
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Molecular Medicine and Surgery
Särskild behörighet : 

Kursens lärandemål : After a successfully completed course, the student should be able to 1) Account for the various cell types and extracellular matrix components in the vascular wall, 2) understand the interaction between the different cell types and matrix components and the effect by/on the systemic circulation and 3) be able to identify and understand the principles for both invitro and invivo methods used to study the vascular wall.

Kursens innehåll : The course provides an introduction to and the methods used to study the basic cell types and extracellular matrix components present in the vascular wall, with special emphasis on smooth muscle cells and endothelial cells. Focus will also be put on the basic cell biological processes (activation, migration, proliferation, apoptosis) involved in the main vascular pathologies such as atherosclerosis, hypertension, diabetes and aneurysm development. Vascular development and remodelling (angiogenesis, arteriogenesis) will be discussed. Cell-cell and cell-matrix interaction and signaling will be addressed. We will also take into account the differences in function with regard to the arterial, venous and lymphatic systems.

Arbetsformer : Lectures, project presentation, group seminars and study visit to a vascular laboratory.

Examination : The examination will consist of project presentation by the individual students, presentation from the visit to the vascular laboratory and discuss groupwise 2-3 questions that will be distributed to the students beforehand.

Obligatoriska moment : Group work and examination. If the student does not take part in the above, he/she will be asked to visit a vascular laboratory and submit a report. A written examination will be required for those students who do not attend the Course examination.

Antal studenter : 10 - 22
Urval av studenter : Selection will be based on 1) the relevance of the course syllabus for the applicant’s doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information : Course will be held at CMM Lecture Hall L8, Karolinska University Hospital, Solna, Sweden. Lectures will be mainly given by Karolinska based lecturers and there will be ample time for questions and discussions. A Get-together is planned on Tuesday evening.

Kursansvarig :
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Title : Epidemiology I: Introduction to epidemiology

Kursnummer : 1577
Antal högskolepoäng : 1.5
Datum : 2015-01-12 -- 2015-01-21
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : The institute of Environmental Medicine
Särskild behörighet :

Kursens lärandemål : After successfully completing this course students are expected to be able to:
- give examples of the contribution of epidemiology to science and discuss the importance of epidemiology as a research discipline.
- estimate and in a general way interpret measures of disease occurrence and measures of association, and describe how a specific measure is governed by the study design.
- explain strengths and weaknesses of common epidemiological study designs.
- identify and explain possible sources of bias in epidemiological studies.
- describe theoretical models for causation and discuss the principles of causal mechanisms.
- apply knowledge of epidemiological concepts when critically reviewing scientific literature. Learning outcomes are classified according to Bloom's taxonomy: knowledge, comprehension, application, analysis, synthesis, and evaluation.

Kursens innehåll : The course gives an introduction to epidemiological theory and practice. It comprises basic principles regarding design, interpretation, and analysis of epidemiological studies. It introduces the concept of causation, concepts related to measures of disease occurrence and measures of association, common designs for epidemiological studies (with main focus on cohort studies), and the role of bias.

Arbetsformer : The course focuses on active learning, i.e. putting knowledge into practice and critically reflecting upon the knowledge, rather than memorising facts. Different strategies for teaching and learning will be used, such as lectures, group discussions and various forms of group exercises on selected topics.

Examination : To pass the course, the student has to show that the learning outcomes have been achieved. Assessments methods used are group assignments along with written and oral individual tasks. The examination is viewed as contributing to the development of knowledge, rather than as a test of knowledge. Students who do not obtain a passing grade in the first examination will be offered a second chance to resubmit the examination within two months of the final day of the course. Students who do not obtain a passing grade at the first two examinations will be given top priority for admission the next time the course is offered.

Obligatoriska moment : The examination tasks are compulsory.

Antal studenter : 12 - 25
Urval av studenter : Eligible doctoral students will be prioritized according to 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date). To be considered, submit a completed application form. Give all information requested, including a short description of current research training and motivation for attending, as well as an account of previous courses taken.

Övrig information : Course dates are: January 12, 14, 16, 19 and 21. The course is extended over 2 weeks (but still 5 full course days) in order to promote reflection and reinforce learning.

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Kontaktpersoner :
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Institutet för miljömedicin

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Title : Biostatistics I: Introduction for epidemiologists

Kursnummer : 1579
Antal högskolepoäng : 3.0
Datum : 2015-04-08 -- 2015-04-28
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : The institute of Environmental Medicine

Särskild behörighet :
Kursens lärandemål : After successfully completing this course students should be able to:
- define the concept of probability, laws of probability, and make simple probability calculations. (S2)
- suggest a statistical distribution to describe a naturally occurring phenomenon and evaluate the appropriateness of the distribution given real data. (S3)
- present appropriate descriptive statistics for an epidemiological study. (S2)
- explain the difference between hypothesis testing and interval estimation and the relation between p-values and confidence intervals. (S3)
- suggest an appropriate statistical test for a comparison of two groups, perform the hypothesis test using standard statistical software, and interpret the results. (S3)
- estimate and interpret three alternative measures of association between binary exposures and binary outcomes and discuss the relative merits of each measure for a given research question. (S3)
- explain the concept of confounding in epidemiological studies and demonstrate how to control/adjust for confounding using stratified analysis. (S2)
- explain the basis of the linear regression model, fit a linear regression model using standard statistical software, assess the fit of the model, and interpret the results. (S2)

Kursens innehåll : The course introduces classical statistical concepts and methods with emphasis on methods used in epidemiology and public health. Topics covered include: the importance of statistical thinking; types of data (nominal, binary, discrete and continuous variables); data summary measures; contingency tables; graphical representations; notions of probability; probability models (distributions); principles of statistical inference; parameter estimation (mean, proportion (prevalence), incidence and ratios); concepts of confidence intervals and hypothesis tests; and a general introduction to correlation and linear regression models.

Arbetsformer : Lectures, exercises focusing on analysis of real data using statistical software, group discussions, literature review.

Examination : The course grade is based mainly on a written examination, but group tasks and individual written assignments are also used. The course is divided into two parts, and each part will be examined separately. To pass the course, a student must pass both parts. Students who fail will be offered a re-examination within 2 months of the final day of the course. Students who fail the re-exam will be given top priority for admission the next time the course is offered. If the course is not offered during the following two academic terms then another re-examination will be scheduled within 12 months of the final day of the course.

Obligatoriska moment :
Antal studenter : 12 - 25

Urval av studenter : Eligible doctoral students will be prioritized according to 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date). Give all information requested, including a short description of current research training and motivation for attending, as well as an account of previous courses taken. Prior knowledge in Stata software is strongly recommended.

Övrig information : The course is extended over time in order to promote reflection and reinforce learning. The course will be held the dates April 8, 9, 10, 13, 14 (week 1) and April 22, 23, 24, 27, 28 (week 2), at 09:00-17:00 all these dates. The examination for week 1 will take place on April 17 (at 09:00-12:00) and the examination for week 2 will take place on April 29 (at 13:00-16:00). Dates for re-examination will be May 25 (at 09:00-12:00) and May 26 (at 09:00-12:00).

Kursansvarig :
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Kontaktpersoner :
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Title: Signal transduction in brain diseases

Kursnummer: 1587
Antal högskolepoäng: 1.5
Datum: 2015-04-20 -- 2015-04-24
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Neuroscience
Särskild behörighet:

Kursens lärandemål: Knowledge and understanding: After completion of the course, the graduate student should be able to understand and describe the molecular basis of specific neuropsychiatric and neurodegenerative disorders (cf. below), with particular emphasis on the mechanisms of synaptic plasticity related to these pathological conditions. The student should also be able to understand current therapies, their efficacy and their limits. Skills and professional attitudes: The students should be able to critically evaluate and discuss advantages and disadvantages of potential interventions on signal transduction processes for the treatment of neuropsychiatric and neurodegenerative disorders.

Kursens innehåll: The course describes alterations in signaling associated to neuropsychiatric and neurodegenerative disorders, including schizophrenia, depression, drug addiction, Parkinson’s disease and Alzheimer's disease. The potential relevance of such alterations for the etiology and the therapy of the various diseases will be discussed.

Arbetsformer: The course will be organised as a series of presentations held by researchers working in various fields of molecular neuroscience and neuropharmacology. There will be four days of lectures and a final fifth day for the examination. Each lecture will consist of two hours of presentation followed by 45 min of discussion between the students and the speaker. Students will receive specific literature to prepare the discussion.

Examination: Written examination

Obligatoriska moment:
1) Discussion: Students will be divided into groups of 4 and each group will be asked to present two questions to discuss with each lecturer at the end of the presentations. 2) Individual written exam on the fifth day. To compensate for absence from a compulsory part the graduate student will have to report on a specific lecture or write an extra exam.

Antal studenter: 10 - 25

Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant’s doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information: Monday to Thursday full time. Friday morning until 12.30.

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Title: Epidemiology II. Design of epidemiological studies

Kursnummer: 1622
Antal högskolepoäng: 1.5
Datum: 2015-02-05 -- 2015-02-16
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: The institute of Environmental Medicine
Särskild behörighet: Knowledge in epidemiology equivalent to "Epidemiology I: Introduction to epidemiology" or corresponding courses.

Kursens lärandemål: After successfully completing this course you as a student are expected to be able to:
- in a self-directed manner, formulate the principles of different types of common epidemiological study designs.
- mainly independently, explain how a specific measure of disease occurrence and measure of association is governed by the study design.
- in a self-directed manner, explain and discuss epidemiological concepts, including accuracy, in the context of different epidemiological study designs.
- draw conclusions from epidemiological scientific papers and to review and criticize these regarding study design, results and accuracy.

Learning outcomes are classified according to Bloom's taxonomy: knowledge, comprehension, application, analysis, synthesis, and evaluation.

Kursens innehåll: The course focus on issues related to study design (primarily case-control methodology), study base, study efficiency, matching in epidemiological studies, induction time, interpretation of epidemiologic evidence.

Arbetsformer: Lectures, group discussions and various forms of group exercises on selected topics, will be used. The course focuses on active learning, i.e. putting knowledge into practice and critically reflecting upon the knowledge, rather than memorising facts.

Examination: To pass the course, the student has to show that the learning outcomes have been achieved. Assessments methods used are group tasks along with written and oral individual tasks. The examination is viewed as a contributing to the development of knowledge, rather than as a test of knowledge. Students who do not obtain a passing grade in the first examination will be offered a second examination within two months of the final day of the course. Students who do not obtain a passing grade at the first two examinations will be given top priority for admission the next time the course is offered.

Obligatoriska moment: Only the examination tasks are compulsory.

Antal studenter: 12 - 25
Urval av studenter: Eligible doctoral students, with required prerequisite knowledge, prioritized according to 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date). To be considered, submit a completed application form. Give all information requested, including a description of current research and motivation for attending, and an account of previous courses taken.

Övrig information: The course is extended over 2 weeks (but still 5 full course days) in order to promote reflection and reinforce learning. Course dates are: February 5, 9, 11, 13 and 16. Course participants are expected to attend class at Karolinska Institutet Campus Solna each course day 09:00-16:00. Prerequisite knowledge in epidemiology equivalent to "Epidemiology I: Introduction to epidemiology" (1577) or corresponding courses.

Kursansvarig:
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Kontaktpersoner:
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Title: Application of Epidemiological Methods in Aging Research

Kursnummer: 1639
Antal högskolepoäng: 1.5
Datum: 2015-02-16 -- 2015-02-20
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Neurobiology, Care Sciences and Society

The course offers an opportunity to learn epidemiological methods and their applications to research on aging. After completion of the course, the students should be able to understand different epidemiological methods, to recognize the importance of epidemiological approaches in research of aging and health, and to be updated with the knowledge of epidemiology of common geriatric disorders such as Alzheimer’s disease and Parkinson’s disease.

Kursens lärandemål: The one-week course consists of two parts. Part I (2 days) deals with essential concepts of modern epidemiology, epidemiological measurements, and epidemiological approaches involving descriptive (ecological and cross-sectional studies), analytical (e.g., case-control and cohort studies), and experimental (e.g., randomized controlled clinical trials) methods. Part II (3 days) will present “state-of-the-art” review lectures of advancements in epidemiological research of aging-related disorders by taking dementia (Alzheimer’s disease and vascular dementia) and Parkinson’s disease as examples.

Renor: The pedagogic learning activities will consist of lectures, group/individual discussions, and critical readings and presentations of selected epidemiological literature.

Examination: Presentation of assignments in the group, and individual written report (evaluation and critical comments of selected articles).

Obligatoriska moment: Active attendance is mandatory for lectures and group work. If the student is absence, it is possible for the student to compensate the absence by handing in written answers to the key questions that have been discussed. Submission of written report is essential for obtaining the credits.

Antal studenter: 10 - 35
Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant’s doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information: There will be 40 hours in one working week (Monday to Friday). Each day will cover 8 hours of teaching (9:00 a.m. to 5:00 p.m.) including lectures, group work, discussion. The course will be held in the large conference room at the Aging Research Center: ARC, Gävlegatan 16, Plan 8, 113 30, Stockholm.

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Debora Rizzuto
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Title : Biostatistics III: Survival analysis for epidemiologists

Kursnummer : 1685
Antal högskolepoäng : 1.5
Datum : 2015-03-02 -- 2015-03-13
Språk : Engelska
Nivå : Doctoral level

Kursansvarig institution : Department of Medical Epidemiology and Biostatistics
Särskild behörighet : Epidemiology I (course 1577), Biostatistics I (course 1579), and Biostatistics II (course 1513) or equivalent courses and practical experience applying statistical models.

Kursens innehåll : After successfully completing this course students should be able to: - propose a suitable statistical model for assessing a specific research hypothesis using data from a cohort study, fit the model using standard statistical software, evaluate the fit of the model, and interpret the results. (S4) - explain the similarities and differences between Cox regression and Poisson regression. (S3) - understand the concept of timescales in statistical models for time-to-event data, be able to control for different timescales using standard statistical software, and argue for an appropriate timescale for a given research hypothesis. (S3) - understand the concept of confounding in epidemiological studies and be able to control/adjust for confounding using statistical models. (S3) - apply and interpret appropriate statistical models for studying effect modification and be able to reparameterise a statistical model to estimate appropriate contrasts. (S3) - critically evaluate the methodological aspects (design and analysis) of a scientific article reporting a cohort study. (S3) Learning outcomes are classified according to Bigg's structure of the observed learning outcome (SOLO) taxonomy: (S1) uni-structural, (S2) multi-structural, (S3) relational, and (S4) extended abstract.

Examination : The course grade is based solely on a written examination. The examination will contain two sections and a passing grade must be obtained for each section in order to obtain a passing grade for the course. Students who do not obtain a passing grade on both sections and wish to take the examination again must retake the entire examination (i.e., both sections) even if they previously obtained a passing grade on one of the two sections. The focus of the exam will be on understanding concepts and their application to analysis of epidemiological studies rather than mathematical detail. The course examination will be held within one week of the final day of the course. Students who do not obtain a passing grade in the first examination will be offered a second examination within 2 months of the final day of the course. Students who do not obtain a passing grade at the first two examinations will be given top priority for admission the next time the course is offered. If the course is not offered during the following two academic terms then a third examination will be scheduled within 12 months of the final day of the course.

Obligatoriska moment :
Antal studenter : 12 - 25

Urval av studenter : Highest priority will be given to applicants previously enrolled in the course without obtaining a passing grade. Other eligible applicants with appropriate prerequisite knowledge will be prioritized according to the relevance of the course for their research training. Please provide a short description of current research training and motivation for attending the course, along with a description of relevant previous courses taken.

Övrig information : The course will be held March 2, 4, 6, 9 and 11. Examination will take place on March 13. The course is extended over two weeks (but still 5 course days) to promote reflection and active learning. Participants are expected to have prerequisite knowledge equivalent to the learning outcomes of the courses Epidemiology I, Biostatistics I and Biostatistics II. We have provided a self-assessment test (http://biostat3.net/download/self-assessment.pdf) for you to confirm that you understand the central concepts. We advise all potential applicants to take the test prior to applying for Biostat III. If you attempt the test under examination conditions (i.e., without referring to the answers) we would recommend: <p>1. if you score 70% or more then you possess the required prerequisite knowledge; <p>2. if you score 40% to 70% you should revise the areas where you lost marks; <p>3. if you score less than 40% you should, at a minimum, undertake an extensive review of central concepts in statistical modelling and possibly consider studying intermediate-level courses (e.g., Biostat II) before taking Biostat III. <p>The statistical software Stata will be used throughout the course. Participants are expected to possess basic knowledge of Stata (e.g., through using Stata in Biostat I and Biostat II) prior to the start of the course. An introduction to Stata can be downloaded from the course web-page (www.biostat3.net).

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Kontaktpersoner :
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Title: Cellular Imaging and Confocal Techniques

Kursnummer: 1725
Antal högskolepoäng: 3.0
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Neuroscience
Särskild behörighet:

Kursens lärandemål: Knowledge and understanding: After completion of the course, the graduate student should be able to 1) account for the different microscopy techniques which are being used for imaging of different types of cells and their properties, 2) account for the theoretical bases of different imaging techniques, 3) describe the principles to follow in selecting the suitable imaging technique for a particular scientific problem. Skills: The graduate student should be able to 1) describe the principles of operation of different microscopy systems, 2) independently select and apply a suitable imaging technique for a particular preparation, 3) describe the principles to follow in optimization and problem-solving in the use of different imaging techniques. Professional attitudes: The graduate student should be able to 1) evaluate the suitability of different imaging techniques for different types of preparations and scientific problems, 2) evaluate how different imaging techniques have been utilized in scientific articles, 3) critically consider pros and cons of different imaging techniques, 4) summarize and communicate his/her knowledge and understanding to other users of different microscopy systems.

Kursens innehåll: Different methods for microscopic imaging, with an emphasis on fluorescence and confocal techniques, will be considered in detail. Techniques for imaging of fixed preparations, as well as live cell imaging of dynamic processes, will also be covered.

Arbetsformer: The course duration is two weeks. First week (full-time, scheduled): Morning lectures (4 hours/day); afternoons - project work in groups with practical exercises and demonstrations on different imaging systems (4 hours/day; 4-5 systems to be used in parallel), seminars. Second week: Group work with project compilation and presentations.

Examination: Group presentations of project work; individual, written exam.

Obligatoriska moment: The compulsory parts of the course are the practical exercises and project presentations, and a written exam. To compensate for absence from a compulsory part the graduate student will have the opportunity to complement the project work, and to write an extra exam.

Antal studenter: 15 - 25
Urval av studenter: The primary selection criteria are 1) the usefulness of the course for the doctoral student in his/her research project, and 2) the motivation given in the application to the course.

Övrig information: This course is directed towards doctoral students that work with, or plan to work with projects involving cellular imaging techniques, including confocal microscopy. The course aims at providing a thorough and up-to-date theoretical background as well as practical experience of confocal and other imaging techniques. The course duration is two weeks. First week (full-time, scheduled): Morning lectures (4 hours/day); afternoons - project work in groups with practical exercises and demonstrations on different imaging systems (4 hours/day; 4-5 systems to be used in parallel), seminars. Second week: Group work with project compilation and presentations. Lectures and seminars: Large Seminar Room (A2 319), MBB, KI, Campus Solna.

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Kontaktpersoner:
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Knowledge and understanding: After completion of the course, the graduate student should be able to 1) account for the different microscopy techniques which are being used for imaging of different types of cells and their properties, 2) account for the theoretical bases of different imaging techniques, 3) describe the principles to follow in selecting the suitable imaging technique for a particular scientific problem. Skills: The graduate student should be able to 1) describe the principles of operation of different microscopy systems, 2) describe the principles to follow in optimization and problem-solving in the use of different imaging techniques. Professional attitudes: The graduate student should be able to 1) evaluate the suitability of different imaging techniques for different types of preparations and scientific problems, 2) evaluate how different imaging techniques have been utilized in scientific articles, 3) critically consider pros and cons of different imaging techniques, 4) summarize and communicate his/her knowledge and understanding to other users of different microscopy systems.

The course duration is one week (full-time, scheduled): Morning lectures (4 hours/day); afternoons - individual studies. One full day: Demonstrations of different imaging systems.

Examination: Individual, written exam.

The compulsory part of the course is a written exam. To compensate for absence the graduate student will have the opportunity to write an extra exam.

The primary selection criteria are 1) the usefulness of the course for the graduate student in his/her graduate work, and 2) the motivation given in the application to the course.

This course is directed towards graduate students that work with, or plan to work with projects involving cellular imaging techniques, including confocal microscopy. The course aims at providing a thorough and up-to-date theoretical background of confocal and other imaging techniques. The course duration is one week (full-time, scheduled): Morning lectures (4 hours/day); afternoons - individual studies. One full day: Demonstrations of different imaging systems. Lectures and seminars: Large Seminar Room (A2 319), MBB, KI, Campus Solna.

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Kontaktpersoner:
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Title: Cytostatic Drugs in Research and Cancer Treatment

Kursnummer: 1741
Antal högskolepoäng: 1.5
Datum: 2015-04-13 -- 2015-04-17
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Laboratory Medicine

Kursens lärandemål:
- After passing the course, students will be able to classify the cytostatics including targeted anticancer drugs, to understand their mechanisms of action and to list the most important cytostatics and targeted anticancer drugs within each group.
- will understand the mechanisms underlying the interaction between cytostatics and other drugs
- will understand the basic principles of pharmacokinetics, pharmacodynamics and pharmacogenetics of cytostatics and targeted anticancer drugs and will be able to implement them in their own projects.
- will be able to describe the principles of cancer therapy using cytostatics and the new targeted anticancer drugs.
- will understand the basic mechanisms of cell death and drug resistance.
- will understand safety regulations and routines according to Swedish legislation and will be able to implement these in their daily work.
- will understand the mechanisms underlying the new classes of cytostatics such as targeted drugs.
- will understand new strategies for cancer treatment such as the use of nanoparticles.
- will understand the effect of anticancer drugs on the immune system.

Kursens innehåll:
- Classification of cytostatics and targeted anticancer drugs
- Mechanism of action of cytostatics and targeted anticancer drugs
- Interactions between cytostatics and other drugs
- Aspects concerning pharmacokinetics, pharmacodynamics and pharmacogenetics of cytostatics and targeted anticancer drugs
- Treatment strategies using cytostatics and targeted anticancer drugs
- Mechanisms of apoptosis induced by cytostatics
- Basic mechanisms underlying drug resistance
- Safety regulations and routines of safety work according to Swedish legislation
- Mechanisms underlying the new classes of cytostatics such as targeted drugs
- New strategies for cancer treatment, such as the use of nanoparticles
- The effect of anticancer drugs on the immune system

Examination:
The course consists of lectures, seminars and group work.

Arbetsformer:
The examination seminar consists of a short presentation with a short written summary given by each student. All the intended learning outcomes of the course will be examined.

Obligatoriska moment:
The seminar on safety regulations, group work and the examination seminar are compulsory. In case of absence, the student has to acquire appropriate knowledge from the recommended literature, may get a consultation with the course leader (if needed) and write short report.

