

Opasraportti

LTK - Medicine (2013 - 2014)

DEGREE PROGRAMME IN MEDICINE 2013-14

The degree of Licentiate of Medicine, 6 years

Level of qualification

The degree programme in Medicine leads to the degree of Licentiate of Medicine (lääketieteen lisensiaatti), which Corresponds M.D. degree in Angloamerican countries.

ECTS Credits

The minimum extent of the Licentiate of Medicine degree is 360 credits.

Language of instruction

The teaching is given in Finnish language.

Admission requirements

The admission requirements for the degree programme in Medicine comprise the Matriculation Examination Certificate or the upper secondary vocational education and an entrance examination. Equivalent foreign education also gives general eligibility for degree programme in medicine. Foreign applicant's admission is based exclusively on the results of the entrance examination.

All applicants to the degree programme in Medicine have to attend an entrance examination, which is held in Finnish or in Swedish and is based on Finnish or Swedish literature. If a foreign applicant wants to answer in Swedish to the entrance examination, she/he has to demonstrate language proficiency in Finnish. The teaching is given in Finnish language.

Arrangements for recognition of prior learning

Recognizing official, unofficial or informal learning: [AHOT](#) , [University of Oulu Rules of Procedure](#)

Profile of the programme

The degree programme in Medicine leads to the degree of Licentiate of Medicine (*lääketieteen lisensiaatti*), which Corresponds M.D. degree in Angloamerican countries. The instruction in the degree programme in medicine emphasizes the regular updating of knowledge and has a strong connection to scientific research. The contents of instruction are fully in line with the intended learning outcomes, and they are under constant evaluation and development. Since 2011, instruction in the degree programme in Medicine at the University of Oulu has been organised according to a new curriculum.

Graduates of the degree programme in medicine become experts in demanding tasks on both national and international level. Studying in an academic community of diverse scientific fields and high standards is challenging and rewarding. Our programme offers graduates a range of career opportunities on different professional paths as well as in research.

The training has strong connection to diverse and cross-disciplinary scientific research at Faculty of Medicine. For students, it is possible to begin scientific research work in research groups before graduation.

Course structure diagram and required for the degree courses

The minimum extent of the Licentiate of Medicine degree is 360 credits. One Finnish credit equals to one ECTS credit. The average input of 1600 working hours needed for studies of one academic year is equivalent to 60 credits. Medical studies are pre-scheduled and the training is organized in such a manner that with full-time attendance the degree can be taken in six years.

The degree programme consists of basic, intermediate and advanced studies, language studies and compulsory practical training. Studies are carried out as contact teaching. Medical studies are pre-scheduled and organized according the order presented in curriculum. Studies have to be accomplished according the pre-scheduled order. Exceptions can be made only based on the accepted personal study plan.

The preclinical stage lasts for two years (Semesters 1-4) and mostly consists of general studies. The completion of clinical studies takes four years (Semesters 5-12). During this phase students focus on the occurrence, onset, diagnostics, treatment and prevention of various diseases. Bed-side teaching is part of students' daily routine. Some clinical studies are integrated in preclinical stage of studies.

The degree structure of each semester (2013)

1. Semester (C1 ja C2)

040201A	Anatomy 14 ECTS
040201A	Developmental biology 7 ECTS
040116Y	Public health and interprofessional collaboration 5 ECTS
040103A	Medical biochemistry and molecular biology 15 ECTS

Professional development in medicine (PDM) – track 4 ECTS, including:

040013Y	Introduction to Medical Studies 2 ECTS
040016Y	Basic life support 0.5 ECTS
040015Y	Health Care Ethics 1.5 ECTS

Environment, lifestyle and health (ELH) - track 2 ECTS, including:

041002Y -01	ELH-studies 2 ECTS
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Evidence Based Medicine (EBM) - track 2,5 ECTS, including:

902006Y	Reading for Academic Purposes 1.5 ECTS
041001Y -01	EBM-studies 1 ECTS

Knowledge and research 6,5 ECTS, including:

040012Y	A. Information and Communication Technology
040012Y	B. Scientific Communication

total 56 op

2. Semester (C3 ja C4)

040106A	Pharmacology and toxicology 10 ECTS
040112A	Physiology 15 ECTS
040119A	Microbiology 10 ECTS
040117Y	Interviewing and examining patients 4 ECTS
040104A	Psychology 4 ECTS
040108A	Pathology I: General Pathology 5 ECTS
080803A-01	Radiation physics, biology and safety 1.5 ECTS
901006Y	Second Official Language (Swedish) 3 ECTS

Environment, lifestyle and health (ELH) - track 1 ECTS, including:

040119Y	Environmental health care 1 ECTS
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Evidence Based Medicine (EBM) - track 2 ECTS, including:

040105Y	Basic Epidemiology 1.5 ECTS
041001Y -02	EBM-studies 0.5 ECTS

Knowledge and research 3.5 ECTS, including:

040012Y C. Statistical Methods

total 59 ECTS

3. Semester (C5 ja C6)

080601A Anaesthesiology I 4 ECTS
 080222A Organ pathology I 6 ECTS
 080712A Surgery I 16 ECTS
 040127A Clinical pharmacology and Prescriptions 1 ECTS
 080603A Clinical chemistry 3 ECTS
 080803A Radiology I 3.5 ECTS
 080711A Internal medicine I 16.5 ECTS
 080427A -01 General practice 1 ECTS
 042001Y Integrated studies 3 ECTS including:
 042001Y -04 Anatomy 1 ECTS
 042001Y -01 Medical Biochemistry and Molecular Biology 1 ECTS
 042001Y -02 Physiology 1 ECTS

Professional development in medicine (PDM) – track 1 ECTS including:

041003Y -03 PDM-studies 1 ECTS

Evidence Based Medicine (EBM) - track 0.5 ECTS including:

041001Y -03 EBM-studies 0.5 ECTS

080707S Practice 3 ECTS

total 58.5 ECTS

4. Semester (C7 ja C8)

080613A Anaesthesiology II 3 ECTS
 080223A Organ pathology II 2 ECTS
 080205A Pulmonary diseases 3 ECTS
 080714A Surgery II 8 ECTS
 080302A Oto-rhino-laryngology 6 ECTS
 080304A Neurosurgery 3 ECTS
 080301A Neurology 6 ECTS
 080511A Psychiatry 12 ECTS
 080713A Internal medicine II 4.5 ECTS
 080427A -02 General practice 1 ECTS
 042001Y Integrated studies 2 ECTS including:
 042001Y -03 Physiology 1 ECTS
 042001Y -05 Pathology 1 ECTS

Environment, lifestyle and health (ELH) - track 1 ECTS including:

041002Y -04 ELH-studies 1 ECTS

Evidence Based Medicine (EBM) - track 1.5 ECTS including:

902007Y Scientific Communication 1.5 ECTS

080707S Practice 6 ECTS

total 59 ECTS

5. Semester (C9 ja C10)

080224A Organ pathology III 2 ECTS
 080203A Dermatology and venereology 5 ECTS
 040128A Clinical pharmacology 1 ECTS
 080503A Child psychiatry 3 ECTS

080502A Pediatrics 14 ECTS
 080505A Clinical genetics 2 ECTS

080303A Ophthalmology 4 ECTS
 080401A Obstetrics and gynecology 10 ECTS
 080427A-03 General practice 5 ECTS
 042001Y Integrated studies 1 ECTS, including:
 042001Y -06 Medical Biochemistry and Molecular Biology 1 ECTS

080705S -01 Thesis, Study plan 4 ECTS
 080510A-05 OSCE-exam

Professional development in medicine (PDM) – track 1 ECTS, including:
 040015Y Health Care Ethics 1 ECTS

Environment, lifestyle and health (ELH) - track 1 ECTS, including:
 041002Y -05 ELH-studies 1 ECTS

Evidence Based Medicine (EBM) - track 1 ECTS, including:
 041001Y -05 EBM-studies 1 ECTS

080707S Practice 6 op

total 60 ECTS

6. Semester (C11 ja C12)

080916A Physiatrics and rehabilitation 5 ECTS
 080914A Geriatrics 4 ECTS
 040116A Public health science 5 ECTS
 080204A Oncology 4 ECTS
 080001Y Medical rescue work 4 ECTS
 080202A Forensic medicine 4 ECTS
 080813A Radiology II 2 ECTS
 080410A Occupational health 2 ECTS
 080427A -04 General practice 8 ECTS
 042001Y Integrated studies 1 ECTS, including:
 042001Y -07 Medical Biochemistry and Molecular Biology 1 ECTS

Professional development in medicine (PDM) – track 3 ECTS, including:
 040015Y Health Care Ethics 1 ECTS
 040017Y Leadership in Health Care 2 ECTS

Evidence Based Medicine (EBM) - track 0.5 ECTS, including:
 041001Y-06 EBM-studies 0.5 ECTS

080707S Practice 9 ECTS

080705S Thesis 16 ECTS
 040300A Maturity Exam

total 67.5 ECTS

DEGREE PROGRAMME IN MEDICINE (Government Decree on University Degrees 794/2004)

1. academic year	2. academic year	3. academic year	4. academic year	5. academic year
C1-C2	C3-C4	C5-C6	C7-C8	C9-C10

Anatomy 14 ECTS Medical cell and developmental biology 7 ECTS	Physiology 15 ECTS Psychology 4 ECTS	Organ pathology I 6 ECTS Internal medicine I 16,5 ECTS Surgery I 16 ECTS	Anaesthesiology II 3 ECTS Organ pathology II 2 ECTS Pulmonary diseases 3 ECTS	Organ pathology Dermatology and Pediatrics 14 EC
Public health and interprofessional collaboration 5 ECTS Medical biochemistry and molecular biology 15 ECTS	General Pathology 5 ECTS Microbiology 10 ECTS Pharmacology and toxicology 10 ECTS	Anaesthesiology I 4 ECTS Clinical chemistry 3 ECTS Clinical pharmacology and Prescriptions 1 ECTS Radiology I 3,5 ECTS General practice 1 ECTS	Surgery II 8 ECTS Oto-rhino-laryngology 6 ECTS Neurology 6 ECTS Neurosurgery 3 ECTS Psychiatry 12 ECTS	Child psychiatry Clinical genetics : Ophthalmology 4 E
Knowledge and Research 6.5 ECTS op: A. Information and communication technology B. Scientific communication PDM 4 ECTS : Introduction to Medical Studies 2 ECTS Health Care Ethics 1.5 ECTS Basic life support 0.5 ECTS ELH Studies 2 ECTS EBM 2.5 ECTS : Including: Reading for academic purposes 1.5 ECTS EBM-studies 1 ECTS	Interviewing and examining patients 4 ECTS Radiation physics, biology and safety 1.5 ECTS Knowledge and Research 3.5 ECTS: C. Statistical methods Second official language (Swedish) 3 ECTS ELH 1 ECTS: Environmental health care 1 ECTS EBM 2 ECTS: Including: Basic Epidemiology 1.5 ECTS EBM-studies 0.5 ECTS	Integrated studies 3 ECTS PDM-Studies 1 ECTS EBM-studies 0.5 ECTS Practice 3 ECTS	Internal medicine II 4.5 ECTS General practice 1 ECTS Integrated studies 2 ECTS ELH-Studies 1 ECTS EBM 1.5 ECTS: Including: Reading for Academic Purposes 1.5 ECTS Practice 6 ECTS	Obstetrics and gy Clinical pharmac General practice Integrated studies: OSCE-exam PDM 1 ECTS: Health Care Ethic ELH-Studies 1 E EBM 1 ECTS Thesis Plan 4 EC Practice 6 ECT:
56 ECTS	59 ECTS	58.5 ECTS	59 ECTS	60 ECTS

Thesis and maturity exam total 20 ECTS

Practice total 24 ECTS

SCOPE OF THE DEGREE CREDITS 360 ECTS

Graduation requirements

The minimum extent of the Licentiate of Medicine degree is 360 ECTS credits. The degree programme consists of general, basic, intermediate and advanced studies, language studies and compulsory practical training. The thesis and a maturity test are included in the advanced studies of major. The total amount of compulsory practical training is 24 ECTS credits.

Separate provisions have been laid down for assessing the proficiency in Finnish and Swedish language required in accordance with the Government Decree on University Degrees (794/2004), <http://www.finlex.fi/en/laki/kaannokset/2004/en20040794.pdf>:

1. The student must demonstrate in studies included in education for a degree of Licentiate of Medicine or otherwise that he/she has attained:

proficiency in Finnish and Swedish which is required of civil servants in bilingual public agencies and organizations under Section 6(1) of the Act on the Knowledge of Languages Required of Personnel in Public Bodies (424/2003) and which is necessary for their field; and

skills in at least one foreign language needed to follow developments in the field and to operate in an international environment.

2. The provisions of subsection 1 do not concern a student who has been educated in a language other than Finnish or Swedish or a student who has been educated abroad. The language proficiency of such students shall be determined by the university.

3. For special reasons, the university may either totally or partially exempt a student from the requisite language skills referred to in subsection 1.

In order to gain a degree certificate the student has to supply an application to the faculty's office according to instructions given by the faculty.

Learning outcomes

The goal of the studies towards the degree of Licentiate of Medicine is to provide the students with such knowledge, skills and psycho-social abilities that will enable them, after graduation, to successfully function as experts, developers and team participants and leaders in hospitals as well as in primary health care. An additional goal is that a graduate will have the prerequisite skills for research work and post-graduate study as well as the ability and motivation for lifelong learning. The instruction, which emphasizes the regular updating of knowledge, has a strong connection to scientific research. The contents of instruction have been derived from the goals, and they are under constant evaluation and development.

The learning outcomes of the degree are based on the competences described in the publication of The Tuning Project (Medicine): Learning outcomes/competences for undergraduate medical education in Europe <http://www.tuning-medicine.com/index.asp>.

Modes of study

Medical studies are pre-scheduled and the training is organized in such a manner that with full-time attendance the degree can be taken in six years. Most of the courses are compulsory for all students. Some study modules, especially thesis in advanced studies, can be chosen according to the student's own interests.

Examination regulations, Assessment and Grading

Assessment is based on examinations, exercises, essays, field work, clinical work, reports or any other method determined pedagogically appropriate for the particular course. Additional information is given in study unit descriptions.

A numerical scale 0-5 in whole numbers or verbal grading Pass or Fail is used in assessing a completed course. When assessing theses, verbal grading hyväksytty (Approved) tai hylätty (Rejected) is being used. In numerical scale zero stands for fail.

Qualification requirements and regulations

The degree provides doctor's eligibility. National Supervisory Authority for Welfare and Health (Valvira) grants, upon application, the right to practice as a licenced medical doctor. More information: http://www.valvira.fi/en/licensing/professional_practice_rights

Occupational profiles of graduates

The goal of the degree programme in medicine is to prepare students for a career as a physician as well as for professional and scientific post-graduate education. In addition to the traditional work as a physician, the training enables graduates to work in the fields of teaching and research as well as in other positions as an expert in the field of medicine.

Access to further studies

After completing the basic degree, students may apply for the post-graduate professional education that leads to a specialist degree and/or pursue the Doctor of Medicine degree as a scientific post-graduate degree.

The degree of a Doctor of Medical Science is a postgraduate degree in medicine. The doctorate may take 3 - 4 years full time study. An accepted thesis is required as well as theoretical studies.

The Specialist degree is a professional postgraduate degree. In Finland there are 49 specialist degree programmes. The specialist education in medicine takes 5 to 6 years after permission granted by the National Supervisory Authority for Welfare and Health (Sosiaali- ja terveystieteiden lupa- ja valvontavirasto, Valvira) to practice as a physician in Finland. It consists of theoretical lectures, working in hospitals and health centers and an examination.

Information about the post-graduate professional education: <http://www.medicine oulu.fi/erikoistumiskoulutus.html> (in Finnish)

Information about the scientific post-graduate education: <http://www.medicine oulu.fi/english/postgraduate-education.html>

ECTS Coordinator

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For more information on postgraduate studies at the Faculty of Medicine contact:

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Licentiate of Medicine

Tutkintorakenteen tila: published

Lukuvuosi: 2013-14

Lukuvuoden alkamispäivämäärä: 01.08.2013

Check the correct amount of ECTS credits for courses that have empty box on the scheduling tab. This depends on the year you began your studies. You can find this from Weboodi "Course Catalogues" - "General Information" page. Enrolment year 2013 mark the credits as follows:

040201A Anatomy and medical cell and developmental biology 21 credits
 040103A Medical Biochemistry and Molecular Biology 15 credits
 040015Y Health Care Ethics 1,5 credits
 041002Y-01 Environment, Lifestyle and Health Studies 2 credits
 041001Y-01 Evidence Based Medicine -studies 1 credits
 040012Y Knowledge and Research 6,5 credits

040201A: Anatomy and medical cell and developmental biology, 21 - 22 op
 040016Y: Basic life support, 0,5 op
 041002Y-01: Environment, Lifestyle and Health Studies, 1 - 2 op
 041001Y-01: Evidence Based Medicine-studies, 0,5 - 1 op
 040015Y: Health Care Ethics, 1 - 3,5 op
 040013Y: Introduction to Medical Studies, 2 op
 040012Y: Knowledge and Research, 3,5 - 10 op
 040103A: Medical Biochemistry and Molecular Biology, 14 - 15 op
 040116Y: Public health and interprofessional collaboration, 5 op
 902006Y: Reading for Academic Purposes, 1,5 op

Check the correct amount of ECTS credits for courses that have empty box on the scheduling tab. This depends on the year you began your studies. You can find this from Weboodi "Course Catalogues" - "General Information" page. Enrolment year 2013 mark the credits as follows:

040119A Microbiology: Medical microbiology and immunology 10 credits
 040117Y Interviewing and examining patients 4 credits
 040104A Psychology 4 credits
 040108A General pathology 5 credits
 040012Y Knowledge and research 3,5 credits

040105Y: Basic Epidemiology, 1,5 op
 040119Y: Environmental health care, 1 op
 041001Y-02: Evidence Based Medicine-studies, 0,5 op
 040108A: General Pathology, 3,5 - 5 op
 040117Y: Interviewing and examining patients, 4 op
 040012Y: Knowledge and Research, 3,5 - 10 op
 040119A: Microbiology, 9,5 - 10 op
 040106A: Pharmacology and toxicology, 10 op
 040112A: Physiology, 15 op
 040104A: Psychology, 4 - 4,5 op
 080803A-01: Radiation and its safe use, 1,5 op

Check the correct amount of ECTS credits for courses that have empty box on the scheduling tab. This depends on the year you began your studies. You can find this from Weboodi "Course Catalogues" - "General Information" page. Enrolment year 2013 mark the credits as follows:

080601A Anaesthesiology 4 credits
 080712A Surgery 16 credits
 080803A Radiology I and radiation and its safe use 3,5 credits
 080711A Internal Medicine I 16,5 credits
 080707S Practical training 3 credits

080601A: Anaesthesiology I, 3 - 4 op
 042001Y-04: Clinical Anatomy, 1 op
 042001Y-02: Clinical Physiology 1, 1 - 2 op
 080633A: Clinical chemistry, 3 op
 040127A: Clinical pharmacology and prescriptions, 1 op
 041001Y-03: Evidence Based Medicine-studies, 0,5 op
 080711A: Internal medicine I, 4,5 - 21 op
 042001Y-01: Medical Biochemistry and Molecular Biology, clinical studies, 1 op
 080222A: Organ pathology I, 6 op
 080707S: Practical training, 3 - 24 op
 041003Y-03: Professional Development in Medicine Studies 3, 1 op
 080427A-01: Public Health 1, 1 op
 080803A: Radiology I, 3,5 - 5 op
 080712A: Surgery I, 16 - 24 op

Check the correct amount of ECTS credits for courses that have empty box on the scheduling tab. This depends on the year you began your studies. You can find this from Weboodi "Course Catalogues" - "General Information" page. Enrolment year 2013 mark the credits as follows:

080714A SurgeryII 8 credits
 080301A Neurology 6 credits
 080511A Psychiatry 12 credits
 080711A Internal Medicine 4.5
 080707S Practical training 6 credits

080613A: Anesthesiology II, 3 op
 042001Y-05: Clinical Pathology, 1 op
 042001Y-03: Clinical Physiology 2, 1 op
 041002Y-04: Environment, Lifestyle and Health Studies, 1 op
 080711A: Internal medicine I, 4,5 - 21 op
 080301A: Neurology, 6 - 6,5 op
 080304A: Neurosurgery, 3 op
 080223A: Organ pathology II, 2 op
 080302A: Oto-rhino-laryngology, 6 op
 080707S: Practical training, 3 - 24 op
 080511A: Psychiatry, 12 - 14 op
 080427A-02: Public Health, 1 op
 080205A: Pulmonary diseases, 3 op
 902007Y: Scientific Communication, 1,5 op
 080714A: Surgery II, 1 - 8 op

Check the correct amount of ECTS credits for courses that have empty box on the scheduling tab. This depends on the year you began your studies. You can find this from Weboodi "Course Catalogues" - "General Information" page. Enrolment year 2013 mark the credits as follows:

080502A Pediatrics 14 credits
 080505A Clinical genetics 2 credits
 080401A Obstetrics and gynecology 10 credits
 080705S-01 Thesis, Study plan 4 credits
 040015Y Health Care Ethics 1 credits
 080707S Practical training 6 credits

080503A: Child psychiatry, 3 op
 080505A: Clinical genetics, 2 op
 040128A: Clinical pharmacology, 1 op
 080203A: Dermatology and venereology, 5 op
 041002Y-05: Environment, Lifestyle and Health Studies, 1 op
 041001Y-05: Evidence Based Medicine-studies, 1 op
 040015Y: Health Care Ethics, 1 - 3,5 op
 042001Y-06: Medical Biochemistry and Molecular Biology, clinical studies 1, 1 op
 080510A-05: OSCE, 0 op
 080401A: Obstetrics and gynecology, 10 op

080303A: Ophthalmology, 4 op
 080224A: Organ pathology 3, 2 op
 080502A: Pediatrics, 14 op
 080707S: Practical training, 3 - 24 op
 080427A-03: Public Health, 5 op
 901006Y: Second Official Language (Swedish), 3 op
 080705S-01: Thesis, Study plan, 4 op

Check the correct amount of ECTS credits for courses that have empty box on the scheduling tab. This depends on the year you began your studies. You can find this from Weboodi "Course Catalogues" - "General Information" page. Enrolment year 2013 mark the credits as follows:

080914A Geriatrics 4 credits
 080204A Oncology 4 credits
 080001Y Lääkinnällinen pelastustoimi ja hoitoelvytys 4 credits PUUTTUU ENGL NIMI!!
 080410A Occupational health 2 credits
 080427A-04 Public Health 8 credits
 040015Y Health Care Ethics 1 credits
 041001Y-06 Evidence Based Medicine -studies 0,5 credits
 080705S-02 Thesis 16 credits
 080707S Practical training 9 credits

041001Y-06: Evidence Based Medicine-studies, 0,5 op
 080202A: Forensic medicine, 4 op
 080914A: Geriatrics, 4 op
 040015Y: Health Care Ethics, 1 - 3,5 op
 040017Y: Leadership in Health Care, 2 op
 040300A: Maturity exam (native language), 0 op
 042001Y-07: Medical Biochemistry and Molecular Biology, clinical studies 2, 1 op
 080001Y: Medical rescue work, 4 - 5 op
 080410A: Occupational health, 2 op
 080204A: Oncology, 4 op
 080916A: Physiotherapy and rehabilitation, 5 op
 080707S: Practical training, 3 - 24 op
 080427A-04: Public Health 4, 8 - 9 op
 040116A: Public health science, 5 op
 080813A: Radiology II, 2 op
 080705S-02: Thesis, 16 - 20 op

Tutkintorakenteisiin kuulumattomat opintokokonaisuudet ja -jaksot

080600A: Acute and chronic pain, 2,5 op
 040005Y: Biostatistics, 3 op
 040138Y: Brand ambassador career skills, 2 op
 080603A-04: Clinical chemistry, 2,5 op
 080603A-05: Clinical chemistry, endocrinology, 1,5 op
 040126A: Clinical pharmacology, 2,5 op
 903008Y: Conversational Skills in German, 1,5 op
 040401A: Dissection, 3 op
 080722A: Elective Course of Surgery, 1 op
 041002Y: Environment, Lifestyle and Health Studies, 4 op
 041001Y: Evidence Based Medicine, 3,5 - 5 op
 080417A: General Practitioner and Public Health, 9,5 op
 080415A: Health centre practice, 4,5 op
 080700A: Infectious diseases, 5 op
 080713A: Internal Medicine II, (Additional Studies of Internal Medicine), 3 - 9 op
 040419S: Management of acute pain - simulation training, 0,5 op

903007Y: Medical German Text Workshop, 1,5 op
 040011Y-03: Medical informatics, module 3, clinical information systems, 0,5 op
 080005Y: Medical latin, 1,5 op
 080510A: OSCE, 0 op
 080221A: Organ pathol II, 2,5 op
 080201A: Organ pathology I, 9,5 op
 080703A: Physiatry, 3 op
 080206A: Prescriptions, 0,5 op
 041003Y: Professional Development in Medicine Studies, 3 op
 080103A: Psychiatry, 12 - 14 op
 080802A: Radiology I, 3 op
 080622A-02: Radiology II, 3 op
 080812A: Radiology II, 3 op
 040415S: Refresh course of resuscitation, 1,5 op
 080712A-04: Surgery II, 6 op
 080723A: Surgical operations-optional course, 1 op
 080705S: Thesis, 20 op
 040019S: Thesis Data-analysis, 2 op

Opintojaksojen kuvaukset

Tutkintorakenteisiin kuuluvien opintokohteiden kuvaukset

040201A: Anatomy and medical cell and developmental biology, 21 - 22 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Tuukkanen, Kaarlo Juha Kullervo

Opintokohteen kielet: Finnish

ECTS Credits:

21-22 ECTS credits / 567-594 hours of work

Language of instruction:

Finnish

Timing:

The course unit is held in the autumn semester. The course is recommended to complete at the first autumn semester of medical or dental studies.

Learning outcomes:

Upon completion of the course the student should be able to:

- understand the structure, development and function of the human body in order to manage the rest of the preclinical and clinical studies
- identify and describe the structures essential for all medical doctors in diagnostics and treatment, especially for first aid.
- display common anatomical knowledge for understanding medical theory and research and for dealing with evidence based medicine.

Upon completion of the medical cell and developmental biology part of the course the student should be able to:

- describe the structure of various cell types (especially mammalian cells) and the structure and function of cell organelles
- describe cell growth and cell division

- present the principles of the regulation of cell function and genetic regulation
- list the common research techniques in cell biology
- display an understanding of gametogenesis, fertilization, embryonal development (0-40days) and its regulation as well as the development of embryonal malformations.
- display an understanding of human growth and development.
- identify and describe the basic tissues of the human body and the microscopic structure of the tissues for understanding their normal and pathological function

Upon completion of the anatomy part of the course the student should be able to describe the structure of the organs and their topography in the body as well as surface projections of the internal organs. The student should be able to understand the main principles of the embryonal development. By using light microscope at the student should be able to recognize the main structures that are important for the function of the organs as well as structures which are important for pathological processes. In addition the student should be able to demonstrate the organs in living body, in preparations of the cadavers, anatomical models, X-ray images, diagrammatic drawing and in manual examination.

Contents:

Cell evolution and cell biology, human embryonal development (embryology), basic tissues which make up the organs (histology).

