

Opasraportti

FMed - Courses in English for Exchange Students (2016 - 2017)

Courses in English for exchange students

This Course Catalogue lists courses taught in English for exchange students at the Faculty of Medicine during academic year 2016-17.

When planning learning agreement please use the information provided under the **Courses** tab in this catalogue. Read carefully the information of each course you wish to take (language of instruction, target group, course content, timing, preceding studies, additional information etc.).

All exchange students must submit their exchange application through SoleMOVE, learning agreement is attached to the on-line application.

Accepted exchange students are required to register to all courses. Course registration takes place once you have received your University of Oulu login information close to the start of your exchange period. When registering you will be able to find detailed information on teaching and schedule under **Instruction** tab.

Individual course codes include information on the level of course.

xxxxxP, xxxxxY = basic, introductory level courses

xxxxxA = for 2-3 year students, Bachelor level courses

xxxxxS = for 4-5 year students, Master level courses

Academic calendar for 2016-17

Orientation week: Aug 22-26, 2016

Period 1: Aug 29 - Oct 21, 2016

Period 2: Oct 24 – Dec 16, 2016

Period 3: Jan 9 – March 10, 2017

Period 4: March 13 – May 12, 2017

Any questions on courses should be addressed to the coordinator of the degree programme you are studying. If you wish to choose any course from the degree you are not studying please contact the coordinator responsible for that degree.

Medicine: Virpi Parkkila, virpi.parkkila(at)oulu.fi

Dentistry: Virpi Harila, virpi.harila(at)oulu.fi

Medical Technology: Anna Jauho, anna.jauho(at)oulu.fi

Health Sciences: Pirjo Kaakinen, pirjo.kaakinen(at)oulu.fi

You are also allowed to choose any course from UniPID Virtual Studies. Please see more in website: <http://www.unipid.fi/en/home/>

Further information on application process and services for incoming exchange students:
<http://www.oulu.fi/english/studentexchange>
 international.office(at)oulu.fi

COURSES

Course codes include information on the level of course.
 xxxxxP, xxxxxY = basic, introductory level courses
 xxxxxA = for 2-3 year students, Bachelor level courses
 xxxxxS = for 4-5 year students, Master level courses

These courses are available for **all exchange students** at the Faculty of Medicine:

040105Y **Basics of Epidemiology**, 1,5 ECTS, (spring)

040119Y **Environmental Health**, 1,0 ECTS, (spring)

060722A **Interprofessional Health and Wellbeing Promotion and Prevention**, 5 ECTS, (autumn and spring)

040201A **Basics in eHealth**, 5.0 ECTS, (autumn)

080914S **Biomedical Engineering and Medical Physics Seminar**, 3 ECTS, (autumn)

580402S **Biomedical Imaging Methods**, 1.0-5.0 ECTS, (spring)

090510A-12 **Organisation of oral health care in Finland**, 1.0 ECTS (autumn and spring)

Courses for **medical exchange students**:

060704A-01 **Orthopaedics and Traumatology** 4.0 ECTS, (autumn)

060704A-02 **Cardio-thoracic and Vascular Surgery**, 2.0 ECTS, (autumn)

060704A-03 **Urology**, 2.0 ECTS, (autumn)

060704A-04 **Exam of Gastroenterological Surgery**, 2.0 ECTS, (autumn and spring)

060720A **Obesity Minisymposium**, 1.2 ECTS (Surgery and Internal Medicine), (autumn)

060709A-01 **Cardiology**, 3.0 ECTS, (autumn)

060709A-02 **Endocrinology**, 3.0 ECTS, (autumn)

060709A-03 **Nephrology**, 2.0 ECTS, (autumn)

060709A-04 **Exam of Rheumatology**, 1.0 ECTS, (autumn and spring)

060703A **Respiratory Medicine**, 3.0 ECTS, (autumn)

060710A **Oncology and Radiotherapy**, 3.5 ECTS, (autumn)

060702A **Dermatology**, 3.0 ECTS, (autumn)

060707A **Radiology**, 6.0 ECTS, (autumn)

060713A **Medical Biophysics**, 2.5 ECTS, (autumn)

060701A **Exam of Anaesthesiology**, 1.5 ECTS, (autumn and spring)

060706A **Neurosurgery**, 3.5 ECTS, (spring)

060712A **Forensic Medicine**, 4.0 ECTS, (spring)

060723A **Research Project**, 1.0-30.0 ECTS, (anytime)

Courses for **dental exchange students**:

090501A **Pediatric Dentistry for Erasmus Students**, 2.5 ECTS, (autumn and spring)

090501A **Study program name: Light curing for dentistry students**, 0.2 ECTS (spring)

090501A-12 **The principles of endodontics, literature exam**, 2.0 ECTS (autumn and spring)

090502A-13 **Dental traumas, tooth transplantations and maxillomandibular fractures**, 0.5 ECTS (spring, autumn only exam)

090503A-15 **Esthetics in prosthodontics**, 0.2 ECTS (autumn and spring)

090503A-16 **Fixed prosthodontics**, 2.5 ECTS (autumn and spring)

090503A-17 **Prosthetic treatment of edentulous patient**, 3.0 ECTS (autumn and spring)

090504A-04 **Stomatognathic physiology part I**, 1.0 ECTS (autumn and spring)

090504A-06 **Stomatognathic physiology part II**, 2.5 ECTS (autumn and spring)

090505A-17 **Clinical diagnosis, risk assessment, prognosis**, 1.0 ECTS (spring)

090505A-18 **Periodontal therapy**, 1.0 ECTS (spring)

090505A-19 **Periodontal surgery**, 1.5 ECTS (spring)

090510A-13 **Dental anxiety**, 3.0 ECTS (autumn and spring)

090601A-10 **Oral and craniofacial growth and development: genetic, epigenetic, clinical and experimental approach**, 0.8 ECTS (autumn and spring)

090601A-11 **Introduction to orthodontics**, 3.0 ECTS (autumn and spring)

090302A-07 **Oral & Maxillofacial Pathology**, 3.0 ECTS (autumn and spring)

090607A-01 **Following our students clinical work or other dental studies during the exchange**, 1.0 ECTS / 27 hours (autumn and spring)

Courses for **exchange students of medical technology**

080915S **Tissue Biomechanics**, 5.0 ECTS, (autumn)

080916S **Biomechanics of Human Movement**, 5.0 ECTS, (spring)

080917S **Project in Biomedical Technology**, 10.0 ECTS, (anytime)

080918S **Project in Medical Imaging**, 10.0 ECTS, (anytime)

080919S **Project in Health Technology**, 10.0 ECTS, (anytime)

580201A **Biomedical Engineering Programming Study**, 5.0 ECTS, (anytime)

580209A **Bachelor's Thesis**, 10.0 ECTS, (anytime)

580210S **Master's Thesis**, 35.0 ECTS, (anytime)

The **exchange students of medical technology** are able to choose field related courses also from other faculties. Some of the possibilities are listed below.

521273S **Biosignal Processing I**, 5.0 ECTS, (autumn)

521124S **Sensors and Measuring Techniques**, 5.0 ECTS, (autumn)

764664S **Analysis and Simulation of Biosystems**, 6.0 ECTS, (autumn)

521240S **Biophotonics and Biomedical Optics**, 5.0 ECTS, (autumn, continues on spring)

812671S **Usability Testing**, 5.0 ECTS, (spring)

521107S **Biomedical Instrumentation**, 5.0 ECTS, (spring)

521466S **Machine Vision**, 5.0 ECTS, (spring)

521289S **Machine learning**, 5.0 ECTS, (spring)

521337A **Digital Filters***, 5.0 ECTS, (spring)

* Lectures are held in Finnish but the material is available in English

Tutkintorakenteisiin kuulumattomat opintokokonaisuudet ja -jaksot

060701A: Anaesthesiology, 1,5 op

764664S: Analysis and simulation of biosystems, 6 op

580209A: Bachelor's Thesis, 10 op

040105Y: Basic Epidemiology, 1,5 op

080916S: Biomechanics of Human Movement, 5 op

580201A: Biomedical Engineering Programming Study, 5 op

080914S: Biomedical Engineering and Medical Physics Seminar, 3 op

580402S: Biomedical Imaging Methods, 1 - 5 op

521107S: Biomedical Instrumentation, 6 op

521240S: Biophotonics and Biomedical Optics, 5 op

521273S: Biosignal Processing I, 5 op

060709A-01: Cardiology, 3 op

090510A-13: Dental anxiety, 3 op

090502A-13: Dental traumas, tooth transplantations and maxillomandibular fractures, 0,5 op

060702A: Dermatology and venereology, 3 op

521337A: Digital Filters, 5 op

060709A-02: Endocrinology, 3 op

040119Y: Environmental health care, 1 op

090503A-15: Esthetics in prosthodontics, 0,2 op

060712A: Forensic Medicine, 4 op

060709A: Internal Medicine, 1 - 18 op

060722A: Interprofessional Health and Wellbeing Promotion and Prevention, 5 op

090601A-11: Introduction to orthodontics, 3 op

090501A-14: Light curing technique for dental exchange students, 0,2 op

090503A-16: Literature exam: Fixed prosthodontics, 0,9 - 7,9 op
 090503A-17: Literature exam: Prosthetic treatment of edentulous patient, 2,5 - 3 op
 090504A-04: Literature exam: Stomatognathic physiology part I, 0,5 - 1 op
 521289S: Machine Learning, 5 op
 521466S: Machine Vision, 5 op
 060713A: Medical biophysics, 2,5 op
 060709A-03: Nephrology, 3 op
 060706A: Neurosurgery, 3 op
 060710A: Oncology, 3 op
 090601A-10: Oral and craniofacial growth and development: genetic, epigenetic, clinical and experimental approach, 0,8 op
 090302A-07: Oral and maxillofacial pathology, literature exam, 3 op
 090510A-12: Organisation of oral health care in Finland, 0,8 - 1 op
 090607A-01: Other studies given by the Institute of Dentistry within the Erasmus-project, 0 op
 090501A-13: Pediatric Dentistry for Erasmus Exchange Students, 2,5 op
 090505A-17: Periodontology: Clinical diagnosis, risk assessment, prognosis and treatment plan, literature exam, 1 op
 090505A-19: Periodontology: Periodontal surgery, literature exam, 1,5 op
 090505A-18: Periodontology: Periodontal therapy, literature exam, 1 op
 580210S: Pro Gradu, 35 op
 080917S: Project in Biomedical Technology, 5 - 10 op
 080919S: Project in Health Technology, 5 - 10 op
 080918S: Project in Medical Imaging, 5 - 10 op
 060707A: Radiology, 6 op
 060723A: Research project, 1 - 30 op
 060703A: Respiratory Medicine, 3 op
 060709A-04: Rheumatology, 1 op
 521124S: Sensors and Measuring Techniques, 5 op
 090504A-06: Stomatognathic physiology part II, 2 - 2,5 op
 060704A: Surgery, 1 - 24 op
 090501A-12: The principles of endodontics, 2 op
 080915S: Tissue Biomechanics, 5 op
 812671S: Usability Testing, 5 op

Opintojaksojen kuvaukset

Tutkintorakenteisiin kuulumattomien opintokokonaisuuksien ja -jaksojen kuvaukset

060701A: Anaesthesiology, 1,5 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Alahuhta, Seppo Matias

Opintokohteen kielet: English

ECTS Credits:

1.5 ECTS

Language of instruction:

English

Timing:

Autumn and Spring

Learning outcomes:

Student understands the basics of general anaesthesia and monitoring during the anaesthesia. Student knows the basics of acute pain treatment and advanced life support. He/she is able to recognize the unstable patient and knows how to start the treatment.