Antal studenter: 10 - 25

Urval av studenter: 1. Registered PhD students with project concerning cytostatic research who previously applied for the course
2. Registered PhD students with project concerning cytostatic research
3. Registered PhD students with project concerning cancer research
4. Students with project concerning cytostatic or cancer research, but have not been registered yet

Övrig information:
The course will be held in the Novum building, Hälsovägen 7-9, Huddinge.
Title: Metoder för kvalitativ innehållsanalys

Kursnummer: 1814
Antal högskolepoäng: 4.5
Datum: 2015-02-04 -- 2015-04-01
Språk: Svenska
Nivå: Forskningsnivå
Kursansvarig institution: Department of Neurobiology, Care Sciences and Society

Särskild behörighet:

Kursens innehåll: Utveckling från en kvantitativ till en kvalitativ tradition av innehållsanalys Design och val av analys Olika beståndsdelar i analysen Applicering och kritisk granskning

Arbetsformer: Kursen innehåller föreläsningar, seminarier och individuella uppgifter. Studenterna kommer att i projektarbeten under hela kursen, med stöd från föreläsningar och individuella litteratur uppgifter, applicera innehållsanalys i sin egen forskning och kritiskt reflektera på tillämpningen.

Examination: Studenterna kommer att i sina projektarbeten, i slutet av kursen, demonstrera kunskap och förståelse av innehållsanalys genom att lämna in en skriftlig rapport innehållande praktisering av analysen i förhållande till lärandemålen.

Obligatoriska moment: Kursen i sin helhet kräver aktivt deltagande av studenterna genom att medverka i olika typer av lärandeformer.

Antal studenter: 15 - 20
Urval av studenter: Urvalet baseras på 1) kursplanens relevans för den sökandes doktorandprojekt (enligt motivering), 2) datum för doktorandregistrering (där tidigare registreringsdatum har förts)

Kursansvarig:
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Kontaktpersoner:
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The UN Millennium Goals have adopted malaria as a top priority. A major problem is however area-specific diversity, which affects disease and intervention. The completion of the genome sequences of Homo sapiens, Plasmodium falciparum, and Anopheles gambiae heralds a new era. We apply the new insights to the ongoing research in isolated areas. Islands provide natural experiments. The expansion of parasites is coinciding with humans. Tracing the routes from mainland Africa to islands, we aim at a better understanding of how humans, parasites and mosquitoes have co-evolved over time and resulted in the diversity. Our ultimate goal is to develop a novel area-specific strategy in the malaria eradication challenge of the 21st century. Contents The course consists of the following topics:

1. Historical thoughts about the efforts of human beings to eliminate malaria
2. Area-specific diversities of the biological agents in malaria transmission:
   a) human (immunity/ drug metabolism),
   b) parasite (antigenicity/ drug resistance) &
   c) vector (refractoriness/ insecticide resistance) with neutral markers,
3. Evolutionary and ecological processes to promote diversities:
   a) historical human settlement patterns,
   b) natural environments; climate, island size, fauna and flora,
   c) socio-cultural environments; inter- and intra-island human movements, language, and community,
   d) modernization and development; agriculture, local health system, malaria chemotherapy, use of bed nets, and poverty,
   e) co-evolutionary processes of biological agents through extension of transmission dynamics & population genetics;
4. Implications of diversities on immunities and interventions against malaria infection and disease, toward improved malaria elimination strategies in relation to local characteristics.

Arbetsformer: Lectures, seminars and small group works.

Examination: Students are asked to write a short essay on a subject selected from the topics in the course. It is to be reviewed by a peer student. Assessment will be based on both the original essay and the review report.

Obligatoriska moment:

Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information: The following special lectures will be invited (negotiaon): Prof. Koji Lum, Binghamton University, New York, USA (molecular evolution) Prof. Kenji Hirayama, Nagasaki University Institute of Tropical Medicine, Japan (human genetics) Dr. Chris Drakeley, London School of Tropical Medicine and Hygiene, UK (sero-epidemiology) Dr. Laurence von Seidlein, Oxford-Mahidol malaria research unit, Bangkok (malaria control) Prof. Osamu Kaneko, Nagasaki University Institute of Tropical Medicine, Japan (molecular parasitology) Prof. Noboru Minakawa, Nagasaki University Institutet of Tropical Medicine, Japan (vector control)
Title: Clinical Immunology in Infectious Diseases

Kursnummer: 1832
Antal högskolepoäng: 3.0
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Medicine, Huddinge
Särskild behörighet:

Kursens lärandemål: By completing this course the students will be able to account for different immunological processes in the host defence against pathogens. In particular, the students will be able to explain the concepts of innate and adaptive immunity and their important roles at different stages in the host defence against pathogens. Student will also be able to describe differences in acute and chronic infections with respect to immunological processes. In addition, the students will be able to give details about different pathogens and explanations for their different strategies of immune deviation. Finally, this course will increase the students' skills to communicate research projects.

Kursens innehåll: This course is mainly made up of lectures and seminars. Review articles related to the lectures distributed during the course. In addition, some parts of the course involve team-work. The following will be covered during the course: Immunological processes important in the host defense against pathogens; Innate and adaptive immunity; Strategies used by pathogens to subvert the host immune system to avoid eradication; Acute and Chronic inflections; Emerging infections; Infections and the link to autoimmune disease; Pathogens that will be covered are bacteria, viruses, parasites and fungi; The latest therapies used in the clinics to fight infections. The course also involves site visits to the Infectious disease clinic and the intensive care unit. As exam, the students will have both a written and oral assignment. This includes writing a brief research proposal within the field of infection and immunity as well as presenting the proposed research for the course participants.

Arbetsformer: Lectures, team-work and project assignment (written and oral), peer-and self asessment and oral presentations.
Examination: Lectures, project work (written assignment) and the day of examination (oral exam), is compulsory.
Obligatoriska moment: Lectures, project work (written assignment) and the day of examination (oral exam), is compulsory. Compensation for absence from oral presentation may be possible after discussion with the course organisers. Possible actions may include an oral examen at a separate occasion with the course organisers.
Antal studenter: 12 - 20
Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information:

Kursansvarig:
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Kontaktpersoner:
Jakob Michaelsson
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Title: How to write a scientific paper - and get published

Kursnummer: 1988
Antal högskolepoäng: 1.5
Datum: 2015-05-04 -- 2015-05-08
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Public Health Sciences

Kursens lärandemål: The aim is that participants achieve a solid understanding of scientific written communication and raise their competence in writing articles, and in handling the process of getting articles published. The students should have started the process of writing scientific articles already before the course. After the course the participants should know how to write articles reporting both quantitative and qualitative data, how to avoid the most common mistakes, how to select an appropriate journal, how to respond to reviewers' comments and how to communicate with editors. The course is most useful for students in the research fields of public health, caring sciences, clinical practice, epidemiology and applied medicine.

Kursens innehåll: Science as communication The writing process: structure, language, style, the elements of a scientific article Writing an article with quantitative data Writing an article with qualitative material Assignments to write parts of an article with own material Feedback on written assignments for group discussions and reflections Reviewing assignments by other students Case work on the review process Publishing articles from the Editor's point of view

Arbetsformer: Interactive plenary sessions are combined with group work with or without teachers. Group work includes focused exercises and case discussions. The course is based on participants' written assignments with material from their own research. These assignments are assessed by teachers and feedback regarding style and content is given during the course, both on an individual and on a group level. The students are also assigned to comment on other students' exercises. Time is allocated for individual work on assignments and for reading the course literature. One assignment should be delivered before the start of the course.

Examination: The examination takes the form of assessment of the students' competence to respond to feedback and improve their skills in scientific writing during the course. The level of performance regarding the final assignments are the basis for this evaluation.

Obligatoriska moment: The plenary sessions and the group work are compulsory as well as the written assignments. Absence has to be compensated at an individual level. A compulsory assignment has to be completed and sent to the course organisers about two weeks before the course start.

Antal studenter: 18 - 25
Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information:

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Title: Advanced seminars in Tumor Biology

Kursnummer: 2000
Antal högskolepoäng: 3.0
Datum: 2015-01-20 -- 2015-06-09
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Microbiology, Tumor and Cell Biology

Särskild behörighet: As a result of the course participants will be able to understand and discuss advanced problems in cell and tumor biology beyond that of textbooks. The participants will improve their capacity to evaluate and discuss problem solving and which methods to choose, outside their own area of competence. In particular they shall be able to discuss and evaluate new data in these areas. Participants will get an up-to-date overview of cutting edge knowledge beyond textbooks, due to the rapid progress of the field. This is achieved by seminars lead by national or international scientists, and with teachers among the course organizers. Questions and discussion after the presentation by the speaker.

Kursens lärandemål: The course will cover the frontiers of research in some essential parts of tumor biology and experimental oncology. Subjects that are usually covered deal with cell cycle, apoptosis, signal transduction, cancer genetics, epigenetics including histone regulation, cancer stem cells, proteomics including ubiquitin regulation, tumor immunology, infections and cancer, mathematical modelling, angiogenesis, cell-cell communication, tumor heterogeneity, tissue biology and tumor microenvironment, new treatment concepts, and problems in clinical cancer research.

Arbetsformer: Lectures and/or seminars in groups followed by discussions including the students once a week. Occasionally literature studies with research articles associated with the seminars. Totally appr 18 weeks with some 20 seminars, and two meetings in a smaller group.

Examination: Written examination at the end of the course (“home exam”). Questions of “essay”-type to test understanding and scientific maturity, including some tests of subject knowledge. In addition to the home exam the participants are evaluated according to their activity during the seminars’ Q&A-sessions/discussions.

Obligatoriska moment: The seminars and the meetings in smaller groups are compulsory. Lack of attendance at single events will be compensated in ways agreed with the course leaders.

Antal studenter: 6 - 20
Urval av studenter: The selection for participation is based on motivation given by the applicant in the application and on the progress of the PhD-studies. If necessary to select among applicants with otherwise equal merits, priority will be given to students estimated to be closer to their thesis defence.

Övrig information: There are fourteen lectures and discussions to be attended out of a choice of twenty. These regular seminars take place on Tuesdays at 13.00 - appr 14.30 at the MTC seminar room A 302, Nobels väg 16, KI Campus. The speakers are senior scientists within cancer research from KI and from other Swedish and international universities. When available on other times of the week we also include some seminars given by international speakers as an bonus/alternative. Lectures are followed by an informal seminar discussion.
Title : What is life? The future of biology.

Kursnummer : 2001  
Antal högskolepoäng : 2.0  
Datum : 2015-02-05 -- 2015-06-15  
Språk : Engelska  
Nivå : Doctoral level  
Kursansvarig institution : Department of Microbiology, Tumor and Cell Biologi  

Särskild behörighet :  
Kursens lärandemål : After the course students shall be able to discuss: 1. Theories about complexity of biological systems 2. How biocomplexity can be studied. 3. What is the place of computational simulations in modern biology? How simulations can be done? What the predictive power is. How mathematics can be used in simulating biological phenomena. 4. How one understands the organizational principles of biological systems. If self-organization is a field for study or just a trivial phenomenon. 5. How evolutionary theory can be formalized into mathematical models. 6. If quantum mechanical theory can have a role in molecular biology. 7. How genetic information can be converted to mechanical or electrical force in biological system. The students will also acquire an understanding of the conceptual and technical challenges in future biomedicine and advance your ability to ask scientific questions and identify significant - and possible - areas for problem solving.  

Kursens innehåll : Inspired by the seminal book by Erwin Schrödinger What is life? published 60 years ago we will adress this question again, in view of the impressive development since then. There are many new concepts to consider in the future of biology, such as the consequences of the -omics era, complexity, computation and simulation, as well as the role of mathematics and physics in biology. The course will cover areas such as biocomplexity, quantum mechanical theory in biology, computation and simulation (in silico biology), organization of biological systems, causality in biology, how does chemistry become electric and magnetic forces and evolutionary theory in the light of molecular biology. Leading scientists with an overview perspective will be invited to discuss in the seminar form the challenges that meet us today in biology, as a result of the --omics era, the availability of large amounts of data as a result of high through-put techniques, and the possibilities provided by mathematics, simulation theory and computational biology. Young scientists in this areas are also invited to lecture from their perspective. Invited experts will review these areas in lectures. They will also meet the students for an additional two hours in a workshop discussion of basic concepts.  

Arbetsformer : Two seminars+workshop every month for five months, 2.5-3 hrs on each occasion. Every occasion consists of a appr 1-2 hour seminar/lecture with the invited expert followed by a two hour open discussion, i.e 3-4 hours on each occasion. For each seminar the students will usually be given at least one article on the topic to read. Active participation in discussions in groups with invited speaker of high international standards is a key element. You also receive DVD-recordings of all lectures for further self studies at home.  

Examination : Continuous by workshop discussions. Written home-exam (essay).  
Obligatoriska moment : The seminars are compulsory. Absence can be compensated for after discussion with the course leader.  
Antal studenter : 8 - 20  
Urval av studenter : The selection for participation is based on motivation given by the applicant in the application and on the progress of the PhD-studies. If necessary to select among applicants with otherwise equal merits, priority will be given to students estimated to be closer to their thesis defence.  
Övrig information : The lectures take place in one of the lecture halls at the KI Solna Campus any week day at 15.00, followed by two hours of informal discussion with the speakers. The students will get recordings of the lectures afterwards. Ovocassionally we play recordings of some seminal lectures among the more than 100 given until now. At least six lectures will be offered, provided by invited international scientists that can contribute to the issues discussed in this course, such as evolution, origin of life, complex adaptive systems and networks, the role of high through put data for future biomedicine, neuroscience and cognition, physical foundations for life and important new areas and concepts to understand life. Every term there is a new set of speakers, so the course can be made several times. This coming spring we are aiming to invite Nobel Laureates Ada Yonath, Manfred Eigen and Jean-Marie Lehn as speakers.

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Kontaktpersoner :  
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Kursnummer : 2044
Antal högskolepoäng : 3.0
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Laboratory Medicine
Särskild behörighet : After the course the student should understand basic pathological events and be able to analyze the connection of these events to the development of diseases.
Kursens lärandemål : The course is divided into two parts. The first part illustrates cell injury, adaptation, tissue repair and inflammation. New methods in cellular and molecular pathology will be discussed. During the second part of the course will focus on tumor development and malignancy. We will discuss how basic pathological responses to inflammation or injury might be the first steps on a multi-step path to malignancy.
Kursens innehåll : This is a full time course with lectures, seminars, demonstrations and microscopy exercises.
Arbetsformer : Written examination.
Examination : Written examination.
Obligatoriska moment : Demonstration/microscopy, microscopy practice, pathology "tour" and project work are compulsory. Absence must be compensated with a written report.
Antal studenter : 16-30
Urval av studenter : Selection will be based on 1) Documented knowledge in areas such as tissue biology, cell biology or human physiology (this kind of knowledge is a prerequisite to be able to benefit from the course). Those who already have studied pathology earlier (for example medical doctors) are not prioritized. 2) Date of admission to doctoral studies (priority given to early registration).
Övrig information :

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Title: Frontiers in leadership research

Kursnummer: 2068
Antal högskolepoäng: 7.5
Datum: 2015-02-10 -- 2015-05-19
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Learning, Informatics, Management and Ethics
Särskild behörighet:

Kursens lärandemål:
- After the course you should be able to report for contemporary as well as historical leadership research paradigms.
- Discuss different scientific methods for studying leadership and reflect upon their appropriateness in different settings.
- Apply knowledge from leadership research in your own research.

Kursens innehåll:
The field of leadership and leadership research in different perspectives and situations, including methodology.

Arbetsformer:
Lectures, seminars and group work. Own work includes literature studies and essay writing.

Examination:
The course will be examined in both oral and written form including a written term paper, in which the students relate leadership research into their own research.

Obligatoriska moment:
Active participation in the seminars which are compulsory. Absences from those activities will have to be made up with written examinations.

Antal studenter: 10 - 15
Urval av studenter:
Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information:
The main purpose with this course it to provide the students with an opportunity to discover how leadership research is of relevance for their research questions and how knowledge from this area can further illuminate their field of research. Another purpose is to offer the students a broad network of research associates, senior colleagues and teachers with different research perspectives. However, it is not a course for personal development as a leader. The course has been given since 2007 and is a cooperation between Stockholm School of Economics (Mats Tyrstrup), The Swedish National Defence College (Gerry Larsson), KTH Royal Institute of Technology (Mats Ericson), Stockholm University (Marianne Döös and Magnus Sverke), Karlstad University (Sophie Linghag) and Karolinska Institutet, Medical Management Centre (Kristina Palm and Christer Sandahl). Seminars are scheduled the following Tuesdays: 10 Feb, 17 Feb, 3 March, 17 March, 24 March and 19 May and will be held in Widerströmska building, Tomtebodavägen 18A, Karolinska Institutet Solna.

Kursansvarig:
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Kontaktpersoner:
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Title: To communicate science in different contexts

Kursnummer: 2144
Antal högskolepoäng: 3.0
Datum: 2015-02-04 -- 2015-02-20
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Learning, Informatics, Management and Ethics

Särskild behörighet:

Kursens lärandemål: After the course the student is expected to be able to:
1. Orally present own research adapted to different target groups.
2. Reflect on presentation skills and ability to adapt to different target groups.

Kursens innehåll: During the course each participant will be given the opportunity to develop practical and theoretical knowledge in:
-- Communication, perception and learning
-- Presentation techniques
-- Rhetoric
-- Use of different media (such as Posters, Overhead-projector, PowerPoint, Whiteboard) Each course participant will perform three oral presentations and receive feedback on content, presentation skills and adaptation towards target group.

Arbetsformer: The course design is based on reflective practice and includes self-directed learning, lectures and literature seminar to process theoretical knowledge, and practical training in presentation skills.

Examination: The assessment consists of two different tasks: 1. Reflective statement based in experience, feedback and research/literature within communication and learning. 1. Oral presentation in a popular scientific context supported by PowerPoint or similar. To pass the course the participant needs to show evidence that they reached the learning outcomes by fulfillment of the assessment criteria.

Obligatoriska moment: Compulsory sessions are:
1. Oral presentation in a popular science context (video recorded)
2. Oral presentation in a scientific context and observe and give feedback to an oral presentation made by a peer. Absence from the compulsory sessions or assessment seminar can be compensated through supplementary activity.

Antal studenter: 20 - 40
Urval av studenter: The selection for this basic general science course will be based on your admission date to doctoral education (priority given to earlier registration date). Please make sure that you have entered the correct registration date for doctoral education in your personal profile.

Övrig information: This is a two week course which requires time for independent work outside of scheduled class time. Scheduled class room sessions are on the following dates: 4-5 February, 11-12 February and 19-20 February. The course is given in ENGLISH.

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By completing the course, participants should acquire the skills to use NVivo's (later versions) key functions in the analysis of their own research material. They should also be able to apply their new knowledge of NVivo's strengths and limitations in relation to various research questions, qualitative methodologies and their underlying epistemological approaches.

No prior experience of NVivo is required, but participants are expected have computer skills beyond the most rudimentary and to be able to independently acquire basic abilities in a new software environment. Introductory lecture on the underlying logic of NVivo and its epistemological origin(s), introduction to the software environment, examples of different approaches to coding of qualitative data, as well as illustrations of advanced applications of NVivo. Workshop with designated tasks to illustrate possibilities, advantages as well as limitations and drawbacks with using NVivo. Individual tutoring in accordance with the wishes of the participants, preferably concerning the participants' own research projects. An examination seminar with presentation of the participants NVivo project.

The course comprises a total of two weeks of full-time study in the form of lecture, workshop, individual tutoring and continuous individual work with participants own research material in NVivo. Some individual tutoring will also be given by email between course events.

The course is examined with an individual task, presented orally at the final seminar and in writing in a pm according to the teacher's specifications. Participants should describe how they want to use the program in their own research, which research questions NVivo can help asking and answering, as well as the epistemological consequences of the described approach. Fulfilled mandatory course events are a prerequisite for passing the course.

Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date). Course sessions are on the following dates: 5th of June (half-day), 9th of June (whole day), 11-12th of June - whole day (individual tutoring on the 11th OR on the 12th) and on the 17th of June - 2 groups: so the student will attend in the morning OR in the afternoon group. Course coordinator and lecturer will be Associate Professor Love Börjeson, currently at Graduate School of Education, Stanford University. All students will be using a 30day free trial version of Nvivo, to be downloaded just before the course starts. No general IT-support is included in the course.

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Kontaktpersoner:
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Title: Human embryonic stem cells

Kursnummer: 2212
Kursansvarig institution: Department of Biosciences and Nutrition

The objectives of this course are that at the conclusion of this course students should have a good understanding of:

- Folliculogenesis and Fertilization
- Pre implantation Embryology
- Criteria of selected or scoring the blastocysts for isolation of ICM
- Derivation methods of hESCs
- Culture condition of hESCs
- Main components of the culture system (culture media, tissue culture plastics, gases, incubators, workstations, laboratory environment, input materials)
- Physical-chemical properties of culture system (osmolarity and pH of culture media, temperature, light levels) and how they can be influenced
- Nutritional requirements of the blastocyst and hESCs
- Functional characteristics of different tissue culture incubators
- The influence of the laboratory and clinic environment on hESCs
- Developmental milestones
- Students should know the prospective possibilities of having a good culture system
- Students should be aware of the general aspects and implication of the stem cells research and the potentiality that these represent for clinical application
- Characterization of the embryonic stem cells and the importance of the pluripotency of these cells
- The different differentiations assay on stem cells and what is ongoing in this field
- The immunorejection problem and the production of isogonics embryonic stem cells by somatic cell nuclear transfer or therapeutic clone (SCNT)
- The pluripotence induction of somatic cell by transduction, (the iPS cells)
- Finally the students will improve their capacity to produce coherent, logical and concise explanations of data and concepts - both written and oral, through consideration of the course material.
- Students will also develop their ability to criticize scientific literature related with hESC technology and reproduction physiology in a constructive and informed fashion
- Be aware of potential development of hESC technology in the future.

Kursens innehåll:

Arbetsformer:
- The course (human embryonic stem cells) runs for one week every year, with lectures and laboratory practical demonstrations.

Examination:
- Writing individual-examen

Obligatoriska moment:
- The laboratory parts are obligatory. If absent at laboratory activity; student should present a literature work related with the subject of the missing activity

Antal studenter: 10 - 14

Urval av studenter:
- The selection is based on the usefulness of the course for the doctoral students' research projects, and the written motivation of the applicants, as to why they want to take the course.

Övrig information:
- The course will be held at Karolinska University Hospital, Huddinge
Title : Redox regulation, oxidative stress and selenoproteins

Kursnummer : 2214
Antal högskolepoäng : 3.0
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Medical Biochemistry and Biophysics
Särskild behörighet :

Kursens lärandemål : After the course, each student should have acquired the following knowledge: - Good knowledge of structure-function relationships for the major low molecular-weight antioxidant compounds found in cells (GSH, Ascorbate, tocopherol) - Good knowledge of the major antioxidant and redox regulatory systems and redox sensitive signaling pathways (glutathione-dependent systems, thioredoxin systems, Nrfl/Keap1, Yap1, peroxiredoxins, methionine sulfoxide reductases, peroxidases, catalases, superoxide dismutase, NADPHoxidase, oxidative burst, PTP regulation, cyt c, ASK-1) - Good knowledge of selenoprotein synthesis and selenoprotein function - After the course, each student should also have the skill to present and discuss a redox-regulated research project at a level generally expected for presentations held at international cutting-edge conferences in the subject.