Systemic anatomy: nervous system and sensory organs, cardiovascular system and lymphatic system, thorax and respiratory system, abdomen and alimentary system, integument, pelvis, urinary system, genital systems, endocrine system and musculoskeletal system. Regional anatomy and topographical anatomy, organ development and histology integrated with the previous titles. Examples of the applications of the anatomical knowledge in clinical cases and manual palpation of main organs and structures.

Mode of delivery:

Face-to-face teaching.

Learning activities and teaching methods:

Lectures 140h / small group exercise 75h / Self-study 352 h (includes essay). Small group teaching will be provided in 2-4 h exercises. Each student will have 1-2 exercise sessions per week. Writing an essay in cell and developmental biology. In addition the dental students have at the 2nd term tooth development, histology and morphology given by the department of Dentistry. Anatomy study module includes an optional course of the anatomical dissection.

In addition 1 ECTS of clinical anatomy during clinical courses.

Target group:

First year medical and dental students.

Prerequisites and co-requisites:

The recommended prerequisites for the course unit is Faller and Schuenke, The Human Body. An Introduction to Structure and Function (Thieme), or similar text.

Recommended optional programme components:

The course must be completed during the preclinical stage of studies.

Recommended or required reading:

Anatomy

Textbooks:

R.L. **Drake**, A.W. Vogl, A.W.M. Mitchell: **Gray's Anatomy** for students. Elsevier Churchill Livingstone (latest edition) or K.L. **Moore**: Clinically oriented Anatomy, Williams & Wilkins co (latest edition)

Atlas:

R. Putz, R. Pabst: **Sobotta**, Atlas of human anatomy, Vols I-II. Elsevier Urban&Fischer, München (latest edition) or F. H. **Netter**: Atlas of human anatomy.

Pocket atlas:

H. Feneis: "Pocket Atlas of Human Anatomy, G. Thieme Pub. Stuttgart, (latest edition) (Thieme Flexibook) or Dorland's/Gray's Pocket Atlas of Anatomy Richard L. Drake, A. Wayne Vogl,

Neuroanatomy

W. **Kahle**, H. Leonhardt, W. Platzer: "Color Atlas and Textbook of Human Anatomy" Vol. 3: Central Nervous System and Sensory Organs (W. Kahle)

G. Thieme Pub. Stuttgart, (latest edition) (Thieme Flexibook)

Embryology:

T.W. Sadler: Langman's Medical Embryology. Williams&Wilkins co, Baltimore or

H. Sariola, M. Filander, T. Heino, J. Jernvall, J. Partanen, K. Sainio, M. Salminen, I. Theseleff: Solusta yksilöksi, Kehitysbiologia. Kustannus Oy Duodecim, 2003

Cell Biology:

A.L. Kierszenbaum: Histology and Cell Biology: an introduction to pathology. Mosby, St Louis, (latest edition).
 Additional material: H.Lodish, A.Berk, C.A.Kaiser, M.Krieger, M.P.Scott, A.Bretscher, H.Ploegh: Molecular Cell Biology. W.H.Freeman and Co, New York (latest edition).

Histology:

A.L. Kierszenbaum: Histology and Cell Biology: an introduction to pathology. Mosby, St Louis, (latest edition) or B. Young, J.S. Lowe, A. Stevens, J.W. Heath: Wheater's Functional Histology, A Text and Colour Atlas. Elsevier, Churchill Livingstone

Histology atlas can be found also in Thiemen e-books. (Color Atlas of Cytology, Histology and Microscopic Anatomy, 4th edition). Good histology pictures can be found in Department of pathology University of Turku web page.

<http://www.webmicroscope.net/>

Web material:

<http://herkules.oulu.fi/isbn9789514293238/> collection of essays written by students from previous courses of Medical cell and developmental biology.

Assessment methods and criteria:

This course unit utilizes continuous assessment. During the course unit, there are small exams every during each group practical (35 together). Half of the macroscopic anatomy exams and half of exams in each histology block (1-3) should be passed. In addition to this, the students will be compiling an essay, which will be assessed. The course unit includes three main exams: one in cell biology, one in neuroanatomy and one in organ anatomy. The assessment of the course unit is based on the learning outcomes of the course unit.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

Anatomy together with cell and developmental biology make the Anatomy course, which is composed of the following grades: examination of cell and developmental biology 30 credit points, neuroanatomy 10 credit points, examinations in small group sessions 30 credit points and final examination in anatomy 50 credit points, in sum 120 credit points graded to 0-5.

Person responsible:

Professor Juha Tuukkanen: Anatomy

Professor Petri Lehenkari: Medical cell and developmental biology

Working life cooperation:

No

Other information:

The course is the same for medical and dental students.

040016Y: Basic life support, 0,5 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: General Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Alahuhta, Seppo Matias

Opintokohteen kielet: Finnish

ECTS Credits:

0,5 ECTS

Language of instruction:

Finnish

Timing:

First year, C 2

Learning outcomes:

The students:

After completion of the course the student

-will recognize the patient with cardiac arrest and start the treatment according to CPR guideline including basic life support and defibrillation.

-knows the most important measures which have effect on survival after cardiac arrest

-are willing to continuous training on resuscitation and first aid

Contents:

Preceding symptoms of cardiac arrest, recognizing of cardiac arrest, starting basic life support.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Lectures 4 h

practicing in small groups 2 h

Independent work 8 h

Target group:

For the medical students of the first year

Prerequisites and co-requisites:

The students of the first year.

Recommended optional programme components:

No.

Recommended or required reading:

Basic life support guideline: <http://www.kaypahoito.fi/web/kh/suositukset/naytaartikkeli/.../hoi17010>

Assessment methods and criteria:

Taking part into the group teaching events.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

pass/fail

Person responsible:

Professor Seppo Alahuhta

Working life cooperation:

No.

Other information:

No other information.

041002Y-01: Environment, Lifestyle and Health Studies, 1 - 2 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: General Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Kaisto, Tuula Ursula

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

041001Y-01: Evidence Based Medicine-studies, 0,5 - 1 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: General Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

040015Y: Health Care Ethics, 1 - 3,5 op

Opiskelumuoto: General Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Mäkelä, Jyrki Tapani
Opintokohteen kielet: Finnish
Voidaan suorittaa useasti: Kyllä

ECTS Credits:

Part 1: 1cr
 Part 2: 1 cr
 Part 3: 1 cr

Language of instruction:

Finnish

Timing:

Part 1: 1st year autumn and spring term
 Part 2: 4th year spring term/5th year (new curriculum)
 Part 3: 6th year autumn term

Learning outcomes:

Part 1: Upon completion of the course, the student will be able to use and define the basic concepts of medical ethics and their basis. The student will be able reflect his or her own value system and discuss his or her relation to the laws, norms, ethics and the value base of the society. He or she will also be able to take part in ethical discussion. The student will be able to evaluate the value of learning, what he or she has learned and, his or her responsibility in it.

Part 2: Upon completion of the course, the student will be able to contemplate and discuss the ethical issues involved in clinical work and how to apply them to practice. He or she will also be able to contemplate and discuss the issues involved in research ethics. The student will be able to recognize and evaluate his or her own attitudes towards the issues of health care ethics and the ethical questions concerning the beginning and the end of life, and their background.

Part 3: Upon completion of the course, the student will able to recognize the social responsibility of the medical profession and to depict the basics of the professional communication. He or she will also be able to apply the principles that guide the medical profession to practice.

Contents:

Part 1: The ethical and judicial basis of the medical profession, the common value base and principles in health care.

Part 2: The ethical questions of different patient groups and individual patients in clinical practice, the principles of research ethics, ethically acceptable application of scientific information to clinical practice, the ethical questions of the beginning and the end of life.

Part 3: The current social challenges in health care ethics, a physician as a part of the health care system.

Mode of delivery:

Face-to-face teaching.

Learning activities and teaching methods:

Part 1: Lectures 3 x 90 min, 1 x 90 group discussion with teacher, contemplation assignment, tutoring

Part 2: Lectures 1 x 90min and theme day, contemplation assignment, tutoring

Part 3: Lectures 1 x 90min and theme day, contemplation assignment, tutoring

Target group:

Medical students. 1st year dental students.

Prerequisites and co-requisites:

No.

Recommended optional programme components:

The course is part of Professional development in medicine –studies including into new curriculum of Medicine

Recommended or required reading:

[Lääkäriin etiikka](#) (2005) Finnish Medical Association (in Finnish). In addition other scientific literature according to student's choice.

Assessment methods and criteria:

Part 1: Lectures, group discussion, contemplation assignment, learning diary

Part 2: Lectures and theme day, contemplation assignment

Part 3: Lectures and theme day, contemplation assignment

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass/fail

Person responsible:

Professor Olli Vainio

Working life cooperation:

No.

Opiskelumuoto: General Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Olli Vainio

Opintokohteen kielet: Finnish

ECTS Credits:

2 ECTS-credits

Language of instruction:

Finnish

Timing:

1.-6. academic years (C1-C12)

Learning outcomes:

Part 1: Introduction to university studies (1. semester): Student knows the structure and goals of the medical education, and orientates to the University of Oulu and Faculty of Medicine as a learning environment.

Part 2: Teacher tutorial (semesters 2-12): Student is able to plan the progression of studies, and builds up his/her professional identity and expertise in medicine.

Contents:

Structure and goals of the medical education, personal study plan (eHOPS), the University of Oulu and the Faculty of Medicine as a learning environment, studying at the university, and becoming a doctor.

Mode of delivery:

Face-to face teaching

Learning activities and teaching methods:

1st year: Information lectures, small group meetings, peer tutoring, planning and evaluating a personal study plan (eHOPS), independent studying, learning diary.

1st-6th year: Teacher tutoring, evaluating a personal study plan (eHOPS), independent studying, learning diary, information lectures

Target group:

medical students

Prerequisites and co-requisites:

No

Recommended optional programme components:

Part of studies belonging to the Professional development in medicine (PMD) -track.

Recommended or required reading:

Study guide for the Degree Programme in Medicine and University's [Guide for Degree Students](#).

Assessment methods and criteria:

Introduction to university studies (1 ects cr): active participation to peer tutoring, writing a personal study plan.

Teacher tutorial (1 ects cr): active participating to teacher tutoring and evaluation of the personal study plan.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

pass / fail

Person responsible:

Academic coordinator Minna Hallia

Working life cooperation:

No

Other information:

No

040012Y: Knowledge and Research, 3,5 - 10 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: General Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Pentti Nieminen

Opintokohteen kielet: Finnish

Leikkaavuudet:

Voidaan suorittaa useasti: Kyllä

ECTS Credits:

10 ECTS

Timing:

1 st and 2 nd year

Learning outcomes:

By the end of the course the student has practiced the following skills: using information and communication technology resources in the University of Oulu, using workstations available in the Medical Faculty, applying basic software necessary in the studies. The student knows basics in scientific writing.

The student will be able to recognize the following parts of scientific research process: obtaining data, exploring research methods and analyzing data, reporting research findings in medical and dental journals.

The student knows the role of scientific publications, can use and evaluate information sources critically. The student will be able to search research articles using basic literature retrieval methods and to use bibliographic databases available at the Medical Faculty.

The student will be able to recognize different study designs and discipline specific research questions. The student knows basic principles in research ethics and good scientific practice.

The student will be able to recognize the basic characteristics in qualitative research methods.

The student will be able to plan study designs and statistical computing in medical and dental research, obtain and analyze data with basic statistical methods, use basic statistical significance tests and inference methods, and evaluate critically medical research reports.

Contents:

Information and communication technology:

Workstations, information security and confidentiality, networks, and office software.

Guidelines for written assignments and word processing:

Structure of assignments and thesis, reporting of findings, tables and figures, citing and references.

Scientific information:

Principles of scientific research, study planning and study designs, ethics in research, research methods in the main disciplines (clinical medicine, epidemiology, biomedicine and health sciences).

Scientific communication:

Scientific journals, research articles, critical evaluation of research findings, ethics in scientific publication and bibliometrics.

Literature retrieval:

Library information systems, medical and dental publications, scientific online journals, Medline, Medic, Scopus, Cochrane Library, electronic books, reference management software.

Scientific communication, study planning, study designs, analyzing research data and reporting.

Special issues in medical research:

Ethics in research, regulations in clinical research and use of animals in scientific research, research groups

Statistical methods:

Aims and phases of statistical research, planning statistical research, obtaining data, variable distributions (frequencies, graphs and statistics), basics in statistical inference and methods (estimates, significance tests and confidence limits), basic methods in comparing groups and estimating associations between variables, specific methods applied in medical research.

Mode of delivery:

Blended teaching

Learning activities and teaching methods:

1.Ikv (6,5 ECTS):

040012-01 (0,5 ECTS) Information and Communication Technology, lessons and small group lessons

040012-02 (1,5 ECTS) Information and Communication Technology, written assignment

040012-03 (0,5 ECTS) Scientific Communication, lessons and theme day

040012-04 (4,0 ECTS) Scientific Communication, small group lessons and assignments

2.Ikv (3,5 ECTS):

040012-05 (1,5 ECTS) Statistical Methods, lessons and written examination

040012-06 (1,0 ECTS) Statistical Methods, small group lessons

040012-07 (1,0 ECTS) Statistical Methods, practical project

Target group:

Medical, dental and medical wellness technology students

Prerequisites and co-requisites:

None

Recommended optional programme components:

040105Y Basics in Epidemiology
 041001Y Evidence Based Medicine
 902006Y Reading for Academic Purposes
 902007Y Scientific Communication

Recommended or required reading:

Material in lessons small group lessons.

Uhari M ja Nieminen P: Epidemiologia ja biostatistiikka. Second Edition. Duodecim, 2012.

Assessment methods and criteria:

Regular and active participation in the small group lessons and completion of practical projects. Written examination.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass/fail

Person responsible:

Senior lecturer Pentti Nieminen

040103A: Medical Biochemistry and Molecular Biology, 14 - 15 op

Opiskelumuoto: Basic Studies

Laji: Course

Arvostelu: 1 - 5, pass, fail

Opettajat: Karppinen, Peppi Leena Elina

Opintokohteen kielet: Finnish

ECTS Credits:

15 ECTS credits /398 hours of work

Language of instruction:

Finnish

Timing:

The course unit is held in the spring semester.

Learning outcomes:

Aim of this course is to learn the function of the cells at the molecular level and recognize the basic biochemical compounds, reactions and the overall regulation of various metabolic pathways, especially those which are meaningful for Medicine. Students will also learn the basics of chemistry, molecular biology and common methodology used in molecular biology.

Contents:

General and inorganic chemistry: Basic concepts of chemistry; structure of atom; chemical bond; chemical formula, reaction and equations, stoichiometry; thermodynamics; phase equilibrium; reaction kinetics; chemical equilibrium; acid/base equilibrium; electrochemistry. Organic chemistry: nomenclature of organic compounds; carbon bonds; stereochemistry; properties and reactions of organic compounds; Structure of carbohydrates, amino acids, lipids and nucleic acids ; metabolism of the carbohydrates, amino acids, lipids and nucleic acids; vitamins; minerals; porphyrins and bile pigments; prostaglandins; thromboxanes; leukotrienes; regulation of gene expression; recombinant DNA technology; stem cells; intracellular messengers; energy metabolism; hormones; hypoxia response of the cells; components and function of extracellular matrix.

Mode of delivery:

Lectures, tutorial teaching, laboratory work, web-based teaching, exams.

Learning activities and teaching methods:

Lectures 120 h; optional possibility to practice calculations; laboratory work including tutorial teaching and verbal evaluation 30 h; tutorial teaching 3t; theme day containing preliminary preparations 9 h; exams.

Target group:

Major students.

Prerequisites and co-requisites:

-

Recommended optional programme components:

-

Recommended or required reading:

Murray, R.K. (ed.): Harper's Illustrated Biochemistry, 29th edition, 2012.

R. Laitinen ja J. Toivonen: Yleinen ja epäorgaaninen kemia, soveltuvin osin. Otakustantamo. Harold Hart: Organic Chemistry. A short Course (soveltuvin osin), Houghton Mifflin Company, 6. (1983) or updated edition.

Assessment methods and criteria:

Medical biochemistry and molecular biology course includes 4 different intermediate exams; the first exam with principle of fail or accepted, and the rest exams will be graded (4 essays, 0-2.5 p/essay, points needed for passing 4.75). Final exam consist of 5 essays (0-10 p/essay). In final exams only 1 essay from 5 can have points lower than 4.5, otherwise exam will be failed. All the intermediate exams should be passed before participation in final exam. Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

Person responsible:

Prof. Peppi Karppinen

Working life cooperation:

No.

Other information:

-

040116Y: Public health and interprofessional collaboration, 5 op

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Markku Timonen, Jouni Jaakkola

Opintokohteen kielet: Finnish

ECTS Credits:

5 ECTS cr / 153 hours of work.

Language of instruction:

Finnish

Timing:

The course unit is held in the first year, autumn semester, C1.

Learning outcomes:

After the study module students are able to identify the essential challenges of Finnish public health and to describe Finnish health and social welfare systems and national strategies guiding them. In addition students are able to identify the factors that improve doctor-patient relationship and interprofessional collaboration in the work of doctor and dentist.

Contents:

Public health and sickness and inequality in health, concepts of health and sickness, concepts and means of health promotion, concept of positive health, essential concepts and theories of health sociology, doctor-patient relationship and interprofessional collaboration.

Mode of delivery:

Blended teaching.

Learning activities and teaching methods:

Lectures, demonstrations, e-learning, practical period in health care center (3 days), small group working, participating in student congress and preparing the presentations for the congress. Part of the teaching is carried out in collaboration with the students from Oulu University of Applied Sciences.

Target group:

The students from medicine and dentistry and the students from Oulu University of Applied Sciences.

Prerequisites and co-requisites:

No.

Recommended or required reading:

Recommended literature: Kansanterveystiede. Kauhanen J, Nissinen A, Myllykangas M, Salonen J. WSOY 2007. (Tai vuoden1998 painos). Enemmän yhdessä : moniammatillinen yhteistyö. Kaarina Isoherranen, Leena Rekola, Raija Nurminen.

Julkaistu: Helsinki : WSOY Oppimateriaalit, 2008.

Kumpusalo E, Ahto M, Eskola K, Keinänen-Kiukaanniemi S, Kosunen E, Kunnamo I, Lohi J (toim.): Yleislääketiede, Kustannus Oy Duodecim, Karisto Oy Hämeenlinna 2005, ss. 18-66, 105-115 ja 249-407. Larivaara P. Potilas-lääkärisuhde. Kirjassa: Koskenvuo K (toim.). Lääkäriin työ ja laki. Kustannus Oy Duodecim, Helsinki, 2000, s. 78-87. Taipale V, Lehto J, Mäkelä M, Kokko S, Kling T, Viialainen R (toim.): Sosiaali- ja terveydenhuollon perusteet. 4. Painos, WSOY 2001.

Assessment methods and criteria:

Participation in the demonstrations, group works, e-learning, practical period in health care center and in student congress, examination.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Accepted/fail

Person responsible:

Professor Anja Taanila

Working life cooperation:

Yes, during the three day practical training in health centres.

Other information:

Included in the study modules of the Public Health Science and General Practice 1) Prevention of sickness and health promotion, 2) Interprofessional management and administration, 3) Clinical examination and treatment, 4) Rehabilitation and social care, 5) Researcher's knowledge and skills.

902006Y: Reading for Academic Purposes, 1,5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Language Centre

Arvostelu: 1 - 5, pass, fail

Opettajat: Eva Braidwood

Opintokohteen kielet: English

Leikkaavuudet:

ay902006Y Reading for Academic Purposes (OPEN UNI) 1.5 op

Proficiency level:

B2/C1

Status:

This course is compulsory for the students who choose English but are not exempted on the basis of their matriculation exam grade or the exemption exam organized every November. An alternative course is 903007Y German.

Required proficiency level:

Students are expected to have had English as their A1 or A2 language at school or to have acquired equivalent skills.

ECTS Credits:

1.5 ECTS credits (The workload is 40 hours)

Language of instruction:

English

Timing:

The course is held in spring term for 1st year students of medicine and dentistry, and 2nd year spring term for wellness technology students.

Learning outcomes:

Having completed the course successfully, students will be able to

- employ appropriate reading strategies (skimming, scanning and strategies of extensive reading) to identify main points, locate information and synthesize knowledge in the academic texts of the student's field of study
- recognize the discipline and genre-specific conventions of scientific texts
- understand distinctive patterns of medical terminology and differences between scientific and informal language
- combine information from various academic sources, creating a synthesis, and summarizing

Contents:

In this course students will become familiar with the structure and language features of scientific articles, they learn the basic patterns of medical terminology and understand the differences between scientific and informal language by reading scientific texts and research articles from their own field (medicine, dentistry, medical technology).

Mode of delivery:

blended teaching: face-to-face teaching combined with online tasks and independent study.

Learning activities and teaching methods:

The classroom teaching and classroom activities comprise about 50% of the total student workload for the course, including mini-lectures, group and teamwork, student presentations. The independent work component comprises online work and independent study in preparation for classroom activities.

Target group:

Students in the degree programs of medicine, dentistry, and medical technology

Prerequisites and co-requisites:

none

Recommended optional programme components:

902007Y Scientific Communication

Recommended or required reading:

Some materials will be provided by the teacher and a copy fee will be charged where applicable. Other materials are available online. Information will be provided at the beginning of the course.

Assessment methods and criteria:

The assessment is based on active participation in classroom work and completion of home assignments and end-of-course test.

Grading:

The evaluation scale is 1-5.

Person responsible:

Eva Braidwood

Working life cooperation:

none

Other information:

Students with the matriculation exam grade *laudatur* or *eximia cum laude approbatur* and those who have graduated from an IB-program will be exempted from the course but can participate voluntarily. For the rest of the students **an exemption exam will be offered on November.**

The exemption exam is voluntary and can be taken only once. Students **sign up for the exam in WebOodi.**

Students not exempted in the above ways are required to participate in the course. Students **sign up for the course in WebOodi.** Information on the time and place of the classes will be provided and WebOodi.

040105Y: Basic Epidemiology, 1,5 op

Opiskelumuoto: General Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Jouni Jaakkola

Opintokohteen kielet: Finnish

ECTS Credits:

1.5 ECTS

Language of instruction:

Finnish/English

Timing:

Second year, spring term (C4)

Learning outcomes:

Students are expected to learn the basic concepts of epidemiology and basics of epidemiologic methods used in medicine and in general in health sciences.

Contents:

The course includes a lecture on the following topics: 1) introduction to basic concepts and causality, 2) principles of study design, 3) precision and validity, 4) exposure assessment, 5) assessment of health effects and measures of disease occurrence, association and effect, 6) principles of cohort studies, 7) data analysis in cohort studies, 8) principles of case-control studies, 9) data analysis in case-controls studies and 10) cross-sectional studies. In addition, the course includes two exercise sessions conducted in small groups on: 1) epidemiologic methods based on critical reviews of articles and 2) calculation. Students will also review individually and critically a scientific article.

Mode of delivery:

Lectures and face-to-face teaching

Learning activities and teaching methods:

10 one-hour lectures, two 3-hour exercise sessions and critical review of an articles.

Target group:

Second year medical and dental medical students. Suitable also for students planning research in health sciences.

Prerequisites and co-requisites:

No.

Recommended optional programme components:

Closely linked to the course in biostatistics taught in the same term.

The course has to be completed before 3rd year dental and medical studies.

Recommended or required reading:

Lecture notes. Recommended books: Hernberg S. Introduction to occupational epidemiology (1998) and Rothman K. Epidemiology. An Introduction (2002).

Assessment methods and criteria:

Lectures highly recommended and exercise sessions compulsory. Written exam.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical scale 1-5. Zero stands for a fail.

Person responsible:

Jouni J.K. Jaakkola, professor of public health.

Working life cooperation:

No.

040119Y: Environmental health care, 1 op

Opiskelumuoto: General Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Jouni Jaakkola

Opintokohteen kielet: Finnish

ECTS Credits:

1.0 ECTS

Language of instruction:

Finnish/English

Timing:

Second year, spring term (C4)

Learning outcomes:

Students are expected to learn most important health effects of environmental exposures and to understand the role of physicians and other professionals in municipal environmental health

Contents:

Thematic days in environmental health includes lectures on the following topics: 1) Environment and health, 2) Ambient air, 3) Radiation in environment, 4) Environmental noise, 5) Indoor environment, 6) Chemical factors in drinking water, 7) Microbial factors in food and drinking water, 8) Health effects of hot and cold environments and control, 9) Exceptional situations related to environmental health, 10) Municipal environmental health and 11) Physicians in environmental health care. Group works are also made.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Participation in the thematic days and a written exam.

Target group:

Second year medical and dental students.

Prerequisites and co-requisites:

No.

Recommended optional programme components:

The course has to be completed before 3rd year dental and medical studies.

Recommended or required reading:

Lecture notes.

Textbook in English will be defined later.

Assessment methods and criteria:

The course requirements include active participation in thematic day and a written examination.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

pass / fail.

Person responsible:

Jouni J.K. Jaakkola, professor of public health.

Working life cooperation:

No.

041001Y-02: Evidence Based Medicine-studies, 0,5 op**Voimassaolo:** 01.08.2011 -**Opiskelumuoto:** General Studies**Laji:** Partial credit**Vastuuyksikkö:** Medicine**Arvostelu:** 1 - 5, pass, fail**Opintokohteen kielet:** Finnish

Ei opintojaksokuvauksia.

040108A: General Pathology, 3,5 - 5 op**Voimassaolo:** 01.08.2014 -**Opiskelumuoto:** Basic Studies**Laji:** Course**Vastuuyksikkö:** Medicine**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Karttunen, Tuomo Juhani**Opintokohteen kielet:** Finnish**ECTS Credits:**

5 ECTS credits

Language of instruction:

Finnish

Timing:2nd year, autumn (C3/DC3)**Learning outcomes:**

Upon completion the student should know the basic mechanisms of diseases (etiology and pathogenesis), their basic morphological, functional and clinical characteristics, and terminology related with diseases. The student should be able to recognize the most common macroscopical and microscopical features of diseases and be able to reason the relationship between these features of the diseases and their symptoms and other clinical manifestations.

Contents:

Cellular adaptation; cell and tissue injury; genetic and environmental causes of diseases; infections and immunological mechanisms in disease; inflammation; healing; disorders of fluid balance and circulation; basic pathology of neoplastic diseases; basics of medical post-mortem investigation.

Mode of delivery:

Face-to-face teaching.

Learning activities and teaching methods:

Lectures 23 hours, practicals 33 hours. Self study. Written examination 3 hours.

Target group:

Medical and dental students.

Prerequisites and co-requisites:

No.

Recommended optional programme components:

The course has to be completed during preclinical period of medical and dental studies.

Recommended or required reading:

Books: Underwood JCE: General and systematic pathology (5th ed. 2009 or 4th ed. 2004; sections: Basic pathology and General disease mechanisms); or Kumar V. et al.: Robbins Basic Pathology, (8th ed. 2007). Alternatives: Kumar

V. et al.: Robbins and Cotran, Pathologic basis of disease (8th ed. 2010 or 7th ed. 2005); Rubin & Strayer; Rubin's Pathology (2005). In Finnish: Mäkinen M. et al. Patologia, Duodecim, 2012; Lecture handouts; Guidebook for microscopy practicals; Guidebook for autopsy practicals.

Web-based material (in Finnish): [target=_blank>http://www.medicine oulu.fi/pato/opetus/YP_ATK_JOHDANTO.htm](http://www.medicine oulu.fi/pato/opetus/YP_ATK_JOHDANTO.htm)

Assessment methods and criteria:

The course requirements include participation in the compulsory practicals and passing in the end-of-course examination.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The evaluation scale is 1-5/fail.