Mode of delivery:

Independent study

Learning activities and teaching methods:

Written examination.

Target group:

3rd-6th year medical students.

Prerequisites and co-requisites:

Preclinical studies completed.

Recommended optional programme components:

None

Recommended or required reading:

Clinical Anaesthesia by Gwinnutt, Wiley-Blackwell.

Assessment methods and criteria:

Written examination.

Grading:

A pass/fail grading system is utilized.

Person responsible:

Professor Seppo Alahuhta

Working life cooperation:

No

764664S: Analysis and simulation of biosystems, 6 op

Voimassaolo: 01.01.2013 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Physics

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

764364A Analysis and simulation of biosystems 6.0 op

ECTS Credits:

6 credits

Language of instruction:

Finnish (or English)

Timing:

3th or 4th autumn (organized only during even-numbered years or even more rarely)

Learning outcomes:

The student is able to use modelling in the analysis of simple biosystems, with the utilization of the concept of analogies between different types of systems. Further, with those skills the student will be able to build simulations of relatively simple biosystems and analyze their properties.

Contents:

See [764364A](#) Analysis and simulation of biosystems

Person responsible:

likka Salmela, Kyösti Heimonen

580209A: Bachelor's Thesis, 10 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

ECTS Credits:

10 ECTS credit points / 270 hours of work.

Language of instruction:

Finnish or English

Timing:

3rd year

Learning outcomes:

The student is able to describe a research problem or need arisen in development work, to solve it on the grounds of acquired knowledge and skills and to report it both in written and oral form.

Contents:

Research or development project in the field of medical & wellness technology. Planning, writing and reporting of the thesis. Presenting the thesis at the seminar and participating in the group meetings.

Mode of delivery:

Independent work

Learning activities and teaching methods:

Independent work with the help of a supervisor. The student must agree in advance on topic and contents with the responsible person of the degree programme. Thesis can be made in different research groups of the university, in industry or health care system.

Target group:

Bachelor Students of Medical and Wellness Technology

Assessment methods and criteria:

Writing the thesis, an oral presentation at the seminar and participating in the group meetings.

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

Grading:

The course utilizes grading: pass or fail.

Person responsible:

Professor Timo Jämsä

Working life cooperation:

Thesis can be made for a company.

Other information:

It is recommended that before starting the bachelor's thesis the student has at least 120 ECTS cr.

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 (Basics of Epidemiology)

Language of instruction:

English

Timing:

During the second year, spring semester (C4)

Learning outcomes:

Upon completion of the course students will understand the basic epidemiologic thinking / basic concepts of epidemiologic

methods in medical and health sciences and know the types of epidemiologic studies. They are also able to calculate measures of disease occurrence, use measures of effect to estimate the association between a given exposure and disease and are able to define the concept of confounding and know how to apply it in professional practice.

Contents:

Structure of the Course:

- 1. Introduction to epidemiology; causation
- 2. Measures of disease occurrence and effect
- 3. Types of epidemiologic studies: cohort studies
- 4. Types of epidemiologic studies: case-control studies
- 5. Biases
- 6. Random error and statistical methods
- 7. Analyzing simple epidemiologic data
- 8. Control of confounding in stratified analysis
- 9. Interaction
- 10. Regression models in epidemiology

In addition, the course includes two exercise sessions conducted in small groups on epidemiologic concepts and methods based on 1) critical reviews of articles and 2) calculation exercises. Students will also individually conduct a critical review of a scientific article.

Mode of delivery:

Face-to-face teaching and independently performed exercise in the Optima environment.

Learning activities and teaching methods:

The course consists of lectures (10 h), two group exercises (3 h each) and one individual exercise (critical evaluation of an article) which is independently performed in the Optima environment.

Target group:

Medical and dental students of the second year.

Prerequisites and co-requisites:

No.

Recommended optional programme components:

The course is linked to C1 – Public health and multiprofessional collaboration (Fundamentals of public health science), C4 – Environmental health, C11 – General practitioner and public health and Environment, Lifestyle and Health (ELH) track. Closely linked to the course in biostatistics delivered during the same term and Evidence based medicine (EBM) track.

Recommended or required reading:

Required reading: lecture notes and Rothman KJ. Epidemiology: and introduction. 2nd edition. Oxford University Press, New York, 2012.

Assessment methods and criteria:

Participation to the group exercises is mandatory and controlled for. The individual exercise is assessed by the teacher. Written final examination.

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

Grading:

The course unit utilizes a numerical grading scale 1-5/fail. At least 10 points are required for passing the examination.

Person responsible:

Post doctoral researcher Taina Lajunen

Working life cooperation:

No.

Other information:

No other information.

080916S: Biomechanics of Human Movement, 5 op

Voimassaolo: 01.08.2012 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Jämsä, Timo Jaakko

Opintokohteen kielet: English

ECTS Credits:

5 ECTS credit points / 135 hours of work.

Language of instruction:

English

Timing:

Master studies, 3rd period

Learning outcomes:

The student can describe the main challenges of movement biomechanics and principles for motion analysis. The student knows basics of biomechanical measurement and modeling of movement. The student can perform practical biomechanical experiments, analyze measurement data, interpret results, and report them using good scientific reporting practice.

Contents:

Musculoskeletal biomechanics. Motion sensors and motion analysis. Biomechanical modeling of movement. Balance measurement. Fall biomechanics. Measurement of physical activity.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Lectures 14 h / Assignment 54 h / Self-study 67 h. Final exam.

Target group:

Students of Medical Technology (medical and wellness technology, biomedical engineers, biophysics, other degree programs) and all other who are interested

Prerequisites and co-requisites:

It is recommended to have basic knowledge on anatomy and physiology, sensors and measurement techniques and signal processing.

Recommended or required reading:

Material given during lectures.

Assessment methods and criteria:

Accepted home exercises and assignments, written exam. The exam includes definition and explanation assignments and problems.

Grading:

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

Person responsible:

Professor Timo Jämsä

Other information:

This course is a part of the specialization of Health Technology.

580201A: Biomedical Engineering Programming Study, 5 op

Voimassaolo: 01.08.2008 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Jämsä, Timo Jaakko

Opintokohteen kielet: Finnish

ECTS Credits:

5 ECTS credit points / 135 hours of work.

Language of instruction:

Finnish or English

Timing:

Bachelor of Master studies, elective course.

Learning outcomes:

The student can design a solution to a programming problem related to medical technology, can solve the task and report this in written form.

Contents:

Independent computer programming using modern programming tools, a written report.

Mode of delivery:

Independent work.

Learning activities and teaching methods:

Students carry out an assigned programming project individually or in pairs and write out a report.

Self-study or group work 135hours.

Target group:

Student of Medical and Wellness Technology.

Prerequisites and co-requisites:

521141P Basic of Programming, 764627A/S Virtual Measurement Environments or similar knowledge.

Assessment methods and criteria:

The program and the report are assessed by the supervisor.

Grading:

The course utilizes grading: pass or fail.

Person responsible:

Professor Timo Jämsä

Working life cooperation:

No

Other information:

More information on the available topics can be inquired on the teachers of the department.

080914S: Biomedical Engineering and Medical Physics Seminar, 3 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Jämsä, Timo Jaakko

Opintokohteen kielet: Finnish

ECTS Credits:

3 ECTS credit points / 81 hours of work

Language of instruction:

English or Finnish

Timing:

Master studies, 1st period

Learning outcomes:

The student can identify the essential features of scientific publications. The student can present the central content of a scientific article to others. The student can present critical questions related to a scientific presentation, and give and receive feedback on the presentations.

Contents:

Seminars and scientific literature. Publication forums in the field and characteristics of scientific articles.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Introduction lectures, presentations and discussion of the latest scientific publications on the basis. Each student will give two presentations and opposed two (peer-assessment).

Lectures and seminars 20 h / Self-study 61 h.

Target group:

Students of Medical Technology (medical and wellness technology, biomedical engineering, biophysics, other degree programs)

Recommended optional programme components:

Selected scientific articles and material indicated by lecturer

Recommended or required reading:

Selected scientific articles and material indicated by lecturer

Assessment methods and criteria:

Attending seminars, making presentations and acting as an opponent. The assessment criteria are based on the learning outcomes of the course. The more detailed assessment criteria is found on Optima.

Grading:

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

Person responsible:

Professor Timo Jämsä

Other information:

Also for doctoral studies

580402S: Biomedical Imaging Methods, 1 - 5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Simo Saarakkala

Opintokohteen kielet: English

ECTS Credits:

1-5 ECTS credit points / 27-135 hours of work.

Language of instruction:

English

Timing:

Master studies, 4th period. The course is not organized every year.

Learning outcomes:

The student understands and can describe the basic principles and main applications of imaging methods used in biomedical research.

Contents:

Differences between in vivo, ex vivo and in vitro imaging. Light and electron microscopy. Optical projection and coherence tomography. Optical in vivo imaging. Magnetic resonance imaging. Fourier transform infrared imaging spectroscopy. Raman imaging spectroscopy. Micro-computed tomography. Ultrasound imaging. Basics of image analysis and interpretation.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Differences between in vivo, ex vivo and in vitro imaging. Light and electron microscopy. Optical projection and coherence tomography. Optical in vivo imaging. Magnetic resonance imaging. Fourier transform infrared imaging spectroscopy. Raman imaging spectroscopy. Micro-computed tomography. Ultrasound imaging. Basics of image analysis and interpretation.

Target group:

Master Students of Medical and Wellness technology and Biomedical Engineering and all other who are interested in methods of biomedical imaging

Recommended or required reading:

Required literature is given in the lectures.