Kursens innehåll : The course is planned as a joint training encompassing an international exchange graduate course, with students and lecturer's primarily recruited from Karolinska Institutet together with Medical University of South Carolina (MUSC) and the Redox Biology Center of the University of Nebraska in Lincoln (UNL), Nebraska, which are two NIH COBRE (Center of Biological Research Excellence) initiatives focused on research in redox biology. The course is planned to be annually held and will have the following major components: - Students from MUSC, UNL and Karolinska Institutet - Lecturers from MUSC, Karolinska Institutet and UNL - Planned lectures will contain subjects such as the following examples: - "Glutathione S-transferases in redox regulation and glutathione-dependent catalysis" - "Nitric oxide (NO) signaling in relation to redox state" - "Calcium signaling in oxidative stress and in relation to apoptosis" - "Glutaredoxin and thioredoxin systems" - "The concepts and effects of redox cycling and selenoprotein reactivity" - "Selenoproteomes and dedicated Cys- and/or Sec-dependent redox systems" - "Using protein crystallography to probe the function of redox active enzymes" - "Redox activities of proline in a cellular context" - "The effects of metals on metabolism and oxidative stress in human disease" - "With the sight on redox: glutathione and thioredoxin systems in the ocular lens and their relation to cataract" - "Redox control of ion channels" - "How oxygen can be sensed in the carotid body" - "Mitochondrial production of reactive oxygen species in relation to human disease"

Arbetsformer : The course it is built upon a pedagogic framework of discussions between graduate students in redox biology with leading experts in the field, combined with cutting-edge lectures, training in oral presentation, career counseling sessions and a written exam for control of detailed basic knowledge in redox biology. It is the firm belief of the course organizers that this pedagogic framework should well support the students to obtain the learning objectives of the course. It should furthermore help the students to prepare for their next level of a career beyond the doctoral examination. The type of teaching will be: - Morning sessions with lectures in basic concepts as well as cutting-edge front-line research findings in the field - Afternoon sessions with student presentations followed by discussions between lecturers and students - Career discussions and future perspectives in the field of redox biology

Examination : The student skills are examined as follows: - Evaluation of the degree of participation in student-lecturer discussions and the level of initiated comments and questions during those discussions (grade pass/not pass) - Evaluation of the presentation of the student's own project (grade pass/not pass) - Results at written examination (at least 60% right answers for the grade of pass) - Attendance during compulsory parts of the course as well as the grade of "Pass" in all three parts of the examination must be fulfilled for a final grade of "Pass".

Obligatoriska moment : Absence from any part of the course (lectures, student presentations, career discussions, exam and award ceremony) is generally not accepted but could in special cases be compensated by an individually tailored additional discussion and a special written examination organized by the course committee.

Antal studenter : 20 - 25

Urval av studenter : 1st priority: PhD students in redox biology before half-time 2nd priority: beyond half-time 3rd priority: other research fields, before half-time 4th priority: other fields beyond half-time Within each priority group, earlier applications have priority before later applications. Include a short project description when applying.

Övrig information : NOTE: This course in an international joint course with students and lecturers from several universities, mainly Karolinska Institutet, University of Nebraska Lincoln and Medical University of South Carolina (MUSC). From each of these universities, up to eight (8) students can be admitted. The course scheduled for May 2015 will be held at a redox center of excellence of MUSC (South Carolina), which thus will necessitate travel to USA for students coming from Sweden. The course will cover lodging and a travel support of SEK 8 000: for each admitted student studying in Sweden. This course is included in the following doctoral programmes: Cell biology & genetics, Developmental biology & cellular signaling (DEGS), Tumor biology & oncology and Environmental Factors & Health. See http://ki.se/en/education/doctoral-programmes.

Kursansvarig:
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Kontaktpersoner :
Elias Arnér
Title: Genetic Epidemiology

Kursnummer: 2228
Antal högskolepoäng: 1.5
Språk: Engelska
Nivå: Doctoral level

Kursansvarig institution: Department of Medical Epidemiology and Biostatistics

Särskild behörighet: Knowledge in epidemiology and biostatistics equivalent to "Epidemiology I: Introduction to epidemiology" (course 1577), "Epidemiology II: Design of epidemiological studies" (course 1622), "Biostatistics I: Introduction for epidemiologists" (course 1579) and "Biostatistics II: Logistic regression for epidemiologists" (course 1513).

Kursens lärandemål: After successfully completing this course you are expected to be able to:
- Describe the basic organization of the human genome and the central dogma of eukaryote genetics.
- Relate the concepts of meiosis, recombination, linkage and linkage disequilibrium to each other.
- Draw conclusions about genetic influences from trait distributions in families and estimate the relative degree of genetic influences from twin correlation data.
- Use publically available databases to find positions of genetic markers and to identify suitable tag markers for candidate genes.
- Utilize SNP marker as instrumental variables and polygenic predictors.

Kursens innehåll: The course is about concepts and methods used in studies of genetic variation influencing disease and other phenotypes. It will thoroughly cover basic genetic inheritance and how it influences complex and quantitative traits. Modern gene-discovery strategies and polygenic methods will be described in theory and practice. The primary focus is on genetic association studies with study design and interpretation/utilization of results. Mendelian randomization approaches. Secondary focus will be on the role of de novo mutations and epigenetic mechanisms for complex traits.

Arbetsformer: Lectures, computer lab, group seminars.

Examination: To pass the course, the student has to show that the learning outcomes have been achieved. One individual assessment of the learning outcomes consists of a written home exam, which students have one week to complete after the course end. Students who do not obtain a passing grade at the first two examinations will be given top priority for admission the next time the course is offered.

Obligatoriska moment: Only the examination is compulsory.

Antal studenter: 12 - 25

Urval av studenter: Eligible doctoral students will be prioritized according to 1) the relevance of the course content for their research, 2) the stated motivation for attending. To be considered, submit a completed application, give all info. requested, incl. description of current research training and a motivation for attending, and an account of previous courses.

Övrig information: The course is given April 13, 15, 17, 22 and 24 at Karolinska Institutet Campus Solna. The course is extended over two weeks (but still 5 course days) to promote reflection and active learning.

Kursansvarig:
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Kontaktpersoner:
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Institutionen för medicinsk epidemiologi och biostatistik
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Title: Cell death and Cancer

Kursnummer: 2267
Antal högskolepoäng: 1.5
Datum: 2015-03-09 -- 2015-03-13
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Microbiology, Tumor and Cell Biology
Särskild behörighet:

Kursens lärandemål: After the course the students will have a detailed knowledge concerning the relationship between cell death and proliferation as well as a role of cell death in tumour progression, metastasis and cancer therapy. Students will be able to analytical and critical thinking.

Kursens inhåll: Course will include lectures as well as seminars and discussions between students and lecturers. The course will start with an introduction to the field of cell death (apoptosis) and its role in biology and medicine. Then the lecturers will organize their presentations to give a comprehensive and pedagogical overview of the research area and discuss the latest results available on: (i) explanation of cancer as a complex genetic disease; (ii) general mechanisms of cell death; (iii) role of tumour promoters in regulation of cell death; (iv) role of tumour suppressors in regulation of cell death; (v) relationship between cell cycle regulation and cell death; (vi) role of cancer genetics in cancer therapy; (vii) role of neovascularisation in regulation of cell death; (viii) relationship between metastasis and cell death; (ix) role of oncogenes in cell death; (x) efficiency of cell death machinery in tumour cells; (xi) role of cell death in hematological malignant and pre-malignant disorders; (xii) novel modalities in treatment of cancer. We plan to (i) ask students to present their project and discuss it; (ii) discuss hot topics in the field of cell death and cancer.

Arbetsformer: The course will consist of lectures and seminars and literature studies. At the end of each seminar there will be a discussion. In addition, students will present and discuss their PhD projects and be able to avoid methodological mistakes.

Examination: Oral examination, which will be designed in a way to help the course organizer (examiner) to be sure that the learning outcomes are reached by the students

Obligatoriska moment: Lectures, seminars and presentation of projects are compulsory. Missed lectures and seminars can be compensated by other activities after discussion with the course leader.

Antal studenter: 25 - 30
Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information: Course will take place from Monday to Friday (from 9.00 up to 17.00). Course will be held at the Institute of Environmental Medicine (Nobels väg. 13).<br> Profs. Grigory Dianov (Oxford University), Maria Masucci, Dan Grander, Marie Arsenian Henriksson, Staffan Strömblad (KI), Drs. Vitalyy Kaminsky, Vladimir Gogvadze, Martin Augsten, Sonia Lain, Mohsen Karimi Arzenati, Andreas Lundquist, Susanne Schlisio, Lasse Jensen, Kristina Viktorsson and Andor Pivarci (all KI) will participate as lecturers.<br> We plan to (i) ask students to present their project and discuss it; (ii) discuss hot topics in the field of cell death and cancer.

Course organizer is Prof Boris Zhivotovsky, who is also an organizer of the course: Apoptosis: Theory and Methods. There is no overlapping between courses.

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Kontaktpersoner:
Johanna Bergman
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Nobels väg 13
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Stockholm
Title: Basic immunology

Kursnummer: 2302
Antal högskolepoäng: 3.0
Datum: 2015-01-27 -- 2015-03-05
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Medicine, Solna

Särskild behörighet:
Kursens lärandemål: To understand basic principles of innate and adaptive immunity and how different components of the immune system cooperate. To be able to relate, compare and understand experimental aspects of immune-related disease in a clinical perspective. To adapt knowledge gained of the function of the immune system by being able to analyze and discuss an immunological/case scenario (group project). To present the group project and discuss the results as well as work in pairs with clinical cases.

Kursens innehåll: The course is separated into two parts. In part 1 we discuss basic immunological mechanisms within the innate and adaptive immune response. In part 2 we apply the knowledge in clinical settings such as defence against infection, autoimmune and allergic disease or transplantation. Part 1: Introduction An overview of the immune system T cells B cells Antigen-presenting cells Innate vs adaptive immune responses Methods to study immune reactions. Part 2: Immune defence against bacterial and viral infections Primary immunodeficiencies Autoimmune disease Allergy Vaccination Clinical Immunology Transplantation Tumour Immunology Questions and discussions Presentation of projects.

Arbetsformer: The course is given full-time during a total of six days separated into two parts. The teaching is mainly in lecture/seminar form but also includes project work studying cases individually and pairwise, as well as in small groups. The group projects are then presented orally on the last day of the course. The project work requires studies between the two course parts, including meetings with mentors. Course literature (Abbas) and cases are handed out at the course start. An immunological quiz is connected to the different chapters in the book so that the student will be able to digest the relatively big material. The course is designed so that clinically active doctors will be better able to combine it with work in the clinic (Mondays and Fridays contain no scheduled course work). The purpose of dividing the course into two parts is that the participants should have time to thoroughly study the literature from part 1 (fundamental immunological mechanisms) before teaching of the applied immunology in part 2 starts. Considering the substantial literature requirement plus the cases and project work, we estimate that an extra 32h of study is needed, which is not included in the schedule.

Examination: Web-based exam on the course content. Oral presentations of small-group project work. At this occasion special attention is given to that all students are actively participating. The clinical cases are examined by written reports.

Obligatoriska moment: Project work and attendance at the project presentation is compulsory as well as work with two clinical cases. In the case of absence a separate occasion is organized with presentation for the course organizers. The web-based exam is mandatory.

Antal studenter: 25 - 50

Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information: The course consists of two parts. Part I: January 27th-29th, 2015 and Part II: March 3rd-5th, 2015 with self studies in between the two parts.

Kursansvarig:
Lisa Westerberg
Institutionen för mikrobiologi, tumör- och cellbiologi

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Kontaktpersoner:
Mikael Karlsson
Institutionen för mikrobiologi, tumör- och cellbiologi

Mikael.Karlsson@ki.se
Title: Application of molecular biology and molecular brain imaging techniques in neurodegenerative disorders

Kursnummer: 2315
Antal högskolepoäng: 3.0
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Neurobiology, Care Sciences and Society
Särskild behörighet: Nej

Kursens lärandemål: After the course the students will understand the most current molecular brain pathophysiology seen in neurodegenerative diseases, as well as how translational research is applied in this field. They will be able to describe the current scientific models used for investigating underlying molecular pathogenic mechanisms in the CNS that are manifested in clinical features in patients. The students will be able to critically evaluate and discuss advantages and disadvantages of potential interventions on protein interactions, neurotransmitter function and signal transduction processes for the treatment of neurodegenerative disorders. The course will prepare the students to directly apply what they have learned to their own actual research application in real experimental conditions.

Kursens innehåll: This course will focus on scientific approaches used to study neurodegenerative disorders. Emphasis will be placed on discussing potential therapeutics through an understanding of clinical aetiology and the molecular basis of the various diseases. Topics for the practical experiments will include the following: demonstrations of molecular imaging techniques that are used to study function and pathological changes in the brain of living patients, histopathological examination of brain lesions in human post-mortem brain tissue and autoradiography techniques to study localisation of receptors, changes in neurotransmitter function and to correlate these with other pathological changes in the brain by immunohistochemistry, real time PCR and proteomics to measure changes in gene expression and signalling pathways in the brain using neuronal cells and transgenic animal models. Sensitive ELISAs will be used to study biomarkers in CSF and plasma from patients.

Arbetsformer: The course is full time (in total 10 days) and will be organised as an integration of lectures, combined with practical laborations, demonstrations and literature studies. Written examination, oral presentations and discussions

Examination: Written examination, oral presentations and discussions

Obligatoriska moment: All parts of the course are mandatory. Absence from any of these will be compensated for by extra individual assignments provided by the course organizers.

Antal studenter: 10 - 20

Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information: The course is full time (10 days) and will be organised as an integration of lectures, combined with practical laborations, demonstrations and literature studies. We invite lecturers that are in the frontline of their research field to give lectures and work shops. The course will be given at the division of Translational Alzheimer Neurobiology at Novum, Huddinge Campus.

Kursansvarig:
Taher Darreh-Shori
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Kontaktpersoner:
Taher Darreh-Shori
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Title : Observation as research method

Kursnummer : 2350
Antal högskolepoäng : 4.0
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Women's and children's health
Särskild behörighet :

Kursens lärandemål : At the end of the course the student should - know how to perform direct/naturalistic observations within a deductive approach by developing and using an observation protocol - know how to perform participatory and non-participatory observations within an inductive approach - know how to use observation and video as a means for data-collection - know how to test for validity and reliability when using observation and video as methodology - have an understanding of quantitative and qualitative methods for analyzing data generated from the observations.

Kursens innehåll : Developing and testing a protocol which can be used for both naturalistic observations and videotapes or performing video-observation which should be transcribed into text and further analyzed; testing observed data for validity and reliability. The content of the course is built on how to investigate interaction between people exemplified from a caring situation.

Arbetsformer : Lectures, seminars and individual assignments/project work
Examination : Formative assessment during the various types of learning of the course including lectures, seminars and the individual assignments.

Obligatoriska moment :
Antal studenter : 14 - 20

Urval av studenter : Doctoral students registered at the Doctoral School in Health Care Sciences (NFV HK14) have priority to the course. The remaining seats on the course will be selected according to the following: selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information : The course dates are 13-15 April, 27-29 April and 25-27 May. Address: campus Solna.

Kursansvarig :
Eva Nissen
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Kontaktpersoner :
Charlotte Ovesen
Institutionen för onkologi-patologi
Charlotte.Ovesen@ki.se
Title: Innovations in cancer therapy - nanomedicine

Kursnummer: 2355
Antal högskolepåäng: 1.5
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: The institute of Environmental Medicine

Särskild behörighet:

Kursens lärandemål: The students should after the course be able to:
- Describe and explain the concepts and definitions in the area of nanomedicine
- Reflect on nanomedical innovations as future therapeutic systems
- Conceptualize novel nanomedical applications in oncology with a basis in the students own research area
- Describe current limitations/opportunities of nanomaterials in oncological applications in drug delivery and imaging applications
- Critically reflect on nanomedical literature from the students research perspective
- Utilize literature databases other than PubMed to gather interdisciplinary literature

Kursens innehåll:
- The general concepts and definitions of nanomedicine
- Applications of nanomedicine in oncology
- Interdisciplinary literature search - uses of databases other than PubMed
- Construction and use of nanoscale drug delivery systems
- Applications of nanomaterials in in vivo/in vitro imaging
- Design of nanomaterials for injection, methods of tuning biodistribution and active/passive targeting
- Toxicology of nanomaterials

Arbetsformer:
The course will contain lectures on each of the intended learning outcomes. IT-demonstrations of databases such as Scifinder and Web of Science are included to introduce the students to other tools than PubMed to find high quality interdisciplinary publications. One written assignment, writing a brief research application with feedback from the course master followed by an oral presentation of the assignment with peer based feedback.

Examination: The examination assignment will be to conceptualize the construction of a nanomedical device for oncology research and while also critically reflecting on nanomedical literature from the students¿ research perspective. The examination is composed of:
1. Written research application focused on how to utilize nanomedical concepts in the students own research.
2. Oral presentation of the students research application for the course participants with both peer-based and course master feedback.

Obligatoriska moment:
Attendance at the lectures and oral presentations are compulsory. Absence from these can be compensated by extra assignment(s), however depending on the number of missed compulsory teaching activities, the possibility of compensating these will be decided in agreement with the course master.

Antal studenter: 4 - 20

Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information: The dates are set preliminary and will be coordinated with the STRATCAN summer research school. We also have travel grants for incoming students from Mayo Clinic via a STINT collaborative grant 2014-2017. Please see previous evaluation of the course at: http://www.medicalnanoscience.se/courses38/course-archive

Kursansvarig:
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Kontaktpersoner:
Kursnamn: Positron emission tomography imaging of the CNS

Kursnummer: 2362
Antal högskolepoäng: 1,5
Datum: 2015-03-16 -- 2015-03-20
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Clinical Neuroscience
Särskild behörighet: 

Kursens lärandemål: On completion of the course the students will be able to explain the basic outcome measures obtained from PET studies, to describe the methodology used for neuroreceptor quantification and to generate ideas on how PET can be applied to a clinical research question.

Kursens innehåll: This course will cover the basic principles of positron emission tomography, development of radioligands and CNS drugs, and quantification of neurotransmitter systems. At an applied level, the course will focus on selected imaging biomarkers to study the pathophysiology and treatment of major CNS disorders such as schizophrenia, depression, attention-deficit hyperactivity disorder and neurodegenerative disorders such as Alzheimer’s and Parkinson’s disease. Specific attention will be given to new approaches for diagnostic purposes.

Arbetsformer: The course will include lectures in the morning and seminars or discussions with the students in the afternoon. Two “hands-on” sessions on the analysis of PET data will be also organized. Visits of the PET-lab, the autoradiography lab and the small animal microPET facility will be organised.

Examination: Written exam and active participation in seminars, "hands-on session", and group discussions. The written exam consists of an essay describing the application of PET in a CNS-research area. The topic will be chosen by the student. Review of the literature is allowed.

Obligatoriska moment: The participation in the lectures, seminars and the group discussions and the exam is compulsory. Special reasons of absence can be discussed with the course organizers. The compensation for the absence from any part will be done in the form of a written assignment.

Antal studenter: 10 - 30
Urval av studenter: Priority will be given to Phd students involved in Neuroscience projects, but the course will be also available for post-doc researchers and master students.

Övrig information: The Course will take place at the KI Campus Solna and/or Norra Stationsgatan

Kursansvarig:
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Kontaktpersoner:
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Katarina Varnäs
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After the course the participants should be able to discuss options in academic and nonacademic careers. The participants should be able to identify transferable skills achieved during doctoral training and be able to explain the value of these skills within as well as outside academia. They will also be able to describe the financing procedure of research projects, discuss project management. They should also be able to apply what they have learned in the course to market their skills in different situations.

The course includes an introductory reflection of what career options that are available for PhDs and researchers. This will be followed by sessions where academic and non-academic careers paths and entrepreneurial options are presented and discussed. The course covers financing of research activities, project management and networking exercises. In addition, the course includes the process and steps in a job application procedure and how to use communication skills in various contexts.

The course will be highly interactive and will consist of lectures, discussions, individual projects and student presentations.

The participants will be examined through oral group presentations and an individual written project.

It is compulsory to attend all the lectures and workshops (except where clearly stated otherwise). Absence from compulsory parts will be compensated for according to instructions of the course director with an additional individual project.

The selection is based on personal motivation why to take this course. Preference will be given to doctoral students that 1) have completed half time control and 2) wish to attend the Internship program for doctoral students (Read more under other information) and have signed consent from the supervisor for taking the external internship.

The course is part time (daytime), preliminary 1 day/week. More course information can be found at internwebben.ki.se/en/career-service and directly from the course leaders. This course is also given as a part of an Internship program for doctoral students and potential employers in order for them to learn from each other: for KI doctoral students to understand the skills they have and how to communicate this to employers, and to have confidence in their employability and the breadth of opportunities available to them, while employers are keen to better understand the needs of researchers, and the value and expertise they can bring.
Title: Cancer risk assessment

Kursnummer: 2467
Antal högskolepoäng: 1.5
Språk: Engelska
Nivå: Doctoral level

Kursansvarig institution: The institute of Environmental Medicine

Särskild behörighet: After the course, the student will have acquired knowledge and understanding about mechanisms involved in chemical carcinogenesis. The student will be familiar with the methods used to generate data for chemical cancer risk assessment. The student will be able to locate and gather relevant data used for chemical hazard identification. After the course the student will be able to evaluate and discuss scientific data used in chemical hazard identification and cancer risk assessment.

Kursens lärandemål: Molecular mechanisms for chemical carcinogenesis will be presented. Experimental test models and epidemiological methods to identify carcinogens and to assess the potency of carcinogens will be discussed. Methods and policies used in carcinogen risk assessment will be discussed in connection with group work. The students will perform practical risk assessment in groups.

Kursens innehåll: The course consists of lectures, group seminars and group work presentations.

Examination: The students will present in an oral and written form a group work and demonstrate their skills in discussing their own work and the work presented by their fellow students. If necessary the presentation is complemented by oral questioning.

Obligatoriska moment: Participation in the group work is mandatory. Absence can be compensated with an individual task.

Antal studenter: 10 - 30

Urval av studenter: The selection will be based on 1) the relevance of the course for the doctoral research project and 2) the personal motivation written by the applicant.

Övrig information: The course will be held at the Institute of Environmental Medicine, IMM, Nobels väg 13, Campus Solna.

Kursansvarig:
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Kontaktpersoner:
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Interview techniques in health and care research

Kursnummer : 2520
Antal högskolepoäng : 4.0
Datum : 2015-03-13 -- 2015-04-16
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Clinical Neuroscience
Särskild behörighet :

Kursens lärandemål : After the course the student is expected to be able to identify and understand the content of a research interview. Demonstrating and mastering necessary interview tools in order to, independently, being able to analyze and adapt this knowledge and practical skills in order to compose; i.e. to plan, design and to conduct a research interview. Communicating and giving feedback to other students relating knowledge with practical demonstrations. Furthermore to have gained an increased understanding and a professional attitude of the researcher as an instrument for data collection which can be applied and enhance the quality of data in future research interviews.

Kursens innehåll : * different perspectives and knowledge for conducting interviews * the role of empathy in communication * the researcher’s role as an instrument in data collection * intersubjectivity, biases and ethical considerations of interviewing * how to plan an interview guide * how to formulate questions * how to conduct an interview with respect for culture and vulnerable groups

Arbetsformer : The course will be offered part-time, either mornings (08.30-11.30 a.m.), afternoons (1-4 p.m.), or full days (9 a.m. to 4 p.m.) on average 6-12 hours per week including; lectures, video demonstrations covering various interviews and interview techniques, interview technique training seminars in small groups, supervision seminars (interview guide), literature seminars and self-monitored studies and practise. Since interview training is a process which requires testing in vivo, reflections between training, improvements, the course covers a 4-week period.

Examination : Examination will consist of (a) an interview guide; (b) a presentation of an individually recorded documentation of an interview with a research subject in the own research field (hence the access to research subjects is a necessary prerequisite) presented in the course group. The interview-presentation will furthermore encompass the course literature as well as optional research articles in the own research field within a theoretical frame of reference regarding discussing of the application of interviews in research, interview techniques, potential biases challenging the quality of the interview responses.; (c) An opposition of a fellow-interviewer’s recorded interview. The reason behind choosing this kind of examination is that it has been proven to give earlier interview student-groups valuable learning experiences which immediately can be applied in their research area.