Person responsible:

Professor Tuomo Karttunen

Working life cooperation:

No.

040117Y: Interviewing and examining patients, 4 op

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Savolainen, Markku, Markku Timonen

Opintokohteen kielet: Finnish

ECTS Credits:

4 ECTS/108 hours of work

Language of instruction:

Finnish

Timing:

C4, spring semester

Learning outcomes:

A student is able to distinguish the basic concepts of doctor- and patient-centered communication and to describe the principles of clinical examination of patients. A student is able to examine patients independently. In addition, a student is able to describe interprofessional collaboration in the work of doctor and dentist.

Contents:

The course includes introduction to basic concepts of doctor-centered and patient-centered communication, as well as clinical examination of patients (internal medicine, cardiology, gastroenterology, pulmonary diseases).

Mode of delivery:

Face-to-face teaching.

Learning activities and teaching methods:

Start seminar, lectures 14 hours, small group teaching, exercise session for doctor-patient communication, practical period in health care center (3 days), and closing work-shop.

Target group:

The students from medicine and dentistry.

Prerequisites and co-requisites:

C1 Public health and interprofessional collaboration course have to be done.

Recommended optional programme components:

The course has to be completed during preclinical period of medical and dental studies.

Recommended or required reading:

Kumpusalo E, Ahto M, Eskola K, Keinänen-Kiukaanniemi S, Kosunen E, Kunnamo I, Lohi J (ed.): Yleislääketiede, Kustannus Oy Duodecim, Karisto Oy, Hämeenlinna 2005. Pages 93-104, 105-115 and 116-123.

Campbell, T.L. & Larivaara, P. 2004. Working with Families in primary care. Teoksessa: Jones R & ym. (ed.). Oxford Textbook of Primary Medical Care. Oxford University Press, 2004 s. 299-303. Larivaara, P, & Taanila, A. Towards interprofessional family-oriented teamwork in primary services: evaluation of an education programme. Journal of Interprofessional Care, 2004, 18/2:153-163.

Mustajoki, P., Saha, H. & Sane, T. (ed.): Potilaan tutkiminen. Kustannus Oy Duodecim, Saarijärvi 2009.

Assessment methods and criteria:

Participation in the start seminar, small group teaching, exercise session for doctor-patient communication and , practical period in health care center (3 days), and in closing work-shop.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Accepted/fail

Person responsible:

Professor Markku Timonen

Working life cooperation:

Yes, during the three day practical training in health centres.

040012Y: Knowledge and Research, 3,5 - 10 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: General Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Pentti Nieminen

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay040012Y Knowledge and Research (OPEN UNI) 3.5 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:

10 ECTS

Timing:

1 st and 2 nd year

Learning outcomes:

By the end of the course the student has practiced the following skills: using information and communication technology resources in the University of Oulu, using workstations available in the Medical Faculty, applying basic software necessary in the studies. The student knows basics in scientific writing.

The student will be able to recognize the following parts of scientific research process: obtaining data, exploring research methods and analyzing data, reporting research findings in medical and dental journals.

The student knows the role of scientific publications, can use and evaluate information sources critically. The student will be able to search research articles using basic literature retrieval methods and to use bibliographic databases available at the Medical Faculty.

The student will be able to recognize different study designs and discipline specific research questions. The student knows basic principles in research ethics and good scientific practice.

The student will be able to recognize the basic characteristics in qualitative research methods.

The student will be able to plan study designs and statistical computing in medical and dental research, obtain and analyze data with basic statistical methods, use basic statistical significance tests and inference methods, and evaluate critically medical research reports.

Contents:

Information and communication technology:

Workstations, information security and confidentiality, networks, and office software.

Guidelines for written assignments and word processing:

Structure of assignments and thesis, reporting of findings, tables and figures, citing and references.

Scientific information:

Principles of scientific research, study planning and study designs, ethics in research, research methods in the main disciplines (clinical medicine, epidemiology, biomedicine and health sciences).

Scientific communication:

Scientific journals, research articles, critical evaluation of research findings, ethics in scientific publication and bibliometrics.

Literature retrieval:

Library information systems, medical and dental publications, scientific online journals, Medline, Medic, Scopus, Cochrane Library, electronic books, reference management software.

Scientific communication, study planning, study designs, analyzing research data and reporting.

Special issues in medical research:

Ethics in research, regulations in clinical research and use of animals in scientific research, research groups

Statistical methods:

Aims and phases of statistical research, planning statistical research, obtaining data, variable distributions (frequencies, graphs and statistics), basics in statistical inference and methods (estimates, significance tests and confidence limits), basic methods in comparing groups and estimating associations between variables, specific methods applied in medical research.

Mode of delivery:

Blended teaching

Learning activities and teaching methods:**1.Ikv (6,5 ECTS):**

040012-01 (0,5 ECTS) Information and Communication Technology, lessons and small group lessons

040012-02 (1,5 ECTS) Information and Communication Technology, written assignment

040012-03 (0,5 ECTS) Scientific Communication, lessons and theme day

040012-04 (4,0 ECTS) Scientific Communication, small group lessons and assignments

2.Ikv (3,5 ECTS):

040012-05 (1,5 ECTS) Statistical Methods, lessons and written examination

040012-06 (1,0 ECTS) Statistical Methods, small group lessons

040012-07 (1,0 ECTS) Statistical Methods, practical project

Target group:

Medical, dental and medical wellness technology students

Prerequisites and co-requisites:

None

Recommended optional programme components:

040105Y Basics in Epidemiology

041001Y Evidence Based Medicine

902006Y Reading for Academic Purposes

902007Y Scientific Communication

Recommended or required reading:

Material in lessons small group lessons.

Uhari M ja Nieminen P: Epidemiologia ja biostatistiikka. Second Edition. Duodecim, 2012.

Assessment methods and criteria:

Regular and active participation in the small group lessons and completion of practical projects. Written examination.

Read more about [assessment criteria](#) at the University of Oulu webpage.**Grading:**

Pass/fail

Person responsible:

Senior lecturer Pentti Nieminen

040119A: Microbiology, 9,5 - 10 op**Voimassaolo:** 01.01.2012 -**Opiskelumuoto:** Basic Studies**Laji:** Course**Vastuuyksikkö:** Medicine**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Olli Vainio**Opintokohteen kielet:** Finnish**Leikkaavuudet:**

040118A Microbiology 9.5 op

ECTS Credits:

10 ECTS credits.

Language of instruction:

Finnish

Timing:

The course unit is held in the second year, C3-C4.

Learning outcomes:

Upon completion of the study module, the student masters the basic knowledge of disease-causing microbes and parasites, their characteristics and their diagnostic methods. The student knows the structure and function of body's immune defence mechanism and is able to use immunological methods in clinical diagnostics.

Contents:

Bacteriology, mycology and parasitology: Terminology and principles of clinical microbiology. Diagnostic methods in clinical bacteriology, mycology and parasitology. Basic knowledge of bacteria causing infectious diseases, their laboratory diagnostic procedures and basic guidelines for treatment.

Virology: basic concepts and biological properties of viruses and the essential methods in their clinical diagnostics. Understanding of viruses as disease-causing agents, their epidemiology, prevention and therapeutic possibilities. Immunology: basic concepts of the structure and function of the immune system. Pathomechanisms of autoimmune diseases. Diagnostic methods in serology and autoimmune diseases.

Mode of delivery:

Face-to-face teaching.

Learning activities and teaching methods:

Lectures, group instruction and essay.

Target group:

The students from study program in medicine and dentistry.

Prerequisites and co-requisites:

No.

Recommended optional programme components:

The course has to be completed during the first two years of medical and dental studies.

Recommended or required reading:

Hedman, Heikkinen, Huovinen, Järvinen, Meri, Vaara (toim.) Mikrobiologia, Immunologia and Infektiosairaudet. Osa 1, Osa 2, Osa 3, Duodecim 1. painos 2010 and 2011.

Abbas and Lichtman Basic Immunology. Functions and Disorders of the Immune System. Saunders, 3rd Updated Edition, 2011.

Assessment methods and criteria:

Lectures, participation in the compulsory teaching (group teaching) and essay writing.

Evaluation is based on entrance and final exam. The grade is based on the evaluation of the final exam in scale 0-5.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course utilizes a numerical grading scale 0-5. In the numerical scale zero stands for a fail.

Person responsible:

Professor Olli Vainio.

Working life cooperation:

No.

Other information:

The volume of the course is 10 ECTS credits from 2012 onwards.

040106A: Pharmacology and toxicology, 10 op

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Hakkola, Jukka Antti Tapio

Opintokohteen kielet: Finnish

Required proficiency level:

10 ECTS Credits / 267 hours of work

ECTS Credits:

10.0 p

Language of instruction:

Finnish

Timing:

The course unit is held in the spring semester C4 / DC4

Learning outcomes:

Upon completion of the course the student knows fundamentals of pharmacology and toxicology. The is able to explain how body affects a specific drug after administration and physiologic effects of drugs and their mechanisms of action. The student is familiar with major drug classes and their role in the treatment of disease. Furthermore, the student understands the basis of individualized drug therapy. After passing the course, the student has ability to safe and efficient drug therapy.

Contents:

The basic terminology of pharmacology: pharmacodynamics and pharmacokinetics. Systematic review of major classes of drugs: drugs affecting cardiovascular system, gastrointestinal drugs, drugs affecting the respiratory tract, drug treatment of pain, drugs used to treat endocrinological disorders, affecting the central nervous system, anesthetic agents, antimicrobial drugs, anticancer drugs. Details of key drugs in each class will be discussed

including route of administration, drug effects, drug interactions and most common adverse effects. Toxicology: the basics of toxicology, the most common poisonings, tissue specific toxic responses in most important organs and fundamentals of risk assessment.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Lectures 74h / tutorials 20h / Self-study 173h. The tutorials are completed as small group work.

Target group:

Medical and dental students. Also other students can be admitted to the course.

Prerequisites and co-requisites:

-

Recommended optional programme components:

-

Recommended or required reading:

Olavi Pelkonen and Heikki Ruskoaho (eds.) Lääketieteellinen farmakologia ja toksikologia (Kustannus Oy Duodecim) (latest edition) or equivalent textbook.

Assessment methods and criteria:

At the beginning of the course students study independently for a test evaluating the required level of knowledge of pharmacokinetics and pharmacodynamics. In addition, two essay examinations (worth one-third of the final grade) and final exam (worth two-thirds of the final grade) are included. The tutorials are compulsory.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The evaluation scale is 1-5. In the numerical scale zero stands for a fail.

Person responsible:

Professor Heikki Ruskoaho, professor Jukka Hakkola and lecturer Jaana Rysä

Working life cooperation:

No

Other information:

040112A: Physiology, 15 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Vuolteenaho, Olli Jaakko Tuomas

Opintokohteen kielet: Finnish

ECTS Credits:

15 ECTS credits /402 hours of work

Language of instruction:

Finnish. Some lectures, a practical and some of the term papers in English.

Timing:

The course unit is held in the autumn semester. The course must be completed during the first two years of the Medical School curriculum

Learning outcomes:

After completion of the course the student:

- knows the principles of the function, regulation, and interrelations of the cells, tissues and organ systems of the healthy human being, as required for independent work as a physician or dentist
- can evaluate the knowledge and apply it for investigations of clinical physiological problems and mechanisms of diseases
- can follow and evaluate the development of physiology as a science, and maintain and improve knowledge in it
- can apply knowledge in physiology for acquiring, evaluating and reporting scientific medical and dental information

After reaching the learning aims the student has sufficient knowledge and skills in physiology for studies leading to the degrees of Licentiate of Medicine and Licentiate of Dentistry, and for continuous learning.

Contents:

1. Cell physiology
2. Fundamentals of Biophysics

3. Organ physiology
4. Physiological regulation and integrative physiology
5. Applied physiology

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Guidance and tutorial (3 h), lectures (106 h), practicals (38 h), term paper (2 h), interim and final examinations (8 h), independent study (245 h).

Target group:

Second year medical and dental students.

Prerequisites and co-requisites:

The student should have completed the courses of Anatomy, Cell Biology, and Medical Biochemistry & Molecular Biology.

Recommended optional programme components:

-

Recommended or required reading:

- Ganong's Review of Medical Physiology (most recent edition).
 - Practicals Textbook (in Finnish): Fysiologian harjoitustyöt (Oulun yliopiston oppimateriaalia-sarja, Lääketiede D 3, most recent edition).
 - Lecture notes can be found in Optima Environment (<http://optima.oulu.fi>).
- The availability of the textbook in the library can be checked [here](#).

Assessment methods and criteria:

At the beginning of the course there is an examination on the subject of the practicals, which has to be passed. In the middle of the course there is an interim examination on the course contents 1-3, and at the end the final examination. The student has to obtain one third of the maximum points to pass these examinations. Detailed requirements can be found during the course period in the document Course Instructions in the Optima Environment (<http://optima.oulu.fi>). Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical grading scale 1-5. Zero stands for a fail.

Person responsible:

Professor Olli Vuolteenaho

Working life cooperation:

No

040104A: Psychology, 4 - 4,5 op

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Karl-Erik Wahlberg

Opintokohteen kielet: Finnish

ECTS Credits:

4 ECTS.

Language of instruction:

Finnish

Timing:

Autumn, C3

Learning outcomes:

A student can see a human comprehensively, from biopsychosocial frame of reference, and is able to find new ways to observe and to influence with psychological methods on patients and their behaviour. Students can as a future medical and dental doctor observe their influence on the behaviour of patients and on operations of health caring system. The student is able to use interactional skills of future doctors and is able to prevent vicarious traumatization.

Contents:

During lectures the following topics will be presented: Biopsychosocial approach, psychoanalytic personality theory, attachment theory, human lifespan, significance of learning theory in changing man's behaviour, basics of system theory, medical and dental doctor as a participant in the mental health care system, different kind of families and their phases of development, well functioning family, roles of family members. Furthermore vicarious traumatization and exhaustion and how to manage them will be described. Topics of small groups are for instance problem solving

therapy, traumatic crises, familial and cultural influence on behaviour of a human, youth psychology, psychology of old age, patient and family in health service and forensic psychology.

Mode of delivery:

Tuition will be implemented as face-to-face teaching.

Learning activities and teaching methods:

Lectures 26 hrs, obligatory small group participation 10 hrs, obligatory seminar participation 20 hrs, peer group participation 10 hrs and self studying.

Target group:

Medical and dental students on C 3 course.

Prerequisites and co-requisites:

-

Recommended optional programme components:

The course has to be completed during preclinical stage of medical and dental studies.

Recommended or required reading:

Contents of the lectures and written and oral presentations of the works of small groups.

Assessment methods and criteria:

End of course examination

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

1-5/fail

Person responsible:

Lecturer Karl-Erik Wahlberg

Working life cooperation:

-

Other information:

-

080803A-01: Radiation and its safe use, 1,5 op

Voimassaolo: 02.08.2012 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Miika Nieminen

Opintokohteen kielet: Finnish

ECTS Credits:

1,5 ECTS

Language of instruction:

Finnish

Timing:

The course unit is held in the second year, C3-4

Mode of delivery:

Face-to-face learning.

Target group:

The students from medicine and dentistry

Recommended optional programme components:

The course has to be completed during preclinical stage of medical and dental studies.

Assessment methods and criteria:

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

Person responsible:

Professor Miika Nieminen

Working life cooperation:

No

080601A: Anaesthesiology I, 3 - 4 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Alahuhta, Seppo Matias

Opintokohteen kielet: Finnish

ECTS Credits:

4ECTS

Language of instruction:

Finnish.

Timing:

During third year, C 5-C 6

Learning outcomes:

The students recognize cardiac arrest and can resuscitate. Know what belongs to advanced life support both in adults and children. Can plan treatment of the patient after successful resuscitation. Recognize life threatening cardiac arrhythmias. Can pre-operative examination. Have basic of fluid and nutritional therapy. Can normal infusion and airway managements. Knows the local anesthetics and the techniques of regional anesthesia. Understands the basics of general anesthesia and monitoring during the anesthesia.

Contents:

Resuscitation and first aid. Pre-operative examination and treatment. Anaesthetics methods. Treatment of pain Nutrition and fluid therapy. Intubation. Infusion technique.

Mode of delivery:

Blended teaching

Learning activities and teaching methods:

Lectures, theme days, practicing in small groups, practicing in operation theatres, web exam (Optima).

Target group:

For the students of the third year.

Prerequisites and co-requisites:

Preclinical studies completed.

Recommended optional programme components:

The course units that are recommended for completion simultaneously: Internal medicine, pathology, radiology, clinical chemistry.

Recommended or required reading:

Gwinnutt C. Clinical Anaesthesia. Blackwell Publishing, 2004.

Assessment methods and criteria:

Taking part into the group teaching events, theme days and practicing in operation theatres. Web exam of resuscitation. Written end examination.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

Person responsible:

Professor Seppo Alahuhta

Working life cooperation:

No

Other information:

No other information

042001Y-04: Clinical Anatomy, 1 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

042001Y-02: Clinical Physiology 1, 1 - 2 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Vuolteenaho, Olli Jaakko Tuomas

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

080633A: Clinical chemistry, 3 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Risteli, Juha

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

040127A: Clinical pharmacology and prescriptions, 1 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Viitala, Pirkko Liisa

Opintokohteen kielet: Finnish

ECTS Credits:

2,5 credits

Language of instruction:

Finnish

Timing:

C8-9

Learning outcomes:

After passing the course the student should have ability to safe, efficient and cost effective drug therapy. The student should understand the basis for drug therapy from the point of view of general practitioner and the treatment of most common intoxications.

Contents:

Factors affecting drug selection, dosage and therapy will be discussed applying knowledge of basic pharmacology. Furthermore, the common problem cases of drug therapy will be discussed. Individualized therapy, use of major classes of drugs, special treatment situations and most common intoxications will also be discussed.

Learning activities and teaching methods:

Introductory lecture 2 hours. Clinical pharmacology patient case report and discussion with tutor. Thematic seminars (11 x 2 h) will cover major areas of drug therapy and special situations of drug treatment and most common intoxications. Final exam.

Recommended or required reading:

Book: Neuvonen, Backman, Himberg, Huupponen, Keränen, Kivistö (eds.)

Kliininen farmakologia ja lääkehoito, Kandidaatikustannus Oy (latest edition). Materials of the thematic seminars.

Assessment methods and criteria:

Preparation of acceptable clinical pharmacology patient case, discussion with the tutor and passing of the final exam.

Grading:

Pass/fail

Person responsible:

Miia Turpeinen (miia.turpeinen@oulu.fi)

041001Y-03: Evidence Based Medicine-studies, 0,5 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

080711A: Internal medicine I, 4,5 - 21 op

Voimassaolo: 01.08.2014 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Savolainen, Markku

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

ECTS Credits:

16,5 ECTS credits/ 440 hours of work

Language of instruction:

Finnish

Timing:

C5-C6

Learning outcomes:

After this course the student is familiar with diseases of internal medicine as well as diagnostics and treatment of these diseases. The student understands the connection between internal medicine and other medical specialities. The student learns independent problem solving and critical thinking and also to cooperate with healthcare professionals.

Contents:

Endocrinology and metabolic diseases, cardiology, ECG, kidney diseases, haematology, rheumatology, gastroenterology and emergencies in internal medicine

Mode of delivery:

Face to face teaching

Learning activities and teaching methods:

1. Lectures 80 h
2. Patient history and physical examination. Student writes accurate patient history and status of six patients that he /she has examined carefully.
3. Guided medical procedures and examinations. Carried out in small group classes and in ward practice.
4. Small group classes 24 h. Student participates in small group classes in various wards. Each class lasts 2 hours. Attendance is compulsory.
5. Practice in outpatient clinic 4 h. Attendance is compulsory.
6. Practice in the Department of Emergency (Internal Medicine) 3 x 6 h. Attendance is compulsory.

7. Ward practice 80 h. Organised in two one week sessions. Attendance is compulsory. Part of practice is carried out in the hospitals of Northern Finland.

8. Seminars 53 h. Problem-oriented discussions about wider thematic entities. Attendance is compulsory.

9. Patient lectures 2 h. Problem-oriented discussions. Attendance is compulsory.

Target group:

Medical students.

Prerequisites and co-requisites:

Student must have completed preclinical studies.

Recommended optional programme components:

The course is performed simultaneously with other third year's courses.

Recommended or required reading:

- Axford JS, O'Callaghan C. *Medicine*, 2nd Edition, (2004), Wiley.
- Mäkijärvi M, Harjola V-P, Päivä H, Valli J, Vaula E. *Akuuttihoito-opas* (2012), Kustannus Oy Duodecim
- Saha H, Salonen T, Sane T. *Potilaan tutkiminen* (2009), Kustannus Oy Duodecim.

Recommended reading:

- Vauhkonen I & Holmström P.: *Sisätaudit* (2001), Kustannus Oy WSOY (**suositellaan luettavaksi ennen kurssille tuloa**)
- Heikkilä J, Mäkijärvi M. *EKG* (2003), Kustannus Oy Duodecim
- Heikkilä J, Kupari M, Airaksinen J, Huikuri H, Nieminen MS, Peuhkurinen K. *Kardiologia* (2008), Kustannus Oy Duodecim
- Höckerstedt K, Färkkilä M, Kivilaakso E, Pikkarainen P. *Gastroenterologia ja hepatologia* (2007), Kustannus Oy Duodecim
- Koskenvuo K. (toim.): *Sairauksien ehkäisy* (2003), Kustannus Oy Duodecim
- Leirisalo-Repo M, Hämäläinen M, Moilanen E. *Reumataudit* (2002), Kustannus Oy Duodecim
- Ruutu T, Rajamäki A, Lassila R, Porkka K. *Veritaudit* (2007), Kustannus Oy Duodecim
- Mäkijärvi M, Parikka H, Raatikainen P, Heikkilä J. *EKG-tulkinnan työkirja* (2006) Kustannus Oy Duodecim
- Thaler M. *The only EKG book you'll ever need*. 4th ed (2003). Lippincott Williams & Wilkins
- Välimäki M, Sane T, Dunkel L. *Endokrinologia* (2009) Kustannus Oy Duodecim
- Huovinen P, Hedman K, Heikkinen T, Järvinen A, Meri S, Vaara M. (toim.): *Mikrobiologia – Mikrobiologia, immunologia ja infektiosairaudet, kirja 1* (2010), Kustannus Oy Duodecim
- Hedman K, Heikkinen T, Huovinen P, Järvinen A, Meri S, Vaara M. (toim.): *Immunologia – Mikrobiologia, immunologia ja infektiosairaudet, kirja 2* (2011), Kustannus Oy Duodecim
- Hedman K, Heikkinen T, Huovinen P, Järvinen A, Meri S, Vaara M. (toim.): *Infektiosairaudet – Mikrobiologia, immunologia ja infektiosairaudet, kirja 3* (2011), Kustannus Oy Duodecim

Assessment methods and criteria:

Attendance in compulsory teaching.

Examinations of endocrinology and metabolic diseases, cardiology and ECG, kidney diseases, haematology, rheumatology and gastroenterology.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Grading scale in intermediate examinations is 1-5 and the lowest accepted points are 20/40.

Intermediate exams form 50% of the final grade of the course.

Person responsible:

Professor Markku Savolainen (markku.savolainen@oulu.fi)

Working life cooperation:

Yes. Small group teaching, ward practice, practice in outpatient clinic and in the department of emergency.

042001Y-01: Medical Biochemistry and Molecular Biology, clinical studies, 1 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

ECTS Credits:

1 ECTS credits / 27 hours of work

Language of instruction:

Finnish

Timing:

The course unit is held in the 3rd autumn semester.

Learning outcomes:

Aim of this course is to learn the effects of hypoxia in individual cells and organ systems.

Contents:

Regulation of hypoxia response in cells; regulation of production of red blood cells and erythropoietin; hypoxia in diseases; drugs mimicking hypoxia; biochemistry of obesity.

Topics of lectures may vary annually.

Mode of delivery:

Lectures, essays. Some of the lectures are integrated to course of hematology.

Learning activities and teaching methods:

Lectures 10h from which 2h is integrated to the course of hematology. Essay questions.

Target group:

Major students.

Prerequisites and co-requisites:

-

Recommended optional programme components:

-

Recommended or required reading:

Lectures

Assessment methods and criteria:

Attendance at lectures is compulsory

Grading:

Course is evaluated with principle of fail or accepted.

Person responsible:

Prof. Peppi Karppinen

Working life cooperation:

No

080222A: Organ pathology I, 6 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Karttunen, Tuomo Juhani

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

080707S: Practical training, 3 - 24 op

Opiskelumuoto: Practical Training

Laji: Practical training

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Ei opintojaksokuvauksia.

041003Y-03: Professional Development in Medicine Studies 3, 1 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

080427A-01: Public Health 1, 1 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Markku Timonen

Opintokohteen kielet: Finnish

ECTS Credits:

9,5 study credits

Timing:

Semester 11 (C11)

Learning outcomes:

The student will understand the principles of health at population level, and as applicable to a particular disease. The student will have knowledge of the most important public health schemes and programmes, and is able to apply them at a local level.

The student will know the principles and organisation of insurance and rehabilitation medicine, and is able to apply their knowledge into clinical practice. The student will understand the aetiological factors of disease both at an individual and population level and is competent at diagnosis and management of the common diseases.

The student is able to critically assess and interpret findings of public health research, and to act as an expert of preventative medicine in primary care. The student will learn the ability to adopt and apply methods of health promotion and disease prevention at an individual-, family-, and population level, therein also considering the expertise role of the multidisciplinary team.

Student will have an appreciation of the doctor-patient relationship and the role of communication between family members as applicable to patient management, and is able to use and apply communication skills in different clinical scenarios. The student is able to evaluate the quality and economics of all his/her work.

Contents:

Population health, health promotion and recognising health problems; preventative medicine; encouragement of health behaviour that will promote health. Epidemiology, social- and health service and economics as part of patient management. Medical law, application of social security law in clinical practice, medical certificates and medical statements. Introduction to rehabilitation, environmental medicine and nutrition at population level. Team working with expert members of the multi-disciplinary team.

Learning activities and teaching methods:

Lectures, theme days, seminars and workshops. One-week practical training module at a primary health care centre, which includes a set of learning tasks.

Recommended or required reading:

Koskenvuo K. (toim) Sairauksien ehkäisy. Duodecim 2003, soveltuvilta osin; Yleislääketiede, Kumpusalo E, Ahto M, Eskola K, Keinänen-Kiukaanniemi, S, Kosunen E, Kunnamo I, Lohi J (toim) Kustannus Oy Duodecim 2005, soveltuvilta osin; Laki potilaan asemasta ja oikeuksista 17.8.1992/785; Laki terveydenhuollon ammattihenkilöistä 28.6.1994/559; Sosiaali- ja terveysministeriön asetus potilasasiakirjojen laatimisesta sekä niiden ja muun hoitoon liittyvän materiaalin säilyttämisestä. 99/2001; SosTMA lääkkeen määräämisestä 726/2003; L sähköisestä lääkemääräyksestä 2.2.2007/61; a SosTMA sähköisestä lääkemääräyksestä 25.6.2008/485.

Availability of course materials can be checked here.

Assessment methods and criteria:

Written examinations. Participation in seminars, workshops, theme days and practical training module at a primary health care centre.

Grading:

Medical law exam will be graded as pass/fail. Final grade of this course will consist of final written exam and seminar assessment, the latter graded on a scale of 0 to 5. The final grade will be calculated as 2/3 of the grade from final exam + 1/3 seminar grade. Final exam will contain a medical certificate, graded as pass / fail.