Assessment methods and criteria:

Participation in the lectures and demonstrations, study diary. Exercises. Written exam. The course can be taken as 1, 2, 3 or 5 ECTS.

1 ECTS # participation in the lectures

2 ECTS # participation in the lectures and demonstrations

3 ECTS # participation in the lectures and demonstrations + practical assignment

5 ECTS # participation in the lectures and demonstrations + practical assignment and final exam

Grading:

The 1, 2 or 3 ECTS courses utilize verbal grading: pass or fail. The 5 ECTS course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

Person responsible:

Associate Professor Simo Saarakkala

Working life cooperation:

No

521107S: Biomedical Instrumentation, 6 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Electrical Engineering DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Igor Meglinski

Opintokohteen kielet: Finnish

Leikkaavuudet:

521093S Biomedical Instrumentation 5.0 op

ECTS Credits:

6

Language of instruction:

English

Timing:

5-6

Learning outcomes:

After the course the student is capable to explain principles, applications and design of medical instruments most commonly used in hospitals. He/she can describe the electrical safety aspects of medical instruments and can present the physiological effects of electric current on humans. In addition the student is able to explain medical instrumentation development process and the factors affecting it. He/she also recognizes typical measurands and measuring spans and is able to plan and design a biosignal amplifier.

Contents:

Diagnostic instruments (common theories for medical devices, measurement quantities, sensors, amplifiers and registering instruments). Bioelectrical measurements (EKG, EEG, EMG, EOG, ERG), blood pressure and flow meters, respiration studies, measurements in a clinical laboratory, introduction to medical imaging methods and instruments, ear measurements, heart pacing and defibrillators, physical therapy devices, intensive care and operating room devices and electrical safety aspects.

Mode of delivery:

Face-to-face teaching.

Learning activities and teaching methods:

Lectures/exercises 54 h and self-study 100 h.

Target group:

Students interested in biomedical measurements.

Prerequisites and co-requisites:

None

Recommended optional programme components:

Course replaces course 521126S Biomedical measurements

Recommended or required reading:

R. S. Khandpur: Biomedical Instrumentation, Technology and Applications, McGraw-Hill, 2005 and J. G. Webster: Medical Instrumentation, Application and Design, 4th edition, John Wiley & Sons, 2010.

Assessment methods and criteria:

The course is passed by the final exam or optionally with the assignments/test agreed at the first lecture

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

Grading:

1-5

Person responsible:

Igor Meglinski

Working life cooperation:

None

Other information:

None.

521240S: Biophotonics and Biomedical Optics, 5 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Electrical Engineering DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Igor Meglinski

Opintokohteen kielet: Finnish

ECTS Credits:

5

Language of instruction:

English

Timing:

Period 2

Learning outcomes:

On successful completion of the course, students will be able to categorize the basic principles of modern optical and laser-based diagnostic modalities and instruments used in advanced biomedical research and clinical medicine. They will be able to demonstrate detailed understanding and evaluate the key biophotonics techniques underlying day-to-day clinical diagnostic and therapies and industrial applications in pharmacy, health care and cosmetic products. They can operate with the selected techniques of their choice.

Contents:

The course includes in-depth coverage of state-of-the-art optical imaging and spectroscopy systems for advanced biomedical research and clinical diagnosis, fundamental properties of light such as coherence, polarization, angular momentum, details of light interaction with tissue, and modern imaging system. Coherent Optical Tomography (OCT), Laser Doppler Flowmetry, Laser Speckle Imaging (LSI), Photo-Acoustic Tomography (PAT), Tissue polarimetry; Optical and Near-Infra-Red Spectroscopy (NIRS), Confocal and Fluorescence Microscopies; Tissue Optics: Light/matter interactions, index of refraction, reflection, optical clearing, absorption, Mie scattering, Rayleigh scattering, Monte Carlo modelling.

Mode of delivery:

Face-to-face teaching.

Learning activities and teaching methods:

Lectures/exercises 42 h and self-study 100 h.

Target group:

Students interested in biomedical measurements.

Prerequisites and co-requisites:

None.

Recommended optional programme components:

A new course

Recommended or required reading:

V.V Tuchin: Handbook of Optical Biomedical Diagnostics, SPIE Press, 2002; V.V Tuchin: Handbook of Coherent Domain Optical Methods, Springer, 2nd edition, 2013. D.A Boas, C. Pitris, N. Ramanujam, Handbook of Biomedical Optics, CRC Press, 2011.

Assessment methods and criteria:

The course is passed by the final exam and with the assignments.

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

Grading:

1 - 5

Person responsible:

Igor Meglinski

Working life cooperation:

No.

521273S: Biosignal Processing I, 5 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Computer Science and Engineering DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Tapio Seppänen

Opintokohteen kielet: Finnish

ECTS Credits:

5

Language of instruction:

English. Examination can be taken in English or Finnish.

Timing:

The course unit is held in the autumn semester, during period II. It is recommended to complete the course at the end of studies.

Learning outcomes:

1. knows special characteristics of the biosignals and typical signal processing methods
2. can solve small-scale problems related to biosignal analysis
3. implement small-scale software for signal processing algorithms

Contents:

Biomedical signals. Digital filtering. Analysis in time-domain and frequency domain. Nonstationarity. Event detection. Signal characterization.

Mode of delivery:

Face-to-face teaching and guided laboratory work.

Learning activities and teaching methods:

Lectures 10h, Laboratory work 20h, Self-study 20h, written examination.

Target group:

Students interested in biomedical engineering, at their master's level studies.
Students of the University of Oulu.

Prerequisites and co-requisites:

The mathematic studies of the candidate degree program of computer science and engineering, or equivalent. Programming skills, especially basics of the Matlab. Basic knowledge of digital signal processing.

Recommended optional programme components:

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

Recommended or required reading:

The course is based on selected chapters of the book "Biomedical Signal Analysis", R.M Rangayyan, 2nd edition (2015). + Lecture slides + Task assignment specific material.

Assessment methods and criteria:

Laboratory work is supervised by assistants who also check that the task assignments are completed properly. The course ends with a written exam. Read more about assessment criteria at the University of Oulu webpage. 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:

Tapio Seppänen

Working life cooperation:

No.

060709A-01: Cardiology, 3 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: English

Ei opintojaksokuvauksia.

090510A-13: Dental anxiety, 3 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Jorma Virtanen

Opintokohteen kielet: English

ECTS Credits:

3 ECTS credits

Language of instruction:

English

Timing:

Fall and Spring

Learning outcomes:

The student

- understands causes and prevalence of dental anxiety
- knows treatment of anxious child and adult patients

Contents:

- Causes and prevalence of dental anxiety
- Treatment of anxious child and adult patients

Mode of delivery:

Self-study

Learning activities and teaching methods:

Self-study; totals 81 hours = 3,0 ECTS credits

Target group:

Dental Exchange Students

Prerequisites and co-requisites:

No

Recommended optional programme components:

No

Recommended or required reading:

Milgrom et al. Treating fearful dental patients. A patient management handbook. Seattle Washington (337 pages)

Assessment methods and criteria:

Literature exam

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

Grading:

The literature exam utilizes verbal grading scale pass/fail

Person responsible:

Professor Jorma Virtanen

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project
Community Dentistry

090502A-13: Dental traumas, tooth transplantations and maxillomandibular fractures, 0,5 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Oikarinen, Kyösti Sakari

Opintokohteen kielet: English

Voidaan suorittaa useasti: Kyllä

ECTS Credits:

0,5 ECTS credits

Language of instruction:

English

Timing:

In Spring semester lectures and practicalities
(In Fall semester only a written exam)

Learning outcomes:

Upon completion of the course, the student will be able to understand the treatment options of dental traumas and will be able to perform a simple dental trauma splinting.

Contents:

Lectures and practical sessions

Lectures:

- Epidemiology of dental and maxillomandibular traumas
- Diagnosis and examination of traumas
- Prevention of traumas
- First aid treatment
- Treatment options of dental traumas
- Treatment options of maxillomandibular traumas
- Late complications of traumas
- Splinting of traumatized teeth
- Immobilization and osteosynthesis of maxillomandibular fractures

Practical part:

- Construction of flexible wire-composite splint
- Construction of rigid wire-composite splint
- Construction of arch bar splint a.m. Erich
- Construction of wire fixation a.m. Ernst

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Lectures 4 h, practicalities 2 h

Target group:

Dental Exchange Students

Prerequisites and co-requisites:

Basic courses and basic knowledge in oral and maxillofacial surgery

Recommended optional programme components:

-

Recommended or required reading:

Hand-outs

Assessment methods and criteria:

In Spring semester lectures and practicalities

In Fall semester only a written exam

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

Grading:

Lectures and practicalities pass/fail

A written exam 0-5

Person responsible:

Professor Kyösti Oikarinen

Working life cooperation:

-

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project
Oral and Maxillofacial Surgery

060702A: Dermatology and venereology, 3 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Kaisa Tasanen-Määttä

Opintokohteen kielet: English

ECTS Credits:

3,0 ECTS/81 hours of work

Language of instruction:

Lectures are in Finnish. The course unit can be completed in English by group teaching.

Timing:

The course unit is held in the 5th autumn semester (C9).

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. Dermatopathology. Venereal and paraveneal diseases. Practical teaching: Demonstrations, patient examination, small group teaching, bedside teaching, outpatient clinic, self study (material available in the Optima)

Mode of delivery:

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

Learning activities and teaching methods:

Theoretical teaching 58 h

1. Lectures 42 h (in Finnish)
2. Theme day of venereology 3 h
3. 2 essays of given topics in dermatology 10 h
4. Examination 3 h

Practical teaching 10 h

5. Small group teaching in the outpatient ward 4 h
 6. Small group teaching in the inpatient ward 6 h
- Self study
7. 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:

Weller: Clinical Dermatology. Saunders. Available as e-book in Oulu University library.

Assessment methods and criteria:

The end-of-course examination: the book, lectures and small group teaching. Obligatory presence in small group teaching and the theme day teaching of venereology. Completing the essays.

Grading:

The end-of-course examination contains 6 essay questions which are graded from 0-5. Maximal grade is 30 points and the level of acceptance is 15 points.

Person responsible:

Clinical lecturer

Working life cooperation:

No

Other information:

4-6 students/course

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Computer Science and Engineering DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Esa Rahtu

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay521337A Digital Filters (OPEN UNI) 5.0 op

ECTS Credits:

5

Language of instruction:

Finnish, English study material available

Timing:

Spring, period 3.