Obligatoriska moment : The education will be compulsory scheduled throughout the course. If the student is unable to be present he/she has to consult the course leader/examinator for adequate opportunities to recover missed hours (usually in the form of written assignments, besides the video-taped interview).

Antal studenter : 8 - 12

Urval av studenter : Doctoral students registered at NFV HK14 have priority to this course. Further selection will be made from motivation to attend the course. Address: Alfred Nobels Allé 23, campus Huddinge.


Kursansvarig :
Gunnel Backenroth
Institutionen för klinisk neurovetenskap
08-12339101
Gunnel.Backenroth@ki.se

Kontaktpersoner :
Anna Sillen
Institutionen för neurobiologi, vårdvetenskap och samhälle
08-524 868 03
Anna.Sillen@ki.se
Title: Multifactorial immune mediated diseases - etiology and pathogenesis

Kursnummer: 2532
Antal högskolepoäng: 1.5
Datum: 2015-03-02 -- 2015-03-06
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Medical Biochemistry and Biophysics
Särskild behörighet: No

Kursens lärandemål: After completion of the course the students should be able to explain the term multifactorial immune mediated diseases (e.g. allergic, autoimmune, and inflammatory) and discuss basic clinical characteristics and disease mechanisms. They should be able to discuss the role of environment and genes in the etiology of such diseases, and in particular that the diseases are genetically complex. The students should also be able to describe some genetic strategies aimed at identifying risk genes. They should be able to explain how identification of risk genes can give insight into disease pathways, and discuss how such knowledge may enable disease prevention and therapy.

Kursens innehåll: The course includes an overview on chronic immune mediated multifactorial diseases and the challenge they represent to medicine. It covers topics such as epidemiology, clinical characteristics, suggested or known disease mechanisms and genetics including experimental animal models available to study such multifactorial and polygenetic diseases and bioinformatics tools available to analyze results. Key concepts and techniques within each topic will be introduced.

Arbetsformer: Each day, the course combines a set of morning overview lectures on clinical diseases followed by a lecture on pre-clinical experimental models and in the afternoon a seminar with a task to solve, at either group or individual level. The tasks generally consists of "scientific projects" that are pursued by combining knowledge acquired during morning lectures with information that is either given and/or collected in databases.

Examination: Examination is based on interactive engagement during daily discussions in the afternoon sessions for the first 4 days. During last day, participating students will be divided into groups. Each student should prepare, present and discuss questions (minimum: 3-5) based on earlier presentations and published papers given during the course to their group members (peer-learning), which will be facilitated by three senior scientists.

Obligatoriska moment: All lectures, seminars and group- or individual- tasks are compulsory. Compensation for absence can be discussed with the course director.

Antal studenter: 10 - 16

Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information: This course will be conducted from Monday to Friday in the seminar room of department of Medical Biochemistry and Biophysics (MBB) Address: Scheelesvag 2, B2, plan 4, Karolinska Institute (Solna Campus), 17177, Stockholm, Sweden.

Kurantesvarig:
Nandakumar Kutty Selva
Institutionen för medicinsk biokemi och biofysik
08-52487715
Nandakumar.Kutty-Selva@ki.se

Scheelesvag 2, B2, plan 4
17177
Stockholm

Kontaktpersoner:
Magdalena Janzi
Ej satt
Magdalena.Janzi@ki.se
Title: High throughput functional genomic technologies in biomedical research

Kursnummer: 2537
Antal högskolepoäng: 1.5
Datum: 2015-05-04 -- 2015-05-08
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Biosciences and Nutrition
Särskild behörighet: 
Kursens lärandemål: After the course the students should be familiar with high throughput genomic technologies, including high throughput sequencing and various microarray platforms for gene expression profiling, genome wide DNA-binding and human genetics applications and know how these could be applied in biomedical research including in their own projects.
Kursens innehåll: Technological platforms such as high throughput sequencing and microarray based platforms such as those provided by Affymetrix, Illumina and Agilent. Applications of these platforms for gene expression profiling, global DNA-binding and human genetic studies. Analysis of data from the above platforms and applications.
Arbetsformer: Lectures, seminars, demonstrations and data analysis.
Examination: The students, will in groups of three students, select a paper of a relevant topic for the course. The course leaders will help them with this if necessary. The paper should be presented for the whole group of students, 15 min per group, with specific focus on the technologies used. Were they appropriate for the study? Could they have used alternative technologies? Advantages and disadvantages. This seminar will take 2-3 hours.
Obligatoriska moment: The students have to take active part in all activities. An alternative time for demonstrations and data analysis will be provided, if possible, if they are absolutely unable to attend. If it is not possible to provide an alternative time, this part will need to be taken at the next course occasion. Other absence can be compensated for by an additional task in agreement with the course organizers.
Antal studenter: 10 - 20
Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)
Övrig information: The course is given at south campus, in Huddinge.

Kursansvarig:
Karin Dahlman-Wright
Institutionen för biovetenskaper och näringslära
08-524 810 89
Karin.Dahlman-Wright@ki.se

Kontaktpersoner:
Monica Ahlberg
Institutionen för biovetenskaper och näringslära
Monica.Ahlberg@ki.se

Minna Taipale
Institutionen för biovetenskaper och näringslära
Minna.Taipale@ki.se

Patrick Muller
Institutionen för biovetenskaper och näringslära
Patrick.Muller@ki.se
Title: Writing Science and Information Literacy

Kursnummer: 2561
Antal högskolepoäng: 3.0
Datum: 2015-01-26 -- 2015-03-20
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Karolinska Institutet University Library
Särskild behörighet:

Kursens lärandemål:
- Demonstrate understanding of how to write an original scientific article and submit it for publication
- Demonstrate ability to write other types of texts required for a scientific career
- Demonstrate ability to give, take, and make use of constructive criticism
- Demonstrate the ability to search and manage the medical sciences literature in a structured way
- Demonstrate the ability to use resources which facilitate choosing a journal to publish your research
- Describe aspects of post-publication evaluation and processing of the medical sciences literature

Kursens innehåll:
- Basic of scientific writing
- Writing an original scientific paper
- Supporting the text
- Writing in other contexts
- The publication process
- Searching the literature
- Managing the literature
- Choosing a journal
- Evaluating published science
- KI-post-publication processing

Arbetsformer:
- This web-based course will be held using the learning management system PingPong. Content will be learnt with various learning objects and learning practised by exercises. Formative feedback will be given by teachers/peer/self-assessment. Writing and IT skills will be developed.

Examination:
- The intended learning outcomes are assessed in the summative examination. Participants will write and rewrite a grant application and popular science summary based on teacher and peer feedback. Participants will also complete a number of assignments which demonstrate their ability to use a number of relevant IT resources in a context of scientific communication.

Obligatoriska moment:
- There will be a number of obligatory tests and assignments to be completed.

Antal studenter: 18 - 22

Urval av studenter:
- Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information:
- WSIL Online is an entirely web-based distance course with teacher support. There are no physical meetings during the course. The course is read 25% of full-time.

Kursansvarig:
- David Herron
  Karolinska Institutet Universitetsbibliotek
  08-524 841 13
  David.Herron@ki.se

Berzelius 7B
17177
Stockholm

Kontaktpersoner:
Title: Basic principles in molecular imaging for medical diagnostics through magnetic resonance physics

Kursnummer: 2568
Antal högskolepoäng: 3.0
Datum: 2015-03-16 - 2015-03-26
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Oncology-Pathology

Särskild behörighet:
Kursens lärandemål:
--To understand the basic principles of magnetic resonance (MR) and how these are implemented in magnetic resonance imaging and spectroscopy.
--To distinguish between anatomic and molecular imaging through MR.
--To be able to interpret an MR spectrum, in general terms.
--To be able to explain why mathematics are essential for processing of MR signals.
--To be able to conceptualize and generate new ways of thinking about the possibilities offered by more advanced mathematical approaches for processing MR signals, and how these could potentially impact upon medical diagnostics.

Kursens innehåll:
The basic principles of magnetic resonance physics, as these apply to Magnetic Resonance Imaging (MRI) and Magnetic Resonance Spectroscopy (MRS) are presented. We review how biological signals are processed with data analytical techniques in current practice, the limitations of these techniques as they impact upon clinical diagnostics and the potential impact of new analytical methods for improving detection of malignant and other pathological processes. 1. Introductory lecture: Molecular imaging through MR physics/an overview 2. Basic principles of magnetic resonance imaging and magnetic resonance spectroscopy (MRS). 3. Fundamentals of signal processing for medical applications 4. Magnetic resonance spectroscopic imaging (MRSI), safety considerations in MR. 5. Review and future perspectives: Advances in signal processing for MR physics

Arbetsformer: The basis of the Course is lectures in which the students should strive to actively participate with questions and comments. Handouts of each lecture with ample space for note taking will be provided. Each lecture will be accompanied by homework which the students should prepare and to which they will receive detailed feedback. Group work is encouraged, as long as each student ensures that he/she has thoroughly and completely grasped all the material. There will be one open afternoon per week during which students can meet with the teachers to ask questions and explore areas of interest. Before the examination there will be a practice oral examination for each student to test his/her knowledge and receive feedback from the teachers. It is our experience that students who attend all the lectures, complete the reading and homework, actively participate and attend the practice oral examination will be able to handle the examination in a satisfactory manner.

Examination: The examination is written, closed-book. It is our experience that students who attend all the lectures, complete the reading and homework, actively participate and attend the practice oral examination will be able to handle the examination in a satisfactory manner.

Obligatoriska moment: It is vital that the students attend all the lectures and complete the homework. If the student has a valid reason for an absence, he/she will need to complete the reading for the lecture, turn in the homework and then come to the open afternoon for review and feedback.

Antal studenter: 8 - 20
Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to the written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date).

Övrig information: The Course is planned to take place from 13:00 to 17:00 starting Monday, March 16 through Thursday March 19 and Monday March 23 through Thursday March 26, 2015. The lectures: 1. Introductory lecture: Molecular imaging through MR physics/an overview 2. Basic principles of magnetic resonance imaging and magnetic resonance spectroscopy (MRS). 3. Fundamentals of signal processing for medical applications 4. Magnetic resonance spectroscopic imaging (MRSI), safety considerations in MR. 5. Review and future perspectives: Advances in signal processing for MR physics are planned to be held Monday March 16 through Monday March 23. Karen Belkic will be the main lecturer. Dzevad Belkic will also be present at these sessions as well, such that both teachers: Dzevad Belkic and Karen Belkic be available each day for questions. On Tuesday, March 24 there will be a special, intensive open-ended question and answer/discussion session which will be lead by Dzevad Belkic, and Karen Belkic will be present. The oral examination is scheduled on Wednesday, March 25. Each student can choose whether or not he/she would like to have this individually. The logistics and timing on March 25 will be worked out, keeping in mind that the day of the final written examination is Thursday, March 26. The main conference room at CCK has been reserved during these dates, each of the above days.

Kursansvarig:
Karen Belkic
Institutionen för onkologi-patologi
Karen.Belkic@ki.se

Karolinska Institutet Helicopter Bldg P9
PO Box 260
17177
Stockholm

Kontaktpersoner:
Karen Belkic
Introduction to R statistical analysis for biologists

After the completion of the course, the participants will be able to make use of R for exploring and analyzing data sets. More specifically, the participants will be able to manage data sets, perform descriptive data analysis, generate plots for graphical display of data, and to perform tests such as Regression and ANOVA. A very specific goal is to provide the participants with a long-term tool and the guidelines for improving their knowledge on it.


The course consists of lectures, computer exercises and project work.

The acquired knowledge and skills will be examined in two ways: by successfully completing computer exercises and by an individual project (analysis of a selected data set; which can be provided by the student).

Attendance is compulsory in lectures and computer exercises. Absence from obligatory moments is compensated according to the instructions of the course director.

Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date).

The course takes place at CMB at KI Solna campus, in the seminar room A216. Entrance Berzeliusv 35. The participants are required to bring their own laptop computers with the R software package installed according to the information from the course director.
Title: Epigenetics and its applications in clinical research

Kursnummer: 2601
Antal högskolepoäng: 1.5
Datum: 2015-03-16 -- 2015-03-20
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Clinical Neuroscience
Särskild behörighet:

Kursens lärandemål: After this course the students will be able to: (i) describe the basic epigenetic mechanisms (DNA methylation, histone modification and non-coding RNAs) and explain how they regulate gene expression, (ii) evaluate selected methodology used in epigenetic research, compare methods and discuss their advantages and limitations, (iii) evaluate and interpret new findings and recent scientific papers in the field, (iv) speculate on epigenetic mechanisms underlying health and disease, and (v) hypothesize on applications of epigenetic research in prediction, prevention and therapy of common diseases.

Kursens innehåll: First part of the course includes overview of basic epigenetic mechanisms (DNA methylation, histone modification, non-coding RNAs and chromatin organization). The course also covers methodology used to study epigenetics (such as methods used to detect and quantify DNA methylation, chromatin immunoprecipitation, next generation sequencing and bioinformatics tools, chromosome confirmation capture etc). Second part of the course focuses on key epigenetic mechanisms in cell development, differentiation and disease (cancer, inflammation, metabolic disorders etc). Current applications of epigenetic research in common diseases, and future perspectives will also be discussed.

Arbetsformer: The course combines traditional lectures, given by Swedish scientists and international experts in the field, with individual assignments performed by the students. Extra time for students' discussions with international speakers will be allocated. The individual assignments will consist of designing a research study that concerns epigenetic mechanisms in disease or application of epigenetics in clinical research. The students will also participate in evaluating assignments performed by their peers.

Examination: Examination will be based on a successful completion of the individual assignment and the assessment of assignments performed by peers, which will be done in pairs. The individual assignments will consist of designing a research study that will represent a follow-up of the findings from a high-impact scientific publication concerning epigenetic mechanisms in common diseases. The assignment entails forming a follow-up hypothesis, gathering and connecting relevant information, designing informative experiments, planning the project and presenting it in a written form. The students will also evaluate, give feedback and grade the assignment of one of their peers.

Obligatoriska moment: All lectures, individual assignments and evaluations are compulsory. Compensation for absence (in a form of an essay) can be discussed with the course directors.

Antal studenter: 15 - 30
Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date).

Övrig information: DATE AND TIME: 16th-20th of March 2015 (Monday-Friday), 9:00-17:00. LOCATION: Center for Molecular Medicine (CMM), Karolinska University Hospital, Solna (Lecture hall at level 0). LAST OCCASION’S (2012) speakers included Dr E. Ballestar, Spain (epigenetic regulation of immune system); Prof K. Ekwall, KI (histone modifications); Prof E. Hellström-Lindberg, KI (cancer treatment with epigenetic drugs); Dr B. Heijmans, Holland (environmentally induced epigenetic changes); Dr A. Göndor, KI (higher order chromatin organization); Prof T. Ekström, KI (epigenetics in health and disease); Dr O. Hermanson, KI (neuronal development and cancer); Dr C. Ling, Lund (epigenetics and diabetes); Dr G. Lind, Norway (diagnostic epigenetic methods); Dr A. Pivarsci, KI (micro RNAs); Dr C. Kanduri, Gothenburg (non-coding RNA); Dr S. Malin, KI (ChIP-seq); Dr D. Gomez-Cabrero, KI (bioinformatics analysis) etc.

Kursansvarig:
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+46851776258
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Neuroimmunology Unit, CMM, L8:04

17176
Stockholm

Kontaktpersoner:
Andreas Lennartsson
Institutionen för biovetenskaper och näringslära
08-524 811 54
andreas.lennartsson@ki.se
Title : Basic Course in Medical Statistics - a distance course

Kursnummer : 2609
Antal högskolepoäng : 3.0
Datum : 2015-06-01 -- 2015-06-12
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Learning, Informatics, Management and Ethics
Särskild behörighet :

Kursens lärandemål : The course participants shall after the course be able to perform basic summaries, analyses and presentation of data, as well as have enhanced their ability to recognise, understand and critically view the statistics being presented in medical articles.

Kursens innehåll : The course is an introduction to basic statistical principles and how statistics play a part in medical research. Concepts being treated are hypothesis, type I error, type II error, estimates, measurement of dispersion, regression analysis, inference making and how to present the results.

Arbetsformer : The course will be a distance course by using the platform edX. The course contains videolectures, exercises with suggested solutions and 2 statistical software demonstration videos - Statistica and SPSS. The first and last day of the course will be face-to-face with an introduction the first day and seminars and group discussions the last day. In addition to the different videomoments the time will be spent working on computer based exercises and reading the course literature.

Examination : Course requirements: - Correct answers on the computer based exercises. - The doctoral student will during the seminars have to demonstrate their ability to recognise, understand and criticize the statistics presented in the medical articles by active participation in the discussions.

Obligatoriska moment : Attendance is mandatory for the seminars on the last day of the course. If the student is absent, he or she can compensate the absence by handing in written answers to questions concerning the compulsory moments.

Antal studenter : 40 - 50
Urval av studenter : Date for registration as a doctoral student (priority given to earlier registration date). Please make sure that you have entered the correct registration date for doctoral education in your personal profile.

Övrig information :

Kursansvarig :
Mesfin Tessma
Institutionen för lärande, informatik, management och etik
Mesfin.Tessma@ki.se

Kontaktpersoner :
Margareta Krook-Brandt
Institutionen för lärande, informatik, management och etik
52487118
Margareta.Krook-Brandt@ki.se
Title: Basic Course in Medical Statistics - a distance course

Kursnummer: 2609
Antal högskolepoäng: 3.0
Datum: 2015-03-16 -- 2015-03-27
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Learning, Informatics, Management and Ethics
Särskild behörighet:

Kursens lärandemål: The course participants shall after the course be able to perform basic summaries, analyses and presentation of data, as well as have enhanced their ability to recognise, understand and critically view the statistics being presented in medical articles.

Kursens innehåll: The course is an introduction to basic statistical principles and how statistics play a part in medical research. Concepts being treated are hypothesis, type I error, type II error, estimates, measurement of dispersion, regression analysis, inference making and how to present the results.

Arbetsformer: The course will be a distance course by using the platform edX. The course contains videolectures, exercises with suggested solutions and 2 statistical software demonstration videos - Statistica and SPSS. The first and last day of the course will be face-to-face with an introduction the first day and seminars and group discussions the last day. In addition to the different videomoments the time will be spent working on computer based exercises and reading the course literature.

Examination: Course requirements: - Correct answers on the computer based exercises. - The doctoral student will during the seminars have to demonstrate their ability to recognise, understand and criticize the statistics presented in the medical articles by active participation in the discussions.

Obligatoriska moment: Attendance is mandatory for the seminars on the last day of the course. If the student is absent, he or she can compensate the absence by handing in written answers to questions concerning the compulsory moments.

Antal studenter: 40 - 50
Urval av studenter: Date for registration as a doctoral student (priority given to earlier registration date). Please make sure that you have entered the correct registration date for doctoral education in your personal profile.

Övrig information:

Kursansvarig:
Mesfin Tessma
Institutionen för lärande, informatik, management och etik
Mesfin.Tessma@ki.se

Kontaktpersoner:
Margareta Krook-Brandt
Institutionen för lärande, informatik, management och etik
52487118
Margareta.Krook-Brandt@ki.se
Title: Write your research results and get them published

Kursnummer : 2618
Antal högskolepoäng : 3.0
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Women's and children's health
Särskild behörighet : None.
Kursens lärhemtal : The overall aim of the course is to give the phd student basic knowledge in presenting research results in different written presentation forms: scientific paper, abstract, case report, letter to editor, review paper, popular science paper, press release, poster, and electronic poster. After attending the course, the Ph.D. student should: * know the characteristics and disposition of different written presentation forms and when to use them: scientific paper, abstract, case report, letter to editor, review paper, popular science paper, press release, poster, and electronic poster * understand and be able to apply the terminology associated to scientific writing, eg impact factor, running title, capsule, abstract, key words, acknowledgements, references * be able to design a scientific poster and an electronic poster * be able to write an abstract * be able to compose a draft for a research paper * be able to produce a draft for a popular science paper * be able to dispose and edit a scientific paper according to the editorial requirements set by different journals * be able to compile and summarize information aligned to the target group for scientific as well as popular science papers * be able to identify the main scope and focus of your research and choose what is the most relevant and interesting for your target audience * have learnt the basics of EndNote software for references * be able to organize and apply basic rhetorics in written form * have basic knowledge of what sources of scientific texts should (and should not) be used in order to include reliable and relevant information as references for your written work * be able to reflect upon, document and present your development as a writer of scientific texts during the course
Kursens innehåll : The scope of this course is how to write about your research results in different contexts. The main content of the course: - characteristics and disposition of different written presentation forms: scientific paper, abstract, case report, letter to editor, review paper, popular science paper, press release, poster, and electronic poster - terminology associated to scientific writing, eg impact factor, running title, capsule, abstract, key words, acknowledgements, references - designing and writing a poster, an electronic poster, an abstract, a draft for a research paper, and a popular science paper - editorial requirements of different journals - summarizing information aiming at the target audience - identifying the main scope of your research - basics of EndNote software - basic rhetorics in written form - reference sources for your written work
Arbetsformer : Lectures, seminars, writing exercises, group assignments and practical exercises. As part of the learning process, the Ph.D students will be members of in-class review groups, giving feed-back to their colleagues.
Examination : 1) The Ph.D student writes a log book in order to follow up and reflect upon the development of his/her own skills 2) Written assignments reflecting the learning goals of the course: draft for scientific and popular science paper, poster, electronic poster, and abstract.
Obligatoriska moment : Lectures, seminars and group assignments as well as all written assignments. Absence can be compensated: a) during next years course b) individual assignments
Antal studenter : 18 - 20
Urval av studenter : Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to LATER registration date)
Övrig information : Welcome to apply for the Ph. D. writing course 2618 on Scientific and popular science writing! During the course, you will have the opportunity to write a draft for a scientific manuscript, an abstract, a popular science article, a press release, and to design a poster. The popular science writing is used as a basis for presenting you research for example during a poster conference. The popular science structure is also very useful in designing your poster as well as for finding the core of your message, which you need in all contexts; no matter if you want to apply for grants or just briefly explain your research project to a colleague. The course also covers: presentation techniques for presenting your poster at a conference, how to answer the reviewer’s questions, letter to the editor, review article, cover letter, and ethics in publication. New Ph.D. students are given priority to the course, as we believe that writing is an essential skill that should be acquired as soon as possible during your research career. However, students who have already published articles will benefit as much from the course as newly registered students, as you write about your own research projects, starting on your own level, and in your own pace. The course curriculum takes into consideration that all students have different background knowledge. In order to participate in the course, you need at least some preliminary data to work with during the course, as all written assignments are based on your own research. Our intention is that you should be able to use everything you write and design during the course. Please address all questions to Anna Hildenbrand Wachtmeister: anna.wachtmeister@ki.se Cellphone: 070-7890607 We are looking forward to meeting you in the course. Welcome to apply!

Kursansvarig:
Kristina Gemzell
Institutionen för kvinnors och barns hälsa
0851772128
Kristina.Gemzell@ki.se

Kontaktpersoner:
Anna Hildenbrand
Institutionen för kvinnors och barns hälsa
0707890607
Anna.Hildenbrand@ki.se

Lalit Kumar
Institutionen för kvinnors och barns hälsa
Lalit.Kumar@ki.se
Title: Write your research results and get them published

Kursnummer : 2618
Antal högskolepoäng : 3.0
Datum : 2015-06-01 -- 2015-06-12
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Women’s and children’s health
Särskild behörighet : None.