Person responsible:

Professor Markku Timonen

Other information:

The course forms part of the following learning modules of public health and general practice: 1) disease prevention and health promotion 2) multidisciplinary leadership and management 3) examination and management of the patient 4) effect-based contributions to the society & rehabilitation and social security, and 5) research knowledge and skills & interpretation and application of research (Appendix 4).

080803A: Radiology I, 3,5 - 5 op

Voimassaolo: 02.08.2012 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Tervonen, Osmo Antti

Opintokohteen kielet: Finnish

ECTS Credits:

3.0

Timing:

S11, 5rd year

Learning outcomes:

Upon completion of the student should be able to understand principles of image interpretation as well as obtain basic image interpretation skills of radiographs. The student should master indications for selected investigations in radiology within general practice's clinical context and understand correct ordering (percipio) and reporting routines.

Contents:

General introduction to radiology (Techniques), nuclear medicine and radiation protection.

Radiology of skeletal system, thorax and viscerae and interventional radiology. Neuroradiology.

Learning activities and teaching methods:

Tutored film interpretations, demonstrations (Hands-on US practice, radiograph filming, ER-work observance), self study, written examinations

Recommended or required reading:

Soimakallio (Editor): Radiologia or Mettle, FA (Editor): Essentials of Radiology or Brant WE (Editor): Fundamentals of Diagnostic Radiology (voluntary)

Mettler, FA (Editor): Essentials of Radiology

Grading:

Completed written exam is a prerequisite to obtain course credits.

Person responsible:

Professor Roberto Blanco, Professor Osmo Tervonen , Department of Radiology

080712A: Surgery I, 16 - 24 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Juvonen, Tatu Sakari

Opintokohteen kielet: Finnish

ECTS Credits:

16 ECTS/430 hours of work

Language of instruction:

The tuition shall be arranged in Finnish.

Timing:

During third year.

C 5-6

Learning outcomes:

The students will be made familiar with surgical thinking, working in the first aid clinic, in a surgical operating-room and surgical ward. They will learn: 1) How to speak to and examine a surgical patient, 2) The diagnostics of surgical diseases, 3) The basics of surgical care, and 4) The most usual treatment procedures used in the public health centers.

Contents:

Theoretical part :

C5: Urology, Gastroenterological Surgery, Orthopedics, propedeutic Cardiothoracic Surgery and Vascular Surgery, Building the History of Surgical Patient and the Documentation of Physical Examination

C6: Cardiothoracic Surgery and Vascular Surgery, Gastroenterological Surgery, Urology, Traumatology. General Surgery

Practical part:

Guided and self-made patient examination and planning of treatment strategy, the group teachings in every surgical speciality, the theme teaching days, the surgical wound care, teaching in operating theatres, teaching in the surgical out-patients clinic and the practice in surgical wards.

Mode of delivery:

The tuition will be implemented as blended teaching (mainly face-to-face teaching, but there might be some web-based teaching)

Learning activities and teaching methods:

Lessons in every surgical speciality, the theme days concerning important surgical topics, the group teachings in surgical wards and policlinics of specific topics, clinical practices in wound care, teaching in the operating theatres, practice and teaching in surgical out-patients clinics. Familiarisation with the preparation of the surgical patients. The practice at surgical wards (both in University hospital and in some Central hospital of the Northern Finland) includes clinical examination of 6 surgical patients and the practice in operating theatres assisting in 3 operative procedures.

Contact teaching 215 h and independent teaching 215 h.

Target group:

Medical students

Prerequisites and co-requisites:

The required prerequisite is the completion of the following courses prior to enrolling for the course unit:

040101A Anatomy

040103A Medical biochemistry and molecular biology

040106A Pharmacology and Toxicology

040107A Microbiology

040112A Physiology

Recommended optional programme components:

The course units that are recommended for completion simultaneously: Internal medicine, pathology, radiology, clinical chemistry and anesthesiology

Recommended or required reading:

Roberts, Alhava, Höckerstedt, Kivilaakso: Kirurgia. Kustannus Oy Duodecim. Helsinki. 2. uudistettu painos 2010.

Kröger, Aro, Böstman, Lassus, Salo: Traumatologia. Kandidaattikustannus. Helsinki. 7. uudistettu painos 2010.

Rokkanen, Pätiälä, Tunturi, Raitanen, Ahtinen: Kirurgiset pientoimenpiteet. Tampereen Lääketieteellinen Kandidaattiseura ry. 5. uudistettu painos 2012.

Kiviranta, Järvinen: Ortopedia, Kandidaattikustannus. Helsinki. 3. painos 2012.

Taari, Aaltomaa, Nurmi, Parpala, Tammela: Urologia. Duodecim. 3.painos 2012. (alustava ilmestymispäivä 01.12.2012)

Lecture material and other materials too.

For English speaking exchange-program students:

Burkitt, Quick, Reed: Essential Surgery, Problems, Diagnosis & Management. Churchill Livingstone Elsevier Ltd. 4th ed 2007.

Assessment methods and criteria:

Taking part into the group teaching events, theme days and practices in surgical wards, intermediate examinations I and II, 6 reports of examinations of surgical patients, assisting in 3 surgical operations, serving three evenings at the surgical emergency room clinic and serving two evenings in surgical operative unit for emergency surgery. Contact teaching approximately 215 hours and independent work approximately 215 hours.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The final score of surgery is based on final exam. Mid-term exam is accepted if at least 50% of total score is made. The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

Person responsible:

Professor Tatu Juvonen and professor Jyrki Mäkelä

Working life cooperation:

Yes.

The course unit includes two weeks surgical ward practice in OYS or other hospitals in Northern Finland.

Other information:

No other information

080613A: Anesthesiology II, 3 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Alahuhta, Seppo Matias

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

042001Y-05: Clinical Pathology, 1 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

042001Y-03: Clinical Physiology 2, 1 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

041002Y-04: Environment, Lifestyle and Health Studies, 1 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

080711A: Internal medicine I, 4,5 - 21 op

Voimassaolo: 01.08.2014 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Savolainen, Markku

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

ECTS Credits:

16,5 ECTS credits/ 440 hours of work

Language of instruction:

Finnish

Timing:

C5-C6

Learning outcomes:

After this course the student is familiar with diseases of internal medicine as well as diagnostics and treatment of these diseases. The student understands the connection between internal medicine and other medical specialities. The student learns independent problem solving and critical thinking and also to cooperate with healthcare professionals.

Contents:

Endocrinology and metabolic diseases, cardiology, ECG, kidney diseases, haematology, rheumatology, gastroenterology and emergencies in internal medicine

Mode of delivery:

Face to face teaching

Learning activities and teaching methods:

1. Lectures 80 h
2. Patient history and physical examination. Student writes accurate patient history and status of six patients that he/she has examined carefully.
3. Guided medical procedures and examinations. Carried out in small group classes and in ward practice.
4. Small group classes 24 h. Student participates in small group classes in various wards. Each class lasts 2 hours. Attendance is compulsory.
5. Practice in outpatient clinic 4 h. Attendance is compulsory.
6. Practice in the Department of Emergency (Internal Medicine) 3 x 6 h. Attendance is compulsory.
7. Ward practice 80 h. Organised in two one week sessions. Attendance is compulsory. Part of practice is carried out in the hospitals of Northern Finland.
8. Seminars 53 h. Problem-oriented discussions about wider thematic entities. Attendance is compulsory.
9. Patient lectures 2 h. Problem-oriented discussions. Attendance is compulsory.

Target group:

Medical students.

Prerequisites and co-requisites:

Student must have completed preclinical studies.

Recommended optional programme components:

The course is performed simultaneously with other third year's courses.

Recommended or required reading:

- Axford JS, O'Callaghan C. Medicine, 2nd Edition, (2004), Wiley.
- Mäkijärvi M, Harjola V-P, Päivä H, Valli J, Vaula E. Akuuttihoito-opas (2012), Kustannus Oy Duodecim
- Saha H, Salonen T, Sane T. Potilaan tutkiminen (2009), Kustannus Oy Duodecim.

Recommended reading:

- Vauhkonen I & Holmström P.: Sisätaudit (2001), Kustannus Oy WSOY (**suositellaan luettavaksi ennen kurssille tuloa**)
- Heikkilä J, Mäkijärvi M. EKG (2003), Kustannus Oy Duodecim
- Heikkilä J, Kupari M, Airaksinen J, Huikuri H, Nieminen MS, Peuhkurinen K. Kardiologia (2008), Kustannus Oy Duodecim
- Höckerstedt K, Färkkilä M, Kivilaakso E, Pikkarainen P. Gastroenterologia ja hepatologia (2007), Kustannus Oy Duodecim
- Koskenvuo K. (toim.): Sairauksien ehkäisy (2003), Kustannus Oy Duodecim
- Leirisalo-Repo M, Hämäläinen M, Moilanen E. Reumataudit (2002), Kustannus Oy Duodecim
- Ruutu T, Rajamäki A, Lassila R, Porkka K. Veritaudit (2007), Kustannus Oy Duodecim
- Mäkijärvi M, Parikka H, Raatikainen P, Heikkilä J. EKG-tulkinnan työkirja (2006) Kustannus Oy Duodecim
- Thaler M. The only EKG book you'll ever need. 4th ed (2003). Lippincott Williams & Wilkins
- Välimäki M, Sane T, Dunkel L. Endokrinologia (2009) Kustannus Oy Duodecim
- Huovinen P, Hedman K, Heikkinen T, Järvinen A, Meri S, Vaara M. (toim.): Mikrobiologia – Mikrobiologia, immunologia ja infektiosairaudet, kirja 1 (2010), Kustannus Oy Duodecim
- Hedman K, Heikkinen T, Huovinen P, Järvinen A, Meri S, Vaara M. (toim.): Immunologia – Mikrobiologia, immunologia ja infektiosairaudet, kirja 2 (2011), Kustannus Oy Duodecim
- Hedman K, Heikkinen T, Huovinen P, Järvinen A, Meri S, Vaara M. (toim.): Infektiosairaudet – Mikrobiologia, immunologia ja infektiosairaudet, kirja 3 (2011), Kustannus Oy Duodecim

Assessment methods and criteria:

Attendance in compulsory teaching.

Examinations of endocrinology and metabolic diseases, cardiology and ECG, kidney diseases, haematology, rheumatology and gastroenterology.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Grading scale in intermediate examinations is 1-5 and the lowest accepted points are 20/40.

Intermediate exams form 50% of the final grade of the course.

Person responsible:

Professor Markku Savolainen (markku.savolainen@oulu.fi)

Working life cooperation:

Yes. Small group teaching, ward practice, practice in outpatient clinic and in the department of emergency.

080301A: Neurology, 6 - 6,5 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Majamaa, Kari Gunnar

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

ECTS Credits:

6.5 ECTS

Language of instruction:

Finnish

Timing:

During autumn term of the 3rd year (0,5 ECTS) and during 4th year (6 ECTS) of medical education

Learning outcomes:

The course focuses on pathogenesis, diagnostics, treatment and prevention of common neurological diseases and rehabilitation of neurological patients. After completing this course the student should

- be able to carry out the neurological examination of the patient;
- be familiar with the diagnosis and management of common neurological illnesses;
- be familiar with ancillary investigations that are used for neurological evaluation;
- be familiar with current developments in the clinical neurosciences.

Contents:

The neurology course consists of an introductory course on clinical neurological examination and the main neurology course. Lectures will be given in Finnish and are voluntary. Small group sessions will be held in outpatient neurology clinic and neurology ward. Lumbar puncture will be practised with a torso simulated manikin. Each student also participates in the clinical evaluation of patients at the emergency department and at the neurology ward and examines patients under supervision at the outpatient clinic. Attendance is mandatory in small group sessions and emergency service. Course also includes seminars, three of them are mandatory. There is a written final exam in the end of the course.

Mode of delivery:

Face –to-face teaching

Learning activities and teaching methods:

I Preparatory neurology

- Lectures 2 h

II Neurology course consists of the following activities

- Lectures 19,5 h (in Finnish)
- Introductory course of clinical neurological examination 6 h
- Small group sessions at the outpatient clinic and neurology ward 12 h
- Service at neurology ward 12h including practicing lumbar puncture
- Practising at emergency department 5 h

Seminars 29,5 h

Target group:

Fourth year medical students

Prerequisites and co-requisites:

All earlier studies in the curriculum of basic medical education.

Recommended optional programme components:

The course is performed simultaneously with other courses including the curriculum in 3rd and 4th year

Recommended or required reading:

Soinila S, Kaste M, Somer H (eds.): Neurologia (2. Ed.). Duodecim, Helsinki 2006 (695 pages).

Assessment methods and criteria:

Attendance to all small group sessions and clinical examination of patients in neurology ward and emergency department, attendance to three seminars and passed examination.

A written final examination consists of five questions. The requirements of the final exam include the textbook, issues raised in the lectures, small group sessions and seminars. Zero points is allowed only in one question. In order to pass the exam the student must obtain half of the total points.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The evaluation scale is 0-5 (0=fail, 5=excellent).

Person responsible:

Professor Kari Majamaa

Working life cooperation:

In small group sessions held in outpatient neurology clinic and neurology ward. Each student also participates in the clinical evaluation of patients at the emergency department and at the neurology ward and examines patients under supervision at the outpatient clinic.

Other information:

Updated 12 October 2012

080304A: Neurosurgery, 3 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

ECTS Credits:

3.0 ECTS

Language of instruction:

Finnish

English for international students

Timing:

During fourth year (C8)

Learning outcomes:

After the course the student knows the clinical manifestations, diagnostics and treatment of neurosurgical diseases from the primary physician's point of view.

Contents:

Trauma mechanisms and the pathophysiology of brain injury. Epidemiology, first aid and primary care of brain injury patients. Mild brain injury, cerebral contusion, traumatic hemorrhage. The pathophysiology of elevated intracranial pressure. Intensive care and rehabilitation.

The functional anatomy of the central nervous system. Brain and spinal cord tumors. Spontaneous intracranial hemorrhage. Degenerative spinal diseases. Neuromodulation treatment of pain, movement disorders and epilepsy.

Mode of delivery:

Face-to-face teaching.

Learning activities and teaching methods:

Lectures (14h) including patient demonstrations. Compulsory small group patient rounds and discussion: degenerative spinal diseases, brain injury, intracranial hemorrhage, brain and spinal cord tumors (8h). Three symposia with other disciplines: brain tumors, brain injury, degenerative disease of the lumbar spine (12h).

Target group:

Fourth year medical students

Prerequisites and co-requisites:

All third year studies must be completed before attending the course.

For international students: A passing grade in clinical neurology is required before enrollment in the neurosurgical course.

Recommended optional programme components:

The course is part of the fourth year curriculum.

Recommended or required reading:

Neurosurgical manual: Neurokirurgia (Ukkola Veijo, Koivukangas John, Heikkinen Esa), 50 pages, in Finnish.

For international students: Lindsay-Bone: Neurology and Neurosurgery Illustrated, latest edition.

Assessment methods and criteria:

The course requirements include participation in the compulsory small group rounds and passing the final examination which consists of 6 essay and/or multiple choice questions. At least half of the total points are needed to pass the test, and a minimum of 1 point per question must be achieved. One month of clinical internship can enhance the grade.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical scale 1-5.

Person responsible:

Professor John Koivukangas

Working life cooperation:

Yes: Clinical experiences in small group sessions and rounds on the neurosurgery patient ward.

Other information:

Alternatively, international students can also get full ETCS credits through the Erasmus program clinical elective. This requires full time (8.00 am - 3.45 pm) participation in all clinical activities for a minimum of four weeks. For ETCS credits the above textbook final examination must also be passed: it is usually taken during the last week of study.

080223A: Organ pathology II, 2 op

Voimassaolo: 01.08.2014 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Karttunen, Tuomo Juhani

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

080302A: Oto-rhino-laryngology, 6 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Alho, Olli-Pekka

Opintokohteen kielet: Finnish

ECTS Credits:

6 ECTS

Language of instruction:

Finnish

Timing:

During fourth year

autumn semester (C7)

Learning outcomes:

The aim is to familiarize the student with examining, treating and referring an otorhinolaryngological patient.

The student gains the knowledge and skills in Otorhinolaryngology he or she needs to work as an independent general practitioner

Contents:

The course deals with diseases of the ear, the nose and the paranasal sinuses, the mouth, the throat, the salivary glands and the larynx as well as injuries of the face. The epidemiology, diagnostics, treatment and also rehabilitation are handled. An introduction to phoniatrics is provided. The group instructions, theme day and independently performed tasks focus on diagnostics and treatment of ear, nose and throat diseases as well as techniques of ambulatory procedures.

Mode of delivery:

Face –to-face teaching

Learning activities and teaching methods:

Lectures, group instructions, theme day and independently performed tasks

Target group:

For the medical students of the fourth year

Prerequisites and co-requisites:

All earlier studies in the curriculum of basic medical education.

Recommended optional programme components:

The course is performed simultaneously with other fourth year's courses.

Recommended or required reading:

Textbook: Korva-, nenä- ja kurkkutautioppi ja Foniatrian perusteet. Korvatieto Oy (the most recent edition)

Becker, Naumann, Pfalz: Ear, Nose and Throat Diseases, Thieme 1994

Boenninghaus, Lenarz: Hals-Nasen-Ohrenheilkunde, Springer-Verlag 2005

Assessment methods and criteria:

All group instructions, entering examination and final examination

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The final evaluation is scored from 0 to 5

Person responsible:

Professor Olli-Pekka Alho

Working life cooperation:

Yes: small group classes, following clinical work.

080707S: Practical training, 3 - 24 op

Opiskelumuoto: Practical Training

Laji: Practical training

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Ei opintojaksokuvauksia.

080511A: Psychiatry, 12 - 14 op

Voimassaolo: 01.08.2006 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Pirkko Riipinen

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

080427A-02: Public Health, 1 op

Voimassaolo: 01.08.2014 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Markku Timonen

Opintokohteen kielet: Finnish

ECTS Credits:

9,5 study credits

Timing:

Semester 11 (C11)

Learning outcomes:

The student will understand the principles of health at population level, and as applicable to a particular disease. The student will have knowledge of the most important public health schemes and programmes, and is able to apply them at a local level.

The student will know the principles and organisation of insurance and rehabilitation medicine, and is able to apply their knowledge into clinical practice. The student will understand the aetiological factors of disease both at an individual and population level and is competent at diagnosis and management of the common diseases.

The student is able to critically assess and interpret findings of public health research, and to act as an expert of preventative medicine in primary care. The student will learn the ability to adopt and apply methods of health promotion and disease prevention at an individual-, family-, and population level, therein also considering the expertise role of the multidisciplinary team.

Student will have an appreciation of the doctor-patient relationship and the role of communication between family members as applicable to patient management, and is able to use and apply communication skills in different clinical scenarios. The student is able to evaluate the quality and economics of all his/her work.

Contents:

Population health, health promotion and recognising health problems; preventative medicine; encouragement of health behaviour that will promote health. Epidemiology, social- and health service and economics as part of patient management. Medical law, application of social security law in clinical practice, medical certificates and medical statements. Introduction to rehabilitation, environmental medicine and nutrition at population level. Team working with expert members of the multi-disciplinary team.

Learning activities and teaching methods:

Lectures, theme days, seminars and workshops. One-week practical training module at a primary health care centre, which includes a set of learning tasks.

Recommended or required reading:

Koskenvuo K. (toim) Sairauksien ehkäisy. Duodecim 2003, soveltuvilta osin; Yleislääketiede, Kumpusalo E, Ahto M, Eskola K, Keinänen-Kiukaanniemi, S, Kosunen E, Kunnamo I, Lohi J (toim) Kustannus Oy Duodecim 2005, soveltuvilta osin; Laki potilaan asemasta ja oikeuksista 17.8.1992/785; Laki terveydenhuollon ammattihenkilöistä 28.6.1994/559; Sosiaali- ja terveysministeriön asetus potilasasiakirjojen laatimisesta sekä niiden ja muun hoitoon liittyvän materiaalin säilyttämisestä. 99/2001; SosTMA lääkkeen määräämisestä 726/2003; L sähköisestä lääkemääräyksestä 2.2.2007/61; a SosTMA sähköisestä lääkemääräyksestä 25.6.2008/485.

Availability of course materials can be checked here.

Assessment methods and criteria:

Written examinations. Participation in seminars, workshops, theme days and practical training module at a primary health care centre.

Grading:

Medical law exam will be graded as pass/fail. Final grade of this course will consist of final written exam and seminar assessment, the latter graded on a scale of 0 to 5. The final grade will be calculated as 2/3 of the grade from final exam + 1/3 seminar grade. Final exam will contain a medical certificate, graded as pass / fail.

Person responsible:

Professor Markku Timonen

Other information:

The course forms part of the following learning modules of public health and general practice: 1) disease prevention and health promotion 2) multidisciplinary leadership and management 3) examination and management of the patient 4) effect-based contributions to the society & rehabilitation and social security, and 5) research knowledge and skills & interpretation and application of research (Appendix 4).

080205A: Pulmonary diseases, 3 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Maritta Jaakkola

Opintokohteen kielet: Finnish

ECTS Credits:

3 ECTS / 80 hours of work

Language of instruction:

Finnish

Timing:

Year 3, Semesters 5 and 6

Learning outcomes:

After this course the student is able to treat common respiratory diseases. The student has basic knowledge about respiratory diseases, pathophysiology of these diseases and common lung function tests. The student knows how to deal with problems that are not resolved and treated in primary care.

Contents:

Respiratory medicine and clinical cases. Measurements of lung function, performance of common lung function tests and the assessment of the test results.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

1. Lectures 16 h.
2. Small group classes 4 h. Attendance is compulsory.
3. Practice in outpatient clinic 4 h. Attendance is compulsory.
4. Seminars 11 h. Attendance is compulsory.

Target group:

Medical students

Prerequisites and co-requisites:

Student must have completed preclinical studies and propedeutics of internal medicine

Recommended optional programme components:

The course is performed simultaneously with other third year's courses.

Recommended or required reading:

Kinnula, V.L., Brander, P.E., Tukiainen, P.: Keuhkosairaudet (III uudistettu painos 2005), Kustannus Oy Duodecim.

Assessment methods and criteria:

Attendance at compulsory teaching. Examination of respiratory medicine.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Grading scale in examinations is 1-5.

36-40=5, 32-35=4, 28-31=3, 24-27=2, 20-23=1

Examination consists of five short essays. Six points is maximum / essay. Examination is failed if the total points are less than 13 or if one of the essays is worth of 0 points.

Person responsible:

Professor Maritta Jaakkola (maritta.jaakkola@oulu.fi)

Working life cooperation:

Yes. Small group classes, ward practice and practice in outpatient clinic

Other information:

Registration to examinations (<https://weboodi.oulu.fi/oodi/jsp/frame.jsp>)

902007Y: Scientific Communication, 1,5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Language Centre

Arvostelu: 1 - 5, pass, fail

Opettajat: Eva Braidwood

Opintokohteen kielet: English

Leikkaavuudet:

ay902007Y Scientific Communication (OPEN UNI) 1.5 op

Proficiency level:

[CEFR B2/C1](#)

Status:

This course is compulsory for Medical Faculty students who have chosen English. An alternative course is 903008Y German.

Required proficiency level:

Students are expected to have had English as their A1 or A2 language at school or to have acquired equivalent skills.

ECTS Credits:

1.5 ECTS credits (The workload is 40 hours)

Language of instruction:

English

Timing:

Students in the degree program of

- medicine: 4th year autumn term
- dentistry: 3rd year spring term
- medical technology: 1st year autumn term

Learning outcomes:

Having completed the course students will be able to

- use the English language for professional and academic communication in their field of study,
- communicate fluently and accurately; express opinions and demonstrate their knowledge of the field specific to their studies,
- summarize texts on professional and academic topics in the target field,
- give a presentation on a professional or academic topic related to their own specialisation.

Students with adequate oral skills, may choose, as an alternative, **a writing course. Having completed this course, students will be able to**

- write a research article that follows the main discourse conventions of the target field,
- use grammatical patterns that are stylistically appropriate for research articles of the target field,
- use general scientific vocabulary and field specific terminology in an idiomatic way,
- create field-specific patterns of text structure,
- develop a systematic argument with supporting detail.

Contents:

In this course students will become familiar with the language features and structure of a scientific presentation; they practice doctor-patient consultation, clinical consultation, medical history-taking and medical reporting.

Mode of delivery:

blended teaching: face-to-face teaching combined with online tasks and independent study.

Learning activities and teaching methods:

The classroom teaching and classroom activities comprise about 30-50% of the total student workload for the course, including lectures, group and teamwork, student presentations. The independent work component comprises online work and independent study in preparation for classroom activities.

Target group:

Students in the degree programs of medicine, dentistry, and wellness technology

Prerequisites and co-requisites:

none

Recommended optional programme components:

902006Y Reading for Academic Purposes

Recommended or required reading:

Some materials will be provided by the teacher and a copy fee will be charged where applicable. Other materials are available online. Information will be provided at the beginning of the course.

Assessment methods and criteria:

Assessment is based on active participation in classroom activities, completion of home assignments and the end-of-course presentations – alternatively, completion of writing assignments.

Grading:

The evaluation scale is 1-5.

Person responsible:

Eva Braidwood

Working life cooperation:

none

Other information:

Medical students **sign up** for the course **in WebOodi** (following the Information session on types and dates of classroom sessions for different groups, after 15th August). Information on the time and place of the classes will be provided in [Optima](#) and WebOodi.

Medical technology and dentistry students sign up at their departments.

Medical students **sign up** for the course **in WebOodi** (following the Information session on types and dates of classroom sessions for different groups, after 15th August). Information on the time and place of the classes will be provided in [Optima](#) and WebOodi.

Medical technology and dentistry students sign up at their departments.

080714A: Surgery II, 1 - 8 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Juvonen, Tatu Sakari

Opintokohteen kielet: Finnish

ECTS Credits:

18 ECTS-credits

Language of instruction:

Finnish.

Timing:

C 5-6

Learning outcomes:

After the course the students will be familiar with surgical thinking and be able to work in the first aid clinic, in a surgical operating-room and in a surgical ward. The students will 1) know how to speak to and examine a surgical patient, 2) be able to diagnose surgical diseases, 3) know the basics of surgical care, and 4) be able to utilize the most usual treatment procedures used in the public health centres.

Contents:

Theoretical part

The propedeutics in General surgery, Gastroenterological surgery, Urology, Orthopedics and Traumatology and in Thoracic and Vascular surgery.

Practical part

Guided and self-made patient examination and planning of treatment strategy, the group teachings in every surgical speciality, the theme teaching days, the surgical wound care, teaching in operating theatres, teaching in the surgical out-patients clinic and the practice in surgical wards.

Learning activities and teaching methods:

Lessons in every surgical speciality, the theme days concerning important surgical topics, the group teachings in surgical wards and policlinics of specific topics, clinical practices in wound care, teaching in the operating theatres, practice and teaching in surgical out-patients clinics, practice at surgical wards.

The practice at surgical wards (both in University hospital and in some Central hospital of the Northern Finland) includes clinical examination of 6 surgical patients and the practice in operating theatres assisting in 3 operative procedures.

Recommended or required reading:

Roberts, Alhava, Höckerstedt, Kivilaakso: Kirurgia. Kustannus OY Duodecim Helsinki. 1. painos 2004.

Rokkanen. Slätis, Alho, Ryöppy, Huittinen: Traumatologia. Kandidaattikustannus. Helsinki. 6. painos

Tunturi, Pätiälä, Rokkanen: Kirurgiset pientoimenpiteet. Tampereen Lääketieteellinen Kandidaattiseura. 4. painos

Rokkanen, Tervo, Avikainen. Käytännön ortopediaa. 2003.