Learning outcomes:

1. Student is able to specify and design respective frequency selective FIR and IIR filters using the most common methods.

2. Student is able to solve for the impulse and frequency responses of FIR and IIR filters given as difference equations, transfer functions, or realization diagrams, and can present analyses of the aliasing and imaging effects based on the responses of the filter.

3. Student is able to explain the impacts of finite word length in filter design.

4. Student has the necessary basic skills to use signal processing tools available in Matlab environment and to judge the results.

Contents:

1. Sampling theorem, aliasing and imaging, 2. Discrete Fourier transform, 3. Z-transform and frequency response, 4. Correlation and convolution, 5. Digital filter design, 6. FIR filter design and realizations, 7. IIR filter design and realizations, 8. Finite word length effects and analysis, 9. Multi-rate signal processing.

Mode of delivery:

Face-to-face teaching (Lectures), independent work, group work

Learning activities and teaching methods:

Lectures and exercises 50 h. The design exercises familiarize the students with the methods of digital signal processing using the Matlab software package. The rest as independent work.

Target group:

Computer Science and Engineering students and other Students of the University of Oulu.

Prerequisites and co-requisites:

031077P Complex Analysis, 031080A Signal Analysis

Recommended optional programme components:

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

Recommended or required reading:

Lecture notes and exercise materials. Material is in Finnish and in English. Course book: Iffachor, E., Jervis, B.: Digital Signal Processing, A Practical Approach, Second Edition, Prentice Hall, 2002.

Assessment methods and criteria:

The course can be passed either with week exams or a final exam. In addition, the exercises need to be returned and accepted.

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:

Esa Rahtu

Working life cooperation:

None.

060709A-02: Endocrinology, 3 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Olavi Ukkola

Opintokohteen kielet: English

Ei opintojaksokuvauksia.

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 credits/ 27 hours of work

Language of instruction:

Finnish/English

Timing:

During the second year, spring semester (C4)

Learning outcomes:

Upon completion of the course, the student will

- get an overview from the system and the function of environmental health
- get to know the most beneficial and harmful environmental factors and the health risks associated with those
- understand the role of doctor in the field of environmental health

Contents:

Environmental health consist of following contents:

- Environment and health
- Climate change and health
- Outdoor air quality and health
- Health effects of hot and cold environment – and control
- Environmental radiation and health
- Environmental noise
- Drinking water, food, microbes, microbiological risks and epidemics
- Chemical risk factors of drinking water
- Physical, chemical and biological risk factors in indoor environments
- Municipal environmental health control
- Exceptional situations related to environmental health – preparation and action
- Role of doctor in environmental health

Mode of delivery:

Face-to-face teaching. The course will be arranged during two seminar days. The course will consist of the lectures, the group works and the final examination.

Learning activities and teaching methods:

The course of environmental health includes:

- 10 h of lectures
- 4.5 h of group works
- 1 h of open conversation

Students will get to know as a group to the case example of environmental health, and try to find answers to the open questions associated with the case examples.

Target group:

Graduate students of medicine and dentistry.

Prerequisites and co-requisites:

No.

Recommended optional programme components:

Studies in question belong to Environment, Lifestyle and Health (ELH) track that continues integrated throughout the curriculum. The course is linked to C1 – Public health and multiprofessional collaboration (Basics of public health science), C4 – Epidemiology, C11 – General practitioner and public health (Advanced studies of public health science) and Evidence Base Medicine and Professional Development in Medicine Studies.

Recommended or required reading:

Required reading:

a) Helena Mussalo-Rauhamaa, Wendla Paile, Jouko Tuomisto, Heikki S. Vuorinen (ed.): Environmental health. Duodecim 2007. Otavan Kirjapaino Oy, Keuruu 272 p. (in Finnish)

b) Handouts can be loaded from Optima system.

Recommended reading:

Exceptional situations related to environmental health. A handbook for environmental health care staff and cooperation partners. Publications of Ministry of Social Affairs and Health 2010:2. Ministry of Social Affairs and Health, Helsinki, 2010. 226 p. (In Finnish with English summary). (<http://www.stm.fi/julkaisut/nayta/julkaisu/1537669>)

Assessment methods and criteria:

The course of Environmental health is an entity with compulsory and active attendance. Students have to participate to the seminar days and pass the final examination.

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

Grading:

The course unit utilizes verbal grading scale "pass/fail". At least 10 points are required for passing the examination

Person responsible:

The person in charge of the Environmental health -studies is a post-doctoral researcher Timo Hugg

Working life cooperation:

No.

090503A-15: Esthetics in prosthodontics, 0,2 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Hujanen, Erkki Samuli

Opintokohteen kielet: English

ECTS Credits:

0,2 ECTS credits

Language of instruction:

English

Timing:

Fall and Spring semester

Learning outcomes:

Upon completion of the course, the student will be able to discuss the esthetic considerations in fixed and removable prostheses.

Contents:

Esthetic considerations in fixed and removable prostheses.

Mode of delivery:

face-to-face teaching

Learning activities and teaching methods:

Lectures (2 hours)

Target group:

Dental Exchange Students

Prerequisites and co-requisites:

Basic courses in fixed and removable prosthodontics

Recommended optional programme components:

Fixed and removable prosthodontics

Recommended or required reading:

Lecture hand-outs

Assessment methods and criteria:

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

Grading:

The course unit utilizes verbal grading scale pass/fail.

Person responsible:

DDS, PhD Erkki Hujanen

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project
Prosthetic Dentistry and Stomatognathic Physiology

060712A: Forensic Medicine, 4 op

Voimassaolo: 01.08.2014 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Kortelainen, Marja-Leena

Opintokohteen kielet: English

ECTS Credits:

4.0 ECTS

Language of instruction:

English

Timing:

February-April

Learning outcomes:

Upon completion of the course the student knows the legislation and legal status concerning doctor and patient, 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:

Lectures, autopsy demonstrations and slide shows

Mode of delivery:

Face-to-face teaching and Independent study.

Learning activities and teaching methods:

Written
examination.

Target group:

4th-6th year medical students.

Prerequisites and co-requisites:

Preclinical studies and first clinical year must be completed prior to the course.

Recommended optional programme components:

None.

Recommended or required reading:

Given material in slide
shows.

Assessment methods and criteria:

Obligatory participation in autopsy demonstrations, slide shows and 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.

Grading:

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

Person responsible:

Professor Marja-Leena Kortelainen.

Working life cooperation:

No.

Other information:

Only one exchange student can be accepted to the course yearly.

060709A: Internal Medicine, 1 - 18 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Savolainen, Markku

Opintokohteen kielet: English

ECTS Credits:

1.0 - 9.0 ECTS credits/ 27-241 hours of work (depending on chosen subjects)

- 060709A-01 Cardiology 3 ECTS/ 80 hours of work
- 060709A-02 Endocrinology 3 ECTS/ 80 hours of work
- 060709A-03 Nephrology 2 ECTS/ 54 hours of work
- 060709A-04 Rheumatology 1 ECTS/ 27 hours of work

Language of instruction:

English

Timing:

The course units are held in the autumn semester.

Learning outcomes:

Upon completion of the course the student is familiar with diseases of the internal medicine subspecialty in question (Cardiology, Endocrinology, Nephrology or Rheumatology) as well as diagnostics and treatment of these diseases. The student understands the connection between these subspecialties and other medical and internal medicine specialties. The student learns independent problem solving and critical thinking and is able to cooperate and coordinate treatment with various healthcare professionals.

Contents:

The diseases with public health importance and selected rarer diseases of the subspecialty (Cardiology, Endocrinology, Nephrology or Rheumatology) are covered during the course, including diagnostic strategies, differential diagnoses, treatments available and management of these conditions.

Mode of delivery:

Mostly face-to-face teaching.

Learning activities and teaching methods:

Cardiology / Endocrinology:

Group work 8 h

Self-study 70 h

Examination 2 h

Nephrology:

Group work 8 h

Self-study 44 h

Examination 2 h

Rheumatology:

Self-study 25 h

Examination 2 h

Target group:

For the medical students; no earlier than the third year of the studies after two years of preclinical studies are completed.

Prerequisites and co-requisites:

The required prerequisite is the completion of 2 years of preclinical studies (including the courses in Anatomy, Medical Biochemistry, Pharmacology and Toxicology, Microbiology, and Physiology).

Recommended optional programme components:

Clinical practice (1 week) in internal medicine ward is recommended if there are intern places available.

Recommended or required reading:**REQUIRED READING:**

The relevant chapters of Axford JS & O'Callaghan C. "Medicine", 2nd Edition, (2004) Wiley-Blackwell.

- Endocrinology: Chapter 11 "Diabetes Mellitus, Lipoprotein Disorders and Other Metabolic Diseases"; pages 761-817, and Chapter 12 "Endocrine Disease"; pages 818-866
- Nephrology: Chapter 8 "Renal Disease, Fluid and Electrolyte Disorders"; pages 502-595
- Rheumatology: Chapter 4 "Rheumatic Disease"; pages 187-271

In Cardiology, **recommended** reading material includes relevant ESC guidelines (on Acute coronary syndromes, Heart failure, Atrial fibrillation)

In Nephrology, additional **required** reading material includes relevant chapters of Johnson RJ & Feehally J "Comprehensive clinical nephrology"

- Chronic renal failure and the uremic syndrome
- Clinical evaluation and manifestations in chronic renal failure
- Diabetic nephropathy
- IgA-nephropathy
- ADPKD

In Rheumatology, required reading material based on EULAR Textbook on Rheumatic Diseases is distributed to students.

Required reading includes also the material given by the teacher during the teaching period.

Assessment methods and criteria:

Cardiology / Endocrinology / Nephrology:

Taking part into the group teaching events. Written final examination.

Rheumatology:

Written examination.

Grading:

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

Person responsible:

Nephrology: nephrologist Risto Ikäheimo

Rheumatology: rheumatologist Anna Karjalainen

Endocrinology: endocrinologist Olavi Ukkola

Cardiology: cardiologist Juha Perkiömäki

Working life cooperation:

No.

060722A: Interprofessional Health and Wellbeing Promotion and Prevention, 5 op

Voimassaolo: 01.08.2014 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Essi Varkki

Opintokohteen kielet: English

ECTS Credits:

5 ETCS credits

Language of instruction:

English

Timing:

September-October and February-March.

Learning outcomes:

The student knows the main principles of public health policies by WHO and is able to compare how they are applied in Finland and her/his own country. The student knows the public health strengths and challenges in European countries. The student is able to describe what kind of health and social services there are available for families and individuals of different ages. The student uses interprofessional methods to promote health and wellbeing of university students in European countries.