Kursens lärandomål : The overall aim of the course is to give the PhD student basic knowledge in presenting research results in different written presentation forms: scientific paper, abstract, case report, letter to editor, review paper, popular science paper, press release, poster, and electronic poster. After attending the course, the Ph.D. student should: * know the characteristics and disposition of different written presentation forms and when to use them: scientific paper, abstract, case report, letter to editor, review paper, popular science paper, press release, poster, and electronic poster * understand and be able to apply the terminology associated to scientific writing, eg impact factor, running title, capsule, abstract, key words, acknowledgements, references * be able to design a scientific poster and an electronic poster * be able to write an abstract * be able to compose a draft for a research paper * be able to produce a draft for a popular science paper * be able to dispose and edit a scientific paper according to the editorial requirements set by different journals * be able to compile and summarize information aligned to the target group for scientific as well as popular science papers * be able to identify the main scope and focus of your research and choose what is the most relevant and interesting for your target audience * have learnt the basics of EndNote software for references * be able to organize and apply basic rhetoric in written form * have basic knowledge of what sources of scientific texts should (and should not) be used in order to include reliable and relevant information as references for your written work * be able to reflect upon, document and present your development as a writer of scientific texts during the course

Kursens innehåll : The scope of this course is how to write about your research results in different contexts. The main content of the course: - characteristics and disposition of different written presentation forms: scientific paper, abstract, case report, letter to editor, review paper, popular science paper, press release, poster, and electronic poster - terminology associated to scientific writing, eg impact factor, running title, capsule, abstract, key words, acknowledgements, references - designing and writing a poster, an electronic poster, an abstract, a draft for a research paper, and a popular science paper - editorial requirements of different journals - summarizing information aiming at the target audience - identifying the main scope of your research - basics of EndNote software - basic rhetoric in written form - reference sources for your written work

Arbetsformer : Lectures, seminars, writing exercises, group assignments and practical exercises. As part of the learning process, the Ph.D students will be members of in-class review groups, giving feedback to their colleagues.

Examination : 1) The Ph.D student writes a log book in order to follow up and reflect upon the development of his/her own skills 2) Written assignments reflecting the learning goals of the course: draft for scientific and popular science paper, poster, electronic poster, and abstract.

Obligatoriska moment : Lectures, seminars and group assignments as well as all written assignments. Absence can be compensated: a) during next years course b) individual assignments

Antal studenter : 18 - 20
Urval av studenter : Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to LATER registration date)

Övrig information : Welcome to apply for the Ph. D. writing course 2618 on Scientific and popular science writing! During the course, you will have the opportunity to write a draft for a scientific manuscript, an abstract, a popular science article, a press release, and to design a poster. The popular science writing is used as a basis for presenting you research for example during a poster conference. The popular science structure is also very useful in designing your poster as well as for finding the core of your message, which you need in all contexts; no matter if you want to apply for grants or just briefly explain your research project to a colleague. The course also covers: presentation techniques for presenting your poster at a conference, how to answer the reviewer’s questions, letter to the editor, review article, cover letter, and ethics in publication. New Ph.D. students are given priority to the course, as we believe that writing is an essential skill that should be acquired as soon as possible during your research career. However, students who have already published articles will benefit as much from the course as newly registered students, as you write about your own research projects, starting on your own level, and in your own pace. The course curriculum takes into consideration that all students have different background knowledge. In order to participate in the course, you need at least some preliminary data to work with during the course, as all written assignments are based on your own research. Our intention is that you should be able to use everything you write and design during the course. Please address all questions to Anna Hildenbrand Wachtmeister: anna.wachtmeister@ki.se Cellphone: 070-7890607 We are looking forward to meeting you in the course. Welcome to apply!

Kursansvarig:
Kristina Gemzell
Institutionen för kvinnors och barns hälsa
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Kristina.Gemzell@ki.se

Kontaktpersoner:
Anna Hildenbrand
Institutionen för kvinnors och barns hälsa
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Anna.Hildenbrand@ki.se

Lalit Kumar
Institutionen för kvinnors och barns hälsa
Lalit.Kumar@ki.se
Title: Write your research results and get them published

Kursnummer : 2618
Antal högskolepoäng : 3.0
Datum : 2015-02-09 -- 2015-02-20
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Women's and children's health
Särskild behörighet : None.

Kursens innehåll : The overall aim of the course is to give the Ph.D student basic knowledge in presenting research results in different written presentation forms: scientific paper, abstract, case report, letter to editor, review paper, popular science paper, press release, poster, and electronic poster. After attending the course, the Ph.D. student should: * know the characteristics and disposition of different written presentation forms and when to use them: scientific paper, abstract, case report, letter to editor, review paper, popular science paper, press release, poster, and electronic poster * understand and be able to apply the terminology associated to scientific writing, eg impact factor, running title, capsule, abstract, key words, acknowledgements, references * be able to design a scientific poster and an electronic poster * be able to write an abstract * be able to compose a draft for a research paper * be able to produce a draft for a popular science paper * be able to dispose and edit a scientific paper according to the editorial requirements set by different journals * be able to compile and summarize information aligned to the target group for scientific as well as popular science papers * be able to identify the main scope and focus of your research and choose what is the most relevant and interesting for your target audience * have learnt the basics of EndNote software for references * be able to organize and apply basic rhetorics in written form * have basic knowledge of what sources of scientific texts should (and should not) be used in order to include reliable and relevant information as references for your written work * be able to reflect upon, document and present your development as a writer of scientific texts during the course

Examination : 1) The Ph.D student writes a log book in order to follow up and reflect upon the development of his/her own skills 2) Written assignments reflecting the learning goals of the course: draft for scientific and popular science paper, poster, electronic poster, and abstract.

Arbetsformer : Lectures, seminars, writing exercises, group assignments and practical exercises. As part of the learning process, the Ph.D students will be members of in-class review groups, giving feed-back to their colleagues.

Urval av studenter : Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to LATER registration date)

Övrig information : Welcome to apply for the Ph.D. writing course 2618 on Scientific and popular science writing! During the course, you will have the opportunity to write a draft for a scientific manuscript, an abstract, a popular science article, a press release, and to design a poster. The popular science writing is used as a basis for presenting you research for example during a poster conference. The popular science structure is also very useful in designing your poster as well as for finding the core of your message, which you need in all contexts; no matter if you want to apply for grants or just briefly explain your research project to a colleague. The course also covers: presentation techniques for presenting your poster at a conference, how to answer the reviewer’s questions, letter to the editor, review article, cover letter, and ethics in publication. New Ph.D. students are given priority to the course, as we believe that writing is an essential skill that should be acquired as soon as possible during your research career. However, students who have already published articles will benefit as much from the course as newly registered students, as you wrote about your own research projects, starting on your own level, and in your own pace. The course curriculum takes into consideration that all students have different background knowledge. In order to participate in the course, you need at least some preliminary data to work with during the course, as all written assignments are based on your own research. Our intention is that you should be able to use everything you write and design during the course. Please address all questions to Anna Hildenbrand Wachtmeister: anna.wachtmeister@ki.se Cellphone: 070-7890607 We are looking forward to meeting you in the course. Welcome to apply!

Kursansvarig : Kristina Gemzell Institutionen för kvinnors och barns hälsa 0851772128 Kristina.Gemzell@ki.se

Kontaktpersoner :
Anna Hildenbrand Institutionen för kvinnors och barns hälsa 0707890607
Title: Klinisk forskning och Good Clinical Practice: protokoll, informerat samtycke och ansökan i enlighet med lagar/regler

Kursnummer: 2621
Antal högskolepoäng: 1.5
Datum: 2015-01-26 -- 2015-01-30
Språk: Svenska
Nivå: Forskarnivå
Kursansvarig institution: Department of Clinical Sciences, Danderyd Hospital
Särskild behörighet: --


Arbetsformer: Föreläsningar samt examinationsuppgift (studiesynopsis, etikansökan och patientinformation).

Examination: Doktorandens examinationsuppgift kommer att bedömas och diskuteras i seminarieform.

Obligatoriska moment: Närvaro vid undervisning/seminarier samt inlämning av examinationsuppgift (studiesynopsis, etikansökan och patientinformation). Vid frånvaro från schemalagda aktiviteter måste deltagaren genom kompletterade extra inlämningsuppgift kunna styrka motsvarande inhämtning av kunskap.

Antal studenter: 10 - 30
Urval av studenter: Urvalet baseras på 1) kursplanens relevans för den sökandes doktorandprojekt (enligt motivering), 2) datum för doktorandregistrering (där tidigare registreringsdatum har förts)


Kursansvarig:
Thomas Kahan
Institutionen för kliniska vetenskaper, Danderyds sjukhus
08 123 568 61
Thomas.Kahan@ki.se

Kontaktpersoner:
Nina Ringart
Institutionen för kliniska vetenskaper, Danderyds sjukhus
08-123 564 12
nina.ringart@ki.se
Title: Sickness absence research: theories, methods, and concepts

Kursnummer: 2641
Antal högskolepoäng: 4.5
Datum: 2015-02-09 -- 2015-04-22
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Clinical Neuroscience
Särskild behörighet:

Kursens lärandemål: After successfully completing this course the doctoral student will be able to:
- have knowledge about the area of sickness absence, in terms of what research that is conducted in various scientific disciplines (e.g. economics, sociology, medicine, management, psychology, law, philosophy, public health) and to be able to relate own research project to this, according to a classification presented at the course.
- have basic knowledge about different scientific methods used in research on sickness absence, with respect to study design, data collection, and data analysis.
- have knowledge about risk factors for sickness absence, consequences of being sickness absent, and factors that hinder or promote return to work.
- have basic knowledge on international as well as historical aspects of sickness insurance systems.
- to be able to search for relevant studies in literature databases.
- participate in scientific discussions, verbally and in writing, regarding sickness absence and issues in the research area, with regard to perspectives, theories, explanatory models, and concepts.

Kursens innehåll: This multidisciplinary course covers knowledge of sickness absence/disability pension with a focus on theories, methods, and concepts used in such research. Among other things, the theories and methods used in research in medicine, sociology, economics, psychology, law, and management will be presented. Furthermore, the different perspectives within the research area will be considered such as a gender perspective and a social class perspective.

Arbetsformer: The course begins with three full, mandatory days of lectures by national and international researchers in the field and group work. Thereafter, nine weeks with individual work (studying literature, write a paper (with focus on own project), logbook, etceteras) and group meetings with discussions of central scientific articles within the research area, will follow. In the end, the whole course meets for four additional mandatory days of lectures, group work, and seminars about the papers the students have written. Group discussion takes place either at "real" meetings, Skype, or discussion forums via the web based forum, Ping Pong. It is necessary that the participants have access to a computer and internet connection.

Examination: Examination will take place at the seminars on all the papers during the last days of the course. Each participant is to actively demonstrate that he/she has acquired the above knowledge, skills and attitudes in all the roles as respondent, opponent, and seminar participant. Students who do not obtain a passing grade in the first examination will be offered a second examination within two months of the final day of the course.

Obligatoriska moment: To pass the course, active participation in all course days in Stockholm is required, taking active part in the group work and discussions in between the course days, write a summary of the individual logbook, and submitted a paper in due time. Any absence is to be compensated by arrangement with the course leader and may vary depending on which course sections that have been missed.

Antal studenter: 10 - 18
Urval av studenter: PhD students who in their thesis work with different aspects of sickness absence, disability pension, work disability. Must be able to speak, write, and read English.

Övrig information: Three full days in Stockholm 9-11 February 2015, including evenings on 9 and 10 February. Three full days in Stockholm 20-22 April 2015, including evenings on 20-22 April. Between those dates, individual work and a short paper.

Kursansvarig:
Kristina Alexanderson
Institutionen för klinisk neurovetenskap
08 524 832 00
Kristina.Alexanderson@ki.se

Division of Insurance Medicine
Karolinska Institutet
171 77
Stockholm

Kontaktpersoner:
Emilie Friberg
Institutionen för klinisk neurovetenskap
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Emilie.Friberg@ki.se

Annika Evolahti
Ej satt
Annika.Evolahti@ki.se
Title : Human physiology - an overview

Kursnummer : 2644
Antal högskolepoäng : 3.0
Datum : 2015-02-09 -- 2015-02-20
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Physiology and Pharmacology
Särskild behörighet :

Kursens lärandemål : The student will after completed course have an overview and understanding of how the organ systems of the human body function and interact under normal conditions. The course content will also be possible to use for further studies in a PhD education where knowledge about human biology is of value. More specifically, the student will be able to: - Demonstrate knowledge about basic functions of and interaction between organ systems. - Assemble and share information in selected areas. - Demonstrate a critical and scientific attitude to literature sources for the different course tasks.

Kursens innehåll : - Overview of cellular and integrative physiology - Basic anatomy and biochemistry - Physiology of the nervous system - Endocrinology - Digestion physiology - Cardiovascular physiology - Renal physiology, fluid balance, acid-base balance - Respiration

Arbetsformer : Different learning forms such as problem based learning, lectures, a hands-on human lab session and a workshop. Full time during two consecutive weeks.

Examination : To pass the course, the student has to show that the learning outcomes have been achieved. Assessments methods used are an oral quiz along with a written exam.

Obligatoriska moment : The examination tasks and the hands-on human lab are compulsory. Students that are absent from the oral quiz or the hands-on lab will have to compensate it in agreement with the course organizer. Students that are absent from the exam or do not obtain a passing grade in the first examination will be offered a second examination.

Antal studenter : 10 - 30

Urval av studenter : Selection of course participants is based on 1) date of registration to doctoral education 2) the relevance of the syllabus to the doctoral projects of the applicants.

Övrig information : The course will take place at the department of Physiology & Pharmacology. The course is scheduled full time for 2 weeks with time in between to read. The work shop is an opportunity for discussion of the different subjects and to ask questions before the exam. Among the lecturers are Jessica Norrbom, Eva-karin Gidlund and Carl Johan Sundberg.

Kursansvarig :
Jessica Norrbom
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Jessica.Norrbom@ki.se

Kontaktpersoner:
Charlotte Schönbeck
Institutionen för Fysiologi och Farmakologi
charlotte.schonbeck@ki.se
Title : Introduktionskurs i R - datahantering, -analys och grafisk presentation

Kursnummer : 2657
Antal högskolepoäng : 1.5
Datum : 2015-04-16 -- 2015-05-08
Språk : Svenska
Nivå : Forskarnivå

Kursansvarig institution : Department of Laboratory Medicine

Särskild behörighet : Grundläggande statistikkunskaper ( motsvarande ”Grundläggande kurs i medicinsk statistik”)

Kursens lärandemål : Efter kursen ska doktoranden kunna använda R för datahantering, statistisk analys och grafisk presentation av data. Man ska också kunna installera nya funktioner i R.


Arbetsformer : Föreläsningar och praktiska övningar.

Examination : Varje kursdag avslutas med praktiska övningsuppgifter som löses enskilt. Korrekta lösningar krävs för godkänd kurs.

Obligatoriska moment : Föreläsningar och inlämningsuppgifter är obligatoriska.

Antal studenter : 10 - 20

Urval av studenter : Urvalet baseras på 1) kursplanens relevans för den sökandes doktorandprojekt (enligt motivering), 2) datum för doktorandregistrering (där tidigare registreringsdatum har förtur)


Kursansvarig :
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14186
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Kontaktpersoner :
Marine Andersson
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Title: Circulating tumor cells

Kursnummer: 2663
Antal högskolepoäng: 1.5
Datum: 2015-03-23 -- 2015-03-27
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Microbiology, Tumor and Cell Biology
Särskild behörighet:

Kursens lärandemål: After attending the course the student will be able to explain how a circulating tumor cells (CTC) is defined, will be able to reflect on and discuss professionally what the clinical needs are for CTC capture and analyses, the relative role of metastases in morbidity and mortality in at least one type of cancer, have an overview of what is known of CTC biology, including the contribution of epithelial mesenchymal transition (EMT), blood flow, the seed and soil hypothesis, what scientific knowledge is missing and how some of that knowledge can be extended, be able to reflect on the potential benefits of CTC enumeration and pathogenic mechanism-based analyses in clinical management of at least one type of cancer, be able to reflect on the ultimate benefits of a comprehensive CTC capture and analysis on cancer patient management.

Kursens innehåll: Recommended literature: Circulating tumor cells (CTCs) are cells that have detached from a primary tumor and circulate in the bloodstream. CTCs may constitute seeds for subsequent growth of additional tumors (metastasis) in different tissues. Some of the outstanding scientific issues are: how does a CTC end up in the circulation? Does that require active migration? Is migration targeted or random? Does migration require an epithelial cell to become partially mesenchymal? How does that relate to EMT? What additional properties are altered as part of any EMT? Acquisition of stem cell properties? If so, how is that selected for? What is the relation, if any, between stem cell properties and ability to become a tumor initiating cell? What is the half-life of CTC? How can they exist at all? How do they remain suspended? How do they attach, if they do? By receptor-ligand binding or by size? What role does the path of the blood flow play? What role does the seed and soil hypothesis play? How do they know to invade? What role does directionality, and random migration respectively, play? What is the mechanisms of dormancy? Awakening from dormancy? In what aspects of clinical management may CTC enumeration and analyses be of use? What are the actual clinical diagnostic needs for several forms of cancer? How important, if at all, is metastases in several forms of cancer? What types of analyses of CTCs are possible today? What specific analyses would we like to be able to perform, to analyse the actual pathogenic process? What would the impact be if that were possible?

Arbetsformer: Orientation, self-directed studies of the scientific literature, reflection, demonstrations of instrumentation, evaluation of prepared research results, authoring a review article and a research plan, group discussions, interactive seminars with clinicians, clinical laboratory physicians and with scientists, summary discussion, feedback.

Examination: The doctoral student shall contribute to, jointly, with the other students, authoring an in principle publishable review article on the current challenges in the field of Circulating Tumor Cells. The contribution of each individual shall be clearly identifiable. Each doctoral student shall also submit an individual written (maximum 5 page typewritten) in principle viable research plan to address at least one of the current issues in CTC research as identified in the background/review section.

Obligatoriska moment: Physical presence daily, for 5 days, 9 a.m. to 5 p.m., is mandatory in order to achieve the desired face-to-face communication and collaboration. One days absence can be compensated by authoring one additional research plan.

Antal studenter: 8 - 16

Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) the ability to make the best use of the course syllabus (according to written motivation), 3) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information: Invited lecturers will include Prof. Leon WMM Terstappen, MD, PhD Chair Medical CellBiophysics, Faculty of Science and Technology University of Twente, Netherlands and Prof. Dr. Christoph Klein, Experimental Medicine and Therapy Research University of Regensburg, Germany

Kursansvarig:
Christer Ericsson
Institutionen för mikrobiologi, tumör- och cellbiologi

Christer.Ericsson@ki.se

Nobels väg 16
171 77
Stockholm

Kontaktpersoner:
Title : Introduction to modern test theory and test/survey methodology

Kursnummer : 2664
Antal högskolepoäng : 4.0
Datum : 2015-03-03 -- 2015-03-26
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Neurobiology, Care Sciences and Society

Särskild behörighet :

Kursens lärandemål : The aim of the course is to provide the course participants with a deeper understanding in concepts and principles to guide the choice of quantitative data gathering and analytic procedures within health care sciences. The student should after finalizing the course be able to: - Analyze, judge, and choose appropriate methods for quantitative data gathering procedures - Analyze, judge, and choose appropriate methods for analyzing and interpreting quantitative data - Analyze and discuss quality criteria for quantitative research in health care sciences

Kursens innehåll : The content of the course is primarily based on aspects related to systematic quantitative data gathering processes. The course introduces: - The measurement process and the different aspects included in this process - Modern test theory and current definitions of concepts - Different quantitative data gathering methods - Approaches for construction, application, analysis, and evaluation of clinical tests/questionnaires The course content is individually adjusted for examining a specific aspect of data gathering processes (a clinical test/questionnaire/survey) that is chosen by the student and related to his/her own research project. This aspect is presented by the student during the first day of the course and will guide the individual learning processes.

 Arbetsformer : The pedagogic framing of the course is centered around the student's own research project. The contents of the course are introduced in lectures and clinical applications. The students are then applying the processes/methods learned in workshops and group work with supervision. The outcomes are then presented and discussed in seminar forms. The student is finally applying the course content on an individually chosen aspect of quantitative data gathering processes in his/her own research project.

Examination : The examination consist of a written paper based on the individually chosen aspect of quantitative data gathering processes in the student's own research project. The quality of the paper is judged according to the learning outcomes in relation to specific given criteria in the course. The paper is also presented in a seminar.

Obligatoriska moment : Seminars are mandatory. A student will be able to compensate absence with written assignments.

Antal studenter : 14 - 20

Urval av studenter : Doctoral student registerered in the NFV Doctoral school HK14 are prioritized. The remaining seats will be distributed according to the following selection: It will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information : Course dates: 3-4, 11-12, 19 and 26 March (09-16 all days). And also a non-scheduled meeting for group work between 4-11 March. Address: Alfred Nobels Allé 23, campus Huddinge. <br> The course will be held in English unless all participants are comfortable speaking Swedish. Earlier course evaluations have not indicated that this has been a major issue for participants not fully comfortable speaking English. There are still several options for discussions and group work in Swedish, and we all contribute to an inclusive learning environment.

Kursansvarig :
Anders Kottorp
Institutionen för neurobiologi, vårdvetenskap och samhälle
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Kontaktpersoner :
Anna Sillen
Institutionen för neurobiologi, vårdvetenskap och samhälle
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After the course the participants should be able to conduct the following statistical analyses: (1) Analysis of variance; (2) Multiple regression analysis; (3) Risk- and Odds-ratios; (4) Logistic regression; (5) Cox regression; (6) Factor analysis; (7) Structural Equation Modeling; (8) Multilevel Modeling

The course contains lectures and computer exercises. The lectures will cover the theoretical material and contain relevant examples. In the computer exercises the methods of analysis will be used on given data. SPSS (or, on request, R) will be used in the computer exercises.

The participants will conduct the analyses that are included in the course and present and interpret the results from these analyses in an individual examination report.

The students will probably benefit from the course to a higher degree if they have basic knowledge of math and maybe come across statistics before.
Kursnummer : 2667
Antal högskolepoäng : 1.5
Språk : Engelska
Nivå : Doctoral level

Kursansvarig institution : Department of Medicine, Solna

Särskild behörighet : (1) Basic knowledge in descriptive statistics. (2) Basic knowledge in R-programming language.

Kursens lärandemål : At the end of the course the students should be able to - Understand the overall theoretical principles behind the individual steps in the analysis of mRNA, DNA-methylation and DNA arrays, including the preconditions and assumptions in the individual steps of the analysis. - Show an ability to perform independent microarray analysis. - Design microarray-based experiments for an optimum statistical analysis. - Perform integrative data analysis of DNA-methylation and mRNA based experiments. - Analyze the obtained data functionally.

Kursens innehåll : The students will be provided with tools to explore and analyze microarray data sets. With "example-oriented" exercises the most important cases and methods under R environment will be reviewed. One will learn new concepts in R including the necessary background to increase ones experience in R by using available documentation and public tools. Specifically the Bioconductor, an open software source for bioinformatics will be used. Thirdly, students will be provided with tools to integrate their data with public available resources in addition to combine several data types. Sessions: 1. Introduction to R & array analysis: Bioconductor. 2. Overview of the microarray technology - Theory and Practice. 3. Introduction to array processing: a. Quality control. b. Normalization. c. Batch effect. 4. Analyze mRNA-arrays: Affymetrix, Illumina. a. Differential Expression Analysis: the identification of genes varying among different conditions. b. Fold change analysis. 5. Pipelines to analyze DNA-methylation arrays: Nimblegen, Illumina 450K. a. Estimation of DNA-methylation by arrays. b. Normalization in DNA-methylation arrays. c. Differential methylation. 6. Pipelines to analyze genotype arrays: computing odd ratios. 7. Advance tools to analyze microarray data: a. Distance measures and clustering. b. Class Discovery (i.e. PCA). 8. Functional analysis of the results: a. Gene Set Enrichment Analysis: the identification of pathways. b. Network Analysis. 9. How to become independent in R-Bioconductor. 10. Notes on how to integrate different data types?