Nurmi, Lukkarinen, Ruutu, Taari, Tammela: Urologia. Kustannus OY Duodecim. Helsinki. 2002.

Assessment methods and criteria:

Taking part into the group teaching events, theme days and practices in surgical wards, intermediate examinations I and II, 6 reports of examinations of surgical patients, assisting in 3 surgical operations, serving three evenings at the surgical emergency room clinic and serving two evenings in surgical operative unit for emergency surgery.

Grading:

The final score of surgery is based on final exam. Mid-term exam is accepted if at least 50% of total score is made.

Serving as older assistant can raise end marking by 6 points.

Person responsible:

Professor Tatu Juvonen and professor Jyrki Mäkelä

Other information:

Surgery II (C11-12) and optional courses I and II (C11-12)

080503A: Child psychiatry, 3 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Ebeling, Hanna Elina

Opintokohteen kielet: Finnish

ECTS Credits:

3,0 ECTS / 80 hours of work

Language of instruction:

Finnish

Timing:

C 9 and C 10

The course unit is held in the autumn semester and spring semester.

Learning outcomes:

The student who has passed the course of Child Psychiatry is able to describe the normal psychological development of children, knows child psychiatric health care organization, legislation and is able to diagnose and treat the most common child psychiatric disorders. The students will have readiness to work as a physician in the health center and as a junior trainee in the hospital.

Contents:

1) Lectures:

- the diagnostics and treatment of the most common child psychiatric disorders and child psychiatric health care organization as well as the main legislation.

2) Special themes:

- sexual abuse and child molestation

- intoxications: drugs and alcohol

3) In-patient teaching:

- getting acquainted with the child psychiatric in-patient treatment by participating to the representation of the in-patient department and to the representation of the patient cases

- getting acquainted with the own patient case and present the case in the study group

- participating to the presentation of the patient cases of the other students in the study group

4) Out-patient teaching:

- following of the two out-patient sessions

5) Problem based learning:

- solving and representing the example patient cases in the study group – practicing working together with other professionals

- getting acquainted with the evidence based practices

Mode of delivery:

Blended teaching:

Lectures, Special themes.

Small group teaching: In-patient teaching, Out-patient teaching and Problem based learning.

Learning activities and teaching methods:

Lectures 13h

Theme-day 6h

Small group teaching:

Group work 8h

Following of the own patient 4,5h

Problem based learning:

- guided teaching 4h

- without guidance either privately or in a group 1,5h

The admission exam 1h (web-based)

The Final exam 2 h

Self-study 40h

Target group:

Medical Students

Prerequisites and co-requisites:

The prerequisites for the course unit are previous studies (C1-8 course units).

Recommended optional programme components:

No alternative course units.

Simultaneously with Pediatrics 080502A.

Recommended or required reading:

Moilanen I, Räsänen E, Tamminen T, Almqvist F, Piha J, Kumpulainen K. Lasten- ja nuorisopsykiatria. Kustannus Oy Duodecim, 2004, 3. edit.

or

Barker P: Basic child psychiatry. Oxford, Blackwell Science, last edition.

Assessment methods and criteria:

The assessment of the course unit is based on the learning outcomes of the course unit.

The admission exam is multiple choice test. Required literature: text book, chapter 1: p.16-128, 2: p. 130-190 ja 5: p. 445-465 and lectures from 4th year. The admission exam is evaluated from 0 to 25 points (the approval limit is 15 points). Exam should be passed.

Attending to all compulsory teaching.

The final exam (Requirements: text book, lectures and group teaching material) is evaluated from 0 to 10 points (the approval limit is 5 points), grading scale pass/ fail.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes verbal grading scale pass/ fail.

The course is approved when all exams are approved and the student has attended to all compulsory teaching,

Person responsible:

Professor Hanna Ebeling

Working life cooperation:

No.

080505A: Clinical genetics, 2 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

ECTS Credits:

1.5 ECTS credits / 40 hours of work

Language of instruction:

Finnish.

Timing:

C 9-10, in the autumn semester.

Learning outcomes:

Upon completion the student will be able to identify/suspect a genetic disease in the patient/family, identify patients who need genetic counselling and refer them further to a clinical genetics unit, describe the structure of chromosomes and genes, their examination and to interpret the results of a chromosome or DNA examination, explain the recurrence risks in different modes of inheritance and to discuss their significance for family members and the possibilities of

prenatal diagnostics, explain the unique spectrum of genetic disease in Finland, understand the special nature of genetic disease and recognize the ethical problems related to genetic testing, and to recognize the need of special care for families with a child suffering from congenital malformations/genetic disease and adult patients with serious genetic conditions.

Contents:

Clinical genetics as a medical speciality. Examination of the patient and family, drawing the pedigree. Modes of inheritance. Chromosomal disorders, principles and indications of chromosome studies. Principles and clinical applications of DNA studies. Population genetics and "Finnish Disease Heritage". Hereditary cancer, diagnosis, examination and counselling. Congenital malformations, basics of dysmorphology and syndrome identification. Prenatal diagnostics, genetic screening and counselling. Genetics of complex diseases. Genetic ethics. Principles and practice of genetic counselling, genetic services.

Mode of delivery:

Blended teaching

Learning activities and teaching methods:

Lectures 16h / Seminar 4h / Small group teaching 2h. Independent work and activating teaching methods 18h.

Target group:

Medical students.

Prerequisites and co-requisites:

The required prerequisite is the completion of preclinical courses prior to enrolling for the course unit.

Recommended optional programme components:

No alternative course units.

Recommended or required reading:

Aula P, Kääriäinen H, Palotie A: Perinnöllisyyslääketiede. Duodecim, 2006. Additionally recommended: Read A, Donnai D: New Clinical Genetics, Scion 2010.

Assessment methods and criteria:

The development of student's learning will be monitored in the guided teaching events. Participation in obligatory teaching events is required. The final exam should be passed.

The assessment criteria are based on the learning outcomes of the course

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes verbal grading scale pass/ fail.

Person responsible:

Jukka Moilanen, Clinical Lecturer in Clinical Genetics

Working life cooperation:

No

040128A: Clinical pharmacology, 1 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Miia Turpeinen

Opintokohteen kielet: Finnish

ECTS Credits:

2,5 credits

Language of instruction:

Finnish

Timing:

C8-9

Learning outcomes:

After passing the course the student should have ability to safe, efficient and cost effective drug therapy. The student should understand the basis for drug therapy from the point of view of general practitioner and the treatment of most common intoxications.

Contents:

Factors affecting drug selection, dosage and therapy will be discussed applying knowledge of basic pharmacology. Furthermore, the common problem cases of drug therapy will be discussed. Individualized therapy, use of major classes of drugs, special treatment situations and most common intoxications will also be discussed.

Learning activities and teaching methods:

Introductory lecture 2 hours. Clinical pharmacology patient case report and discussion with tutor. Thematic seminars (11 x 2 h) will cover major areas of drug therapy and special situations of drug treatment and most common intoxications. Final exam.

Recommended or required reading:

Book: Neuvonen, Backman, Himberg, Huupponen, Keränen, Kivistö (eds.)

Kliininen farmakologia ja lääkehoito, Kandidaatikustannus Oy (latest edition). Materials of the thematic seminars.

Assessment methods and criteria:

Preparation of acceptable clinical pharmacology patient case, discussion with the tutor and passing of the final exam.

Grading:

Pass/fail

Person responsible:

Miia Turpeinen (miia.turpeinen@oulu.fi)

080203A: Dermatology and venereology, 5 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Kaisa Tasanen-Määttä

Opintokohteen kielet: English

ECTS Credits:

5,5 ECTS credits (148 hours)

Language of instruction:

The tuition is arranged in Finnish. The course unit can be completed in English by group teaching.

Timing:

The course unit is held in the autumn/spring semester C9-C10.

Learning outcomes:

Objective of the course expressed in terms of learning outcomes: After this course the student has the knowledge and skills in diagnostics and treatment of common skin diseases in order to be able to work as a general practitioner or house officer. Furthermore, the student has the basic skills to diagnose and treat allergological and venereal diseases.

Contents:

Theoretical teaching: Special features of status and anamnesis. Structure of skin. Basics of local treatments. Basics of allergology. Common skin diseases and their clinical findings. Hereditary skin diseases. Dermatopathology. Venereal and paraveneal disease.. Practical teaching: Demonstrations, patient examination, small group teaching, bedside teaching, polyclinic, self study (material available in the Optima)

Mode of delivery:

The tuition will be implemented as face-to-face teaching and web-based teaching (Optima).

Learning activities and teaching methods:

Theoretical teaching 49 h

1. Lectures 42 h
2. Interactive lectures 3 h
3. Examinations 4 h

Practical teaching 15 h

3. Small group teaching in the outpatient ward 9 h
- 4 Small group teaching in the inpatient ward 6 h

Self study 84 h

6. Self study using material available in the Optima.

Target group:

Medical students

Prerequisites and co-requisites:

The recommended prerequisite is the completion of studies for previous semesters.

Recommended optional programme components:

The study unit cannot be completed alternatively.

Recommended or required reading:

Books:

Hannuksela, M., Karvonen, J., Reunala, T., Suhonen, R. (eds.). Ihotaudit. Kustannus Oy Duodecim.

Reunala T, Paavonen J, Rostila T (eds.): Sukupuolitaudit. Kustannus Oy Duodecim,.

Recommended reading: Haahtela T., Hannuksela M., Terho, E.O.: Allergologia. Kustannus Oy Duodecim.

Assessment methods and criteria:

Initial examination in the Optima has to be passed before starting the practical teaching. The end-of-course examination: books, lectures and small group teaching. Obligatory presence in the theme day teaching of skin infections, and in the theme day of sexology and venereology.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical grading scale 1-5.

The end-of-course examination contains 10 questions which are graded from 0-3. Maximal grade is 30 points and the level of acceptance is 15 points. The theme day of sexology and venereology, evaluation: pass/fail.

Person responsible:

Clinical lecturer

Working life cooperation:

No

Other information:

Research projects / Department of Dermatology

1. Molecular biology of skin connective tissue diseases

Responsible person: professor Kaisa Tasanen-Määttä

1 student per year

2. Glucocorticoid receptors

Responsible person: Päivi Hägg, MD, PhD

1 student per year

3. Venereal diseases

Responsible person: Erika Wikström, clinical lecturer

1 student/year

041002Y-05: Environment, Lifestyle and Health Studies, 1 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

041001Y-05: Evidence Based Medicine-studies, 1 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

040015Y: Health Care Ethics, 1 - 3,5 op

Opiskelumuoto: General Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Mäkelä, Jyrki Tapani

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

ECTS Credits:

Part 1: 1cr

Part 2: 1 cr

Part 3: 1 cr

Language of instruction:

Finnish

Timing:

Part 1: 1st year autumn and spring term

Part 2: 4th year spring term/5th year (new curriculum)

Part 3: 6th year autumn term

Learning outcomes:

Part 1: Upon completion of the course, the student will be able to use and define the basic concepts of medical ethics and their basis. The student will be able reflect his or her own value system and discuss his or her relation to the laws, norms, ethics and the value base of the society. He or she will also be able to take part in ethical discussion. The student will be able to evaluate the value of learning, what he or she has learned and, his or her responsibility in it.

Part 2: Upon completion of the course, the student will be able to contemplate and discuss the ethical issues involved in clinical work and how to apply them to practice. He or she will also be able to contemplate and discuss the issues involved in research ethics. The student will be able to recognize and evaluate his or her own attitudes towards the issues of health care ethics and the ethical questions concerning the beginning and the end of life, and their background.

Part 3: Upon completion of the course, the student will able to recognize the social responsibility of the medical profession and to depict the basics of the professional communication. He or she will also be able to apply the principles that guide the medical profession to practice.

Contents:

Part 1: The ethical and judicial basis of the medical profession, the common value base and principles in health care.

Part 2: The ethical questions of different patient groups and individual patients in clinical practice, the principles of research ethics, ethically acceptable application of scientific information to clinical practice, the ethical questions of the beginning and the end of life.

Part 3: The current social challenges in health care ethics, a physician as a part of the health care system.

Mode of delivery:

Face-to-face teaching.

Learning activities and teaching methods:

Part 1: Lectures 3 x 90 min, 1 x 90 group discussion with teacher, contemplation assignment, tutoring

Part 2: Lectures 1 x 90min and theme day, contemplation assignment, tutoring

Part 3: Lectures 1 x 90min and theme day, contemplation assignment, tutoring

Target group:

Medical students. 1st year dental students.

Prerequisites and co-requisites:

No.

Recommended optional programme components:

The course is part of Professional development in medicine –studies including into new curriculum of Medicine

Recommended or required reading:

[Lääkäriin etiikka](#) (2005) Finnish Medical Association (in Finnish). In addition other scientific literature according to student's choice.

Assessment methods and criteria:

Part 1: Lectures, group discussion, contemplation assignment, learning diary

Part 2: Lectures and theme day, contemplation assignment

Part 3: Lectures and theme day, contemplation assignment

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass/fail

Person responsible:

Professor Olli Vainio

Working life cooperation:

No.

042001Y-06: Medical Biochemistry and Molecular Biology, clinical studies 1, 1 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

080510A-05: OSCE, 0 op

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Uhari, Matti Kalervo

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

ECTS Credits:

0.0 op

Language of instruction:

Finnish

Timing:

5th year spring

Learning outcomes:

To assess the abilities of student performance on the subjects of the 5th year curriculum.

Contents:

A joined examination of the subjects on the fifth year.

Learning activities and teaching methods:

Each student makes a circuit of 15 stations comprising of practical tests in different disciplines. 8 minutes/station, 2 minutes for transferring between stations.

Recommended or required reading:

Textbooks and manuscripts of the fifth year.

Assessment methods and criteria:

The examiner on each station assesses the performance of the student.

Grading:

Passed/failed

Person responsible:

Professor Matti Uhari

Other information:

Each student has to be participated in every course of the fifth year.

080401A: Obstetrics and gynecology, 10 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Hannu Martikainen

Opintokohteen kielet: Finnish

ECTS Credits:

11,0 ECTS/ 294 hours of work

Language of instruction:

Finnish

Timing:

C9 and C10

The course unit is held in the autumn semester and spring semester

Learning outcomes:

After completing the course *Obstetrics and Gynecology* the student will have sufficient theoretical and practical knowledge in obstetrics and the most common gynecological illnesses, as well as the diagnostics, treatments and prevention thereof. Furthermore, the student will learn about a normal pregnancy, childbirth and puerperium. The course will provide the student skills required to work in a public health center as a general practitioner and to handle the treatment of acute cases

Contents:

Introduction: patient's anamnesis and examination, diagnosis and treatment plan, ultrasonography and other medical procedures, sexology, and violence against women.

Obstetrics: physiology of a pregnancy, planning and monitoring of pregnancy, monitoring of childbirth, puerperium.

Pregnancy complications: miscarriage and gynecological hemorrhage, pre-eclampsia or eclampsia, multiple pregnancy, fetal growth retardation, premature delivery and preterm loss of amniotic fluid, infections during pregnancy, 3rd trimester hemorrhaging and ablation, postpartum hemorrhaging, diabetes and pregnancy.

Gynecology: menstrual cycle, leucorrhea and abnormal menstrual bleeding, sexually transmitted diseases and infections, birth control, sterilization, and termination of pregnancy, gynecological endocrinology and infertility.

Gynecological abnormalities: pelvic inflammatory disease (PID), uterine prolapse and incontinence, endometriosis, abnormal gynecological bleeding, infertility, tumors, hormonal replacement therapy and osteoporosis.

Mode of delivery:

Blended teaching

Learning activities and teaching methods:

Lectures 27 h

Theme-days 10 h

Student Congress 4 h

Practical training in Central Hospitals 40 hours

Small group teaching

- Group teaching 13 h

- Ward rounds and learning at wards, following of the own patient 13 h

- Outpatient clinic learning 17 h

- Maternity care center and health care center learning 6,5 h (learning diagnostics and treatment of real patients)

- Attending to the emergency (including patient examinations) 6 hours

Problem based learning:

- guided teaching 20h
- without guidance either privately or in a group 30h

The admission exam 8h (web-based)
 Week exams I, II and III (web-based) 3 h
 The multiple choice exam 2 h
 The Patient cases exam 4 h

Self-study (preparing for Theme-days, congress and exams) 120 h

Target group:

Medical students

Prerequisites and co-requisites:

The prerequisites for the course unit are previous studies (C1-8 course units).

The admission exam (web-based) should be passed.

Recommended optional programme components:

No alternative course units.

Recommended or required reading:

Text book:

Ylikorkala O., Tapanainen J. (edit.) Naistentaudit ja synnytykset. 5. edition. Kustannus Oy Duodecim, 2011.

Alternative reading :

*Callahan T, Caughey A, Heffner L. Blueprints in Obstetrics & Gynecology, ISBN 0-86542-505, 1998 Blackwell Science, USA

*Campbell S, Monga A, Gynaecology by Ten Teachers, ISBN 0 340 74081 7, 2000, Oxford University Press, New York, USA, <http://www.arnoldpublishers.com>

*Campbell S, Lees C. Obstetrics by Ten Teachers, ISBN 0 340 74082 5, 2000, Oxford University Press, New York, USA, <http://www.arnoldpublishers.com>

*Lambrou N, Morse A, Wallach E. The Johns Hopkins Manual of Gynecology and Obstetrics, ISBN 0-7817-1890-2, Lippincot Williams & Wilkins, USA

Recommended reading :

*Martin L Pernoll. Current obstetric and gynaecologic diagnosis and treatment. Prentice-Hall Internat. Inc. (last ed.).

*E Malcolm Symonds. Essential obstetrics and gynaecology. Churchill Livingstone (last ed.).

Assessment methods and criteria:

The assessment of the course unit is based on the learning outcomes of the course unit.

The admission exam is multiple choice test. Required literature: text book. The preliminary test is evaluated from 0 to 100 points (the approval limit is 75 points). Exam should be passed.

Attending to all compulsory teaching
 (evaluated pass/fail)

Week exams I, II and III. Approval limit is 50% on each exam. (evaluated pass/fail)

Multiple choice exam. Approval limit is 50%
 Grading: 1-5/fail

The Patient cases exam (final exam): evaluated from 0-48 points, approval limit is 24 points.
 Grading: 1-5/fail.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

The final grade of the course is formed of

Patient cases exam (60%) and Multiple choice exam (40%).

Person responsible:

Prof. Markku Rynänen

Working life cooperation:

Each student will participate the work of gynecologist/obstetrician taking care of patients in one central hospital during one week.

In maternity care center and health care center learning diagnostics and treatment of real patients.

080303A: Ophthalmology, 4 op**Opiskelumuoto:** Intermediate Studies**Laji:** Course**Vastuuyksikkö:** Medicine**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Aura Falck**Opintokohteen kielet:** Finnish**ECTS Credits:**

4 ECTS Credits/108 hours

Language of instruction:

English (except that lectures are in Finnish)

Timing:

Spring (C8)

Learning outcomes:

The course of ophthalmology is based on learning basic ophthalmology and skills needed for the work of general practitioner. After this course the student will have basic knowledge of symptoms, diagnostics and treatment options of ophthalmic diseases and of connection between systemic diseases and ophthalmic problems. After completion of the course the student will be able to perform visual and ophthalmic examination needed for health check-up, screening of child's visual acuity, to treat general ophthalmic diseases and to assess the need and urgency for further care.

Contents:

Examination of eyes and visual acuity and treatment of ophthalmic diseases based on learning skills needed for the work of general practitioner

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

The course contains lectures (38 h, in Finnish), group sessions (10 h) and evaluation of the course through exams 6 h. Self-study 54 hours.

Target group:

Medical students

Recommended or required reading:

Book: Harper RA (ed.). Basic Ophthalmology (9th ed) American Academy of Ophthalmology, San Fransisco, 2010.

Assessment methods and criteria:

The assessment is based on examination assessing applied clinical learning. The assessment matrix based on learning has been compiled in Optima.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Preliminary examination: pass/fail; final examination 0-5.

Person responsible:

Johanna Liinamaa

Working life cooperation:

No

Other information:**080224A: Organ pathology 3, 2 op****Voimassaolo:** 01.08.2014 -**Opiskelumuoto:** Intermediate Studies**Laji:** Course**Vastuuyksikkö:** Medicine**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Karttunen, Tuomo Juhani**Opintokohteen kielet:** Finnish

Ei opintojaksokuvauksia.

080502A: Pediatrics, 14 op**Opiskelumuoto:** Intermediate Studies**Laji:** Course**Vastuuyksikkö:** Medicine**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Uhari, Matti Kalervo**Opintokohteen kielet:** Finnish**ECTS Credits:**

13,5 ECTS / 358 hours of work

Language of instruction:

Finnish

Timing:

C9 and C10

The course unit is held in the autumn semester and spring semester

Learning outcomes:

Upon completion the student is able

- to diagnose and treat the most common pediatric diseases as a general practitioner or as a first-year resident in a hospital
- to provide first aid to acutely and critically ill children
- to understand pediatric preventive health care and health education

Contents:

Growth and development; medical history and clinical examination of a child; allergology; endocrinology; diabetology, gastroenterology, hematology, infectious diseases; cardiology, pediatric surgery; pediatric neurology, nephrology, neonatology; oncology; emergency medicine

Mode of delivery:

Blended teaching

Learning activities and teaching methods:

Lectures 61 h

Theme-day 4 h

Small group teaching

- Group teaching 38h
 - Ward rounds and learning at wards, following of the own patient 24h
 - Outpatient clinic learning 26 h
 - Attending to the pediatric emergency (including patient examinations and 7 case records) 12 hours
- Seminars 16 h
 Student-visits 4,5 h
 Practical training in Central Hospitals 40 h

The admission exam 1h (web-based)

The patient exam 1 h

The final exam 4 h

Self-study 126,5 h

Target group:

Medical Students

Prerequisites and co-requisites:

The prerequisites for the course unit are previous studies (C1-8 course units)

Recommended optional programme components:

No alternative course units.

Recommended or required reading:

Text book: Rajantie J., Mertsola J. & Heikinheimo M. (edit.) Lastentautioppi 4. edition, Kustannus Oy Duodecim 2010.
 Printed version of lectures.

Recommended reading:

- 1) Olli Simell, toim. Neuvolakirja. Lääketehdas Orion, Jyväskylä, 1997.
- 2) Ruuskanen O, Peltola H, Vesikari T. toim. Lasten infektiosairaudet. Tampereen yliopiston rokotetutkimuskeskus, 2007
- 3) Louhimo I, Peltonen J, Rintala R. Louhimon lastenkirurgiaa. Kandidaattikustannus Oy, Jyväskylä 2000.

- 4) Sillanpää M, Herrgård E, Iivanainen M, Koivikko M, Rantala H (toim.) Lastenneurologia. Helsinki, Duodecim 2004.
 5) Korppi M., Kröger L. Rantala H. (toim.) Lastentautien päivistyskirja. Duodecim, Jyväskylä, 2009.
 6) Kamei R 2002. Rudolph's Fundamentals of Pediatrics.
 7) Lissauer T., Clendenen G. Illustrated textbook of paediatrics. Mosby, London, Last Edition.

Assessment methods and criteria:

The assessment of the course unit is based on the learning outcomes of the course unit.

Preliminary test is multiple choice test. Required literature: text book. The preliminary test is evaluated from 0 to 50 points (the approval limit is 20 points). Exam should be passed.

Attending to all compulsory teaching
(evaluated pass/fail)

Patient cases exam (evaluated from 0 to 20 points, approval limit is 5 points)
Grading: 1-5/fail

The final exam (evaluated from 0-60 points, approval limit is 35 points).
Grading: 1-5/fail.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

The final grade of the course is formed of
final exam (85%) and patient cases exam(15%)

Person responsible:

Prof. Matti Uhari

Working life cooperation:

Yes. Each student will follow the work of pediatricians taking care of patients in one central hospital during one week.

080707S: Practical training, 3 - 24 op

Opiskelumuoto: Practical Training

Laji: Practical training

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Ei opintojaksokuvauksia.

080427A-03: Public Health, 5 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Markku Timonen

Opintokohteen kielet: Finnish

ECTS Credits:

9,5 study credits

Timing:

Semester 11 (C11)

Learning outcomes:

The student will understand the principles of health at population level, and as applicable to a particular disease. The student will have knowledge of the most important public health schemes and programmes, and is able to apply them at a local level.

The student will know the principles and organisation of insurance and rehabilitation medicine, and is able to apply their knowledge into clinical practice. The student will understand the aetiological factors of disease both at an individual and population level and is competent at diagnosis and management of the common diseases.

The student is able to critically assess and interpret findings of public health research, and to act as an expert of preventative medicine in primary care. The student will learn the ability to adopt and apply methods of health promotion and disease prevention at an individual-, family-, and population level, therein also considering the expertise role of the multidisciplinary team.

Student will have an appreciation of the doctor-patient relationship and the role of communication between family members as applicable to patient management, and is able to use and apply communication skills in different clinical scenarios. The student is able to evaluate the quality and economics of all his/her work.

Contents:

Population health, health promotion and recognising health problems; preventative medicine; encouragement of health behaviour that will promote health. Epidemiology, social- and health service and economics as part of patient management. Medical law, application of social security law in clinical practice, medical certificates and medical statements. Introduction to rehabilitation, environmental medicine and nutrition at population level. Team working with expert members of the multi-disciplinary team.

Learning activities and teaching methods:

Lectures, theme days, seminars and workshops. One-week practical training module at a primary health care centre, which includes a set of learning tasks.

Recommended or required reading:

Koskenvuo K. (toim) Sairauksien ehkäisy. Duodecim 2003, soveltuvilta osin; Yleislääketiede, Kumpusalo E, Ahto M, Eskola K, Keinänen-Kiukaanniemi, S, Kosunen E, Kunnamo I, Lohi J (toim) Kustannus Oy Duodecim 2005, soveltuvilta osin; Laki potilaan asemasta ja oikeuksista 17.8.1992/785; Laki terveydenhuollon ammattihenkilöistä 28.6.1994/559; Sosiaali- ja terveysministeriön asetus potilasasiakirjojen laatimisesta sekä niiden ja muun hoitoon liittyvän materiaalin säilyttämisestä. 99/2001; SosTMA lääkkeen määräämisestä 726/2003; L sähköisestä lääkemääräyksestä 2.2.2007/61; a SosTMA sähköisestä lääkemääräyksestä 25.6.2008/485.

Availability of course materials can be checked here.

Assessment methods and criteria:

Written examinations. Participation in seminars, workshops, theme days and practical training module at a primary health care centre.

Grading:

Medical law exam will be graded as pass/fail. Final grade of this course will consist of final written exam and seminar assessment, the latter graded on a scale of 0 to 5. The final grade will be calculated as 2/3 of the grade from final exam + 1/3 seminar grade. Final exam will contain a medical certificate, graded as pass / fail.

Person responsible:

Professor Markku Timonen

Other information:

The course forms part of the following learning modules of public health and general practice: 1) disease prevention and health promotion 2) multidisciplinary leadership and management 3) examination and management of the patient 4) effect-based contributions to the society & rehabilitation and social security, and 5) research knowledge and skills & interpretation and application of research (Appendix 4).

901006Y: Second Official Language (Swedish), 3 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Language Centre

Opintokohteen kielet: Swedish

Proficiency level:

B1/B2 (CEFR scale)

Status:

This course is compulsory to all students. The language proficiency provided by the course is equivalent to the language proficiency required of a state official with an academic degree working in a bilingual municipality area (Act 424/03 and Decree 481/03).