Contents:

Public health policy. The state of public health and wellbeing in Finland and in other European countries. Health and social care service systems in different countries. National public health strategies and programs in Finland. Ethical basis. Interprofessional health and wellbeing promotion methods. Erconomics.

Mode of delivery:

Blended teaching.

Learning activities and teaching methods:

Lectures, workshops, e-learning and learning café.

Students will produce a leaflet/ a poster/ or a movie of their chosen topic of health promotion.

Target group:

Students in the Faculty of Medicine

Prerequisites and co-requisites:

None

Recommended optional programme components:

None

Recommended or required reading:

Instructions for study material are given during the course. Students are also expected to actively search material themselves.

Assessment methods and criteria:

Taking part into all teaching events is required to pass the course.

This course unit utilizes continuous assessment. The assessment of the course unit is based on the learning outcomes of the course unit and all activities are taken into consideration

Grading:

The course unit utilizes grading scale pass/ fail (numerical grading scale 1-5 if needed). Active participation is required in order to pass the course.

Person responsible:

Clinical Instructor Essi Varkki

Working life cooperation:

No

Other information:

This course is organized together with Oulu University of Applied Sciences. The course is interprofessional, and it's offered to exchange students from various disciplines of health and social sector.

090601A-11: Introduction to orthodontics, 3 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Pirttiniemi, Pertti Mikael

Opintokohteen kielet: English

ECTS Credits:

3 ECTS credits

Language of instruction:

English

Timing:

Fall and Spring

Contents:

Introduction to orthodontics

Mode of delivery:

Literature exam

Learning activities and teaching methods:

Literature exam

Target group:

Dental Exchange Students

Prerequisites and co-requisites:

-

Recommended or required reading:

Mitchell L. An Introduction to Orthodontics, 3rd Edition, Oxford.

Assessment methods and criteria:

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

Grading:

Scale 0-5

Person responsible:

Professor Pertti Pirttiniemi

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project Oral Development and Orthodontics

090501A-14: Light curing technique for dental exchange students, 0,2 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Jukka Leinonen

Opintokohteen kielet: Finnish

ECTS Credits:

0,1 ECTS credits

Language of instruction:

English

Timing:

Spring Semester

Learning outcomes:

Student will know how to and is able to effectively light cure

Contents:

- Theory of light curing and material polymerization
- Demonstration of optimal light curing technique
- Trying out light curing on interactive MARC-patient simulator

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

lecture, simulation training and hand-outs

Target group:

Dental Exchange Students

Prerequisites and co-requisites:

none

Recommended optional programme components:

restorative dentistry, dental materials

Recommended or required reading:

hand-outs

Assessment methods and criteria:MARC-simulator test, 16 J/cm²**Grading:**

Pass/fail

Person responsible:

Specializing dentist, PhD Jukka Leinonen

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project Preventive Dentistry and Cariology

090503A-16: Literature exam: Fixed prosthodontics, 0,9 - 7,9 op**Voimassaolo:** 01.08.2010 -**Opiskelumuoto:** Intermediate Studies**Laji:** Partial credit**Vastuuyksikkö:** Dentistry**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Raustia, Aune Maritta**Opintokohteen kielet:** English**ECTS Credits:**

2,5 ECTS credits

Language of instruction:

English

Timing:

Fall and Spring semester

Mode of delivery:

Literature exam

Learning activities and teaching methods:

Literature exam

Target group:

Dental Exchange Students

Prerequisites and co-requisites:

-

Recommended optional programme components:

-

Recommended or required reading:Schillingburg HT, Hobo S, Whittsett LD, Jakobi R, Brachett SE: **Fundamentals of fixed prosthodontics.** Quintessence Publishing Co. 3rd ed.**Assessment methods and criteria:**

Written exam

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

Scale 0-5

Person responsible:

Professor Aune Raustia

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project Prosthetic Dentistry and Stomatognathic Physiology

090503A-17: Literature exam: Prosthetic treatment of edentulous patient, 2,5 - 3 op**Voimassaolo:** 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Raustia, Aune Maritta

Opintokohteen kielet: English

ECTS Credits:

3,0 ECTS credits

Language of instruction:

English

Timing:

Fall and Spring semester

Contents:

Prosthetic treatment of edentulous patient

Mode of delivery:

Literature exam

Learning activities and teaching methods:

Literature exam

Target group:

Dental Exchange Students

Recommended optional programme components:

The courses given by the Institute of Dentistry within the Erasmus-project/Courses in Prosthetic Dentistry

Recommended or required reading:

Basker RM and Davenport JC: **Prosthetic Treatment of the Edentulous Patient**. Blackwell Munksgaard, 4th ed. pp. 1-306.

Assessment methods and criteria:

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

Grading:

Scale 0-5

Person responsible:

Professor Aune Raustia

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project Prosthetic Dentistry and Stomatognathic Physiology

090504A-04: Literature exam: Stomatognathic physiology part I, 0,5 - 1 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Raustia, Aune Maritta

Opintokohteen kielet: English

ECTS Credits:

1,0 ECTS credits

Language of instruction:

English

Timing:

Fall and Spring semester

Mode of delivery:

Literature exam

Learning activities and teaching methods:

Literature exam

Target group:

Dental Exchange Students

Prerequisites and co-requisites:

-

Recommended optional programme components:

The courses given by the Institute of Dentistry within the Erasmus-project

Recommended or required reading:

Jeffrey P. Okeson: Management of Temporomandibular Disorders and Occlusion. 7th edition. Mosby, pp 1-99.

Assessment methods and criteria:

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

Grading:

Scale 0-5

Person responsible:

Professor Aune Raustia

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project

Prosthetic Dentistry and Stomatognathic Physiology

521289S: Machine Learning, 5 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Computer Science and Engineering DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Tapio Seppänen

Opintokohteen kielet: Finnish

Leikkaavuudet:

521497S-01 Pattern Recognition and Neural Networks, Exam 0.0 op

521497S-02 Pattern Recognition and Neural Networks; Exercise Work 0.0 op

521497S Pattern Recognition and Neural Networks 5.0 op

ECTS Credits:

5

Language of instruction:

English. Examination can be taken in English or Finnish.

Timing:

The course unit is held in the spring semester, during period III. It is recommended to complete the course at the end of studies.

Learning outcomes:

1. can design simple optimal classifiers from the basic theory and assess their performance.
2. can explain the Bayesian decision theory and apply it to derive minimum error classifiers and minimum cost classifiers.
3. can apply the basics of gradient search method to design a linear discriminant function.
4. can apply regression techniques to practical machine learning problems.

Contents:

Introduction. Bayesian decision theory. Discriminant functions. Parametric and non-parametric classification. Feature extraction. Classifier design. Example classifiers. Statistical regression methods.

Mode of delivery:

Face-to-face teaching, guided laboratory work and independent assignment.

Learning activities and teaching methods:

Lectures 10h, Laboratory work 20h, Self-study 20h, Independent task assignment, written examination.

Target group:

Students who are interested in data analysis technology. Students of the University of Oulu.

Prerequisites and co-requisites:

The mathematic studies of the candidate degree program of computer science and engineering, or equivalent. Programming skills, especially basics of the Matlab.

Recommended optional programme components:

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

Recommended or required reading:

Duda RO, Hart PE, Stork DG, Pattern classification, John Wiley & Sons Inc., 2nd edition, 2001. Handouts.

Assessment methods and criteria:

Laboratory work is supervised by assistants who also check that the task assignments are completed properly.

The independent task assignment is graded. The course ends with a written 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. The final grade is established by weighing the written exam by 2/3 and the task assignment by 1/3.

Person responsible:

Tapio Seppänen

Working life cooperation:

No

521466S: Machine Vision, 5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Computer Science and Engineering DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Heikkilä, Janne Tapani

Opintokohteen kielet: Finnish

ECTS Credits:

5

Language of instruction:

English

Timing:

Spring, periods 3.

Learning outcomes:

1. can utilize common machine vision methods for various image analysis problems
2. can detect and recognize objects using features computed from images
3. can use motion information in image analysis
4. can use model matching in image registration and object recognition
5. can explain the basics of geometric computer vision
6. can calibrate cameras
7. can use stereo imaging for 3D reconstruction
8. can use Matlab for implementing basic machine vision algorithms

Contents:

Course provides an introduction to machine vision, and its applications to practical image analysis problems. Common computer vision methods and algorithms as well as principles of image formation are studied. Topics: 1. Introduction, 2. Imaging and image representation, 3. Color and shading, 4. Image features, 5. Recognition, 6. Texture, 7. Motion from 2D image sequences, 8. Matching in 2D, 9. Perceiving 3D from 2D images, 10. 3D reconstruction.

Mode of delivery:

Face-to-face teaching, homework assignments.

Learning activities and teaching methods:

Lectures (20 h), exercises (16 h) and Matlab homework assignments (16 h).

Target group:

Computer Science and Engineering students and other Students of the University of Oulu.

Prerequisites and co-requisites:

521467A Digital Image Processing

Recommended optional programme components:

521289S Machine Learning. These courses provide complementary information on machine learning methods applied in machine vision. It is recommended to be studied simultaneously.

Recommended or required reading:

Lecture notes and exercise material. The following books are recommended for further information: 1) Shapiro, L. G., Stockman, G.C.: Computer Vision, Prentice Hall, 2001. 2) R. Szeliski: Computer Vision: Algorithms and Applications, Springer, 2011. 3) D.A. Forsyth & J. Ponce: Computer Vision: A Modern Approach, Prentice Hall, 2002.

Assessment methods and criteria:

The course is passed with final exam and accepted homework assignments.

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:

Janne Heikkilä

Working life cooperation:

No.

060713A: Medical biophysics, 2,5 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Weckström, Matti Tapani

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

060709A-03: Nephrology, 3 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Risto Ikäheimo

Opintokohteen kielet: English

Ei opintojaksokuvauksia.

060706A: Neurosurgery, 3 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Sami Tetri

Opintokohteen kielet: English

ECTS Credits:

3.5 ECTS credits

Language of instruction:

English

Timing:

During the fourth year, spring term

Learning outcomes:

The student knows the clinical presentation, diagnostics and treatment of neurosurgical diseases and trauma. The student can evaluate the urgency of treatment of neurosurgical conditions and understands their debilitating and often life-threatening nature. The roles of prevention and rehabilitation are also stressed.