Arbetsformer : Lectures: 30%  Computer Labs: 50%  Project work: 20%

Examination : The examination will take into account two elements: - Resolution of the exercises during the computer labs. (with support from the lecturers.) - Project: individually, a data set must be analyzed by the different methods (and supporting the results with plots) shown in the course. The data set can come from the students, or if not a data set will be provided.

Obligatoriska moment : Attendance is compulsory. In case of absence, lectures can be compensated with extra reading and computing assignments according to instructions from the course leaders.

Antal studenter : 5 - 15
Urval av studenter : Selection is based on the relevance of the course content for the doctoral project, and the personal motivation included in the course application

Övrig information : The course takes place at CMB at KI Solna campus, in the seminar room A216. Entrance Berzelius v 35. The participants are required to bring their own laptop computers with the R software package installed according to the information from the course directors. The course will be conducted between 9 and 13:00 for the following days: 4,5,6,7,8,11 and 12 of May. The last day (13th May) that the course will start at 9:00 and will finish at 17:00.

Kursansvarig :
Matti Nikkola
Institutionen för cell- och molekylärbiologi
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Kontaktpersoner :
Francesco Marabita
Institutionen för medicin, Solna
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David Gomez-Cabrero
Institutionen för medicin, Solna
david.gomezcabrero@ki.se
Title: Nanotoxicology - potential risks of engineered nanomaterials to human health and the environment

Kursnummer: 2669
Antal högskolepoäng: 1.5
Datum: 2015-04-20 -- 2015-04-24
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: The institute of Environmental Medicine

Särskild behörighet:
Kursens lärandemål: At the end of the course, the students should be able to describe and explain the basic principles of the emerging discipline of nanotoxicology. The students should also be able to discuss the multi-disciplinary implementation of material science techniques based on in vitro and in vivo toxicological methods when assessing the risk of engineered nanomaterials for human health and the environment.

Kursens innehåll: The course will include the following major topics: epidemiological studies of adverse health effects of particles; introduction to material sciences (physico-chemical characterization of nanomaterials); (eco)-toxicological studies (in vitro and in vivo assessment of nanomaterials); and risk assessment of nanomaterials for human health, as well as regulatory/legislative issues related to nanomaterial safety. The course will also provide illustrative examples of the potential applications of the nanotechnologies in medicine/biomedicine.

Arbetsformer: The course consists of lectures including invited lectures by well-renowned international scientists, group seminars (journal clubs) and a study visit at a laboratory facility.

Examination: The students will participate in an oral nanotoxicology debate on the final day of the course in which they must adopt the role of debating either for or against the importance/relevance of nanotoxicology as a scientific discipline; in this debate format, the students will demonstrate their skills in discussing the work presented in the lectures and journal club during the course. The course organizers will monitor the degree of active participation of each student in the debate.

Obligatoriska moment: The oral examination is compulsory for all students. Students who do not pass the oral examination or who fail to show up for the examination at the designated time will be provided with an opportunity to do an oral examination, individually or in a group of several students, at a time-point that will be decided upon between the student(s) and the course organizer.

Antal studenter: 15 - 25
Urval av studenter: The selection will be based on 1) the relevance of the course for the doctoral research project and 2) the personal motivation written by the applicant.

Övrig information: The course will be held at Institute of Environmental Medicine, IMM, Nobels väg 13, Campus Solna.

Kursansvarig:
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Kontaktpersoner:
Johanna Bergman
Institutet för miljömedicin

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17177
Stockholm
**Title :** Introduktion till kvalitativa metoder

**Kursnummer :** 2673  
**Antal högskolepoäng :** 4.0  
**Datum :** 2015-02-03 -- 2015-02-25  
**Språk :** Svenska  
**Nivå :** Forskarnivå  
**Kursansvarig institution :** Department of Neurobiology, Care Sciences and Society  
**Särskild behörighet :**  

**Kursens lärandemål :** Efter kursens slut ska studenten kunna att *Förstå principerna som ligger till grund för beslut angående val av metod i kvalitativ datainsamling och dataanalys. *Förstå olika sätt att tillgodose trovärdighet i kvalitativ forskning. *Förstå olika metoder för datainsamling och analys av kvalitativa data och dess användbarhet inom forskning i vårdvetenskap *Applicera en av metoderna på studentens egen forskning.  

**Kursens innehåll :** * Vetenskaplig och filosofisk hemvist för kvalitativ forskning. * Metoder för datainsamling och -analys som vanligen förekommer i kvalitativ vårdvetenskapsforskning * Validering av kvalitativ forskning.  

**Arbetsformer :** Kursen kommer att bestå av föreläsningar, handledning och seminarier. Den första kursdagen är en introduktion och de följande anordnas föreläsningar med seminarier. Mellan dessa kursdagar ska studenterna göra individuella studier med tillgång till handledning med användning av en utbildningsplattform. Sista kursdagen anordnas ett kritiskt granskande diskussionsseminarium.  

**Examination :** Examinationen består av genomgång av forskningslitteratur som ska avrapporteras både skriftligt och diskuterade muntligt på seminarier.  

**Obligatoriska moment :** Deltagandet i alla seminarier är obligatoriskt. Frånvaro från seminarier måste kompenseras med en skriftlig granskande diskussion på ett tema relaterat till seminarieinnehållet.  

**Antal studenter :** 15 - 20  
**Urval av studenter :** Doktorander registrerade vid nationella forskarskolan i vårdvetenskap, antagningsomgång HK14 har förut till kursplatserna, resterande platser fördelas baserat på följande: 1) kursplanens relevans för den sökandes doktorandprojekt (enligt motivering), 2) datum för doktorandregistrering (där tidigare registreringsdatum har förut).  


**Kursansvarig :**  
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**Kontaktpersoner :**  
Anna Sillen  
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Title: Practical approaches to qualitative research - based on blended learning

Kursnummer: 2674
Antal högskolepoäng: 7.5
Datum: 2015-02-16 -- 2015-05-28
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Public Health Sciences
Särskild behörighet: None

Kursens lärandemål:
- Design a simple qualitative study including all scientific decisions
- Develop the instruments
- Do the fieldwork
- Analyse the data
- Write up the findings
- Critique other research, e.g. research proposals, manuscripts and published papers
- Explain at least one theory behind qualitative research

Kursens innehåll:
1. Background on qualitative methodology
2. Theory of qualitative research
3. Individual in-depth interviews
4. Qualitative interview process and techniques
5. Sampling in qualitative research
6. Preparing a discussion schedule
7. Ethical considerations
8. Writing a research proposal
9. Focus group interviewing
10. Observation as research
11. Conducting workshops
12. Alternative methods of data collection
13. Keeping journals of observations and your own experience
14. Transcribing and preparing for the formal analysis
15. Analysis of qualitative data
16. Production of papers and reports
17. Other approaches to interpretation: Phenomenology, narrative research, oral history
18. Integration of qualitative methods in broader research
19. Qualitative research in evaluation
20. Critical review of literature

The course will be conducted synchronously at Karolinska Institutet, Stellenbosch University (South Africa) and Makerere University (Uganda). The course will be taught with a blended learning approach, which will combine self-study and face-to-face practical training sessions. Students from the three universities will be able to access self-study course materials and interact with each other through a common e-learning platform. Practical sessions will be conducted face-to-face by the course tutors at KI, MU and SU. Physical presence of the students is required to participate in these sessions at one of the sites. There will be 12 sessions of practical training, each of 2 ½ hours, which will require face-to-face meetings at each site. The 12 sessions can be done in 2 periods of 2 days each. These will include:
- 5 sessions in doing individual depth interviewing
- 3 sessions in doing focus groups
- 2 sessions on observation
- 2 sessions on analysis

Four assignments are to be done during the course. The first three assignments will take the students through a full mini research project. The first assignment will be to write a mini proposal, the second to do two individual depth interviews and transcribe these, and the third to write a brief report. The final assignment will be to write a critical review of a published qualitative paper. These will collectively constitute 60% of the course mark. Students will be expected to participate in online discussions. Attached to each lecture there will be between 3 and 6 questions. Students can respond to these questions or generate their own points for discussion. The quality and intellectual content of these contributions will be evaluated over the duration of the course. This will constitute 10% of the course mark. In addition the students will be asked to keep a journal that will be private and not up for evaluation in which they record their own experiences and insights as they learn about qualitative research. But the students will have to reflect on their entries into the journal for their final exam. There will be a written examination at the end of the course, which will be emailed to the students to be returned within 48 hours. This will constitute 30% of the course mark.

Obligatoriska moment:
- Participation in practical sessions, on-line lectures and discussions is compulsory. Non-participation will result in additional assignments at the discretion of the course tutor.

Antal studenter: 10 - 20
Urval av studenter: Doctoral students from Karolinska Institutet, Stellenbosch University and Makerere University have first priority. Students from other universities may be admitted if there is space.
Övrig information: Most of the teaching/learning will be done by distance thorough an e-learning platform for students at Karolinska Institutet, Stellenbosch University (South Africa) and Makerere University (Uganda). Practical training sessions (4 days) will take place from March 23-26. Karolinska Institutet's students will meet in the Widerströmska Building on the Solna campus during these 4 days, which are mandatory. KI-enrolled students who are in Uganda or South Africa at the time of these sessions may participate at these campuses.

Kontaktpersoner:
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Nobelväg 9
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Solna
Kursnummer : 2676
Antal högskolepoäng : 1.5
Datum : 2015-03-16 -- 2015-03-20
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Physiology and Pharmacology
Särskild behörighet :
Kursens lärandemål : After the course the students will be able to: Understand what the most important endocrine systems are during growth and development and how these systems act and what functions they have. Integrate the obtained knowledge in student's own doctoral projects. Account for widely used models to assess regulation of growth and fertility.
Kursens innehåll : The course aims to give students an overview of endocrine systems and organs particularly important during development and childhood. Accordingly, the course covers wide range of endocrine systems and glands related to pediatrics and development including GH/IGF system, thyroids, corticosteroids, sex hormones etc. By purpose the course is not covering diabetes (specialized courses covering these particular field are available within KI). The course aims to bring together the most well-known scientists in the field. Students will have the possibility for informal discussion with the experts during meet-the-professor sessions and lunches together. The last course several prominent scientists were lecturing including Prof. Olle Söder, head of department of Women and Children Health at Karolinska, Prof. Lars Sävendahl, secretary general of European society for pediatric endocrinology, professors Kerstin Brismar, Jens Mittag, Claude Marcus, Lars Hagenäs, Anna Nordenström and Sam Okret, all from Karolinska as well as our international guests Prof. emeritus Eberhard Nieschlag, the founder and former director of the center of reproductive medicine and Andrology (Muenster, Germany) as well as former president of the European Society of Endocrinology, and Kirs Jahnukainen (Helsinki University). This year there will be some new well-known names. There will be two practical sessions. One session (two afternoons) is focused on physiology of bone growth; students will culture intact bones ex vivo. Another session is related to reproduction; students will practically explore testicular and ovarian morphology.
Arbetsformer : Lectures, formal and informal discussions, meet-the-professor sessions, laboratory work, demonstrations and recommended literature.
Examination : Examination is designed the way to facilitate the use of obtained knowledge in student's own research. We ask students to present their project in content of the course in a form of 15 minutes presentation. The presentation should make a connection between the project and any endocrinology subject discussed during the course and the potential impact of this connection on the student's project.
Obligatoriska moment : Attending the lab work is compulsory. Up to two lectures can be missed, but every missed lecture has to be compensated by literature work.
Antal studenter : 6 - 14
Urval av studenter : Selection will be made based on the need for the applicant's project and on the possibility to attend the course at another occasion. Thus, while applying, please briefly describe your project and your career stage.
Övrig information : The course will run Monday to Friday, from 9:00 till 17:00 in Solna Campus, Pharmacology building on the institution side and Astrid Lindgren Children's Hospital on the hospital side. During the last course several prominent scientists were speaking at the course. Many of them will give lectures this year, and there will be some new well-known names as well. Here are some names from the previous course: Prof. emeritus Martin Ritzen, the founder of pediatric endocrinology in Stockholm, Prof. Olle Söder, head of department of Women and Children Health at Karolinska, Prof. Lars Sävendahl, secretary general of European society for pediatric endocrinology, Prof. Kerstin Brismar, Prof. Outi Hovatta and Prof. Sam Okret. International guests: Paola Pajevic (Harvard, US), Prof. Stefan Schlatts, director of the center of reproductive medicine and andrology (Muenster, Germany).
Title: Introduction to teaching at KI

Kursnummer: 2686
Antal högskolepoin: 1.0
Datum: 2015-02-11 -- 2015-03-25
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Learning, Informatics, Management and Ethics
Särskild behörighet:

Kursens lärandemål: At the end of the course we expect you to:
- Be able to explain general aspects of how to facilitate student learning in different teaching situations
- Be able to reflect upon own teaching experiences and use educational concepts in a discussion about teaching and learning

Kursens innehåll: During the course we will discuss and elaborate on practical issues regarding teaching and learning in laboratory, seminars and lectures. We will discuss and work with ways to challenge students and what to do to facilitate their learning. Course participants will observe (auscultate) teaching and reflect upon their experiences. We will touch upon the role of the teacher and KI teaching policies as well as strategies for coping with stress.

Arbetsformer: The course is designed to promote active learning and a variety of teaching and learning strategies will be used during the course. Examples are lectures, small group discussion, peer teaching, group work, literature studies, auscultation of teaching and reflection in groups.

Examination: To satisfactorily complete this course you must demonstrate that you have reached the learning outcomes by orally presenting your reflections of literature studies and auscultation of teaching.

Obligatoriska moment: The assessment seminar the last day of the course is mandatory. If absent, the student need to present his/her knowledge at a separate occasion.

Antal studenter: 15 - 30
Urval av studenter: Priority will be given to doctoral students who have just started or soon will be involved in teaching and that have no teacher training.

Övrig information: The course is scheduled 11 February, 3 March and 25 March. In addition, time for reading and auscultation must be planned by the course participants.

Kursansvarig:
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Kontaktpersoner:
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Title: Basic Laboratory Safety

Kursnummer: 2690
Antal högskolepoäng: 1.8
Datum: 2015-02-13 -- 2015-02-20
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Microbiology, Tumor and Cell Biology
Särskild behörighet: Experience of and/or education in laboratory work

Kursens lärandemål: After successfully completing this course you as a student should be able to evaluate the risks associated with experiments in the laboratory. The hazards could originate from chemicals, microbiological agents, cell cultures and human blood/tissues. You should also be able to identify the needs for suitable personal protective equipment, routines for waste management and transport. In addition, you should be familiar with the regulatory framework that governs these topics, the basic needs of a safe laboratory, and be able to identify the chain of responsibilities.

Kursens innehåll: The course aims at giving theoretical and practical knowledge on chemical and biological aspects of laboratory safety. Topics will deal with writing risk assessments, chemical health risks including allergy, cancer and flammable agents, handling and storage of dangerous chemicals, handling of microorganisms and cell cultures including human blood and tissue samples, laboratory acquired infections, bio-safety measures including personal protection devices, ventilated workplaces, genetically modified microorganisms, bio-security and dual use, transport of dangerous goods, waste management and the sustainable laboratory.

Arbetsformer: The information will be given as lectures, group discussions, practical sessions, web-tutorials and computer sessions during a total of six days.

Examination: The examination is based on an individual written examination and performance of an approved risk assessment.

Obligatoriska moment: Presence during some activities, like introduction, group discussions, practical sessions and examination, is compulsory according to schedule. Students cannot compensate for absence during compulsory activities, but are referred to coming courses for these activities.

Antal studenter: 30 - 42

Urval av studenter: Selection will be based on 1) date for registration as a doctoral student (priority given to earlier registration date), 2) the relevance of the course syllabus for the applicants doctoral project (according to written motivation).

Övrig information:

Kursansvarig:
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Kontaktpersoner:
Jenny Karlsson
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Anne Eklöf
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Anne.Eklof@ki.se
Title: Basic Laboratory Safety

Kursnummer: 2690
Antal högskolepoäng: 1.8
Datum: 2015-04-20 -- 2015-04-27
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Microbiology, Tumor and Cell Biologi
Särskild behörighet: Experience of and/or education in laboratory work

Kursens lärandemål: After successfully completing this course you as a student should be able to evaluate the risks associated with experiments in the laboratory. The hazards could originate from chemicals, microbiological agents, cell cultures and human blood/tissues. You should also be able to identify the needs for suitable personal protective equipment, routines for waste management and transport. In addition, you should be familiar with the regulatory framework that governs these topics, the basic needs of a safe laboratory, and be able to identify the chain of responsibilities.

Kursens innehåll: The course aims at giving theoretical and practical knowledge on chemical and biological aspects of laboratory safety. Topics will deal with writing risk assessments, chemical health risks including allergy, cancer and flammable agents, handling and storage of dangerous chemicals, handling of microorganisms and cell cultures including human blood and tissue samples, laboratory acquired infections, bio-safety measures including personal protection devices, ventilated workplaces, genetically modified microorganisms, bio-security and dual use, transport of dangerous goods, waste management and the sustainable laboratory.

Arbetsformer: The information will be given as lectures, group discussions, practical sessions, web-tutorials and computer sessions during a total of six days.

Examination: The examination is based on an individual written examination and performance of an approved risk assessment.

Obligatoriska moment: Presence during some activities, like introduction, group discussions, practical sessions and examination, is compulsory according to schedule. Students can not compensate for absence during compulsory activities, but are referred to coming courses for these activities.

Antal studenter: 30 - 42
Urval av studenter: Selection will be based on 1) date for registration as a doctoral student (priority given to earlier registration date), 2) the relevance of the course syllabus for the applicant’s doctoral project (according to written motivation)

Urval av studenter: Selection will be based on 1) date for registration as a doctoral student (priority given to earlier registration date), 2) the relevance of the course syllabus for the applicant’s doctoral project (according to written motivation)

Övrig information:

Kursansvarig:
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Anne Eklöf
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Anne.Eklof@ki.se
Title: Molecular Epidemiology

Kursnummer: 2692
Antal högskolepoäng: 1.5
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: The institute of Environmental Medicine
Särskild behörighet:

Kursens lärandemål: Students having successfully completed this course should be able to:
- Understand the molecular basis of the most commonly used analytical platforms (proteomics, lipidomics, metabolomics) in molecular epidemiology.
- Understand the different design of epidemiological studies.
- Understand how molecular data can be analysed and interpreted in epidemiological studies.
- Understand the role of molecular markers (biomarkers) as predictors or indicators of a disease.
- Explain the possible mechanisms underlying changes in circulating levels of biomarkers.
- Discuss how the same molecular approach may give different information in different study designs.
- Interpret molecular epidemiology study results critically.

Kursens innehåll: The course introduces basic concepts on the different molecular methodologies and how to use them and interpret the results obtained in epidemiological studies. During the course we will discuss using practical examples how the choice of epidemiological study design is a crucial step to analyse the association of novel biomarkers with complex diseases. During the course special attention will be given to discuss:
- different molecular approaches from genetic association studies to proteomics, metabolomics etc;
- how to validate novel biomarkers;
- theories and concepts related to the interpretation of molecular epidemiological studies;
- the emerging role of biomarkers in epidemiological research;
- ethical considerations with regard to occasional findings. No specific knowledge is required to be eligible for the course. However we are going to send a test two weeks before the course begins that represent a form of self-assessment for the student. The students may use some of the literature indicated in the course literature to fill in gaps when needed. On the first day of the course we will go through the test and discuss together the questions and the answers.

Arbetsformer: Apart from lectures, the course will include different form of group work where the students will work in pairs and/or in small groups in separate rooms. Every group work session will be followed by collegial a discussion in the class. Group tasks will include critical discussions of research articles in order for students to practice their skills in the evaluation of molecular epidemiology studies.

Examination: Learning outcomes will be assessed using 1) a short individual written examination, and 2) oral presentations of group work.

Obligatoriska moment: Individual and group examinations are mandatory. Absence is compensated by handing in an individual assignment.

Antal studenter: 12 - 25

Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information:

Kursansvarig:
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Kontaktpersoner:
Andrea Balassa
Institutet för miljömedicin

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Title: Basic inflammation

Kursnummer: 2705
Antal högskolepoäng: 3.0
Datum: 2015-03-23 -- 2015-04-15
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Medicine, Solna
Särskild behörighet: Documented knowledge about basic concepts of innate and adaptive immunity (e.g. immunology course during undergraduate education)

Kursens lärandemål: After the course, the participant will be able: to understand cellular and molecular events those underlie the initiation, progression and resolution of inflammation; to describe the principal cell types involved in inflammatory responses and their interactions, the regulation of inflammation by inflammatory mediators, and the mechanisms of resolution and tissue repair; to understand the interplay between acute and chronic inflammation in the context of chronic inflammatory diseases and describe anti-inflammatory treatment strategies.

Kursens innehåll: The course provides the current concept of inflammation and consists of two parts. Part 1 will cover the basic mechanisms and mediators of inflammation (host defence peptides, coagulation, complement, alarmins, lipid mediators, the acute phase proteins, inflammatory cells), non-resolving inflammation, resolution of inflammation. Part 2 will discuss the common and specific features of inflammatory diseases (sepsis, chronic inflammatory diseases), animal models of inflammation, clinical immunology, role of genetic and environmental factors, anti-inflammatory treatment. At the end of the course the students will present projects and write web-based exam.

Arbetsformer: Lectures, small-group work with a project, discussions and the project presentation, studying the course literature. The course is full-time for six days separated into two parts and also includes the non-scheduled time (32h) between the parts for the project work including meetings with mentors and the course literature studies.

Examination: Oral presentations of the small-group projects, all students have to participate actively in the presentation and discussion. Web-based written exam on the course content.

Obligatoriska moment: The project work, student attendance at the project presentations and the web-based exam are mandatory.

Antal studenter: 15 - 40
Urval av studenter: The selection criteria are 1) acceptance to The National Clinical Research School in Chronic Inflammatory Diseases 2) knowledge about basic concepts of innate and adaptive immunity 3) registration for PhD study.

Övrig information: Location: Lecture rooms at CMM, Solna. The course is divided into two parts (23-25 March and 13-15 April), time 9:00-16:00. Between the two parts the participants perform the project work, meet with mentors and study the course literature

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Erwan Le Maitre
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Title : Biobanking as a resource for biomedical research

Kursnummer : 2714
Antal högskolepoäng : 1.5
Datum : 2015-02-09 -- 2015-02-13
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Medical Epidemiology and Biostatistics
Särskild behörighet : Nej

Kursens lärandemål : At the end of the course the student should:
- Understand the legal and ethical framework for biomedical research on human biological material stored in biobanks to be used in national and international collaboration
- Be able to explain the need for standardization and understand the importance of quality in all steps from needle to freezer
- Be able to explain the need for a secure IT structure in order to ensure the sample donors integrity with a full traceability of samples and data
- Understand basic principles of common molecular methods
- Be able to account for the basis for data handling and bioinformatics in biomedical research related to biobank samples
- Be able to critically read, present and discuss a scientific paper based on samples stored in biobanks
- Be able to discuss own or other research projects related to quality aspects of bio samples

Kursens innehåll : - Ethical and legal aspects on research conducted on human tissue samples - Quality aspects and standardization of preanalytical processes from needle to freezer - Informatics - Basic principles of molecular methods of human tissue samples: with particular focus on sample quality and outcome - Bioinformatics - Preparation, presentation and examination

Arbetsformer : - Lectures - Field trips - Presentation (= examination)
Examination : Presentation of the course assignment, either a pre-defined biobank study or an example from own research.