Required proficiency level:

Edeltävät opinnot: Lukion B-ruotsin oppimäärä vähintään arvosanalla 7 JA ruotsin kielen yo-kokeen arvosana A-L sekä hyväksytysti suoritettu lähtötasotesti. Kurssille osallistuvien opiskelijoiden kielellisen lähtötason riittävyys testataan ohjatun kirjoitustehtävän avulla. Mikäli lähtötaso on riittämätön, opiskelija päivittää kielitaitonsa riittävälle tasolle joko valmentavalla kurssilla tai itseohjatuilla rakenne- ja tekstiopinnoilla.

ECTS Credits:

3 ECTS credits (80 h)

Language of instruction:

Swedish

Timing:

5th year of studies

Learning outcomes:

Upon completion of the course unit the student should have achieved the Swedish language proficiency required in his/her professional work tasks. He/she should be able to manage in typical professional communication situations. The student should be able to understand spoken language of his/her field, use Swedish in various professional situations, read and write texts related to his/her field. He/she should have developed a readiness to improve his/her language proficiency in genuine language use situations.

Contents:

Communicative oral and written exercises, which aim to develop the student's Swedish proficiency in areas relevant to his/her academic field and future professional tasks. The student practises oral presentation and pronunciation. Situational oral exercises done individually and in pairs and groups. Discussions in small groups. Current texts about the student's special field. Listening comprehension exercises. Written exercises relating to the student's professional field.

Mode of delivery:

Contact teaching

Learning activities and teaching methods:

The course consists of 40 hours of contact teaching and related exercises and 40 hours of independent study. The total workload of the course unit is 80 hours.

Target group:

Students of Medicine

Prerequisites and co-requisites:

See Required Proficiency Level

Recommended optional programme components:

-

Recommended or required reading:

Course material subject to a charge will be distributed during the course

Assessment methods and criteria:

The course unit focuses on improving both oral and written language skills and requires active attendance and participation in exercises, which require preparation time. The course unit tests both oral and written language skills. There are 4 teaching groups in the autumn semester and 2 in the spring.

Compensatory exam: a two-part compensatory exam is held at the beginning of the autumn semester. The exam is voluntary and consists of a written section and an oral section. The compensatory exam is only recommended for students who are already proficient in written and spoken Swedish as well as the Swedish of their own special field. If a student proves that he/she is proficient enough and passes both sections of the exam, he/she does not have to take part in the course unit. Students sign up for the written part of the exam by the end of May preceding the exam via email hanna-leena.ainonen@oulu.fi. The oral part of the exam is held for students who pass the written part at a date and time agreed upon separately. - Separate grades are given for the written and oral parts of the exam.

Grading scale: fail / satisfactory skills / good skills. The grades are based on continuous assessment and testing.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Oral and written language proficiencies are tested separately and assessed using the so called KORU-criteria (publication of HAMK University of Applied Sciences, 2006). Separate grades will be awarded for the successful completions of both oral and written portions of the course unit: the possible passing grades are satisfactory skills and good skills (see language decree 481/03). The grades are based on continuous assessment and testing.

Person responsible:

Hanna-Leena Ainonen

Working life cooperation:

-

Other information:

-

080705S-01: Thesis, Study plan, 4 op

Opiskelumuoto: Advanced Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

ECTS Credits:

0 ECTS Credits

Language of instruction:

finnish

Timing:

1.-5. study year

Learning outcomes:

The student can specify research problems to his/her research, choose the research method and formulate a blueprint for collecting, processing and reporting the matter, and the time scale for the research.

Contents:

The student formulates a research plan, in which he/she introduces context of his/her research, research problems, research method and the blueprint for collecting, processing and reporting the matter, and the time scale for the research.

Mode of delivery:

self-study

Learning activities and teaching methods:

The student establishes with a mentoring teacher a teaching agreement. The agreement form "Tutkielman ohjaussopimus" is found in [home page of Faculty of Medicine](#) and in Optima.

Target group:

Medical students

Prerequisites and co-requisites:

No

Recommended optional programme components:

080705S Thesis

040300A Maturity exam

Recommended or required reading:

As agreed with mentor teacher.

Assessment methods and criteria:

The student returns the agreement form and the plan for research to office of Faculty of Medicine and copies of them to the mentoring teacher.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The teacher subscribes the research plan and the teaching agreement form. The accepted plan for research will be registered to completed courses in WebOodi.

Person responsible:

Dean of Education Olli Vainio

Working life cooperation:

No

Other information:

Accepted research plan is one of the requirements to eligibility for 5th year locum post.

041001Y-06: Evidence Based Medicine-studies, 0,5 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

080202A: Forensic medicine, 4 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Kortelainen, Marja-Leena

Opintokohteen kielet: Finnish

ECTS Credits:

4 ECTS

Language of instruction:

Finnish

Timing:

During spring term of the 4th year (C8)

Learning outcomes:

Upon completion of the course the student knows the legislation and legal status concerning doctor and patient, knows how to write medical certificates and statements, knows the principles of death investigation and especially investigation of unexpected and violent deaths, and is familiar with forensic way of thinking, e.g. how to act as a medical authority.

Contents:

The organization of forensic medicine in Finland. Forensic medicine as a medical speciality. Legal status and supervision concerning doctors, complaints against doctors. Professional secrecy. Medical certificates and statements, especially forensic statements. The organization of death investigations, causes of death and circulation of death certificates. Mechanisms of death and declaration of legal death. Legal status of the deceased and his/her relatives. Sexual forensic medicine. Traffic medicine. Homicides and suicides. Fatal intoxications and deaths related to drug abuse. Molecular biology in forensic medicine. Injuries by stabbing, incisive wounds, and injuries by blunt force. Fatal firearm injuries, burns and electrical fatalities. Hypothermia, suffocation and asphyxia, fatal pressure on the neck. Drowning and decompression. Pediatric forensic medicine. Death certificates, medical examinations for driving license, medical certificate of physical assault injuries and in sexual offences, certificate after an external post mortem examination, clinical drunkenness examination.

Mode of delivery:

Face –to-face teaching

Learning activities and teaching methods:

Lectures 28 h. Autopsy demonstrations and slide shows 8 h, medical certificates 8 h. A visit to Oulu police department 1.5 h.

Target group:

For the medical students of the fourth year

Prerequisites and co-requisites:

All earlier studies in the curriculum of basic medical education.

Recommended optional programme components:

The course is performed simultaneously with other courses including the curriculum in 4th year..

Recommended or required reading:

Lectures, slide shows and written exercises (medical certificates).

Assessment methods and criteria:

Obligatory participation in autopsy demonstrations. Lectures, slide shows and practical training on medical certificates. Examination.

Examination with 7 questions. The evaluation scale of each question is from 0 to 6. The evaluation scale of the examination is 0-5, according to the total sum of the 7 questions (0-42). The student will not pass the examination if two or more of the answers are graded as 0. Three examinations are arranged each year.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The evaluation scale is 0-5 (0=fail, 5=excellent).

Person responsible:

Professor Marja-Leena Kortelainen

080914A: Geriatrics, 4 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

040015Y: Health Care Ethics, 1 - 3,5 op

Opiskelumuoto: General Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Mäkelä, Jyrki Tapani

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

ECTS Credits:

Part 1: 1cr

Part 2: 1 cr

Part 3: 1 cr

Language of instruction:

Finnish

Timing:

Part 1: 1st year autumn and spring term

Part 2: 4th year spring term/5th year (new curriculum)

Part 3: 6th year autumn term

Learning outcomes:

Part 1: Upon completion of the course, the student will be able to use and define the basic concepts of medical ethics and their basis. The student will be able to reflect his or her own value system and discuss his or her relation to the laws, norms, ethics and the value base of the society. He or she will also be able to take part in ethical discussion. The student will be able to evaluate the value of learning, what he or she has learned and, his or her responsibility in it.

Part 2: Upon completion of the course, the student will be able to contemplate and discuss the ethical issues involved in clinical work and how to apply them to practice. He or she will also be able to contemplate and discuss the issues involved in research ethics. The student will be able to recognize and evaluate his or her own attitudes towards the issues of health care ethics and the ethical questions concerning the beginning and the end of life, and their background.

Part 3: Upon completion of the course, the student will be able to recognize the social responsibility of the medical profession and to depict the basics of the professional communication. He or she will also be able to apply the principles that guide the medical profession to practice.

Contents:

Part 1: The ethical and judicial basis of the medical profession, the common value base and principles in health care.

Part 2: The ethical questions of different patient groups and individual patients in clinical practice, the principles of research ethics, ethically acceptable application of scientific information to clinical practice, the ethical questions of the beginning and the end of life.

Part 3: The current social challenges in health care ethics, a physician as a part of the health care system.

Mode of delivery:

Face-to-face teaching.

Learning activities and teaching methods:

Part 1: Lectures 3 x 90 min, 1 x 90 group discussion with teacher, contemplation assignment, tutoring

Part 2: Lectures 1 x 90min and theme day, contemplation assignment, tutoring

Part 3: Lectures 1 x 90min and theme day, contemplation assignment, tutoring

Target group:

Medical students. 1st year dental students.

Prerequisites and co-requisites:

No.

Recommended optional programme components:

The course is part of Professional development in medicine –studies including into new curriculum of Medicine

Recommended or required reading:

[Lääkäriin etiikka](#) (2005) Finnish Medical Association (in Finnish). In addition other scientific literature according to student's choice.

Assessment methods and criteria:

Part 1: Lectures, group discussion, contemplation assignment, learning diary

Part 2: Lectures and theme day, contemplation assignment

Part 3: Lectures and theme day, contemplation assignment

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass/fail

Person responsible:

Professor Olli Vainio

Working life cooperation:

No.

040017Y: Leadership in Health Care, 2 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: General Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Minna Hallia

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

040300A: Maturity exam (native language), 0 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Outi Mikkola

Opintokohteen kielet: Finnish

Contents:

Student writes an essay in his/her native language about the topic of the thesis to show a good command of the language and the content of the thesis. If the student's native language is another than Finnish or Swedish the Faculty will define separately the requirements for the language test.

Learning activities and teaching methods:

Writing an essay.

Assessment methods and criteria:

The essay is examined first by the supervisor of the thesis and then by the language teacher.

Grading:

Pass / fail

042001Y-07: Medical Biochemistry and Molecular Biology, clinical studies 2, 1 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

080001Y: Medical rescue work, 4 - 5 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Alahuhta, Seppo Matias

Opintokohteen kielet: Finnish

ECTS Credits:

1.5 ECTS

Language of instruction:

Finnish

Timing:

Sixth year, C 11-12

Learning outcomes:

The students knows the organisation of the rescue operations and knows doctors duty and role in mass accidents. Can do the triage. Is motivated to continuous learning and training in emergency medicine. The students will refresh resuscitation skills.

Contents:

General organisation of rescue work and doctors role in it. Medical rescue work planning and the role of continuous training. Triage. Refreshing of resuscitation skills.

Mode of delivery:

Blended teaching.

Learning activities and teaching methods:

Obligatory themedays 14 h

Simulation teaching for small groups 2 h

Target group:

For the students of the sixth year.

Prerequisites and co-requisites:

The required prerequisite is the completion of the following courses prior to enrolling for the course unit:

Anesthesiology 1

Recommended optional programme components:

No

Recommended or required reading:

Given during the course

Assessment methods and criteria:

Taking part to the obligatory studies.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

pass/fail

Person responsible:

Professor Seppo Alahuhta

Working life cooperation:

No

Other information:

No other information

080410A: Occupational health, 2 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Leena Ala-Mursula

Opintokohteen kielet: Finnish

ECTS Credits:

1.5 ECTS credits/ 40 hours of work

Language of instruction:

The course is held in Finnish.

Timing:

The course is scheduled in the 6th year, C11.

Learning outcomes:

Upon completion of the course, the student is able to consider work-related factors as potential causes of ill health, also the positive effects of work on health. The student is in addition able to consider the consequences on work ability of ill health as a part of his/her medical practice.

The student will be able to understand the structure of the Finnish Occupational Health Care system and the principles and practices of co-operation both within the Health Care system and with the workplaces

Contents:

The basics of Occupational Health Care

The basics of diagnosing work-related diseases and the relationship between work and health

Possibilities of supporting work ability

Mode of delivery:

Face-to-face tuition is used

Learning activities and teaching methods:

There will be 12 hours of Lectures and 8 hours of other guided teaching. Activating methods will be utilized in all teaching. The remaining 20 hours of self-study will partly contain group work in preparing for the guided teaching

Target group:

Medical students in their 6th year, C11.

Prerequisites and co-requisites:

All earlier studies in the curriculum of basic medical education.

Assessment methods and criteria:

The students participate in guided teaching by producing small presentations and by active conversation. Passing the Examination is required.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass/Fail

Person responsible:

Leena Ala-Mursula

Acting Professor, Occupational Health

Working life cooperation:

No

080204A: Oncology, 4 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Karihtala, Peeter Johannes, Turpeenniemi-Hujanen, Taina Marjatta

Opintokohteen kielet: Finnish

ECTS Credits:

4.0 ECTS credits /107 hours of work

Language of instruction:

Tuition shall be arranged in Finnish.

Timing:

The course unit is held in the end of the autumn semester (December).

Learning outcomes:

Upon completion of this curricular unit, student should be able to understand principles of cancer etiology, diagnosis, therapeutic modalities and will be able to give basic chemotherapies based on instructions. In addition, student will be able to detect and treat possible adverse events of therapeutic modalities, organize outpatients controls of common malignancies and advise patients to rehabilitation after cancer therapy. Furthermore, the student will be able to master principles of palliative care and consult a specialist when needed.

Contents:

The diagnostics, oncological therapeutic modalities and monitoring of solid cancers

Mode of delivery:

The tuition will be implemented as blended teaching.

Learning activities and teaching methods:

Lectures 29h/ Small Group Teaching 10h/ Oncological Seminars 10h/

Preliminary Examination 2h

Final Examination 2h

Target group:

Target groups are the 5-6th year medical students (MD).

Prerequisites and co-requisites:

The required prerequisite for participation to the course unit is the completion of 5 years of medical studies.

Recommended optional programme components:

There are no alternative courses.

Recommended or required reading:

Joensuu, Roberts, Teppo, Tenhunen: Syöpätaudit, 2007, Kustannus Oy Duodecim; UICC: TNM-luokituskirja ja UICC Clinical Oncology, viim.painos. Suositeltavaa kirjallisuutta: Joensuu H, Kouri M, Ojala A, Tenhunen M, Teppo L: Kliininen sädehoito. Duodecim viim.painos. Vainio A, Hietanen P: Palliatiivinen hoito. Duodecim viim.painos. Lahtinen T, Holsti LR: Kliininen säteilybiologia. Duodecim viim.painos. MacDonald IS: Palliative Medicine. Oxford Univ Press 1998. Bomford CK & Kunkler IH: Walter and Miller's Textbook of Radiotherapy. Radiation Physics, Therapy and Oncology. Churchill Livingstone 2003. Elonen E, Järviluoma E: Solunsalpaajaopas. Duodecim viim.painos. Kallanranta T, Rissanen P, Viikkumaa I: Kuntoutus. Duodecim viim.painos. Hänninen: Saattohoito. Duodecim viim.painos.

Assessment methods and criteria:

During the course unit, there are preliminary and final exams. Both of them should be passed. In addition, preliminary exam should be passed before final exam.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for fail.

Person responsible:

Taina Turpeenniemi-Hujanen, Professor

To be nominated a Clinical teacher

Working life cooperation:

Yes, Students will examine cancer patients at an outpatient clinic (4h)

080916A: Physiathry and rehabilitation, 5 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Karppinen, Jaro Ilari

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

080707S: Practical training, 3 - 24 op

Opiskelumuoto: Practical Training

Laji: Practical training

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Ei opintojaksokuvauksia.

080427A-04: Public Health 4, 8 - 9 op**Voimassaolo:** 01.01.2016 -**Opiskelumuoto:** Intermediate Studies**Laji:** Partial credit**Vastuuyksikkö:** Medicine**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Markku Timonen**Opintokohteen kielet:** Finnish**ECTS Credits:**

9,5 study credits

Timing:

Semester 11 (C11)

Learning outcomes:

The student will understand the principles of health at population level, and as applicable to a particular disease. The student will have knowledge of the most important public health schemes and programmes, and is able to apply them at a local level.

The student will know the principles and organisation of insurance and rehabilitation medicine, and is able to apply their knowledge into clinical practice. The student will understand the aetiological factors of disease both at an individual and population level and is competent at diagnosis and management of the common diseases.

The student is able to critically assess and interpret findings of public health research, and to act as an expert of preventative medicine in primary care. The student will learn the ability to adopt and apply methods of health promotion and disease prevention at an individual-, family-, and population level, therein also considering the expertise role of the multidisciplinary team.

Student will have an appreciation of the doctor-patient relationship and the role of communication between family members as applicable to patient management, and is able to use and apply communication skills in different clinical scenarios. The student is able to evaluate the quality and economics of all his/her work.

Contents:

Population health, health promotion and recognising health problems; preventative medicine; encouragement of health behaviour that will promote health. Epidemiology, social- and health service and economics as part of patient management. Medical law, application of social security law in clinical practice, medical certificates and medical statements. Introduction to rehabilitation, environmental medicine and nutrition at population level. Team working with expert members of the multi-disciplinary team.

Learning activities and teaching methods:

Lectures, theme days, seminars and workshops. One-week practical training module at a primary health care centre, which includes a set of learning tasks.

Recommended or required reading:

Koskenvuo K. (toim) Sairauksien ehkäisy. Duodecim 2003, soveltuvilta osin; Yleislääketiede, Kumpusalo E, Ahto M, Eskola K, Keinänen-Kiukaanniemi, S, Kosunen E, Kunnamo I, Lohi J (toim) Kustannus Oy Duodecim 2005, soveltuvilta osin; Laki potilaan asemasta ja oikeuksista 17.8.1992/785; Laki terveydenhuollon ammattihenkilöistä 28.6.1994/559; Sosiaali- ja terveysministeriön asetus potilasasiakirjojen laatisesta sekä niiden ja muun hoitoon liittyvän materiaalin säilyttämisestä. 99/2001; SosTMA lääkkeen määräämisestä 726/2003; L sähköisestä lääkemääräyksestä 2.2.2007/61; a SosTMA sähköisestä lääkemääräyksestä 25.6.2008/485.

Availability of course materials can be checked here.

Assessment methods and criteria:

Written examinations. Participation in seminars, workshops, theme days and practical training module at a primary health care centre.

Grading:

Medical law exam will be graded as pass/fail. Final grade of this course will consist of final written exam and seminar assessment, the latter graded on a scale of 0 to 5. The final grade will be calculated as 2/3 of the grade from final exam + 1/3 seminar grade. Final exam will contain a medical certificate, graded as pass / fail.

Person responsible:

Professor Markku Timonen

Other information:

The course forms part of the following learning modules of public health and general practice: 1) disease prevention and health promotion 2) multidisciplinary leadership and management 3) examination and management of the patient 4) effect-based contributions to the society & rehabilitation and social security, and 5) research knowledge and skills & interpretation and application of research (Appendix 4).

040116A: Public health science, 5 op

Voimassaolo: 01.08.2014 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

080813A: Radiology II, 2 op

Voimassaolo: 01.08.2014 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

080705S-02: Thesis, 16 - 20 op

Opiskelumuoto: Advanced Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

Tutkintorakenteisiin kuulumattomien opintokokonaisuuksien ja -jaksojen kuvaukset

080600A: Acute and chronic pain, 2,5 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Alahuhta, Seppo Matias

Opintokohteen kielet: Finnish

ECTS Credits:

2.5 ECTS

Language of instruction:

Finnish.

Timing:

C7&C8

Learning outcomes:

Upon completion of the course the student will be able to:

- explain the social and economical significance of the pain.
- understand basic mechanism of the pain and pain control and knows how to plan the treatment of the pain patient.
- understand theoretical knowledge of pain treatment both in acute and chronic pain.
- start treatment to acute and chronic pain.
- know how to treat pain among special patient groups (e.g. children and elderly people)
- consult the multidisciplinary professional team for diagnostics and treatment of chronic pain patient
- treat cancer pain

Contents:

Basics of pain mechanisms and types of pain. Diagnostics of chronic pain. Principles of pain treatment in acute and chronic pain. Treatment of cancer pain. Special pain treatment methods with medicines, central blocs and combination therapy.

Mode of delivery:

Blended teaching

Learning activities and teaching methods:

Lectures 6h, theme days 7h x 3, small group teaching 2h.

Target group:

For the students of the fourth year.

Prerequisites and co-requisites:

The required prerequisite is the completion of the following course prior to enrolling for the course unit:

Anesthesiology 1

Recommended optional programme components:

No

Recommended or required reading:

Niemi-Murola L, Jalonen J, Junttila E, Metsävainio K, Pöyhiä R. Anestesiologian ja tehohoidon perusteet. Kustannus Oy Duodecim, 2012.

Kipu (2009), Anestesiologia ja tehohoito soveltuvin osin; kustannus Oy Duodecim.

Syöpäkivun hoito-opas, Neuroopaattisen kivun hoito-opas: Suomen kivuntutkimusyhdistys ry

Saattohoidon lääkeopas; Juha Hänninen 2009 Terho-säätiön julkaisusarja nro 1

Suosittelavaa lukemistoa: Nimeä vailla; Anneli Vainio Kustannus Oy Duodecim.

Assessment methods and criteria:

Taking part into theme days and group teaching events. Examination.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

pass/fail

Person responsible:

Professor Seppo Alahuhta

Working life cooperation:

No

Other information:

No other information.

040005Y: Biostatistics, 3 op

Opiskelumuoto: General Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Pentti Nieminen

Opintokohteen kielet: Finnish

ECTS Credits:

3 ECTS credits

Language of instruction:

Finnish

Timing:

C4

Learning outcomes:

By the end of the course the student should be able to:

- plan study designs and statistical computing in medical and dental research,
- obtain and analyze data with basic statistical methods,
- use basic statistical significance tests and inference methods,
- evaluate critically medical research reports

Contents:

Aims and phases of statistical research, planning statistical research, obtaining data, variable distributions (frequencies, graphs and statistics), basics in statistical inference and methods (estimates, significance tests and confidence limits), basic methods in comparing groups and estimating associations between variables, specific methods applied in medical research.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Lessons 18 h, study-group sessions 12 h, practical projects and home-works 30 h.

Target group:

First year medical, dental and medical wellness technology students

Prerequisites and co-requisites:

None

Recommended optional programme components:

This course is a part of the studies in research skills.

Recommended or required reading:

Uhari M ja Nieminen P: Epidemiologia ja biostatistiikka. Duodecim, 2001.

Assessment methods and criteria:

Regular and active participation in the small group lessons and completion of a practical project. Written examination.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

0-5

Person responsible:

Docent Pentti Nieminen

Working life cooperation:

No

Other information:

This course is a part of the studies in research skills.

040138Y: Brand ambassador career skills, 2 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

ECTS Credits:

2 credits / 53 hours of work

Language of instruction:

The course can be completed in Finnish. The course can also be completed in English, if agreed with the amanuensis.

Timing:

Recommended completion date no earlier than 2 in the fall semester.

The course can be held in all semesters and periods.

Learning outcomes:

After completing the course the student will be able to guide small groups, as well as to present and explain his /her field of studies and expertise to the public. The student is also able to collect and receive feedback on their performance and change his/her presentation in response to the feedback.

Contents:

Developing and training the career skills as part of student recruitment. The focus being on the presentation skills and education, training and counseling skills.

Mode of delivery:

The course includes both lectures and learning at work.

Learning activities and teaching methods:

- Guided instruction (4-6 hours)
- Self-familiarization with the subject and the work before the start of training (10 hours)
- Training and work-based learning as a part of student recruitment (10-15 hours)
- Independent work training and preparations for the (10-16 hours)
- Learning diary related to training (10 -13 hours).

The other methods can also be used if agreed with the amanuensis.

- If other working methods are used, must be noted that the total length of the course (2 credits) includes 53 hours of work.

Target group:

The course is for all the students at the University of Oulu.

Prerequisites and co-requisites:

The completion of this course is not conditional to prior studies, but it is recommended no to complete the course before the second academic year.

Recommended optional programme components:

The course is an independent entity. It does not require other studies carried out at the same time.

Recommended or required reading:

There is no literature for this course. The student will apply previous studies to this course and to presenting his /her field of study.

Assessment methods and criteria:

Completion of the course successfully requires participation in the guided instruction. The student also has to complete the training period(s) in the student recruitment and complete the learning diary.

Student must complete the learning study. The information about the training and also evaluation by at least one person must be included to the learning diary.

In the learning diary the student evaluates his/her performance before, during, and after the training period. In the learning diary the student will summarize the tasks and the measures, which he/she has participated in the context of student recruitment.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass/fail

Person responsible:

The contact person in the faculty.

Working life cooperation:

Yes. Students practice and develop their skills in presentation or organization and coordination or education, training and counselling.

080603A-04: Clinical chemistry, 2,5 op

Voimassaolo: 01.08.2001 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Risteli, Juha

Opintokohteen kielet: Finnish

ECTS Credits:

3.0 ECTS/ 80 hours of work

Language of instruction:

Finnish

Timing:

Timing C5-6

Learning outcomes:

Objectives By the end of the course the student can list the most frequently used tests in clinical chemistry and haematology and their indications and critical interpretation. The student can specify the facts that affect the deviation of the laboratory tests, biological variation, pre-analytical and analytical factors, and understand their importance in interpreting the test results. The student can standardize sample taking so that the above facts that increase the deviation in test results can be eliminated. The student can specify the basics of the quality control of the laboratory tests.

The student understands the feedback control systems in endocrinology and on this base can diagnose the common endocrine disorders and their reasons. The student can do the hormone determinations and indications to use them. The student can do the common weaknesses and disturbing factors of hormone determinations. The student knows how to diagnose heritable metabolic diseases and the use of cancer markers. The student knows the effects of childhood, pregnancy and older age on the laboratory methods. The student knows what methods are available in the health centres and how the student can order other methods available.

Contents:

Contents Lectures contain following subjects: Clinical Chemistry as a medical speciality, diagnostics of heart and vascular disorders, examination of kidneys and urinary tracts, clinical enzymology, examination of liver and gastrointestinal tract, laboratory tests in haematology, tests to analyze water, sodium and potassium balance, therapeutic drug monitoring and chemical toxicology, most frequently used laboratory test and their indications. Contents of small group practical courses: taking blood samples and preparation of samples for different tests, results of laboratory test in healthy individuals, reference ranges, sources of errors and their origin and quality controls of laboratory tests, basic blood cell count and microscopic examination of blood cells. Theoretical background of clinical endocrinology, hormone determinations, adrenal function and its disorders, hypothalamic and hypophysis hormones, the follow up of pregnancy by clinical chemical methods, endocrinology of aging, thyroid function and its disorders and calcium metabolism and its disorders. Analysing congenital heritable metabolic diseases and cancer markers.

Goal of the theme day: The students can perform to point of care tests.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Working methods Lectures 28 h, small group practical courses 6 h and one theme day. In addition the student has independent preparation for small group practical courses and for the theme day.

Target group:

Medical students in clinical phase

Prerequisites and co-requisites:

Candidate of Medicine

Recommended or required reading:

Study materials Textbook: Clinical Chemistry, 5th edition, Mosby, W.J. Marshall, S.K. Bangert 2004. Other textbooks: Veritaudit, Kustannus Oy Duodecim, T. Ruutu, A Rajamäki, R Lassila, K Porkka 2007; Endokriologia, Kustannus Oy Duodecim, M. Välimäki, T. Sane, L. Dunkel, 2000

Assessment methods and criteria:

Assessment methods Assessment is based on materials given in lectures, small group practical courses, in textbooks and other materials given to the students.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Numerical grading 0-5.