Contents:

The management of neurosurgical trauma and diseases with special emphasis on the clinical competence required of a general practitioner

Mode of delivery:

Blended teaching

Learning activities and teaching methods:

The neurosurgical course is based on full-time participation in all clinical activities of the department for a minimum of one week during February or March when the neurosurgical course is offered. Bedside learning and the importance of the patient-doctor relationship as well as work in an environment that fosters multi-professional teamwork are stressed. For ECTS credits a textbook-based final examination must also be passed. It is usually taken in April.

Target group:

For medical students in their final year of study.

Prerequisites and co-requisites:

The required prerequisite is the completion of the following courses prior to enrolling for the course unit: A passing grade in clinical neurology is required before enrollment in the neurosurgical course.

Recommended or required reading:

K. W. Lindsay, I. Bone, G. Fuller. Neurology and Neurosurgery Illustrated, latest edition. Churchill Livingstone.

Assessment methods and criteria:

Participation with the guidance of an assigned doctor in the clinical and academic activities of the neurosurgical department, including small group learning sessions, clinical ward rounds, meetings, and observation of surgical procedures. ECTS credit requires passing a written final examination

Grading:

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

Person responsible:

Professor Sami Tetri

Working life cooperation:

No

Other information:

No other information.

060710A: Oncology, 3 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Turpeenniemi-Hujanen, Taina Marjatta

Opintokohteen kielet: English

ECTS Credits:

3.5 ECTS credits

2.5 ECTS without exam

Language of instruction:

English

Timing:

September-December

Learning outcomes:

Upon completion of this curricular unit, student should be able to understand principles of cancer etiology, diagnosis, therapeutic modalities and their adverse events, and palliative care.

Contents:

The diagnostics, oncological therapeutic modalities and monitoring of adult solid malignancies and lymphomas.

Mode of delivery:

Blended teaching.

Learning activities and teaching methods:

- Pre-examination (3 h, at home)
- Lectures / tutorials (10 h) concerning the entities of breast cancer, colorectal cancer, lymphomas, and lung cancer
- Group work:
 - Ward rounds with professor (6 x 2 h/week)
 - Demonstration of the planning of a CT-based radiotherapy and radiotherapy treatment (3 h)
 - Group practice of clinical problem-solving: Evaluation of the case reports (3 h)
- Final examination (2h)

Target group:4-6th year medical students.**Prerequisites and co-requisites:**

It is preferred that student has completed basic courses of pathology, clinical chemistry, radiology, internal medicine, and surgery prior to enrolling for the course unit.

Recommended optional programme components:

None

Recommended or required reading:

Jim Cassidy, Donald Bissett, Roy Spence, and Miranda Payne: Oxford Handbook of Oncology (3 ed.), 2011
<http://www oulu.fi/library/> -> [Subject Guides](#) -> [E-books](#) -> [Oxford Medical Handbooks](#) -> [Oxford Handbook of Oncology \(3 ed.\)](#)

Assessment methods and criteria:

Preliminary and final examinations must be passed. Preliminary examination and all other course units must be passed before participation in the final examination.

Evaluation is based on final examination (essays).

Grading:

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

The grade is given only to the students who take the final examination.

Person responsible:

Professor Taina Turpeenniemi-Hujanen

Working life cooperation:

No

Other information:

The course will be organized only when there are six students.

090601A-10: Oral and craniofacial growth and development: genetic, epigenetic, clinical and experimental approach, 0,8 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Pirttiniemi, Pertti Mikael

Opintokohteen kielet: English

ECTS Credits:

Lectures 0,8 ECTS credits

Language of instruction:

English

Timing:

Fall and Spring

Learning outcomes:

Upon completion of the course, the student will be able to explain normal and abnormal development of the teeth, oral structures and occlusal morphology in humans. In addition to this the student will be able to explain pre-, peri- and postnatal development of dentition and different oral structures, in specific the effect of disturbing factors during pregnancy and child's early development as well as genetic factors on the developing phenotype.

The student also knows how to guide mandibular growth, can explain the mechanism of regulation, influence of functional orthodontic appliances and growth of maxilla and neurocranium.

Having completed the course, the student is able to explain the interaction between facial structures and breathing function and also the expression and etiology of asymmetric growth.

Contents:

Within these lectures normal and abnormal development of the teeth, oral structures and occlusal morphology in humans is critically examined. Included are pre-, peri- and postnatal development of dentition and different oral structures, in specific the effect of disturbing factors during pregnancy and child's early development as well as genetic factors on the developing phenotype. Further, guiding of mandibular growth, mechanism of regulation, influence of functional orthodontic appliances, growth of maxilla and neurocranium are lectured. The interaction between facial structures and breathing function, and the expression and etiology of asymmetric growth are also the topics of lectures.

Mode of delivery:

Face-to-face-teaching

Learning activities and teaching methods:

Lectures 10 hours. Advanced studies available

Target group:

Dental Exchange Students

Prerequisites and co-requisites:

-

Recommended optional programme components:

-

Assessment methods and criteria:

Taking part into the lectures. (Written exam)

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

Grading:

The course unit utilizes verbal grading scale pass/fail.

Person responsible:

Professor Pertti Pirttiniemi

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project Oral Development and Orthodontics

090302A-07: Oral and maxillofacial pathology, literature exam, 3 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Salo, Tuula Anneli

Opintokohteen kielet: English

ECTS Credits:

3 ECTS credits

Language of instruction:

English

Timing:

Fall and Spring

Mode of delivery:

Literature exam (4 h)

Learning activities and teaching methods:

Literature exam (4 h)

Target group:

Dental Exchange Students

Recommended or required reading:

Regezi JA, Sciubba J, Jordan RCK. Textbook: Oral & Maxillofacial Pathology: Clinical Pathologic Correlations. 5th edition. WB Saunders Co. Philadelphia, PA, 2008

Assessment methods and criteria:

Literature exam (4 h)

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

Scale 0-5

Person responsible:

Professor Tuula Salo

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project Diagnostics and Oral Medicine, Oral and Maxillofacial Pathology

090510A-12: Organisation of oral health care in Finland, 0,8 - 1 op**Voimassaolo:** 01.08.2010 -**Opiskelumuoto:** Intermediate Studies**Laji:** Partial credit**Vastuuyksikkö:** Dentistry**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Jorma Virtanen, Niskanen, Leena Marita**Opintokohteen kielet:** English**ECTS Credits:**

1,0 ECTS credit

Language of instruction:

English

Timing:

Fall and Spring

Learning outcomes:

The student

- knows implementation of public oral health cares
- understands regulations of oral health care
- visit to public oral health centre

Contents:

Nordic health services

Regulations of oral health care

Visits to oral health center(s)

Mode of delivery:

Lectures and on-site visits (12 hours, 1.0 ECTS credits)

Learning activities and teaching methods:

Lectures and on-site visits (12 hours, 1.0 ECTS credits)

Target group:

Exchange Students

Prerequisites and co-requisites:

No

Recommended optional programme components:

No

Recommended or required reading:

Niiranen T, Widström E & Niskanen T: Oral health care reform in Finland – aiming to reduce inequity in care provision. BMC Oral Health 2008; 8: 3

Assessment methods and criteria:

Lectures and on-site visits (12 hours, 1.0 ECTS credits)
Read more about [assessment criteria](#) at the University of Oulu webpage.

Grading:

The course unit utilizes verbal grading scale pass/fail

Person responsible:

Professor Jorma Virtanen

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project/Community Dentistry

090607A-01: Other studies given by the Institute of Dentistry within the Erasmus-project, 0 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: English

Voidaan suorittaa useasti: Kyllä

Language of instruction:

English

Target group:

Erasmus exchange students of Dentistry

Assessment methods and criteria:

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

090501A-13: Pediatric Dentistry for Erasmus Exchange Students, 2,5 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Vuokko Anttonen

Opintokohteen kielet: Finnish

ECTS Credits:

2,5 ECTS credits

Language of instruction:

English

Timing:

Fall and Spring Semester

Learning outcomes:

Textbook: Welbury, Duggal, Hosey (eds.) Paediatric Dentistry, 4th ed. Oxford University Press 2012, Chapters 3-9:

- History, examination, risk assessment, and treatment planning
- Management of pain and anxiety
- Local anaesthesia for children
- Diagnosis and prevention of dental caries
- Treatment of dental caries in the preschool child
- Operative treatment of dental caries in the primary dentition
- Operative treatment of dental caries in the young permanent dentition

Contents:

Textbook: Welbury, Duggal, Hosey (eds.) Paediatric Dentistry, 4th ed. Oxford University Press 2012, Chapters 3-9:

- History, examination, risk assessment, and treatment planning
- Management of pain and anxiety
- Local anaesthesia for children
- Diagnosis and prevention of dental caries
- Treatment of dental caries in the preschool child
- Operative treatment of dental caries in the primary dentition
- Operative treatment of dental caries in the young permanent dentition

Mode of delivery:

Written exam

Learning activities and teaching methods:

Written exam

Target group:

Dental Exchange Students

Prerequisites and co-requisites:

-

Recommended optional programme components:

-

Recommended or required reading:

Textbook: Welbury, Duggal, Hosey (eds.) Paediatric Dentistry, 4th ed. Oxford University Press 2012, Chapters 3-9:

- History, examination, risk assessment, and treatment planning
- Management of pain and anxiety
- Local anaesthesia for children
- Diagnosis and prevention of dental caries
- Treatment of dental caries in the preschool child
- Operative treatment of dental caries in the primary dentition
- Operative treatment of dental caries in the young permanent dentition

Assessment methods and criteria:

Written exam

Grading:

Pass/fail

Person responsible:

Professor Vuokko Anttonen

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project Preventive Dentistry and Cariology

090505A-17: Periodontology: Clinical diagnosis, risk assessment, prognosis and treatment plan, literature exam, 1 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Pekka Ylöstalo

Opintokohteen kielet: English

ECTS Credits:

1 ECTS credit

Language of instruction:

English

Timing:

Spring term

Contents:

Clinical diagnosis, risk assessment, prognosis and treatment plan

Mode of delivery:

Written (literature) exam

Learning activities and teaching methods:

Written (literature) exam

Target group:

Dental Exchange Students

Recommended or required reading:

Carranza's Clinical Periodontology 11th ed. Chapters 30-40, pages 340-436.

Assessment methods and criteria:

Written literature exam

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

Grading:

Scale 0-5

Person responsible:

Professor Pekka Ylöstalo

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project Periodontology and Geriatric Dentistry

090505A-19: Periodontology: Periodontal surgery, literature exam, 1,5 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Pekka Ylöstalo

Opintokohteen kielet: English

ECTS Credits:

1,5 ECTS credits

Language of instruction:

English

Timing:

Spring term

Contents:

Periodontal surgery

Mode of delivery:

Written (literature) exam

Learning activities and teaching methods:

Written (literature) exam

Target group:

Dental Exchange Students

Recommended or required reading:

Carranza's Clinical Periodontology 11th ed. Chapters 52-66, pages 511-618.