Obligatoriska moment : Taking part in all scheduled activities: lectures, field trip and presentation/examination. Compensation according to the instructions of the course director.

Antal studenter : 15 - 20
Urval av studenter : Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information : The course will mainly be held at MEB, Campus Solna, and will consist of five whole days including examination.

Kursansvarig :
Cecilia Bjorkdahl
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Kontaktpersoner : -
Title: Breast Cancer: Research and treatment

Kursnummer: 2716
Antal högskolepoäng: 1.5
Datum: 2015-03-09 -- 2015-03-13
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Medical Biochemistry and Biophysics

Kurslärandemål: After the course the students will have an understanding of the breast cancer problem, the modern view of what breast cancer is, from a clinical, pathological, epidemiologic and basic science view. You will get the basic foundations of breast cancer biology as well as acquire some ability to discuss and understand advanced problems in breast cancer biology. You will have an idea which are currently the most important problems to solve in breast cancer, to improve diagnosis, prevention, treatment and quality of life. The overall aim of the course is to form a bridge between pre-clinical and clinical aspects of breast cancer biology and oncology for PhD students and to provide the students an understanding of all aspects of the breast cancer problem.

Kursinnehåll: This course is a basic introduction to modern breast cancer research and treatment and is recommended to all PhD students within basic, epidemiologic and clinical breast cancer research. The course will describe our current understanding of breast cancer -- from molecule to patient --, eventually also discussing its management, pathology, prevention and treatment. The topics of the course include genetics, the cell cycle, apoptosis, immunology, diagnostics and treatment, and pathology. All topics will be presented from the breast cancer perspective. There will be focus on breast cancer Biology and Oncology, including molecular genetics, curative treatment and palliative care, psychosocial aspects of cancer, ethics and epidemiology. All seminars and demonstrations are compulsory, also some lectures, as well as the written examination. Single missed occasions can be compensated during the course after discussion with the course director.

Arbetsformer: The course consists of lectures, group seminars, group discussions and demonstrations. Full time during one week.
Examination: Written examination with a focus on understanding of concepts, relations and how and how problems are dealt with in breast cancer research and treatment.
Obligatoriska moment: This course is full time for one week. All seminars and demonstrations are compulsory, also some lectures, as well as the written examination. Single missed occasions can be compensated during the course after discussion with the course director.
Antal studenter: 10 - 30
Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)
Övrig information: The course will take place Monday-Friday from 09.00 to 16.30. The lecture room is located at Cancer Center Karolinska (CCK), Karolinska University Hospital, Solna Campus.

Kursansvarig:
Guillem Genove
Institutionen för medicinsk biokemi och biofysik

Guillem.Genove@ki.se

Kontaktpersoner:
Title : Calcium signaling

Kursnummer : 2733
Antal högskolepoäng : 1.5
Datum : 2015-05-04 -- 2015-05-08
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Clinical Science and Education, Södersjukhuset
Särskild behörighet :

Kursens lärandemål : At the end of the course the participants will understand the fundamental molecular processes involved in maintaining intracellular Ca2+ homeostasis, and their roles in the generation and decoding of Ca2+- and phospholipids-mediated signals. They will learn about the molecules, structures, ion-channels, and pumps involved in mediating the calcium signals. They will be able to analyze and interpret the existing literatures critically. They will understand the principles of common methods including those of microscope based fluorometry in living cells, confocal and multiphoton imaging and electrophysiology. After completion of the course, participants will be able to come up with new ideas, generate new hypotheses and identify approaches to test them by using diverse methods and approaches.

Kursens innehåll : 1. Phospholipase C and inositol 1,4,5 trisphosphate-mediated signaling. 2. Identity and roles of molecular players involved in Ca2+ and phospholipid mediated signaling. 3. Preparation of Ca2+ buffers. 4. Methods used in the study of calcium and phospholipid signaling including fluorescent techniques, electrophysiology and imaging techniques. 5. regulation of ion channels involved in Ca2+ signaling including voltage sensitive channels, transient receptor potential channels, store-operated channels and intracellular Ca2+ channels. 6. roles of Ca2+ and phospholipid mediated signaling in cellular processes including in secretion and apoptosis. 7. Mechanism of generation and decoding of Ca2+ signals. 8. spatial and temporal aspects of Ca2+ signaling. 9. How to pick research problems in the areas of Ca2+ and phospholipid signaling and how to approach them.

Arbetsformer : This course will follow the classical seven steps approach of problem-based-learning (PBL). Emphasis will be on self-directed learning through problem-solving in small groups rather than on cathedral lectures. However, generous small group interactive lectures by resource personnel and selected practical sessions will be provided. Participants will work on five given problems, in groups of about nine participants, under supervision of two trained facilitators who will be available during all of the sessions. Participants will be provided with an outline of the objectives, areas expected to cover, and reprints of selected learning materials.

Examination : 1. Observation by the facilitators of the participants role in the learning processes during group activities. 2. Presentation of assignment in group-seminar. 3. Individual written reports.

Obligatoriska moment : Submission of a short written report is essential for obtaining a pass grade. The supervisors guide in writing this report.

Antal studenter : 10 - 20
Urval av studenter : Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information : The course will be held at the Department of Clinical Sciences and Education, Södersjukhuset everyday during the week from 09:00 to 16:00

Kursansvarig :
Shahidul Islam
Institutionen för klinisk forskning och utbildning, Södersjukhuset
086163950
Shahidul.Islam@ki.se

Kontaktpersoner :
Title: Basic Training in Flow Cytometry

Kursnummer: 2747
Antal högskolepoäng: 1.5
Datum: 2015-01-19 -- 2015-01-23
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Medicine, Huddinge
Särskild behörighet: None

Kursens lärandemål: After completed course, the students will be able to: 1- Describe core concepts in flow cytometry 2- Critically examine and implement an experimental design of flow cytometry-based cell analysis according to Good Cytometry Practice (GCP) 3- Practically perform data analysis on a flow cytometer 4- Reflect upon and discuss pitfalls in flow-cytometry and data interpretation

Kursens innehåll: This is a highly interactive "hands-on" course intended for both complete novices and experienced cytometrists with interest to refresh and enhance their knowledge of modern flow cytometry. The generic nature of this course ensures the translation of the acquired knowledge to any brand of flow cytometry instrument and to a large field of biological sciences. Starting with the basics and progressively advancing towards more sophisticated applications. Students will be exposed to fundamental theory necessary for proper experiment design and data interpretation. To ensure meaningful learning, lectures will be followed up by workshops and "hands-on" practical sessions in front of flow cytometer instruments. Topics to be covered during the course include:
- Planning my experiment according to Good Cytometry Practice (GCP): (Instrument, reagent selection, assay optimization/validation, quality controls)  
- Running my experiment according to GCP (sample preparation and instrument setup and compensation)  
- Analysing my experiment and generating data (Multidimensional data analysis: gating, data display, statistics and trouble-shooting)  
- Preparing my data for publication

Arbetsformer: The pedagogic learning activities of this course include lectures, problem-based group discussions/workshops. Group work will be conducted where the students actively discuss and integrate information and review articles from the lectures. The course also includes practical exercises and demonstrations on different flow cytometry instruments.

Examination: The examination will consist of an individual written exam where students will analyse and reflect upon selected cases from both good and bad flow cytometry praxis. The individual practical performance of each student will be evaluated separately.

Obligatoriska moment: Full time participation in the lectures, workshops, group discussions and practical sessions is mandatory. Absence is compensated according to the instructions of the course director.

Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information: The course is co-organised between three doctoral programmes: Regenerative medicine, Infection biology, and Allergy, immunology and inflammation (Aii). This is a highly interactive "hands-on" course intended for both complete novices and experienced cytometrists with interest to refresh and enhance their knowledge of modern flow cytometry. Invited national and international experts in the field of flow cytometry and its application will take part of the different teaching occasions. Lectures and practical sessions are both held at the WIRM flow cytometry facility at the Huddinge campus (Hälsowägen 7, Novum Level 4 hiss G, Follow sign to HERM/WIRM flow cytometry facility). (Note: A free shuttle service is available for KI students and staff to commute between Solna and Huddinge, see ki.se for more info).

Kursansvarig:
Iyadh Douagi
Institutionen för medicin, Huddinge
08-585 83 602
iyadh.douagi@ki.se

HERM, Hälsowägen 7, Novum plan 4 hiss G

Kontaktpersoner:
Title: Autophagy in health and disease

Kursnummer: 2769
Antal högskolepoäng: 1.5
Datum: 2015-04-13 -- 2015-04-17
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Cell and Molecular Biology

Kursansvarig: Matti Nikkola
Institutionen för cell- och molekylärobologi
Matti.Nikkola@ki.se

Kursens lärandemål: When the students have passed the course, they will be able to describe the molecular mechanism of protein degradation by autophagy and how this relates to human diseases such as cancer and neurodegenerative disorders. The students will also be able to design experiments for studying autophagy and to critically evaluate data obtained with these techniques.

Kursens innehåll: This course covers the molecular mechanism underlying autophagy and its role in human diseases. Extra attention will be paid to experimental methods to study autophagy. We will discuss the relation of autophagy to human diseases, in particular to cancer and neurodegenerative disorders. We will also pay attention to its central role in intracellular proteolysis and cross-talk with other proteolytic systems. The course will be given by the course organizers and several renowned international researchers working on various aspects on autophagy. At the end of the course, there will be a mini-symposium in which researchers will present their ongoing research on autophagy and related topics.

Arbetsformer: The learning modes used in the course include lectures, research seminars and a mini-symposium. Every student will present a recent publication in a journal club. Students will have lunch meetings with the invited speakers and will also be encouraged to actively participate in the course. There will be ample time for discussions after the lectures and research seminars.

Examination: Examination is based on the journal club presentation and discussions. Every student will be at one occasion presenting a paper that has been selected by the organizers and at another occasion will be an opponent when a fellow student is presenting a selected paper. The student's performance at these two occasions combined with general active participation in the course will be the basis for the final assessment.

Obligatoriska moment: The lectures, seminars and journal club presentations are compulsory. Compensation according to the instructions of the course director.

Antal studenter: 12 - 18
Urval av studenter: The selection is based on a comprehensive assessment based on the relevance of the course for the doctoral research project and the personal motivation written by the applicant.

Övrig information: The course is organized by Theocharis Panaretakis (Oncology-Pathology), Bertrand Joseph (Oncology-Pathology) and Nico Dantuma (CMB). The course is fulltime and will be given in English. The venue for the course is seminar room A216 at CMB, Berzeliusvä 35 with some lectures being given at CCK. Invited speakers who have accepted to teach in the course are David Rubinsztein (University of Cambridge, UK), Daniel Klionsky (University of Michigan, USA) and Lorenzo Galluzzi, (Université Paris Sud, France). More information about the course will posted during the spring on the website of the Dantuma lab http://www.cmb.ki.se/research/dantuma/

Kontaktpersoner:
Title: Present your research!

Kursnummer: 2787
Antal högskolepoäng: 1.5
Datum: 2015-03-05 -- 2015-05-28
Språk: Engelska
Nivå: Doctoral level

Kursansvarig institution: Department of Women's and children's health

Särskild behörighet: None

Kursens lärandemål: The overall aim of the course is to give the Ph.D. student knowledge in presenting research results orally with support of visual media like power point slides, whiteboard, flipchart and a scientific poster. After attending the course, the Ph.D. Student should: 1. BE ABLE TO DESIGN AN ORAL PRESENTATION IN AN ADEQUATE WAY WITH EMPHASIS ON: a. Setting goals and aims for the presentation. Structure of the presentation. Simplification of research results in order to enhance understanding. Choice of pictures. Language. e. Adjusting to different presentation types like poster presentation, grant proposal, and for example your dissertation lecture, or presentation of your research results to your research group, or a journal club. g. Time management: how much time do I have at my disposal and how to keep the time limits. h. Basic rhetoric and presentation techniques. 2. BE ABLE TO DESIGN AND USE SUPPORTIVE MEDIA FOR A SUCCESSFUL PRESENTATION: a. Power Point slides. Of interesting and structured, adjusted to the room conditions and the audience. b. Scientific poster. i. Illustrative, good flow and conclusive. c. Flipchart, whiteboard and other supporting media. KNOW THE BASICS ABOUT HOW TO PRESENT (presentation techniques and rhetoric): a. Body language and posture. b. Language and pace. c. How to prepare yourself for a presentation. d. How to remember what you want to present. e. Building confidence (be less nervous) to present. f. What to avoid doing during a presentation. g. How to deal with questions from the audience. 3. DESIGN AND USE OF SUPPORTING MEDIA FOR A PRESENTATION: a. Power Point slides including introduction to power point. b. Scientific poster. c. Flipchart, whiteboard and other supporting media. 4. INTERACTION WITH THE AUDIENCE: a. Catching the audience’s attention. How to address the audience. Keeping the audience’s attention for a longer period of time. Communicating with the audience. 5. PRACTICAL EXERCISES: a. Presenting in front of an audience: i. Grant proposal. ii. Poster presentation. iii. Presentation of student’s choice. b. Presentation exercises in pairs or small groups. c. Presenting to different audiences. d. Body language. e. Language and pace. f. How to use your audience as an asset. g. How to impress your audience. h. How to ease the learning of the audience. i. Attention curve of the audience. j. How to enhance the learning of the audience.

Kursens innehåll: The scope of the course is to design and give oral presentations of your research results in different contexts. The main content of the course: 1. DESIGN AND DISPOSITION OF AN ORAL PRESENTATION (poster presentation, grant proposal, short presentation of research results): a. Goals and aims. b. Structure. Simplifications to enhance understanding. Choice of pictures. Language. e. Adjusting to different presentation types like poster presentation, grant proposal, and for example your dissertation lecture, or presentation of your research results to your research group, or a journal club. g. Time management: how much time do I have at my disposal and how to keep the time limits. 2. PRESENTATION TECHNIQUES AND RHETORIC FOR ORAL PRESENTATIONS: a. Body language and posture. b. Language and pace. c. How to prepare yourself for a presentation. d. How to remember what you want to present. e. Building confidence (be less nervous) to present. f. What to avoid doing during a presentation. g. How to deal with questions from the audience. 3. DESIGN AND USE OF SUPPORTING MEDIA FOR A PRESENTATION: a. Power Point slides including introduction to power point. b. Scientific poster. c. Flipchart, whiteboard and other supporting media. 4. INTERACTION WITH THE AUDIENCE: a. Catching the audience’s attention. How to address the audience. Keeping the audience’s attention for a longer period of time. Communicating with the audience. e. How to make the audience trust you. f. Preparing the presentation with different audiences in mind. g. Different learning styles which influences the audience’s attention. i. Attention curve of the audience. j. How to enhance the learning of the audience.

Arbetsformer: Lectures, written assignments, workshops, coaching, group work, and practical exercises in groups and with peer.

Examination: Poster presentation including scientific poster, grant proposal presentation, and a presentation of your own choice.

Obligatoriska moment: Three complete presentations (designed and presented to the class): q. Poster presentation including a scientific poster. b. Grant proposal presentation. c. One presentation of the student’s own choice.

Antal studenter: 10 - 15

Urväl av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant’s doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information: Welcome to apply for Ph.D. course Present your research! The course will be held on six Thursdays (9-17 or half days) during the spring semester: 5th of March, 12th of March, 2nd of April, 23 of April, 21st of May and 28th of May in order to give time for practicing the new skills in-between. This course is suitable for anyone that wants to improve his or her presentation techniques skills; no matter if you are starting off on a beginner’s level or if your skills are quite advanced. You will be working together with very experienced teachers, both in groups and individually, and we will focus on your individual needs. Different approaches and techniques are used based on the latest research in the field and we focus a lot on the participant’s individual needs in terms of needs (aims, nervousness, structure, bodylangugage, voice etc) and different kinds of presentations that you might need to give. The course will be given on 5 Wednesdays 9-16 during the spring semester. Please note that all questions will be addressed to Anna Hildenbrand Wachtmeister, anna.wachtmeister@ki.se Telephone: 070 7890607

Kursansvarig:
Kristina Gemzell
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Kontaktpersoner:
Anna Hildenbrand
Institutionen för kvinnors och barns hälsa
0707890607
Anna.Hildenbrand@ki.se
Title: Biostatistics II: Logistic regression for epidemiologists

Kursnummer: 2797
Antal högskolepoäng: 2.0
Datum: 2015-01-28 -- 2015-02-06
Språk: Engelska
Nivå: Doctoral level

Kursansvarig institution: Department of Medical Epidemiology and Biostatistics

Särskild behörighet: Knowledge in epidemiology and biostatistics equivalent to "Epidemiology I: Introduction to epidemiology" (course 1577) and "Biostatistics I: Introduction for epidemiologists" (course 1579) or corresponding courses

Kursens lärandemål: After successfully completing this course you as a student are expected to be able to:
- choose a suitable regression model for assessing a specific research hypothesis using data collected from an epidemiological study, fit the model using standard statistical software, evaluate the fit of the model, and interpret the results.
- explain the concept of confounding in epidemiological studies and demonstrate how to control/adjust for confounding using statistical models.
- apply and interpret appropriate statistical models for studying effect modification.
- critically evaluate the methodological aspects (design and analysis) of a scientific article reporting an epidemiological study. Learning outcomes are classified according to Bloom’s taxonomy: knowledge, comprehension, application, analysis, synthesis, and evaluation.

Kursens innehåll: This course focuses on the application of linear and logistic regression in the analysis of epidemiological studies. Topics covered include a brief introduction to continuous and binary outcome data, univariable and multivariable models, interpretation of parameters for continuous and categorical predictors, flexible modeling of quantitative predictors, confounding and interaction, model fitting and model diagnostics.

Arbetsformer: Lectures, computer lab with exercises focusing on analysis of real data sets using statistical software, exercises not requiring statistical software, group discussions, literature review.

Examination: To pass the course, the student has to show that the learning outcomes have been achieved. The course grade is based solely on a written examination. The focus of the exam will be on understanding concepts and their application to analysis of epidemiological studies rather than mathematical detail. The course examination will be held within one week of the final day of the course. Students who do not obtain a passing grade at the first examinations will be given top priority for admission the next time the course is offered. If the course is not offered during the following two academic terms then a third examination will be scheduled within 12 months of the final day of the course.

Obligatoriska moment: Examination.
Antal studenter: 12 - 25
Urval av studenter: Eligible doctoral students will be prioritized according to 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date). To be considered, submit a completed application form. Give all information requested, including a short description of current research training and motivation for attending, as well as an account of previous courses taken.

Övrig information: Course dates are: January 28, 29, 30 and February 2, 3, 4. The examination will take place on February 6. The course is extended over 2 weeks (but still 6 full course days) in order to promote reflection and reinforce learning. Prerequisite knowledge in epidemiology and biostatistics equivalent to "Epidemiology I: Introduction to epidemiology" and "Biostatistics I: Introduction for epidemiologists" or corresponding courses. Prior knowledge in Stata software is strongly recommended.

Kursansvarig:
Rino Bellocco
Institutionen för medicinsk epidemiologi och biostatistik

Rino.Bellocco@ki.se

Kontaktpersoner:
Gunilla Nilsson Roos
Institutionen för medicinsk epidemiologi och biostatistik
08-524 822 93
gunilla.nilsson.roos@ki.se
**Title : Transplantation immunobiology**

Kursnummer : 2803  
Antal högskolepoäng : 1.5  
Datum : 2015-03-09 -- 2015-03-13  
Språk : Engelska  
Nivå : Doctoral level  
Kursansvarig institution : Department of Cell and Molecular Biology  
Särskild behörighet :  

Kursens lärandemål : After this course the doctoral student should be able to demonstrate an all round knowledge in the basic principles of transplantation immunobiology, the clinical practice of solid organ transplantations and cell-based therapies and be able to show an ethical attitude and knowledge about legal aspects in the field of clinical transplantation. In detail, the course aim is for the student to develop knowledge and understanding of transplantation immunology, the major developments that have enabled clinical transplantations, current challenges, the immunosuppressants' mechanisms of action, the major ethical and legal issues with transplantation, outline basic clinical aspects on liver, kidney, pancreas, islet cell transplantation, and cell-based cancer therapies.  

On completion, students should also possess knowledge and awareness about current transplantation research areas.  

Kursens innehåll : Transplantation biology and immunology. Mechanisms and principles underlying the immunosuppressive treatments of clinical transplantation. Synopsis on the major clinical aspects in organ donation and transplantation. Current insight into the research field of transplantation. Legal and ethical aspects with transplantation.  

Arbetsformer : This is a full time one week course containing several learning activities; lectures, interactive discussions, seminars, and a final individual presentation (examination).  

Examination : The students are examined with individual presentations.  

Obligatoriska moment : Mandatory participation in discussions, group seminars and pass individual oral presentation (examination).  

Antal studenter : 20 - 30  
Urval av studenter : The selection is based on a comprehensive assessment based on the relevance of the course for the doctoral research project and the personal motivation written by the applicant.  

Övrig information : The course is organized by Erik Berglund (Department of Transplantation Surgery), Bo-Göran Ericzon (Department of Transplantation Surgery), and David Berglund (Department of Clinical Immunology), and it will be given in English full time during one week. The venue for the doctoral course is seminar room A216 at OMB, Berzelius våg 35 except a one day symposium at Nobel forum and a visit at a clinical immunology laboratory. Invited speakers who have accepted to teach in the course are John Scandling (Stanford University), Steven A. Rosenberg (National Institutes of Health), Stefan Schneeberger (University of Innsbruck), David Berglund, Olle Korsgren, and Alex Karlsson-Parra (all three from Uppsala University), Liza Johannesson (Sahlgrenska University Hospital), Bo-Göran Ericzon, Matthias Corbascio, Annika Tibell, Lars Wennberg, Torbjörn Lundgren, Jonas Mattsson, Michael Uhlin, Elisabet Åkesson, Stephen Strom, Olle Ringdén, and Andreas Lundqvist (all from Karolinska Institutet/Karolinska University Hospital).<br> The course is part of the KI doctoral course programs in Cell biology and Genetics and Regenerative Medicine, in collaboration with DBRM Research School.

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Kursansvarig :  
Matti Nikkola  
Institutionen för cell- och molekylärbiologi  

Matti.Nikkola@ki.se  

Kontaktpersoner :  

Title : Epigenomics methods, mechanisms and application to disease and development

Kursnummer : 2804
Antal högskolepåäng : 1.5
Datum : 2015-02-05 -- 2015-02-12
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Cell and Molecular Biology
Särskild behörighet :
Kursens lärandemål : After the completed course, the participants will be able to describe the basic methods and mechanisms underlying epigenetic regulation in non-disease cases and compare and relate these to dysregulation in diseases. The participants will be able to describe and critically evaluate the weaknesses and strengths of the different methods and technologies used in genome-wide epigenomic regulation studies.
Kursens innehåll : Epigenetic regulation in non-disease cases and dysregulation in diseases at individual locus level as well as on genome-wide level including DNA methylation, histone modification, non-coding RNA interaction with DNA and histones. Understanding development and disease principles through epigenetic technologies.
Arbetsformer : The course consists of lectures, discussion and seminars.
Examination : The students will be examined for knowledge and skills, individually based on the active participation in discussions and groupwise with seminar presentations.
Obligatoriska moment : The discussions and seminars are compulsory. Absence from compulsory parts is compensated according to the instructions from the course leader.
Antal studenter : 15 - 20
Urval av studenter : Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date).
Övrig information : The course is given in collaboration with the RIKEN Division of Genomic Technologies(http://www.riken.jp/en/research/labs/clst/genom_tech/). The faculty consists of invited speakers from the RIKEN Division of Genomic Technologies and Karolinska Institutet. The course takes place at RIKEN in Yokohama in Japan. No costs related to travel or accommodation for the doctoral students will be covered by the course.

Kursansvarig :
Matti Nikkola
Institutionen för cell- och molekylärbioologi

Matti.Nikkola@ki.se

Kontaktpersoner :
Title : Hur bidrar vi till en rättvis och socialt hållbar värld genom vår forskning?

Kursnummer : 2805
Antal högskolepoäng : 1.5
Datum : 2015-04-20 -- 2015-04-24
Språk : Svenska
Nivå : Forskarnivå
Kursansvarig institution : Department of Neurobiology, Care Sciences and Society
Särskild behörighet :
Kursens lärandemål : Efter kursen skall deltagaren ha en bred kunskap och förståelse om social hållbarhet på individ-, grupp-, verksamhets- och samhällsnivå. Studenten ska självständigt kunna analysera, reflektera, värdera och kritiskt diskutera aktuella fall respektive publicerad forskning om hållbarhetsproblem i samhället, styrkor och svagheter i de hittillsvarande metoderna, samt vilka metoder (och dessas styrkor och svagheter) som kan vara adekvata i doktorandens fortsatta forskning kring hållbarhetsproblem, respektive för annan forskning inom hållbarhetsområdet.


Arbetsformer : Föreläsningar (ca 12 t), reflekterande gruppövningar, seminarier (ca 14 t) och muntlig och skriftlig presentation.
Examination : Examination består av aktivt deltagande i seminarier, i ett skriftligt PM där ett tema inom ramen för kursen fördjupas och behandlas mer utförligt, och genom att detta PM presenteras muntligt för de andra kursdeltagarna. Bedömningsgrunder innefattar doktorandens grad av kunskap och förståelse om ämnet, och om doktoranden uppfyller exakt och kritiskt förmåga att analysera, reflektera, värdera och kritiskt diskutera aktuella hållbarhetsproblem i samhället, även i förhållande till forskningslitteraturen. Doktoranden förväntas relatera till metodval (och kritiskt diskutera dessa styrkor och svagheter) i det egna avhandlingsarbetet, alternativt för andra (centrala) forskningsfrågor inom området social hållbarhet. Godkänt PM (inklusive adekvat litteraturredovisning) krävs för godkänd. Bedömningsgrunder innefattar doktorandens grad av kunskap och förståelse om ämnet, och om doktoranden uppfyller exakt och kritiskt förmåga att analysera, reflektera, värdera och kritiskt diskutera aktuella hållbarhetsproblem i samhället, även i förhållande till forskningslitteraturen. Doktoranden förväntas relatera till metodval (och kritiskt diskutera dessa styrkor och svagheter) i det egna avhandlingsarbetet, alternativt för andra (centrala) forskningsfrågor inom området social hållbarhet. Godkänt PM (inklusive adekvat litteraturredovisning) krävs för godkänd.

Obligatoriska moment : Obligatoriskt är att delta vid introduktionstillfället och vid seminarier. Vid frånvaro kan detta kompenseras med utökad muntlig och skriftlig presentation vid seminarium eller för kursgivaren.
Antal studenter : 12 - 20
Urval av studenter : Urvalet baseras på 1) kursplanens relevans för den sökandes doktorandprojekt (enligt motivering), 2) datum för doktorandregistrering (där tidigare registreringsdatum har förort)
Övrig information : Kursen kommer att hållas på Alfred Nobels Allé 23, Campus Huddinge. Mer detaljerad information om kurslokaler kommer att delgas antagna kursdeltagare.

Kursansvarig : Walter Osika
Institutionen för neurobiologi, vårdvetenskap och samhälle
walter.osika@ki.se

Kontaktpersoner : Annele Claeson
Institutionen för neurobiologi, vårdvetenskap och samhälle
annele.claeson.1@ki.se
Title: Novel fluorescence-based methods in immunology

Kursnummer: 2807
Antal högskolepoäng: 2.0
Datum: 2015-02-09 -- 2015-02-13
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Microbiology, Tumor and Cell Biology

Kursens innehåll: Novel ultra-sensitive fluorescence-based methods, that are now widely introduced, can provide pivotal information about both spatial distribution and temporary dynamics at all scales, from whole organisms to the molecular level. The course will introduce different state-of-the-art fluorescence-based techniques relevant to immunological research. These include techniques addressing spatial and temporal dynamics at the cellular and molecular level. At the cellular level, techniques to study cell migration in vitro and in vivo. At the molecular level, Fluorescence Correlation Spectroscopy (FCS) to measure diffusion and quantitate concentrations of molecules in live cells; Förster Resonance Energy Transfer (FRET) to measure the interaction between two molecules and conformational states; and super-resolution microscopy to measure localization of proteins down to single molecule level.

Arbetsformer: The course consists of three parts. The first two days will be dedicated to participation in a workshop on Novel Fluorescence Methods in Immunology. To facilitate interaction and to use the speaker's knowledge at the best, students will be asked to prepare by reading review articles about the techniques. The first day of the workshop will be technique oriented, with speakers introducing the different techniques. The second day invited speakers will talk about how they apply these techniques within immunology. The students will be involved in active interaction with both the other course participants and the speakers, through e.g. a poster session and panel discussions, directly targeting the students. On the third day, students will be divided in groups which will be given lab demonstrations of some of the techniques on a rolling schedule. In the third part of the course the students will produce a tentative research proposal each, based on one or two of the involved techniques. The students should motivate the choice of technique, and why the other techniques are not suitable. Students will be given opportunity for guidance in this process.

Examination: The examination will consist of three parts. Firstly, the students will be asked to prepare and present a poster about their own research. During the poster session the students' ability to relate the usefulness of fluorescence-based techniques for their own research will be evaluated. Secondly, active participation e.g. by asking questions to the presenting researchers at the workshop will be required. This will relate to the goal of being able to compare the usefulness of different techniques, and the ability to ask relevant questions to experts within the field. Thirdly, the research proposal formulated during day 4-5 should be handed in as a report. 1-2 A4 pages. In the written report, the ability to give an account of the available state-of-the-art fluorescence-based techniques, the ability to compare and discuss the relative advantages and disadvantages of the different techniques, and judge in which situations each is appropriate, will be evaluated.

Obligatoriska moment: Active participation in all sections during the first three days is mandatory. Absence is generally not accepted, but if there are extraordinary circumstances a tailor-made session could be agreed with the course organizers, followed by an extra written examination, for maximum one day of absence.

Antal studenter: 8 - 15

Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral/postdoctoral project (according to written motivation, max 400 words), 2) date for registration as a doctoral student (priority given to earlier registration date/effective research time since doctoral degree for postdoctoral fellows (longer time gives priority).

Övrig information: The course will require approximately two days of preparation before the stated dates. Information about this will be sent out about three weeks before the indicated course start. The first two days will be dedicated to participation in a national workshop on Novel Fluorescence Methods in Immunology. At least two international speakers, and 6-7 national experts within their respective fields, has accepted the invitation to give a lecture/seminar. Day one will be ended by a poster session, where students will present a poster of their own research project. Preliminary times day 1: 10-17:30, day 2: 9-17 and day 3: 9-16. Attendance is mandatory.
Kontaktpersoner:
Title: Drug discovery and development in neuroscience

Kursnummer: 2808
Antal högskolepoäng: 3.0
Datum: 2015-03-16 -- 2015-03-27
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Clinical Neuroscience

Särskild behörighet:
Kursens lärandemål: After the course, students must be able to (1) account for the CNS drug discovery and development process including the various scientific and business disciplines involved as well as the issues and challenges facing this industry; (2) discuss the major unmet needs in this field and the scientific gaps challenging the ability to address those unmet needs; (3) account for and critically discuss the development of translational tools that can be used to predict efficacy of drug candidates in preclinical and early clinical studies; (4) discuss the regulatory and commercial challenges to developing new therapies for CNS disorders and how segmentation strategies using biomarkers can be used; (5) show an understanding of the commercial aspects of drug development including the importance of intellectual property rights; and (6) demonstrate an awareness of the opportunities and challenges of other possibilities to commercialize research findings in the neurosciences, beyond drug projects.

Kursens innehåll: (1) A series of lectures addressing major aspects of CNS Drug Discovery and Development with a particular focus on the challenges of translation from preclinical to early and late clinical development. The course will highlight experts in the range of disciplines involved in the CNS drug discovery and development process and the translational tools related to neurodegenerative diseases. The course will also address the technical and clinical aspects of validation of biomarkers needed before applied in the different aspects of drug development. Additionally, the course will address other avenues for entrepreneurship arising for research in the neurosciences. (2) Group exercises where the students develop plans for a drug discovery and development project.

Arbetsformer: Lectures, seminars, and group exercises including presentations. The participants will get questions to reflect upon before the seminars.

Examination: An oral presentation of the group exercises will count as an examination. We will assess the individual students' ability to develop a realistic plan for the project, as well as his or her ability to critically discuss current challenges in the field.

Obligatoriska moment: Seminars and group presentations.

Antal studenter: 10 - 20

Urvval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)

Övrig information: Course leaders: Edwin Johnson. edwin.johnson@ki.se, Dennis Hellgren, dennis.hellgren@ki.se and Kina Höglund, Kina.Hoglund@neuro.gu.se

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Kontaktpersoner:
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Title: Scientific writing in quantitative aging research

Kursnummer: 2813
Antal högskolepoäng: 3.0
Datum: 2015-03-18 -- 2015-03-26
Språk: Engelska
Nivå: Doctoral level

Kursansvarig institution: Department of Neurobiology, Care Sciences and Society

Särskild behörighet: None

Kursens lärandemål: After this course, participants are expected to be able to:
- Apply basic principles of writing to compose clear, concise, reader-centered scientific texts.
- Identify the main message(s) in studies and use this information and the basic principles of writing to outline articles in accordance with the standard structure of scientific articles used in this course.
- Identify and correct common problems in scientific writing, such as plagiarism, problems with verb tense, and ambiguity.

Kursens innehåll:
- The basic principles of writing, such as considering your audience.
- The structure of scientific articles, including traditional differences in epidemiological, psychological, and sociological articles.
- Identifying the main message(s) in a fictitious study.
- Using the basic principles and main message(s) to outline an article about the fictitious study.
- Revising scientific documents to make them clear, concise, and reader-centered.
- Discussion of the topics covered in the course in relation to course literature and students' own experiences.

Arbetsformer:
- Interactive lectures
- Seminars and workshops
- Individual, small group, and large group exercises and homework

Examination:
- Written statement of the main message(s) in a study (individual homework assignment).
- Written outline created on the basis of the structure of scientific articles used in this course (group assignment to be completed in class).
- Written abstract and cover letter (group assignment to be completed in class).
- Worksheet on common errors in writing (individual homework assignment).

Obligatoriska moment:
- Daily attendance is mandatory. Students are expected to participate actively in discussions and group assignments. Those who miss a compulsory element must participate in a specially arranged seminar after the end of the course.

Antal studenter: 10 - 15

Urval av studenter: Priority will be given to doctoral students interested in quantitative aging research.

Övrig information: The course focuses on scientific writing in quantitative aging research. Thus, writing examples and assignments will be drawn from that subject area.

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Kontaktpersoner:
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Title: Clinical Applications in Musculoskeletal Regenerative Medicine

Kursnummer: 2818
Antal högskolepoäng: 1.5
Datum: 2015-06-01 -- 2015-06-05
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department for Clinical Science, Intervention and Technology
Särskild behörighet: none

At the end of the course, the doctoral student will be able to describe: 1) basics of stem cell biology, stem cell differentiation, and the stem cell niche, 2) a number of novel technologies and approaches in stem cell research and regenerative medicine, 3) strategies for safe and effective translation of basic stem cell biology into the clinic. The student can demonstrate an interdisciplinary understanding of central concepts in stem cell science and critically evaluate different methods and techniques used. The student will be able to extract and integrate information from state-of-the-art lectures in combination with overview articles and literature searches on the internet within the research field.

The course covers key concepts in translational research on stem cells and the stem cell niche from the laboratory to the patient in the clinic. This includes a general overview of stem cell biology and history, sources, homing and circulation and interaction with the immune system, and clinical applications. Invited speakers will give advanced summaries of the latest research in the stem cell and regenerative medicine field.

The pedagogic framing of this course is based on lectures with corresponding research topics. The student will be welcomed to take an active part, contribute and value discussions on relevant topics in the stem cell field. Networking with students and speakers is highly encouraged in this course.

Individual written project report will be performed and handed in at the end of the course. Formative assessment of each student in connection with discussions with lectures and peers.

The lectures and examination are mandatory. Compensation according to the instructions of the course director.

Antal studenter: 10 - 25
Urval av studenter: The selection process will be based on a comprehensive assessment of the students: 1. Motivation for the course 2. Topic of their PhD project 3. Years since PhD registration

Övrig information: The KI-CUHK (the Chinese University of Hong Kong) International Network Symposium on Regenerative Medicine will be a part of the course and will be held on June 1-2, 2015. International and national key experts will lecture at the course.

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Klinisk Immunologi F79
Karolinska Universitetssjukhuset Huddinge
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Title: Microscopy: how to improve your imaging skills? Theory and practical tips from sample preparation to image analysis

Kursnummer: 2820
Antal högskolepoäng: 3.0
Datum: 2015-03-16 -- 2015-03-27
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Biosciences and Nutrition
Särskild behörighet: Participants to this course must have used a microscope to acquire digital images of fluorescently labelled samples within the past 1 year.

Kursens lärandemål: At the end of the course, students will be able to:
- Describe the difference between wide field and confocal microscopes as well as the different types of confocal microscopes and choose which system is most suited to which application
- Evaluate fluorophores by matching their spectra with the microscope light source and filters, identify and avoid bleed-through and cross-excitation and pick the best combination of fluorophores for their own microscope
- Explain objective specifications and limitations and describe the appropriate objective for their own application
- Fix, mount and handle their sample in a way that is optimal for imaging as well as select an appropriate sample carrier for each application
- Explain the theory behind resolution, pixel density, averaging, scan speed and describe which settings are best suited to their application
- Explain which applications require a hardware autofocus, a spectral detector, a resonance scanner, two-photon microscopy or super resolution
- Explain the advantages in using the automation of a microscope system to collect multidimensional data
- Find their sample and the area of interest without bleaching it
- Adjust the condenser for proper DIC imaging (Koehlering)
- Run a simple image analysis and describe the imaging requirements for automated image analysis
- Explain and critically comment on Material and Methods sections describing the acquisition of digital images and microscopy protocols

Kursens innehåll: The course will give students the theoretical and practical knowledge to improve the quality of their images, identify and avoid imaging artifacts and get started with automated image analysis. They will understand the difference between the different types of microscopy and which is required for which application. They will know what fluorescence is, how to understand fluorophore specifications, will have heard about the latest development in the fluorophore field and will be able to match fluorophore spectra and microscope filters to avoid bleed-through and cross-excitation. They will understand objective specifications and how to select the appropriate objective for their own application. They will learn about the challenges of imaging fluorescent volumes and the different techniques available. Participants will also understand how to set resolution, pixel density, averaging, scan speed, laser power, etc in the best way for their application. Additionally, they will hear many practical tricks about fixation, mounting and handling of their sample in a way that is optimal for imaging and they will learn about more advanced techniques like two-photon microscopy, super resolution, FLIM and spectral imaging. Lastly, they will get a chance to image their own sample, get feedback on what settings to use and improve their presentation and critical thinking skills.

Arbetsformer: Lectures, demonstrations, practical microscope lab sessions on State-of-the-Art confocals at the Live Cell Imaging microscopy facility, workshops and a minisymposium.

Examination: The students will be assessed through a written examination (1h) with questions about the theoretical part of the course. Practical exercises will be marked during the workshops and hands-on. Students who fail will be given one extra chance for re-examination.

Obligatoriska moment: Attendance to all lectures and the labs is compulsory as well as passing the examination. In case of absence to a lab session, the student must present a literature work related to the missing activity.

Antal studenter: 12 - 16
Urval av studenter: The selection is based on the usefulness of the course for the participant research projects and must be described in writing during the application.

Övrig information: The course will be run on the latest Nikon confocals as well as a Zeiss LSM710-NLO (two photon) and an Andor spinning disk system. As far as possible, each participant should bring along their own sample as well as images they have acquired on their home microscope. Part of the homework is to image these samples again with the new knowledge in mind. Both theory and practice parts of the course will be held at the Live Cell Imaging unit, Karolinska Institutet, Huddinge mornings 9:00-12:00: lectures, afternoons 13-17: days 1 and 9: workshop for all days 2-8: workshops and hands-on for half of the students or the other half (alternate days) day 10: a minisymposium with international speakers. Note that the date of the symposium may change depending on the availability of the speakers. It will be organized as close to the course as possible.

Kursansvarig:
Sylvie Le Guyader
Institutionen för biovetenskaper och näringslära

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Kontaktpersoner:
The course identifies the different steps of the entire process of drug discovery and development, and the critical role played by safety assessment in a drug project moving through that process. The students will discuss and practice the assessments needed during the discovery and development phases, as well as the post-marketing phase. The importance of a safety assessment during target identification is highlighted, and special emphasis is put on how to include and evaluate toxicologically relevant in silico, in vitro and in vivo methods into a drug project during the discovery phase. The regulatory requirements, covering both pre-clinical and clinical studies in the development phase, are explored, with the aim to enable the students to put animal and human data into a regulatory context. Translational safety assessment, which bridges the gap between animal and human studies, is a special focus area. New relevant methods (such as adverse outcome pathways and non-animal methods), enabling a predictive approach to the process, are introduced. The occurrence and importance of pharmaceuticals in the environment is discussed.

Arbetsformer : The course includes lectures, discussions, and group assignments.
Examination : Examination is in the form of presentation and discussion of a group assignment. Every student is individually assessed. If necessary this is complemented by oral questioning (for individual examination).
Obligatoriska moment : Participation in practical exercises and group assignments are compulsory. Absence can be compensated with an individual assignment.
Antal studenter : 10 - 15
Urval av studenter : The selection will be based on 1) the relevance of the course for the doctoral research project and 2) the personal motivation written by the applicant.
Övrig information : The course will be held at the Institute of Environmental Medicine, IMM, Nobels väg 13, Campus Solna.
Motor neuron diseases and frontotemporal dementia: Practical applications of human neuropathology and stem cell modeling

Kursnummer : 2823
Antal högskolepänt : 1.5
Datum : 2015-05-04 -- 2015-05-08
Språk : Engelska
Nivå : Doctoral level
Kursansvarig institution : Department of Neuroscience
Särskild behörighet : Documented knowledge in neuroscience (for example from MSc course).

Kursens lärandemål:
I) The students will have an understanding of how stem cells can be used to model and study neurodegenerative diseases, with a focus on motor neuron diseases. They will also get practical skills and apply their theoretical knowledge into deriving neuronal progenitors and postmitotic motor neurons from stem cells. II) Through practical microscope session, studying the human nervous system in health and disease, the students will learn to identify pathological features of motor neuron diseases and FTD as well as typical examples of other neurodegenerative diseases. III) The students will acquire in depth knowledge and understanding of selected neurodegenerative diseases with a focus on amyotrophic lateral sclerosis (ALS), frontotemporal dementia (FTD) and spinal muscular atrophy (SMA). They will be able to understand and describe their clinical presentations and causes, when known. The students will learn about multiple aspects of these neurodegenerative diseases, including disease modeling in fly, fish and mice.

Kursens innehåll:
i) the majority of the lectures will be held by invited researchers with expertise in motor neuron diseases and FTD allowing the students to get an international perspective of these research areas. ii) The course will include presentations on stem cells and their derivation into neurons and use in disease modeling in vitro. iii) The course includes a practical stem cell laboratory where mouse embryonic stem cells will be differentiated into motor neurons. iv) The course will encompass practical microscope sessions with analysis of the human nervous system in health and disease, enabling students to learn to identify pathological features associated with neurodegenerative diseases. v) The course will include lectures on the clinical presentations of several neurodegenerative diseases, with a focus on amyotrophic lateral sclerosis (ALS), frontotemporal dementia (FTD) and spinal muscular atrophy (SMA). vi) The course will go through multiple aspects of these neurodegenerative diseases.

 Arbetsformer : Daily class room lectures. Microscope sessions. Stem cell lab class. The students will prepare a group presentation of a pre-selected topic, which will be presented the last day of the course and constitutes the examination.

Examination: The examination will be held on the last day of the course and will consist of i) participation in a group presentation of a selected topic in neurodegenerative disease/stem cell modeling of neurodegenerative diseases, ii) act as a peer-reviewing audience when other groups are presenting, iii) an individual assessment of the intended learning outcomes through a written multiple-choice test.

Obligatoriska moment: At least 80% attendance at lectures is required. 100% attendance of microscope sessions and the stem cell laboratory class is required. It is obligatory to hold a group presentation on the last day of the course as well as to attend the other group presentations as a peer reviewer. In the case of absence the session might be compensated by a written report using literature of agreement with the course director.

Antal studenter : 20 - 30
Urval av studenter : Registered PhD-students studying neuroscience or stem cells will be prioritized over non-registered and non-neuroscience/stem cell PhD-students.

Övrig information : The course will be held at the Karolinska Institutet campus in Solna at the Department of Neuroscience and will encompass lectures, microscope sessions and a practical stem cell laboratory class.

Kursansvarig:
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KIADRC, Novum plan 5

141 86
Stockholm
Title: Health and medicine in cultural context: introduction to medical anthropology

Kursnummer: 2826
Antal högskolepoäng: 3.0
Datum: 2015-04-16 -- 2015-05-08
Språk: Engelska
Nivå: Doctoral level
Kursansvarig institution: Department of Public Health Sciences

Särskild behörighet:
Kursans lärandemål: At the course's completion students will be able to: - Understand the way culture shapes concepts of health, the experience of illness, expectations of care, and patterns of social interaction that affect the meeting between health care providers and their patients. - Analyse fundamental social and cultural factors that influence the provision of health care and adherence to care regimens - Understand the complex and nuanced ways in which economic conditions, social structures, and cultural values relate to and inform one another - Apply cultural understandings of the body, health, illness and family relationships in both research and clinical settings - Be self-reflective in dealing with people from other cultures in research and clinical settings - Understand challenges in interdisciplinary research
Kursens innehåll: - The concepts of culture and society in relation to health and medicine - Nutritional, biological and ecological research in medical anthropology - Qualitative research methods and interdisciplinary research - The relationship between "cultural" factors and underlying societal power structures - The "culture" of global health institutions and initiatives - The relationship between patients and pharmaceutical products
Arbetsformer: Lectures, seminars and web-based learning activities
Examination: Formal individual assessment during lectures and seminars including assignment presentation, and by written paper.
Obligatoriska moment: Missed seminars and lectures are to be made up with written assignments.
Antal studenter: 12 - 35
Urval av studenter: Selection will be based on 1) the relevance of the course syllabus for the applicant's doctoral project (according to written motivation), 2) date for registration as a doctoral student (priority given to earlier registration date)
Övrig information: The course meets April 16, 17, 23, 24 and May 7, 8, with reading and other learning activities between course meetings. The course will be held at the KI Solna campus, and on-line for students overseas.

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