Person responsible:

Responsible person Professor Juha Risteli

Working life cooperation:

No

080603A-05: Clinical chemistry, endocrinology, 1,5 op

Voimassaolo: 01.08.2001 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Risteli, Juha

Opintokohteen kielet: Finnish

ECTS Credits:

1,5 ECTS

Language of instruction:

Finnish

Timing:

C9-10

Learning outcomes:

By the end of the course the student understands the feedback control systems in endocrinology and on this base can diagnose the common endocrine disorders and their reasons. The student can the hormone determinations and indications to use them. The student can the common weaknesses and disturbing factors of hormone determinations. The student knows how to diagnose heritable metabolic diseases and the use of cancer markers. The student knows the effects of childhood, pregnancy and older age on the laboratory methods. The student knows what methods are available in the health centres and how the student can order other methods available.

Contents:

Theoretical background of clinical endocrinology, hormone determinations, adrenal function and its disorders, hypothalamic and hypophysis hormones, the follow up of pregnancy by clinical chemical methods, endocrinology of aging, thyroid function and its disorders and calcium metabolism and its disorders. Analysing congenital heritable metabolic diseases and cancer markers.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Lectures 16 h, small group practical course 2 h and independent preparation for small group practical course of patient cases.

Target group:

Medical students in clinical phase

Prerequisites and co-requisites:

Candidate of Medicine

Recommended or required reading:

Textbooks: Clinical Chemistry, 5th edition, Mosby, W.J. Marshall, S.K. Bangert 2004 and Endokrinologia, Kustannus Oy Duodecim, M. Välimäki, T. Sane, L. Dunkel, 2009. Lectures and other materials given to the students.

Assessment methods and criteria:

Assessment is based on materials given in lectures, small group practical course and textbook.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The evaluation is based on examination which given 1/3 of total score of clinical chemistry. Total evaluation scale is 0-5.

Person responsible:

Professor Juha Risteli

Working life cooperation:

No

040126A: Clinical pharmacology, 2,5 op**Opiskelumuoto:** Intermediate Studies**Laji:** Course**Vastuuyksikkö:** Medicine**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Risto Kerkelä**Opintokohteen kielet:** Finnish**ECTS Credits:**

2.5 ECTS / 66 hours of work

Language of instruction:

Finnish

Timing:

C9-10

Learning outcomes:

After passing the course the student should have ability to safe, efficient and cost effective drug therapy. The student should understand the basis for drug therapy from the point of view of general practitioner and the treatment of most common intoxications.

Contents:

Factors affecting drug selection, dosage and therapy will be discussed applying knowledge of basic pharmacology. Furthermore, the common problem cases of drug therapy will be discussed. Individualized therapy, use of major classes of drugs, special treatment situations and most common intoxications will also be discussed.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Introductory lecture 2 hours. Clinical pharmacology patient case report and discussion with tutor. Thematic seminars (11 x 2 h) will cover major areas of drug therapy and special situations of drug treatment and most common intoxications. Final exam.

Target group:

Medical students

Prerequisites and co-requisites:

The required prerequisite is the completion of the following courses prior to enrolling for the course unit: Pharmacology and toxicology (040106A)

Recommended optional programme components:

No.

Recommended or required reading:

Book: Neuvonen, Backman, Himberg, Huupponen, Keränen, Kivistö (eds.) Kliininen farmakologia ja lääkehoito, Kandidaatikustannus Oy (last edition). Materials of the thematic seminars.

Assessment methods and criteria:

Preparation of acceptable clinical pharmacology patient case, discussion with the tutor and passing of the final exam.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes verbal grading scale pass/ fail

Person responsible:

Miia Turpeinen (miia.turpeinen@oulu.fi)

Working life cooperation:

No.

Other information:

-

903008Y: Conversational Skills in German, 1,5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Language Centre

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: German

Proficiency level:

A2-B1 on the CEFR scale. If the student wishes to include this course in his/her compulsory foreign language studies, the student must prove that he/she has attained the proficiency level of B1 prior to taking the course.

Status:

The course can be approved as a partial completion of the course Foreign Language. It may also be taken as a separate optional course.

Required proficiency level:

At least 3 years of German studies at school. If you wish to choose German as the language of your compulsory foreign language studies, you must have completed German as B2, A2 or A1 language at school or have equivalent knowledge. For more information about these requirements, contact the course's teacher.

ECTS Credits:

1,5 credits / 40 h of student's work

Language of instruction:

German

Timing:

Autumn term

Learning outcomes:

Upon completion of the course the student should be able to manage in typical professional and medical-field specific communication situations in an interactive manner. He/she should be able to actively participate in discussions about medical topics. He/she should be able to justify his/her views on the different matters as well as discuss the pros and cons of different options.

Contents:

The course consists mainly of oral exercises, which can take the form of dialogues, discussions in groups, role plays, simulated discussion situations etc. The student practises various professional situations (doctor seeing patients at the hospital etc.) and discusses various current medicine-related topics. Some of the topics covered are agreed upon with the participants at the beginning of the course.

Mode of delivery:

Contact teaching

Learning activities and teaching methods:

Contact teaching 1 x 90 min./ week and preparation for the contact meetings 40 h in total.

Target group:

Students of the Faculty of Medicine

Prerequisites and co-requisites:

See Required proficiency level

Recommended optional programme components:

-

Recommended or required reading:

Material prepared by the teacher will be distributed in class.

Assessment methods and criteria:

Continuous assesment. Completion of the course requires regular and active participation in teaching and completion of the given assignments.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

1 - 5 or pass / fail

Person responsible:

Sandra Mänty

Working life cooperation:

-

Other information:

Course will be held at Kontinkangas campus, at Aapistie. There will be an information session in September where students may register for the course. It is also possible to register in WebOodi.

040401A: Dissection, 3 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Tuukkanen, Kaarlo Juha Kullervo

Opintokohteen kielet: Finnish

Timing:

C1. The course is optional and organized in the end of C1.

Learning outcomes:

The learning outcomes are to understand the topographical structure of the human body.

Contents:

The course concentrates in musculoskeletal system, cardiovascular system, thorax and respiratory system, abdomen and gastrointestinal system, urinary system, pelvis and genital systems, skull and brains. The dissection course may compensate the obligatory small group teaching of extremities in the end of the anatomy course.

Learning activities and teaching methods:

The students will study the regional anatomy in advance before the following dissection sessions. The dissection is performed during 2 weeks in 4 to 6 hours sessions under supervision of the teachers.

Recommended or required reading:

The material of the anatomy study module.

Assessment methods and criteria:

Participation in all the dissection sessions is obligatory. The course is performed by cadaver dissection.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course is not graded.

Person responsible:

Professor Petri Lehenkari (Professor Juha Tuukkanen, leave of absence)

Other information:

The course is the same for medical and dental students.

080722A: Elective Course of Surgery, 1 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Juvonen, Tatu Sakari

Opintokohteen kielet: Finnish

ECTS Credits:

1 ECTS

Language of instruction:

The tuition shall be arranged in Finnish.

Timing:

During sixth year

C 11-12

Learning outcomes:

The student will be familiar with the symptoms, diagnostics and treatment of the most usual surgical diseases.

Contents:

The repetition concerning most problems in important surgical diseases. Lessons during two days of Orthopedics, Thoracic and Vascular surgery, Pediatric surgery, Gastroenterological surgery and Urology.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Lessons 20h

Target group:

This is an intensive unit course of surgery is of particular benefit for medical students who will shortly graduate.

The course will be held before final exam.

Prerequisites and co-requisites:

Surgery 1

Recommended optional programme components:

Surgery 2

Recommended or required reading:

Lecture material.

Assessment methods and criteria:

Obligatory study

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass/fail

Person responsible:

Professor Tatu Juvonen and professor Jyrki Mäkelä

Working life cooperation:

No

Other information:

No other information

041002Y: Environment, Lifestyle and Health Studies, 4 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: General Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Timo Hugg

Opintokohteen kielet: Finnish

ECTS Credits:

4 ECTS credits/ 106 hours of work

Language of instruction:

Finnish

Timing:

1.-6. academic years

Studies in question belong to track of studies that continue integrated throughout the curriculum

Learning outcomes:

The outcomes of ELH- studies are similar to the outcomes of the ELH-string entity

ELH- track consist of following sub-tracks:

Rehabilitation

Health exercise and sports medicine

Addiction medicine

Nutrition

Environmental health

Upon completion of the course, the student will be able to work in an interprofessional team and
 -guide towards right kind of nutrition and exercise and give reasons for the advice
 -handle drug abusers properly and recognize and define the need of treatment, and plan it
 -describe the influence of environment to one's health and to discuss matters concerning environmental health
 -recognize the need of rehabilitation and plan a rehabilitation program

Contents:

1st year

The topics of the lectures belonging to the Nutrition-side-track

lipid-and water soluble vitamins(6h), minerals(2h)

1. The synthesis of vitamins/minerals
2. The influence of vitamins/ minerals on metabolism and their tasks in your system
3. The daily need of vitamins/minerals
4. The causes and consequences of deficiency of vitamins/minerals

The topics of the lectures of addiction medicine (4h)

1. Alcohol
2. Drugs

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

1st year:

start seminar jointly with public health and interprofessional collaboration course

lectures and writing tasks:

- Nutrition: lectures 8 h, self-study 5 h
- Addiction medicine :compulsory lectures 4 h and self-study which includes writing task

Programme for 4th year and 6th year will be informed later.

Target group:

Graduate students of medicine.

Prerequisites and co-requisites:

No.

Recommended optional programme components:

ELH studies are part of studies including the environment, lifestyle and health (ELH) –track.

Assessment methods and criteria:

1st year:

- The lectures in nutrition will be examined in the course exams of Medical Biochemistry
- Addiction medicine includes compulsory lectures and a writing task

The assessment of the course unit is based on the learning outcomes of the course unit.
Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes verbal grading scale "pass/fail"

Person responsible:

The person in charge of the ELH-studies is Tuula Kaisto

Following persons are in charge of the sub-tracks

Rehabilitation: Jaro Karppinen

Health exercise and sports medicine: Raija Korpelainen

Addiction medicine: Pekka Laine

Nutrition: : Olavi Ukkola

Environmental health: Timo Hugg

Working life cooperation:

No.

Other information:

-

041001Y: Evidence Based Medicine, 3,5 - 5 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: General Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Marjo Renko

Opintokohteen kielet: Finnish

ECTS Credits:

4 ECTS credits

Timing:

1-6. yrs

Learning outcomes:

After completing EBM studies the student is able to use various information sources and to base clinical decisions on the best available evidence.

Contents:

Evidence based medicine (EBM) is the core of modern medicine where all clinical procedures from diagnosis to treatment are based on scientific evidence. Tools to perform EBM are taught from the very beginning of medical studies. The teaching includes for example principles of causation, basics of information technology, biostatistics, epidemiology and clinical decision making. The idea of EBM will be included in all courses during studies.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

1. yr (0,5 cr):

Lecture 1 *What is EBM?* Marjo Renko, 15.11.2011

Lecture 2 + group work, Matti Uhari, January 2012

2.yr (0.5 cr):

Lecture 1 *Principles of Epidemiology and what they mean in modern medicine*, Marjo Renko, Matti Uhari

Lecture 2 *Sickness and health. How to appraise diagnostic testing?* Marjo Renko, Matti Uhari

3.lkv (0.5 cr)

Lectures 1 and 2 *Systematic clinical reasoning* Marjo Renko, Matti Uhari

4. lkv (0.5 cr)

Lecture 1 *Study designs*

Lecture 2 *Probability and what does it give to a doctor? The meaning of P-value*

Lecture 3 *Comparing groups with statistical tests*

Marjo Renko, Matti Uhari

5. lkv (1 cr)

Lecture series: *EBM and information sources. How to perform EBM? Further on systematic clinical reasoning.*

Marjo Renko, Matti Uhari

6. Ikv (1 cr)

Lecture series: *Epidemiology for clinicians.* Marjo Renko, Matti Uhari

Target group:

Medical students. 1st and 2nd year dental students.

Prerequisites and co-requisites:

No

Recommended optional programme components:

EBM-studies are part of studies including the Evidence Based Medicine -track

Recommended or required reading:

Dan Mayer: *Essential Evidence-Based Medicine*. Carl Heneghan & Douglas Badenoch: *Evidence-based Medicine Toolkit*

Assessment methods and criteria:

Lectures and group works. Presence controlled.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass/fail

Person responsible:

Professor Matti Uhari, Senior Lecturer Marjo Renko

080417A: General Practitioner and Public Health, 9,5 op

Voimassaolo: 01.08.2007 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Markku Timonen

Opintokohteen kielet: Finnish

ECTS Credits:

9.5 ECTS credits

Language of instruction:

Finnish.

Timing:

The course unit is held in the sixth year, autumn semester, C11.

Learning outcomes:

The student will understand the principles of health at population level, and as applicable to a particular disease.

The student will have knowledge of the most important public health schemes and programmes, and is able to apply them at a local level.

The student will know the principles and organisation of insurance and rehabilitation medicine, and is able to apply their knowledge into clinical practice. The student will understand the aetiological factors of disease both at an individual and population level and is competent at diagnosis and management of the common diseases.

The student is able to critically assess and interpret findings of public health research, and to act as an expert of preventative medicine in primary care. The student will learn the ability to adopt and apply methods of health promotion and disease prevention at an individual-, family-, and population level, therein also considering the expertise role of the multidisciplinary team.

Student will have an appreciation of the doctor-patient relationship and the role of communication between family members as applicable to patient management, and is able to use and apply communication skills in different clinical scenarios. The student is able to evaluate the quality and economics of all his/her work.

Contents:

Population health, health promotion and recognising health problems; preventative medicine; encouragement of health behaviour that will promote health. Epidemiology, social- and health service and economics as part of patient management. Medical law, application of social security law in clinical practice, medical certificates and medical statements. Introduction to rehabilitation, environmental medicine and nutrition at population level. Team

working with expert members of the multi-disciplinary team.

Mode of delivery:

Face-to-face teaching.

Learning activities and teaching methods:

Lectures, theme days, seminars and small group teaching. One-week practical training module at a primary health care centre, which includes a set of learning tasks.

Target group:

The students from medicine.

Prerequisites and co-requisites:

C10 Health centre practice course have to be done.

Recommended optional programme components:

No

Recommended or required reading:

Koskenvuo K. (toim) Sairauksien ehkäisy. Duodecim 2003, soveltuvilta osin; Yleislääketiede, Kumpusalo E, Ahto M, Eskola K, Keinänen-Kiukaanniemi, S, Kosunen E, Kunnamo I, Lohi J (toim) Kustannus Oy Duodecim 2005, soveltuvilta osin; Laki potilaan asemasta ja oikeuksista 17.8.1992/785; Laki terveydenhuollon ammattihenkilöistä 28.6.1994/559; Sosiaali- ja terveysministeriön asetus potilasasiakirjojen laatimisesta sekä niiden ja muun hoitoon liittyvän materiaalin säilyttämisestä. 99/2001; SosTMA lääkkeen määräämisestä 726/2003; L sähköisestä lääkemääräyksestä 2.2.2007/61; a SosTMA sähköisestä lääkemääräyksestä 25.6.2008/485.

Availability of course materials can be checked here.

Assessment methods and criteria:

Written examinations. Participation in seminars, small groups, theme days and practical training module at a primary health care centre.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Final grade of this course will consist of final written exam and seminar assessment, the latter graded on a scale of 0 to 5. The final grade will be calculated as 2/3 of the grade from final exam + 1/3 seminar grade. Final exam will contain a medical certificate, graded as pass / fail.

Person responsible:

Professor Markku Timonen

Working life cooperation:

Yes, during the one week practical training in health centres.

Other information:

The course forms part of the following learning modules of public health and general practice: 1) disease prevention and health promotion 2) multidisciplinary leadership and management 3) examination and management of the patient 4) effect-based contributions to the society & rehabilitation and social security, and 5) research knowledge and skills & interpretation and application of research

080415A: Health centre practice, 4,5 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Markku Timonen

Opintokohteen kielet: Finnish

ECTS Credits:

4.5 ECTS credits/ 121 hours of work

Language of instruction:

Finnish

Timing:

C 10, the course unit is held in the spring semester.

Learning outcomes:

The student is able to use history taking and clinical examination as primary sources of information, and to use information obtained from these to request appropriate further examinations and tests. The student is familiar with

the main examination and management strategies used in general practice, and understands the role which the probability of disease has for the selection of a management strategy.

The student gains experience in: management of a range of clinical problems which present to primary care; coordination and organization of treatment; and working using a patient-centred approach.

The student gains insight into: disease prevention and health promotion in paediatric, antenatal-care and school-based health care settings; main examination and treatment strategies in general practice; issuing expert statements in matters of social security system, rehabilitation and employment; time management and coordination of clinical work in primary care; multidisciplinary team work.

Contents:

Theoretical learning of the "key principles" of general practice. Practical learning in different areas of general practice: scheduled and acute appointment at the health centre; antenatal- and maternity-, paediatric-, family-planning- and school services, inpatient care on the health care centre wards, and inpatient care on long-term wards, community care.

Mode of delivery:

Group work. Practical training in health care centres (2 weeks).

Learning activities and teaching methods:

Lectures 7,5 h + 7,5 h including independent work.

Group work for three days (24 hours).

Two-week practical training in health care centres (74 hours).

Target group:

Medical students.

Prerequisites and co-requisites:

All earlier studies in the curriculum of basic medical education.

Recommended optional programme components:

No alternative course units.

Recommended or required reading:

Recommended literature: Kumpusalo E, Ahto M, Keinänen-Kiukaanniemi S, Kosunen E, Kunnamo I, Lohi J (toim.): Yleislääketiede, Kustannus Oy Duodecim, Karisto Oy Hämeenlinna 2005.

Assessment methods and criteria:

The assessment of the course unit is based on the learning outcomes of the course unit

Attending to all compulsory teaching

The assessment of the learning outcomes: The final examination during the sixth year of medical education.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes verbal grading scale "pass/ fail "

The final examination during the sixth year of medical education utilizes a numerical grading scale 1-5

Person responsible:

Markku Timonen, professor of general practice

Working life cooperation:

Yes, during the two-week practical training in health centres.

080700A: Infectious diseases, 5 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Minna Marttila-Vaara

Opintokohteen kielet: Finnish

ECTS Credits:

5 ECTS / 140 hours of work

Language of instruction:

Finnish

Timing:

Year 4, Semester 7

Learning outcomes:

After this course the student is able to treat common infectious diseases. The student learns problem solving and critical thinking skills and is able to study the field independently.

Contents:

Most common infectious diseases and treatments.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

1. Lectures 28 h.
2. Small group classes 2 h. Attendance is compulsory.
3. Seminars 4 h. Attendance is compulsory.

Target group:

Medical students

Prerequisites and co-requisites:

Student must have completed preclinical and third year's studies.

Recommended optional programme components:

The course is performed simultaneously with other fourth year's courses

Recommended or required reading:

- Huovinen P, Hedman K, Heikkinen T, Järvinen A, Meri S, Vaara M. (toim.): Mikrobiologia – Mikrobiologia, immunologia ja infektiosairaudet, kirja 1 (2010), Kustannus Oy Duodecim
- Hedman K, Heikkinen T, Huovinen P, Järvinen A, Meri S, Vaara M. (toim.): Immunologia – Mikrobiologia, immunologia ja infektiosairaudet, kirja 2 (2011), Kustannus Oy Duodecim
- Hedman K, Heikkinen T, Huovinen P, Järvinen A, Meri S, Vaara M. (toim.): Infektiosairaudet – Mikrobiologia, immunologia ja infektiosairaudet, kirja 3 (2011), Kustannus Oy Duodecim

Assessment methods and criteria:

Attendance at compulsory teaching. Examination of infectious diseases.
Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

pass / fail

Person responsible:

MD, PhD, MSc Minna Marttila-Vaara (minna.marttila@oulu.fi)

Working life cooperation:

No

Other information:

Registration to examinations (<https://weboodi.oulu.fi/oodi/jsp/frame.jsp>)

080713A: Internal Medicine II, (Additional Studies of Internal Medicine), 3 - 9 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Savolainen, Markku

Opintokohteen kielet: Finnish

ECTS Credits:

3 ECTS / 80 hours of work.

Language of instruction:

Finnish

Timing:

C XI-C XII

Learning outcomes:

This course gives the student advanced knowledge in internal medicine and skills of critical thinking. The student is able to treat patients in an appropriate way in the health care system. The student can recognize symptoms and clinical features of diseases and is able to critically evaluate scientific articles. The student understands the significance of different levels of our health care system.

Contents:

Essential issues of internal medicine and geriatrics.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Internal medicine

1. Lectures 9 h.

2. Seminars 6 h. Attendance is compulsory.

Geriatrics

1. Small group classes 2 h. Attendance is compulsory.

2. Seminars 16 h. Attendance is compulsory.

Target group:

Medical students

Prerequisites and co-requisites:

Student must have completed the course of Internal Medicine I.

Recommended optional programme components:

The course is performed simultaneously with other sixth year's courses.

Recommended or required reading:

Tilvis R, Pitkälä K, Strandberg T, Sulkava R, Viitanen M: Geriatria (2010), Kustannus Oy Duodecim

The other literature will be agreed during the course.

Assessment methods and criteria:

Attendance at compulsory teaching. Final exam of internal medicine.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Exam consists of eight short essays. Six points is maximum / essay. Exam is failed if the total points are less than 20 or if one of the essays is worth of 0 points.

The final grade of internal medicine consists of the final exam and the exams of endocrinology and metabolic diseases, cardiology and ECG, kidney diseases, haematology, rheumatology and gastroenterology.

Proportion of final exam is 50% and proportion of smaller exams is 50% in the final grade of internal medicine.

Total points of exams and the grading scale:

51.7 -60.0 # 5, 43.4 - 51.6 # 4, 35.1 - 43.3 # 3, 26.8 - 35.0 # 2,

18.5 - 26.7 # 1.

Person responsible:

Professor Markku Savolainen (markku.savolainen@oulu.fi)

Working life cooperation:

No

Other information:

Required studies before final examination: preexaminations of Internal Medicine, attendance at compulsory teaching (year 3, Semesters 5 and 6) and practice in outpatient clinic and in the department of emergency and the course of infectious diseases. Additionally is required written patient history and physical examination for 6 patients.

examined carefully. Registration to final examination (<https://weboodi.oulu.fi/oodi/jsp/frame.jsp>) at least one week before the examination. Attendance is accepted only if registration is made properly by the closing date and all the required studies are passed. The final grade of internal medicine takes Policlinic clerkship in internal medicine.

040419S: Management of acute pain - simulation training, 0,5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Alahuhta, Seppo Matias

Opintokohteen kielet: Finnish

ECTS Credits:

1,5 ECTS

Language of instruction:

Finnish

Timing:

C 8/ C 10

Learning outcomes:

The aim of the course is that medical and nursing students will practice in multidisciplinary groups practical skills in CPR and other life threatening situations.. Upon completion of the course the students will understand that the management of emergencies requires good communication, leadership and team work besides knowing clinical guidelines.

Contents:**The students will practice in groups practical skills in CPR and other life threatening situations.****Mode of delivery:**

Blended teaching

Learning activities and teaching methods:

Simulation training will be carried out in groups of 3-4 students and it includes introduction, simulation scenario and debriefing.

Target group:

12 students will be taken in course unit.

Prerequisites and co-requisites:

The required prerequisite is the completion of the following courses prior to enrolling for the course unit: Courses of the third year

Recommended optional programme components:

Internal medicine, surgery, radiology, clinical chemistry

Recommended or required reading:

Lecture, handouts

Assessment methods and criteria:

Participation in simulation training

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

pass/fail

Person responsible:

Professor Seppo Alahuhta

Working life cooperation:

No

Other information:

No other information

903007Y: Medical German Text Workshop, 1,5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Language Centre

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: German

Proficiency level:

A2-B1 on the CEFR scale. If the student wishes to include this course in his/her compulsory foreign language studies, the student must prove that he/she has attained the proficiency level of B1 prior to taking the course.

Status:

Compulsory / optional

Required proficiency level:

3 years of German studies during secondary education or equivalent knowledge. If the student wishes to include this course in his/her compulsory foreign language studies, the student must prove that he/she has attained the proficiency level of B1 prior to taking the course.

ECTS Credits:

1,5 credits / 40 h of students work

Language of instruction:

German

Timing:

Spring term.

Learning outcomes:

Upon completion of the course the student should be able to understand standard medical texts as well as scientific articles from the field of Medicine. He/she should be able to recognise the way the writers' personal perspectives manifest themselves in the discussed texts. He/she should be able to comment on the content of the texts and summarise the texts in Finnish. The student should be conversant with various reading strategies and be familiar with the distinctive features of written German expression.

Contents:

The student practises reading comprehension with various medical texts and completes exercises involving vocabulary and grammatical structures needed in the most common communication situations.

Mode of delivery:

Guided self-study

Learning activities and teaching methods:

This course will be completed by participating the course 903000Y Reading Comprehension in German (2 - 3 ECTS credits), however the scope for medical students will be only 1,5 credits.

Target group:

Students of the Faculty of Medicine.

Prerequisites and co-requisites:

See Required proficiency level

Recommended optional programme components:

-

Recommended or required reading:

Material will be provided by the teacher.

Assessment methods and criteria:

Completion of given assignments, regular participation in the tutoring.
Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Scale 1 - 5, or pass / fail if the course is taken as optional.

Person responsible:

Sandra Mänty

Working life cooperation:

-

Other information:

-

040011Y-03: Medical informatics, module 3, clinical information systems, 0,5 op

Opiskelumuoto: General Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Pentti Nieminen

Opintokohteen kielet: Finnish

ECTS Credits:

0,5 ECTS credits/16 hours

Language of instruction:

Finnish

Timing:

C5

Learning outcomes:

By the end of the course the student will have practiced the following skills:

- providing clinical knowledge
- using electronic patients information systems
- using health care classification systems
- using workstations and network for clinical work

Contents:

Medical databases, critical appraisal of medical research article, electronic patients records and information systems.

Mode of delivery:

Regular and active participation in the lessons and completion of a practical project.

Learning activities and teaching methods:

Lessons 6 h and completion of a practical project.10 h.

Target group:

Medical students

Prerequisites and co-requisites:

None

Recommended optional programme components:

This course is a part of the studies in research skills.

Recommended or required reading:

The literature will be agreed during the course.

Assessment methods and criteria:

Regular and active participation in the lessons and completion of a practical project.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass/Fail

Person responsible:

Docent Pentti Nieminen

Working life cooperation:

No

080005Y: Medical latin, 1,5 op

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Mika Nevalainen

Opintokohteen kielet: Finnish

ECTS Credits:

1 study point.

Timing:

Spring term

Learning outcomes:

The ability to understand Latin terminology, especially in anatomy and diagnostics. During the course, students will be introduced to the structures of Latin, as well as the inflection of nouns and adjectives. After completing the course, students will be more familiar with the vocabulary of medical Latin. They will also be able to use Latin correctly in their work.

Contents:

Pronunciation of medical Latin. Inflection of nouns and adjectives. Adjective and genitive attributes. Prepositions. Terminology in anatomy and diagnostics. Basic vocabulary in anatomy and medicine.

Learning activities and teaching methods:

Lectures 10 h

Recommended or required reading:

Hand-outs. The following books are recommended but not necessary: Pitkäranta Reijo ja Mikkonen Laura: Lääketieteen sanakirja latina-suomi-latina WSOY, 2009. Pekkanen Tuomo: Ars grammatica - latinan kielioppi 2004. Pitkäranta Reijo: Latina medicorum, Latinaa lääkäreille 1980.

Assessment methods and criteria:

80 % compulsory attendance and exam.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass / fail

Person responsible:

Dr. Timo Sironen. The course teachers are Mika Nevalainen (BM) and Jukka Ahola (BA)

Other information:

50 students are admitted to the course. The course will be convened if 20 or more students enrol. The course is a joint project between the Department of Anatomy and the Faculty of Humanities

080510A: OSCE, 0 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Uhari, Matti Kalervo

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

ECTS Credits:

0.0 ECTS

Language of instruction:

Finnish

Timing:

C10

The course unit is held in the spring semester

Learning outcomes:

To assess the abilities of student performance on the subjects of the 5th year curriculum.

Contents:

A joined examination of the subjects on the fifth year.

Mode of delivery:

Contact teaching

Learning activities and teaching methods:

Each student makes a circuit of 15 stations comprising of practical tests in different disciplines. 8 minutes/station, 2 minutes for transferring between stations.

Total time 2 hours 30 minutes

Target group:

Medical Students

Prerequisites and co-requisites:

The prerequisites for the course unit are previous studies (C1-10 course units)

Recommended optional programme components:

No alternative course units.

Recommended or required reading:

Textbooks and manuscripts of the fifth year.

Assessment methods and criteria:

The assessment of the course unit is based on the learning outcomes of the 5th year course units.

The examiner on each station assesses the performance of the student.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass/fail in every single station.

The course is approved when all practical tests are approved.

The course unit utilizes verbal grading scale pass/ fail.

Person responsible:

Prof. Matti Uhari

Working life cooperation:

No

Other information:

OSCE exam is compulsory examination for the fifth year students. The final grade of the course unit is required for the sixth year student.

080221A: Organ pathol II, 2,5 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Karttunen, Tuomo Juhani

Opintokohteen kielet: Finnish

ECTS Credits:

2.5 ECTS credits/66 hours of work

Language of instruction:

Finnish

Timing:

C 9-10, spring semester

Learning outcomes:

Upon completion the student should know, for each organ system included, the basic mechanisms of diseases (etiology and pathogenesis), their basic morphological, functional and clinical characteristics, and terminology related with diseases. The student should be able to recognize and classify the most common diseases of the organ systems, understand the relationship between these features of the diseases and their symptoms and other clinical manifestations. The student should know the most important sources of error in histopathological diagnostics, and be familiar with the collaboration between clinician and pathologists needed in every day clinical work.

Contents:

Gynecopathology. Dermatopathology.

Mode of delivery:

Face-to-face teaching.

Learning activities and teaching methods:

Lectures 6 hours; theme days 8 hours, Practicals 7 hours. Self study 44 hours, written examination 1 hour.

Target group:

Medical students.

Prerequisites and co-requisites:

The required prerequisite is the completion of the following courses prior to enrolling for the course unit: 040108A General pathology; 080211A-01 Organ Pathology I

Recommended optional programme components:

No alternative course units.

Recommended or required reading:

Books: Underwood JCE: General and systematic pathology (5th ed. 2009 or 4th ed. 2004; sections Skin, Female genital tract); or Kumar V. et al.: Robbins Basic Pathology, (8th ed. 2007). Alternatives: Kumar V. et al.: Robbins and Cotran, Pathologic basis of disease (8th ed. 2010 or 7th ed. 2005); Rubin & Strayer; Rubin's Pathology (2005).

In Finnish: Mäkinen M. et al. Patologia, Duodecim, 2012; Lecture handouts; Guidebook for microscopy practicals.

Assessment methods and criteria:

The course requirements include participation in compulsory practicals and passing the end-of-course examination.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The evaluation scale is 1-5/fail.

.

Person responsible:

Tuomo Karttunen

Working life cooperation:

No

080201A: Organ pathology I, 9,5 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Karttunen, Tuomo Juhani

Opintokohteen kielet: Finnish

ECTS Credits:

9.5 ECTS cr

Language of instruction:

Finnish

Timing:

3rd year, autumn

Learning outcomes:

This course focuses on the essential features of etiology, pathogenesis and structural changes of diseases of the different organ systems. Pathophysiological aspects of diseases are reviewed as well as relationship between the abnormal function and structure and the clinical manifestations of disease, such as symptoms and clinical findings. Session on cell and molecular biology of cancer deals with pathogenesis of malignant neoplasms and the utilization of molecular biological techniques in the evaluation of neoplasms.

After the course, students should be able to describe etiology and pathogenesis of the most important diseases of each organ system, and the structural abnormalities of such diseases. The student should be able to explain how structural and functional abnormalities manifest themselves as clinical symptoms and signs. In addition, students should be able to identify and classify the most common types of macroscopic and microscopic abnormalities in different organ systems. He/she should know the most important sources of error in surgical pathological and cytological diagnostics, and be prepared on a proper teamwork with pathologists in his/her clinical work, for the best of his/her patients.

Contents:

Methods of pathology. Sources of errors in surgical pathology and diagnostic cytology. Pathology of systemic diseases. Pathology of the circulatory system. Pathology of the liver, biliary tract and pancreas. Pathology of the oral tissues, salivary gland and the gastrointestinal tract. Pathology of the respiratory tract and the lungs. Hematopathology including pathology of the lymph nodes and the spleen. Oto-, rhino- and laryngological pathology. Ophthalmic pathology. Pathology of the kidney, urinary tract and male genitals. Pathology of the soft tissue, bone, joints and tendons. Endocrine pathology. Neuropathology. Pathology of the muscular system. Breast pathology. Cellular and molecular biology of cancer.

Learning activities and teaching methods:

Lectures 48 h, theme days 12 h, practical training 33 h, exam 3 t

Target group:

C5

Prerequisites and co-requisites:

040108A Pathology I: General Pathology

Recommended or required reading:

Underwood JCE: General and systematic pathology (5 th ed. 2009 or 4th ed. 2004; section Systematic Pathology, except for: Skin, Female genital tract); or Kumar V. et al.: Robbins Basic Pathology, (8 th ed. 2007). Alternatives: Kumar V. et al.: Robbins and Cotran, Pathologic basis of disease (8 th ed. 2010 or 7th ed. 2005); Rubin & Strayer; Rubin's Pathology (2005). In Finnish: Mäkinen M. et al. Patologia, Duodecim, 2012; Lecture handouts; Guidebook for microscopy practicals.

Assessment methods and criteria:

Participation in the practicals, theme days and passing the final exam.

Read more about [assessment criteria](#) at the University of Oulu webpage.**Grading:**

1 - 5, fail

Person responsible:

Professor Tuomo Karttunen

Working life cooperation:

No

080703A: Physiatry, 3 op**Opiskelumuoto:** Intermediate Studies**Laji:** Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Karppinen, Jaro Ilari

Opintokohteen kielet: Finnish

ECTS Credits:

3 ECTS credits/88 hours of work

Language of instruction:

Finnish

Timing:

The course is held in the autumn and spring of the 4th study year

Learning outcomes:

Upon completion of the course, the student will know the basics physical medicine and rehabilitation to the extent required by a general physician. Spinal disorders are focused due their high societal importance.

In the practical sessions the student will practice manual examination of musculoskeletal disorders and proper injection technique. Start-up examination before the main course is based on Current Care -guidelines.

Contents:

Diagnostics, treatment and functional evaluation of musculoskeletal disorders

Biomechanics of walking

Principles of physiotherapy and occupational therapy

How to refer patients to physiotherapy

Rehabilitation of neurologic diseases

Medical aids and artificial limbs

Biological background of rehabilitation

Rehabilitation process

Mode of delivery:

Face-to-face teaching

Start-up examination is based on data in web

Learning activities and teaching methods:

Lectures 32 h (32 h independent learning)/ practical group-sessions 8 h (no need for independent learning)/ theme day in collaboration with neurosurgeons 3 h (+ 3 h independent learning)/web-based learning for start-up examination 10 h

Target group:

Medical students

Prerequisites and co-requisites:

No

Recommended optional programme components:

Prior medical courses accomplished

Recommended or required reading:

Textbook Arokoski et al Physical and Rehabilitation Medicine, 2009

Assessment methods and criteria:

Pass/Fail

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass/fail

Person responsible:

Professor Jaro Karppinen

Working life cooperation:

No

080206A: Prescriptions, 0,5 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Viitala, Pirkko Liisa

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

041003Y: Professional Development in Medicine Studies, 3 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: General Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Olli Vainio

Opintokohteen kielet: Finnish

ECTS Credits:

3 ECTS credits /81 hours of work

Language of instruction:

Finnish

Timing:

1.-6. academic years

Studies in question belong to track of studies that continue integrated throughout the curriculum

Learning outcomes:

The outcomes of the PDM-studies are similar to the outcomes of the PDM-track

PDM- track consist of following sub-tracks:

Ethics

Interaction and communication skills in medicine

PDM-track includes also tutoring

Student grows into the role of medical doctor, and after graduation is able to form medical opinions and converse on the ethical issues and act according to ethical principles of medical profession. Student gains the ability to communicate with patients in a professional manner, take the medical history successfully, diagnose patients and make a realistic plan for treatment, and encourage his/her patients to making healthy choices in their everyday life. Student is fully aware of the importance of patient confidentiality. Student is capable of working as a team member in interprofessional team, and also taking leadership within the interprofessional team when needed. Student knows the natural course of human life span and is able to describe the concepts of health, illness and patient safety. Student recognizes not only his/her own values, but also the values of his/her patients and the health sector. Student becomes aware of his/her own motivation and limitations and their influence to his/her every day work with patients.

Contents:

PDM- track consist of following sub-tracks:

Ethics

Interaction and communication skills in medicine

PDM-track includes also tutoring. There is also PDM- teaching integrated in the teaching of various substances and tracks.

Mode of delivery:

Course unit is delivered as face-to-face teaching

Learning activities and teaching methods:

1.yr

Lectures (6h): Ethics 1 (Pekka Louhiala)

Ethics 2 (Veikko Launis)

Ethics 3 (Minna Soini)

Group discussions, Written essay (C2) and self-study

2.-6-yrs Programme will be informed later

4.yr(1 ECTS): Seminar of ethics

5.yr (1 ECTS): Lectures on ethics

C1-12 the implementation of methods of the Communication and interaction track vary as it is mainly integrated to other courses and is part of teacher tutoring and learning log book working.

Target group:

Graduate students of medicine

Prerequisites and co-requisites:

No

Recommended optional programme components:

PDM- studies are part of the studies belonging to the Professional development in medicine (PDM)-track.

Other studies that belong to the LAK- **string/track:**

1.yr : Introduction to medical studies

Basic life support

6.yr : Leadership in health care

During 1.-6.yrs also:

Tutoring,

Self evaluation and peer evaluation

Learning diary

Recommended or required reading:

Ethics:

Louhiala Pekka, Launis Veikko: Parantamisen ja hoitamisen etiikka. Edita Publishing. Helsinki 2009

Nurmi JE ym. 2006; Ihmisen psykososiaalinen kehitys, Helsinki WSOY

Assessment methods and criteria:

Participation in lectures, tutoring and seminars, completing the reflection tasks and learning diary. OSCE exam in C10

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes verbal grading scale "pass/fail"

Person responsible:

Teija Parpala and Essi Varkki

sub-tracks have their own persons responsible:

Ethics: Jyrki Mäkelä

Communication and interaction: Päivi Lindholm

Working life cooperation:

Communication and interaction track is integrated to every work placement during different courses

Other information:

-

080103A: Psychiatry, 12 - 14 op

Voimassaolo: 01.01.2009 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

ECTS Credits:

ECTS credits 14.0

Language of instruction:

Language of instruction Finnish.

Timing:

S7-S8, 4th year, autumn and January

Learning outcomes:

To provide basic facts on psychiatric diseases and treatment, particularly in primary health care. Students are able to identify common mental disorders and know how to treat them in adult patients, in accordance with the Treatment Recommendations (psychotherapy, psychopharmacology) in primary and specialist level health care settings. Students can identify severe mental disorders in adolescents, adults and elderly patients and be able to send the patients to the psychiatric emergency and psychiatric care, involuntarily if necessary. The student can identify patients with psychosis and those patients at risk of suicide or violent acts.

Contents:

Major psychiatric illnesses in adults and adolescents: their acute care and further treatment. Examining a psychiatric patient. Nosology, diagnostics and treatment of the most common psychiatric diseases. Psychiatric legislation and forensic psychiatry. Psychopharmaceutical treatment. Psychotherapy and its applications. Clinical psychology. Psychosomatics. Substance abuse. Adolescent psychiatry; identification of mental disorders in adolescence, (such as psychoses, depression and eating disorders), treatment principles. Psychiatry among elderly people. Ante- and postnatal mental disorders. Offspring of parents with mental disorders, for example with depression and psychosis. Doctor-patient interaction, team work, management, coping with a physician's profession.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Lectures covering various themes in psychiatry (psychiatric epidemiology, schizophrenia and other psychoses, depression, anxiety disorders, substance use disorder, perinatal mental disorders, psychiatry in health care center, adolescent psychiatry etc) . Besides lectures, the teaching consists mainly of group teaching, several seminars and also clinical practice which includes following clinical work in psychiatric units and emergency duty. There is a final written examination. Question time and feedback, including questionnaire in Optima. The student has to understand and speak Finnish fluently in order to be able to participate in the course.

Target group:

Fourth year medical students.

Prerequisites and co-requisites:

Previous medical studies has to be completed.

Recommended optional programme components:

The course is performed simultaneously with other fourth year's courses.

Recommended or required reading:

Lönnqvist J, et al., Psykiatria. Kustannus Oy Duodecim, Helsinki, 2011. Material from lectures, seminars and group education. Other recommended reading: Evidence based treatment (Käypähoito)-guidelines in psychiatry and adolescent psychiatry (for example www.terveysportti.fi), Legislation, especially Mental Health Act and Decree, Child Welfare Act (www.finlex.fi-ajantasainenlainsäädäntö) and Huttunen MO. Psykkenlääkeopas. Kustannus Oy Duodecim, 2008, Helsinki.

Assessment methods and criteria:

Taking part to compulsory studies and practice including group studies, theme days and clinical practice. Final written examination. Question time and feedback, including questionnaire in Optima.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The evaluation scale for the final examination is 0-5 (and in the intranet Optima: pass/fail). The best grading is 5.

Person responsible:

Professor Juha Veijola
Department of Psychiatry

Working life cooperation:

Yes. Small group classes, ward practice, following clinical work in psychiatric units on emergency duty.

080802A: Radiology I, 3 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Tervonen, Osmo Antti

Opintokohteen kielet: Finnish

ECTS Credits:

3 ECTS credits /79,5 hours of work

Language of instruction:

Tuition shall be arranged in Finnish. The course unit curriculum includes the obligatory group/pair workshops, image interpretation sessions, emergency duty, lecture material (.pdf).

Timing:

The course unit is held in the autumn semester, during the third year of medical studies.

Learning outcomes:

Radiology 1

Upon completion of this first curricular unit of radiology, student should be able to understand principles of radiological modalities, including nuclear medicine and pertinent image interpretation methods as well as obtain basic image interpretation skills of radiographs and indications for these examinations.

Contents:

Radiology I

General introduction to radiology (techniques)

Radiographic interpretation of skeletal system, thorax and viscerae and interventional radiology.

Acute neuroradiology and abdominal radiology.

Nuclear medicine and molecular imaging

Mode of delivery:

The mode of delivery for the course unit is face-to-face teaching.

Learning activities and teaching methods:

The implementation methods of the course vary.

Lectures consist of 19.5 hours. There will be 16.5 hours of guided small group teaching events (image interpretation, Image acquisition [x-ray], Ultrasound anatomy, Emergency duty, Ultrasound clinical surveillance, Nuclear medicine) and 55 hours of studying privately or in a group.

Target group:

Target groups are the 3rd year medical students (MD).

Prerequisites and co-requisites:

Prerequisite for participation to the course unit is the completion of preclinical studies (first 2 years of medical school)

Recommended optional programme components:

There are no alternative courses.

Recommended or required reading:

Books: Either, Soimakallio (Editor): Radiologia [in Finnish]

100-tärkeintä rtg-kuvaa (National teaching image base): Distributed through university domain.

Assessment methods and criteria:

This course unit utilizes exam assessment.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail."The grade will not be given until all the obligatory teaching courses are completed.

Person responsible:

Roberto Blanco Sequeiros, Professor

Osmo Tervonen, Professor

Working life cooperation:

No

080622A-02: Radiology II, 3 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Tervonen, Osmo Antti

Opintokohteen kielet: Finnish

ECTS Credits:

3 ECTS credits /79,5 hours of work

Language of instruction:

Tuition shall be arranged in Finnish. The course unit curriculum includes the obligatory group/pair workshops, image interpretation sessions, emergency duty, lecture material (.pdf).

Timing:

The course unit is held in the autumn semester of 6th year.

Learning outcomes:

Radiology II

Upon completion of this second curricular unit of radiology, the student should be able to understand principles of image interpretation as well as obtain basic image interpretation skills of radiographs. The student should master the indications for selected investigations in radiology within general practices clinical context and understand correct ordering (percipio) and reporting routines in clinical situations.

Contents:

General introduction to radiology (techniques), nuclear medicine and radiation protection.

Radiographic interpretation of skeletal system, thorax and viscerae and interventional radiology.

Basics of Neuroradiology, Abdominal radiology, Skeletal radiology, Women's imaging, Pediatric radiology, Thoracic radiology.

Mode of delivery:

The mode of delivery for the course unit is face-to-face teaching.

Learning activities and teaching methods:

The implementation methods of the course vary.

Lectures consist of 18 hours. There will be 15 hours of guided small group teaching events (image interpretation, Image acquisition [x-ray], Ultrasound anatomy, Emergency duty, Ultrasound clinical surveillance and 47 hours of studying privately or in a group.

Target group:

Target groups are 6th year medical students (MD).

Prerequisites and co-requisites:

Prerequisite for participation to the course unit is the completion of Radiology I course.

Recommended optional programme components:

There are no alternative courses.

Recommended or required reading:

Books: Either, Soimakallio (Editor): Radiologia [in Finnish]

100-tärkeintä rtg-kuvaa (National x-ray teaching image base): Distributed through university domain

Assessment methods and criteria:

This course unit utilizes exam assessment.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail. The grade will not be given until all the obligatory teaching courses are completed.

Person responsible:

Roberto Blanco Sequeiros, Professor

Osmo Tervonen, Professor

Working life cooperation:

No

080812A: Radiology II, 3 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

ECTS Credits:

6 ECTS credits /159 hours of work

Language of instruction:

Finnish

Timing:The course unit is held in the autumn semester of 6th year.**Learning outcomes:**

Upon completion of this second curricular unit of radiology, the student should be able to understand principles of image interpretation as well as obtain basic image interpretation skills of radiographs. The student should master the indications for selected investigations in radiology within general practices clinical context and understand correct ordering (percipio) and reporting routines in clinical situations.

Contents:

General introduction to radiology (techniques), nuclear medicine and radiation protection.

Radiographic interpretation of skeletal system, thorax and viscerae and interventional radiology.

Basics of Neuroradiology, Abdominal radiology, Skeletal radiology, Women's imaging, Pediatric radiology, Thoracic radiology.

Mode of delivery:

The mode of delivery for the course unit is face-to-face teaching.

Learning activities and teaching methods:

The implementation methods of the course vary.

Lectures consist of 18 hours. There will be 15 hours of guided small group teaching events (image interpretation, Image acquisition [x-ray], Ultrasound anatomy, Emergency duty, Ultrasound clinical surveillance and 47 hours of studying privately or in a group.

Target group:

Target groups are 6th year medical students (MD).

Prerequisites and co-requisites:

Prerequisite for participation to the course unit is the completion of Radiology I course.

Recommended optional programme components:

There are no alternative courses.

Recommended or required reading:

Books: Either, Soimakallio (Editor): Radiologia [in Finnish]

100-tärkeintä rtg-kuvaa (National x-ray teaching image base): Distributed through university domain.

Assessment methods and criteria:

This course unit utilizes exam assessment.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail. The grade will not be given until all the obligatory teaching courses are completed.

Person responsible:

Roberto Blanco Sequeiros, Professor

Osmo Tervonen, Professor

Working life cooperation:

No.

040415S: Refresh course of resuscitation, 1,5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Alahuhta, Seppo Matias

Opintokohteen kielet: Finnish

ECTS Credits:

1,5 ECTS

Language of instruction:

Finnish

Timing:

C 8/C 10

Learning outcomes:

Rehearsal of resuscitation guidelines (basic life support and advanced life support) and ability to understand the basic mechanisms behind the guidelines and use them in practice.

Contents:

Lectures, simulation training and taking part to teaching of the first year students

Mode of delivery:

Blended teaching

Learning activities and teaching methods:

Resuscitation guidelines (basic life support and advanced life support), simulation training in small groups, teaching first year students

Target group:

12 students will be taken to the course unit.

Prerequisites and co-requisites:

The required prerequisite is the completion of the following courses prior to enrolling for the course unit: Courses of the third year.

Recommended optional programme components:

Internal medicine and surgery

Recommended or required reading:

Elvytyksen käypä hoito-suositus, Duodecim , ERC:n elvytyssuosituksset, Resuscitation.

Assessment methods and criteria:

Taking part to lecture and simulation training and teaching 3-4 times first year students.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

pass/fail

Person responsible:

Professor Seppo Alahuhta

Working life cooperation:

No

Other information:

No other information

080712A-04: Surgery II, 6 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Juvonen, Tatu Sakari

Opintokohteen kielet: Finnish

ECTS Credits:

6 ECTS

Language of instruction:

The tuition shall be arranged in Finnish.

Timing:

During sixth year.

C 11-C12

Learning outcomes:

The students will be familiar with surgical thinking, the diagnostics and treatment of surgical and diseases and the ground of surgical treatment and surgical procedures.

Contents:

Pediatric surgery, Thoracic and Vascular surgery, Hand surgery and Plastic surgery and Orotpedic theme day 3 h.

Mode of delivery:

The tuition will be implemented as blended teaching (mainly face-to-face teaching, but there might be some web-based teaching)

Learning activities and teaching methods:

Lessons 40h, theme day 3h, obligatory lecture (finnish) in hand surgery 2h

Target group:

The course is for students already having basic skills in surgery.

Prerequisites and co-requisites:

The required prerequisite is the completion of the following courses prior to enrolling for the course: Surgery 1

Recommended optional programme components:

The course units that are recommended for completion simultaneously: Internal medicine, pathology, radiology, clinical chemistry and anesthesiology

Recommended or required reading:

For Finnish speaking students:

Roberts, Alhava, Höckerstedt, Kivilaakso: Kirurgia. Kustannus Oy Duodecim. Helsinki. 2. uudistettu painos 2010.

Kröger, Aro, Böstman, Lassus, Salo: Traumatologia. Kandidaattikustannus. Helsinki. 7. uudistettu painos 2010.

Rokkanen, Pätiälä, Tunturi, Raitanen, Ahtinen: Kirurgiset pientoimenpiteet. Tampereen Lääketieteellinen

Kandidaattiseura ry. 5. uudistettu painos 2012.

Kiviranta, Järvinen: Ortopedia, Kandidaattikustannus. Helsinki. 3. painos 2012.

Taari, Aaltomaa, Nurmi, Parpala, Tammela: Urologia. Duodecim. 3. painos 2012. (alustava ilmestymispäivä 01.12.2012)

For English speaking exchange-program students:

Burkitt, Quick, Reed: Essential Surgery, Problems, Diagnosis & Management: Churchill Livingstone Elsevier Ltd. Edinburgh. 4th ed 2007

Assessment methods and criteria:

Obligatory lecture of Hand surgery and exam should be passed.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

Person responsible:

Professor Tatu Juvonen and professor Jyrki Mäkelä

Working life cooperation:

No

Other information:

No other information

080723A: Surgical operations-optional course, 1 op

Voimassaolo: 01.08.2008 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

ECTS Credits:

1 ECTS

Language of instruction:

The tuition shall be arranged in Finnish.

Timing:

During sixth year

C 11-12

Learning outcomes:

The student will be familiar with small surgical procedures, suturing and handling of the tissues.

Contents:

Training of surgical skills

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Lessons and training of surgical skills 17 hours, independent work 17 hours

Target group:

Totally 12 students can be included in to the course unit.

Prerequisites and co-requisites:

The required prerequisite is the completion of the following courses prior to enrolling for the course unit: Surgery 1

Recommended optional programme components:

Surgery 1 and 2

Recommended or required reading:

The lesson material which will be given during the course unit, the course unit is mainly practical training

Assessment methods and criteria:

Obligatory face-to-face studies.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass/ fail

Person responsible:

Professor Tatu Juvonen and professor Jyrki Mäkelä

Working life cooperation:

No

Other information:

No other information

080705S: Thesis, 20 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

ECTS Credits:

20 ECTS credits

Language of instruction:

Finnish

Timing:

1.-6. academic years

Learning outcomes:

The thesis in the degree Programmes of Medicine and Dentistry is a scientific work which shows the student's ability to scientific thinking and research. The student gets acquainted with scientific research and is able to evaluate research publications, the student is capable of independent and responsible work as part of a scientific community, develops his/her problem solving skills as well as critical and ethical thinking, and increases his/her readiness to scientific communication.

Contents:

Writing a study plan which includes the research plan. Supervised research and writing a thesis or scientific article (student as a first or second writer). Oral presentation of the research.

Mode of delivery:

Supervised research work and self-study

Learning activities and teaching methods:

Formulation of research plan and independent research work under the supervision of the teacher. Writing a thesis and oral presentation. Maturity exam.

Target group:

Graduate students of medicine

Prerequisites and co-requisites:

The research plan and teaching agreement form "tutkielman ohjaussopimus" has to be accepted before returning the thesis.

Recommended optional programme components:

080705S-01 Thesis, research plan

040300A Maturity exam

Recommended or required reading:

As agreed with the mentor teacher

Assessment methods and criteria:

Accepted study and research plan, accepted thesis or scientific article, oral presentation.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass / fail.

Person responsible:

Dean of Education Olli Vainio

Working life cooperation:

According to accepted research plan and as agreed with the mentor teacher.

Other information:

040019S: Thesis Data-analysis, 2 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Pentti Nieminen

Opintokohteen kielet: Finnish

ECTS Credits:

2 ECTS

Learning outcomes:

The student will be able to plan study designs and statistical computing related to the research question of his/her thesis, obtain and analyze data with basic statistical methods, use basic statistical significance tests and inference methods, and report the findings.

Contents:

Aims and phases of statistical research, planning statistical research, obtaining data and suitable methods to solve the research questions of the thesis. Use of statistical software.

Mode of delivery:

Blended teaching

Learning activities and teaching methods:

Face-to-face meetings with the teacher, small-group lessons, independent work, assignments

Target group:

All students working with their thesis

Prerequisites and co-requisites:

None

Recommended optional programme components:

040012Y Knowledge and Research

Recommended or required reading:

Material in Optima.

Uhari M ja Nieminen P: Epidemiologia ja biostatistiikka. Second Edition. Duodecim, 2012.

Assessment methods and criteria:

Regular and active participation in the small group lessons and completion of practical projects.

Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

Pass/fail

Person responsible:

Senior lecturer Pentti Nieminen