Assessment methods and criteria:

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

Grading:

Scale 0-5

Person responsible:

Professor Pekka Ylöstalo

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project Periodontology and Geriatric Dentistry

090505A-18: Periodontology: Periodontal therapy, literature exam, 1 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Pekka Ylöstalo

Opintokohteen kielet: English

ECTS Credits:

1 ECTS credit

Language of instruction:

English

Timing:

Spring term

Contents:

Periodontal therapy

Mode of delivery:

Written (literature) exam

Learning activities and teaching methods:

Written (literature) exam

Target group:

Dental Exchange Students

Recommended or required reading:

Carranza's Clinical Periodontology 11th ed. Chapters 41-51, pages 437-510.

Assessment methods and criteria:

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

Grading:

Scale 0-5

Person responsible:

Professor Pekka Ylöstalo

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project Periodontology and Geriatric Dentistry

580210S: Pro Gradu, 35 op

Opiskelumuoto: Advanced Studies

Laji: Diploma thesis

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Jämsä, Timo Jaakko

Opintokohteen kielet: Finnish

ECTS Credits:

35 ECTS credit points / 945 hours of work

Language of instruction:

Finnish or English

Timing:

Master studies

Learning outcomes:

The student can independently solve a research problem, and describe and solve it. The student can report the work in written form according to the scientific report principles.

Contents:

Research project in the field of medical & wellness technology. Presentation of the study plan and writing of the thesis.

Mode of delivery:

Independent work

Learning activities and teaching methods:

Thesis can be made at different research groups of the university or in industry or health care system. The student writes the thesis independently supported by the supervisor. The topic and contents should be discussed with the professor beforehand.

Target group:

Master Students of Medical and Wellness Technology

Assessment methods and criteria:

Presentation of the study plan and writing the thesis

Grading:

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

Person responsible:

Professor Timo Jämsä

Other information:

It is recommended that before starting the Master's Thesis student has completed about 60 credits from master studies.

080917S: Project in Biomedical Technology, 5 - 10 op

Voimassaolo: 01.08.2012 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Jämsä, Timo Jaakko

Opintokohteen kielet: Finnish

ECTS Credits:

10 ECTS credit points / 270 hours of work.

Language of instruction:

Finnish or English

Timing:

Master studies

Learning outcomes:

The student is able to solve a research problem and report it in writing.

Contents:

Performing a small research project.

Mode of delivery:

Independent work.

Learning activities and teaching methods:

The student participates in a research project within or outside the university. The student prepares a personal project plan according to separate specifications. At the end of the project, the student prepares a written research report and presents it in a seminar.

Target group:

Master Students of Medical and Wellness Technology.

Assessment methods and criteria:

Preparing a project plan, project implementation, preparing a written report and presenting it in a seminar.

Participates in two other seminar sessions.

Grading:

The course utilizes grading: pass or fail.

Person responsible:

Professor Timo Jämsä

Working life cooperation:

No

Other information:

This course is part of the specialization of Biomedical Technology.

080919S: Project in Health Technology, 5 - 10 op

Voimassaolo: 01.08.2012 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Jämsä, Timo Jaakko

Opintokohteen kielet: Finnish

ECTS Credits:

10 ECTS credit points / 270 hours of work.

Language of instruction:

Finnish or English

Timing:

Master studies

Learning outcomes:

The student is able to solve a research problem and report it in writing.

Contents:

Performing a small project.

Mode of delivery:

Independent work.

Learning activities and teaching methods:

The student participates in a research project within or outside the university. The student prepares a personal project plan according to separate specifications. At the end of the project, the student prepares a written research report and presents it in a seminar. In addition, the student participates in at least two other seminar sessions.

Target group:

Master Students of Medical and Wellness Technology.

Assessment methods and criteria:

Preparing a project plan, project implementation, preparing a written report and presenting it in a seminar.

Participates in two other seminar sessions.

Grading:

The course utilizes grading: pass or fail.

Person responsible:

Professor Timi Jämsä

Working life cooperation:

No

Other information:

This course is a part of the specialization of Health Technology.

080918S: Project in Medical Imaging, 5 - 10 op

Voimassaolo: 01.08.2012 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Jämsä, Timo Jaakko

Opintokohteen kielet: Finnish

ECTS Credits:

10 ECTS credit points / 270 hours of work.

Language of instruction:

Finnish or English

Timing:

Master studies

Learning outcomes:

The student is able to solve a research problem and report it written.

Contents:

Performing a samlla research project.

Mode of delivery:

Independent work.

Learning activities and teaching methods:

The student participates in a research project within or outside the university. The student prepares a personal project plan according to separate specifications. At the end of the project, the student prepares a written research report and presents it in a seminar. In addition, the student participates in at least two other seminar sessions.

Target group:

Master Students of Medical and Wellness Technology

Assessment methods and criteria:

Preparing a project plan, project implementation, preparing a written report and presenting it in a seminar. Participates in two other seminar sessions.

Grading:

The course utilizes grading: pass or fail.

Person responsible:

Professor Timo Jämsä

Working life cooperation:

No

Other information:

This course is a part of the specialization of Medical Imaging.

060707A: Radiology, 6 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Tervonen, Osmo Antti

Opintokohteen kielet: English

ECTS Credits:

6.0 ECTS credits

Language of instruction:

English

Timing:

During the third year, C5

Learning outcomes:

Upon completion of the 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.

Upon completion of the 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). Radiology of skeletal system, thorax and visceral and interventional radiology. Neuroradiology.

Mode of delivery:

Lectures, tutored film reading sessions, hands on ultrasound lessons.

Learning activities and teaching methods:

Tutored film interpretations, demonstrations (Hands-on US practice, radiograph filming, ER-work observance), independent study.

Target group:

Exchange students that have studied medicine at least three years.

Recommended optional programme components:

None

Recommended or required reading:

Mettler, F.A. Essentials of Radiology.
Hofer, M. (ed.) Ultrasound Teaching Manual.

Assessment methods and criteria:

Written examinations (completed written exam is a prerequisite to obtain course credits)

Grading:

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

Person responsible:

Professor Osmo Tervonen

Working life cooperation:

No

Other information:

Maximum of 6 students will be accepted to the course.

060723A: Research project, 1 - 30 op

Voimassaolo: 01.08.2014 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish, English

ECTS Credits:

1.0-30.0 ECTS credits

Language of instruction:

English

Timing:

1st-6th year

Learning outcomes:

The research project / thesis in the degree programmes of Medicine, Dentistry, Nursing and Medical Technology 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.

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 a named person. Writing a thesis and in some cases oral presentation.

Target group:

Students of Medicine, Dentistry, Nursing and Medical Technology

Prerequisites and co-requisites:

None.

Recommended optional programme components:

None.

Recommended or required reading:

Will be agreed with a supervisor.

Assessment methods and criteria:

Accepted research plan, accepted thesis or scientific paper, in some cases oral presentation. Thesis can be also assessed at home university.

Grading:

Pass / fail.

Person responsible:

Depends on the project.

Working life cooperation:

No.

Other information:

Some knowledge of research work and/or studies of research methods is advisable.

060703A: Respiratory Medicine, 3 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Terttu Harju

Opintokohteen kielet: English

ECTS Credits:

3 ECTS credits

Language of instruction:

English

Timing:

September-October

Learning outcomes:

Upon completion of the course the student is familiar with the major causes of pulmonary symptoms, pathogenesis, diagnosis, differential diagnosis and treatment of the most common respiratory diseases. Student has also gained an overview on more rare respiratory diseases. After the course the student is able to perform and interpret the most important diagnostic procedures in solving pulmonary problems.

Contents:

The aim of the course is to provide students with knowledge of the major causes of pulmonary symptoms (dyspnea, cough, hemoptysis, wheezing and sputum) and familiarize them with the pathogenesis, diagnosis, differential diagnosis and treatment of the most common respiratory diseases. These diseases include asthma, COPD, pneumonia, tuberculosis, thoracic malignancies, pleural effusion, and sleep-related breathing disorders. An emphasis will be on the conditions that can be diagnosed and treated in the primary care.

Students will also gain an overview on more rare respiratory diseases, such as interstitial lung diseases, pulmonary vasculitis, lung manifestations of rheumatic and other systemic diseases. After the course, students will be able to perform and interpret the most important diagnostic procedures in solving pulmonary problems: lung function tests (including peak expiratory flow and spirometry), measurement of oxygen saturation, analysis of blood gases and sputum analysis. They will be familiar with other diagnostic procedures: bronchoscopy, lung biopsy, thoracentesis and sleep study. The students will know principles of acute respiratory failure and use of non-invasive ventilation.

Mode of delivery:

Mostly face-to-face teaching.

Learning activities and teaching methods:

Obligatory: 8 hours of small group teaching and lectures, 80 hours of independent work.

Target group:

3rd-6th year medical students.

Prerequisites and co-requisites:

It is preferred that the student has completed basic courses of pathology, clinical chemistry and radiology prior to enrolling for the course unit.

Recommended optional programme components:

None

Recommended or required reading:

Palange P, Simonds AK. ERS handbook. Respiratory Medicine. 2nd edition.

Assessment methods and criteria:

Evaluation is based on examination. All course units must be passed before participation in the examination.

Grading:

The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail. The grade is given only to the students who take the examination.

Person responsible:

Professor Terttu Harju

Working life cooperation:

No

Other information:

The course will be organized only when there are at least four students.

060709A-04: Rheumatology, 1 op**Voimassaolo:** 01.08.2013 -**Opiskelumuoto:** Intermediate Studies**Laji:** Partial credit**Vastuuyksikkö:** Medicine**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Karjalainen, Anna Helena**Opintokohteen kielet:** English

Ei opintojaksokuvauksia.

521124S: Sensors and Measuring Techniques, 5 op**Opiskelumuoto:** Advanced Studies**Laji:** Course**Vastuuyksikkö:** Electrical Engineering DP**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Igor Meglinski**Opintokohteen kielet:** Finnish**ECTS Credits:**

5

Language of instruction:

English.

Timing:

Period 1.

Learning outcomes:

After the course the student is capable to explain the operating principles of different sensors and can select a right sensor for each measuring target. He/she is able to quantify the requirements that affect sensor selection as well as recognize and evaluate the uncertainty of a measurement. In addition the student is able to plan and design sensor signal conditioning circuits.

Contents:

Methods for measuring displacement, velocity, acceleration, torque, liquid level, pressure, flow, humidity, sound and temperature. Ultrasound, optical and nuclear measurement techniques and applications, material analyses such as pH measurement and gas concentration, pulp and paper measurements and smart sensors.

Mode of delivery:

Pure face-to-face teaching.

Learning activities and teaching methods:

Lectures 26h, exercises 12h and self-study 100h.

Target group:

4 year students.

Prerequisites and co-requisites:

No.

Recommended optional programme components:

No.

Recommended or required reading:

H. N. Norton: Handbook of Transducers, Prentice Hall P T R, 1989 or 2002; lecture and exercise notes.

Assessment methods and criteria:

The course is passed by a final exam and passed exercises.

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

Grading:

1-5

Person responsible:

Igor Meglinski

Working life cooperation:

No.

090504A-06: Stomatognathic physiology part II, 2 - 2,5 op**Voimassaolo:** 01.08.2010 -**Opiskelumuoto:** Intermediate Studies**Laji:** Partial credit**Vastuuyksikkö:** Dentistry**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Raustia, Aune Maritta**Opintokohteen kielet:** English**ECTS Credits:**

2,5 ECTS credits

Language of instruction:

English

Timing:

Fall and Spring term

Contents:

Structure and function of masticatory system

Mode of delivery:

Literature exam

Learning activities and teaching methods:

Literature exam

Target group:

Dental Exchange Students

Recommended optional programme components:

The courses given by the Institute of Dentistry within the Erasmus-project

Recommended or required reading:

Jeffrey P. Okeson: Management of Temporomandibular Disorders and Occlusion. 7th edition. Mosby, pp 102-456.

Assessment methods and criteria:

Written literature exam

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

Scale 0-5

Person responsible:

Professor Aune Raustia

Working life cooperation:

No

Other information:090607A The courses given by the Institute of Dentistry within the Erasmus-project
Prosthetic Dentistry and Stomatognathic Physiology**060704A: Surgery, 1 - 24 op****Voimassaolo:** 01.08.2013 -**Opiskelumuoto:** Intermediate Studies**Laji:** Course**Vastuuyksikkö:** Medicine**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Juvonen, Tatu Sakari**Opintokohteen kielet:** English

ECTS Credits:

0.1 – 10.0 ECTS credits depending on choices made by a student

Language of instruction:

English

Timing:

Courses during the autumn semester and only exams during the spring semester.

Learning outcomes:

The course of surgery concentrates on the general, urology, cardio-thoracic and vascular surgery, orthopaedics and traumatology. Student has an opportunity to prove her /his suturing technics in hands-on session. The aim of the cardio-thoracic and vascular surgery course is to provide students with a general overview of the surgical treatment of diseases of the heart, vessels and lungs. In particular, students will get familiar with some patient cases requiring prompt diagnosis and emergency treatment. The course will illustrate the basic surgical techniques employed in cardiothoracic and vascular surgery and an overview of the current evolution toward minimally invasive surgical and endovascular treatment methods. The aim of the orthopaedics and traumatology course is to learn in detail the orthopaedic clinical examination of the patient and the treatment of some fractures. During the urology course the focus is on general urology and in diagnostics and treatment of tumors of the prostate, urinary bladder and kidneys.

Contents:

Suturing techniques, clinical examination of orthopaedic patient, seminars of cardio-thoracic and vascular surgery and seminars of urology.

Mode of delivery:

Small group teaching sessions and seminars.

Learning activities and teaching methods:*AUTUMN SEMESTER*

Orthopaedics and Traumatology (4 ECTS):

- Group sessions 8 h
 - Suturing techniques 2h
 - Clinical examination of hip and knee 2h
 - Clinical examination of ankle and practise of preparation of the below knee cast 2h
 - Clinical examination of shoulder and the treatment of the distal radius fracture 2h
- Examination 1.5 h

Cardio-thoracic and Vascular Surgery (2 ECTS):

- Seminars 8 h
- Examination 1.5 h

Urology (2 ECTS):

- Seminars 8 h
- Examination 1.5 h

Gastroenterological Surgery (2 ECTS):

- Examination 1.5 h

Students will participate in a 6 hour mini-symposium which is organised by the Departments of Surgery and Internal Medicine. This includes a preparation of an oral presentation or a patient case (15-30min). Mini-symposium is equivalent for 1.2 ECTS credits.

SPRING SEMESTER

EXAMINATIONS: Minimum area is 1 ECTS (and one subject). Student can choose to do the examination only of those areas of surgery listed below:

Gastroenterological Surgery 2 ECTS

Cardio-thoracic and vascular surgery 1 ECTS

Urology 1 ECTS

Orthopaedics and Traumatology 3 ECTS

Target group:

Medical students

Prerequisites and co-requisites:

A passing grade in preclinical studies is required before enrollment in surgical studies.

Recommended optional programme components:

None

Recommended or required reading:

The book for the exams of Gastroenterological Surgery, Cardio-thoracic and Vascular Surgery and Urology: Essential surgery. Problems, diagnosis & management, 4th edition. Burkitt, H. George, Quick, Clive R.G. & Reed, Joanna B.

Gastroenterological Surgery 2 ECTS

- pages 273-456 (gastroenterology) à 183 pages

Cardio-thoracic and vascular surgery 1 ECTS

- pages 487-468 (thoracic surgery) à 19 pages
 - pages 567-623 (angiology, cardiovascular disorders) à 57 pages
 - pages 624-634 (cardiac surgery) à 10 pages
- in total 86 pages

Urology 1 ECTS

- pages 469-484 (groin and male genitalia) à 15 pages
 - pages 469-565 (kidney, urinary tract) à 96 pages
- in total 111 pages

The book for the exam of Orthopaedics and Traumatology:
Essential Orthopaedics and Trauma, 5th edition By David J. Dandy, MD, MA.

Orthopaedics and Traumatology 3 ECTS

- Orthopaedics à 153 pages
 - pages 11-31
 - pages 293-316
 - pages 335-345
 - pages 365-465
- Traumatology à 146 pages

pages 93-239
in total 299 pages

Assessment methods and criteria:

Evaluation is based on the examinations.

Grading:

The course unit utilizes a numerical grading scale 1-5. The examination contains essay questions. Level of acceptance is half of the total points that is equivalent to grade 1

Person responsible:

Orthopaedics: Clinical teacher Maarit Valkealahti
Cardio-thoracic and Vascular Surgery: Professor Fausto Biancari
Urology: Dr. Aare Mehik

Orthopaedics:
Clinical teacher Maarit Valkealahti

Cardio-thoracic
and Vascular Surgery: Professor Fausto Biancari

Urology:
Dr. Aare Mehik

Working life cooperation:

No

Other information:

Group sessions and seminars will be organised only when there are four students or more

090501A-12: The principles of endodontics, 2 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Kristiina Oikarinen-Juusola

Opintokohteen kielet: English

ECTS Credits:

2 ECTS credits

Language of instruction:

English

Timing:

The course unit is held in the Fall and Spring semester.

Learning outcomes:

The student is expected to master the basics of endodontics which is evaluated by a written exam.

Contents:

The Principles of Endodontics

Mode of delivery:

Literature exam

Learning activities and teaching methods:

Literature exam (2 hours)

Target group:

Dental Exchange Students

Prerequisites and co-requisites:

-

Recommended optional programme components:

-

Recommended or required reading:

More information from the course director Kristiina Oikarinen-Juusola

Assessment methods and criteria:

Literature exam (2 hours)

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:

Kristiina Oikarinen-Juusola

Working life cooperation:

No

Other information:

090607A The courses given by the Institute of Dentistry within the Erasmus-project Preventive Dentistry and Cariology

080915S: Tissue Biomechanics, 5 op

Voimassaolo: 01.08.2012 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Jämsä, Timo Jaakko

Opintokohteen kielet: English

ECTS Credits:

5 ECTS credit points /135 hours of work.

Language of instruction:

English

Timing:

Master studies, 1st period

Learning outcomes:

The student can describe the main biomechanical characteristics of different tissues as well as their failure mechanisms. The student can perform practical biomechanical experiments, analyze measurement data, interpret results, and report them using good scientific reporting practice. The student understand how numerical modeling can be used to solve problems in tissue biomechanics.

Contents:

Introduction to tissue biomechanics. Most important biomechanical parameters and material models. Experimental measurements of biomechanical properties of tissues. Structure, composition and mechanical properties of different tissues. Biomechanical modeling of tissues.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Lectures 15h / Exercises 8h / Assignment 8h / Self-study 104h. Final exam.

Target group:

Students of Medical Technology (medical and wellness technology, biomedical engineers, biophysics, other degree programs) and all other who are interested

Prerequisites and co-requisites:

Basic knowledge on cell biology, anatomy and physiology, mechanics differential equations and matrix algebra.

Recommended or required reading:

Material given during lectures.

Assessment methods and criteria:

Accepted exercises, written exam.

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

Grading:

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

Person responsible:

Associate Professor Simo Saarakkala

Working life cooperation:

No

Other information:

812671S: Usability Testing, 5 op

Voimassaolo: 01.08.2011 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Information Processing Science DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Mikko Rajanen

Opintokohteen kielet: English

ECTS Credits:

5 ECTS credits / 133 hours of work.

Language of instruction:

English and Finnish

Timing:

The course is held in the spring semester, during periods 3 and 4.

Learning outcomes:

After completing the course, the student can:

- Design and follow through a usability testing process;
- Design usability test scenarios and tasks;
- Select test subjects;
- Plan and follow through usability tests as laboratory tests or field tests;
- Analyse and report the findings from usability tests.

Contents:

Basic terms and types of usability testing, usability tests process, usability test tasks and scenarios, test subjects, following through a usability test, analysing usability test material, reporting the findings from usability tests.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Lectures 24h, assignment tutoring 13h, assignment 90h, seminar 7h.

Target group:

MSc students

Prerequisites and co-requisites:

Student is familiar with most common user interface design terms, design and evaluation methods as in "Introduction to Human-Computer Interactions" course.

Recommended optional programme components:**Recommended or required reading:**

Dumas, J. S. & Redish, J. C. (1993): A Practical Guide to Usability Testing. Ablex Publishing Corporation. Rubin, J. (1994): Handbook of Usability Testing: How to Plan, Design, and Conduct Effective Tests. Chichester: John Wiley & Sons, Inc.

Assessment methods and criteria:

Assessment of the course is based on the learning outcomes of the course based on the written usability test plan, supervised usability tests, written usability test report and oral seminar presentation

Grading:

Numerical scale 1-5 or fail.

Person responsible:

Mikko Rajanen

Working life cooperation:

No

Other information: