Opasraportti

FMed - Courses in English for exchange students (2017 - 2018)

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 2017-18.

When preparing 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.).

For information on the exchange application process please see www.oulu.fi/university/studentexchange. All exchange applicants must submit their exchange application through SoleMOVE by the deadline given, proposed study plan 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 2017-18 in the Faculty of Medicine

1. Autumn semester: 10.8.2017 - 21.12.2017
2. Spring semester: 9.1. - 31.5.2018

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: Tiina-Mari Murtovaara, tiina-mari.murtovaara(at)oulu.fi

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

Medical Technology: Maisa Niemelä, maisa.niemela(at)oulu.fi

Nursing Science and Health Management: 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:

041201A **Basics in eHealth,** 5 ECTS, (autumn)

080926A **Introduction to Biomedical Imaging Methods** (1-3 ECTS) spring

080928S **Biomedical Engineering Research Methods and Seminar** (5 ECTS) autumn

080920S **Diagnostic Imaging,** 5 ECTS, (autumn)

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

080915S **Tissue Biomechanics**, 5 ECTS (autumn)

090510A-12 **Organisation of oral health care in Finland,** 1.0 ECTS

Courses for **medical exchange students**:

A540140 **International semester**, 30 ECTS (autumn) including:

061001A **Paediatrics,** 15.5 ECTS (autumn)

061002A **Evidence-based Medicine and Journal Club and Tutoring,** 7.5 ECTS, (autumn)

041201A **Basics in eHealth,** 5.0 ECTS, (autumn)

061004A **Working Life Cooperation,** 2.0 ECTS, (autumn)

060704A-01 **Orthopaedics and Traumatology** 4.0 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 and Venereology**, 3.0 ECTS, (autumn)

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

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

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

Courses for **dental exchange students**:

090501A-14 **Light curing technique for dental exchange students**, 0.2 ECTS

090501A-12 **The principles of endodontics, literature exam**, 2.0 ECTS

090510A-13 **Dental anxiety,** 3.0 ECTS

090502A-13 **Dental traumas, tooth transplantations and maxillomandibular fractures**, 0.5 ECTS

090503A-15 **Esthetics in prosthodontics**, 0.2 ECTS

090505A-21 **Glass fibers in periodontal and prosthetic treatment** 0.3 ECTS

090601A-11 **Introduction to orthodontics,** 3.0 ECTS

090503A-16 **Literature exam: Fixed prosthodontics**, 2.5 ECTS

090503A-17 **Literature exam: Prosthetic treatment of edentulous patient**, 3.0 ECTS

090504A-04 **Literature exam: Stomatognathic physiology part I**, 1.0 ECTS

090504A-06 **Literature exam: Stomatognathic physiology part II**, 2.5 ECTS

090510A-12 **Organisation of oral health care in Finland,** 1.0 ECTS

090501A-13 **Pediatric Dentistry for Erasmus Exchange Students** 2.5 ECTS

090505A-20 **Periodontal instrumentation, phantom training**, 0.3 ECTS

090505A-17 **Periodontology: Clinical diagnosis, risk assessment, prognosis and treatment plan, literature exam** 1.0 ECTS

090505A-18 **Periodontology: Periodontal therapy, literature exam** 1.0 ECTS

090505A-19 **Periodontology: Periodontal surgery**, literature exam 1.5 ECTS

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

090302A-07 **Oral & Maxillofacial Pathology**, 3.0 ECTS

090607A **The courses given by the Institute of Dentistry within the Erasmus-project,** 0-60 ECTS

Courses for **exchange students of medical technology**

041201A **Basics in eHealth,** 5 ECTS, (autumn)

080928S **Biomedical Engineering Research Methods and Seminar** 5 ECTS (autumn)

080920S **Diagnostic Imaging,** 5 ECTS, (autumn)

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

764327A **Virtual measurement environments,** 5.0 ECTS, (autumn)

080921S **Biomedical Ultrasound,** 5.0 ECTS, (spring)

080925A **Anatomy and Physiology for Biomedical Engineering,** 5.0 ECTS (spring)

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

080926A **Introduction to Biomedical Imaging Methods** (1-3 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)*

580202S **Biomedical Engineering Project,** 5.0-10.0 ECTS, (anytime)*

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

580213S **Master's Thesis**, 30.0 ECTS, (anytime)*

*The student can choose only one project work or thesis. Please note that the topic will not be confirmed before the beginning of the semester.

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)

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

521258S **Affective Computing**, 5.0 ECTS, (autumn)

521282S **Biosignal Processing 2**, 5.0 ECTS (spring)

521093S **Biomedical Instrumentation**, 5.0 ECTS, (spring)

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

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

521097S **Wireless Measurements,** 5.0 ECTS, (spring)

Courses for **exchange students of health sciences**

Basic studies of health sciences:

351203P **Introduction to Health Sciences**, 5.0 ECTS

351204P **Foundations of Philosophy and Research Methods in Health Sciences**, 5.0 ECTS

351205P **Foundations of Health Care Education**, 5.0 ECTS

351206P **Health Care Systems in Finland and Inter-professional Networking**, 5.0 ECTS

351207P **Foundations of Health Care Legislation**, 5.0 ECTS

Tutkintorakenteisiin kuulumattomat opintokokonaisuudet ja -jaksot

060701A: Anaesthesiology, 1,5 op
080925A: Anatomy and Physiology for Biomedical Engineering, 5 op
580209A: Bachelor's Thesis, 10 op
041201A: Basics in eHealth, 5 op
080916S: Biomechanics of Human Movement, 5 op
580201A: Biomedical Engineering Programming Study, 5 op
580202S: Biomedical Engineering Project, 5 op
080928S: Biomedical Engineering Research Methods and Seminar, 5 op
080921S: Biomedical Ultrasound, 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
080920S: Diagnostic Imaging, 5 op
060709A-02: Endocrinology, 3 op
040119Y: Environmental health care, 1 op
090503A-15: Esthetics in prosthodontics, 0,2 op
061002A: Evidence-based Medicine, 7,5 op
060704A-04: Gastroenterological surgery, 4 op
090505A-21: Glass fibers in periodontal and prosthetic treatment, 0,3 op
060709A: Internal Medicine, 1 - 18 op
A540140: International Semester, 30 op
080926A: Introduction to Biomedical Imaging Methods, 1 - 3 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
580213S: Master's Thesis in Biomedical Engineering, 30 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
060704A-01: Orthopaedics and Traumatology, 4 op
090607A-01: Other studies given by the Institute of Dentistry within the Erasmus-project, 0 op

061001A: Paediatrics, 14 op
090501A-13: Pediatric Dentistry for Erasmus Exchange Students, 2,5 op
090505A-20: Periodontal instrumentation, phantom training, 0,3 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
080917S: Project in Biomedical Technology, 5 - 10 op
080919S: Project in Health Technology, 5 - 10 op
080918S: Project in Medical Imaging, 5 - 10 op
060723A: Research project, 1 - 30 op
060703A: Respiratory Medicine, 3 op
060709A-04: Rheumatology, 1 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
060704A-03: Urology, 2 op
764327A: Virtual measurement environments, 5 op
061004A: Working life cooperation, 2 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. Pages 9–14, 25–30, 38–44, 45–47, 52–63, 70–80, 87–89, 90–98, 111–120, 123–127, 136–159, 162–171

Assessment methods and criteria:

Written examination.

Grading:

A *pass/fail grading system is utilized.*

Person responsible:

Professor Seppo Alahuhta

Working life cooperation:

No

080925A: Anatomy and Physiology for Biomedical Engineering, 5 op

Voimassaolo: 01.08.2017 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Kyösti Heimonen, Miika Nieminen

Opintokohteen kielet: English

ECTS Credits:

5 ECTS credit points / 135 hours of work

Language of instruction:

English

Timing:

Master studies, Spring 2018, 4th period

Learning outcomes:

The student is able to define human anatomy and describe the physiological functions, and can explain how these can be investigated using different imaging methods and measurement systems

Contents:

The course acquaites the student to human physiology and anatomy. Areas covered include
Cells and tissues,
Skin, blood, blood circulation and the fluids of the body
Musculoskeletal organs
Defence reactions of the body
Respiration
Digestion,
Urine sectretion
Metabolic regulation, heat regulation
Reproduction
Sensory functions
Nervous system

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Lectures 28h, demonstrations 12h. Independent studying and preparing reports 95h. Final examination

Target group:

Biomedical engineering and physics students

Recommended optional programme components:

The coure is an independent entity and does not require additional studies carried out at the same time. Imaging methods are more closely studied in the course Diagnostic Imaging.

Recommended or required reading:
Supplementary reading will be given in the beginning of the course.
Assessment methods and criteria:
Taking part in the lectures and demonstrations. Written reports on demonstrations. Final 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:
Professor Miika Nieminen
Working life cooperation:
Course demonstrations will be held in hospital environment and are related to diagnostics.
Other information:
max. 40 students

580209A: Bachelor's Thesis, 10 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate 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:
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.

041201A: Basics in eHealth, 5 op

Voimassaolo: 01.08.2011 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Medicine
Arvostelu: 1 - 5, pass, fail
Opettajat: Jarmo Reponen
Opintokohteen kielet: English
Leikkaavuudet:

ay041201A Basics in eHealth (OPEN UNI) 5.0 op

ECTS Credits:
5 ECTS credit points / 135 hours of work
Language of instruction:
English
Timing:
2nd period for exchange students, Faculty of Medicine
3rd period for degree students and other exchange students i.e. BME
Learning outcomes:
The student can define central information and communication technological terms and solutions in healthcare, and can list respective applications in healthcare services and training.
The student can evaluate the societal and economic significance of information and communication technology in healthcare
Contents:
- terms and concepts
- societal dimensions
- delivery of health services
- electronic patient records
- data transfer within the health care system
- data transfer between the health care professionals and the patients
- citizens providing their own health data, mHealth-solutions
- national healthcare information exchange in Finland- remote consultations, examples like teleradiology, telepsychiatry, telerehabilitation
- economical and functional assessment
- remote education
- future visions of health care information systems
- changing current topics in connected health like: AI, knowledge based medicine, cybersecurity, etc

Mode of delivery:
Web-based teaching
Learning activities and teaching methods:
Interactivity takes place in virtual learning environment Optima. The course consists of video-taped lectures, power point-presentations and links to other material available in the web. Performance of duties includes an essay, exam, participating in discussions on the grounds of the lectures.
Web lectures 15h / Web exam 40h / Written essay 40h* / Self-study and participation to web discussion 40h
(*Exchange student can relate their essay to the situation in their home countries)
Target group:
MSc and 3rd year BSc students of Biomedical Engineering and Medical Technology (medical technology, biomedical engineering, biophysics, physics, other degree programs), students of Health Sciences and information technology and everyone who is interested
Recommended or required reading:
All recommended or required reading are offered in Optima virtual learning environment
Assessment methods and criteria:
Web tasks, an essay and final 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 one stands for a fail.
Person responsible:
Professor Jarmo Reponen
Nina Keränen

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 ofmovement. Balance measurement. Fall biomechanics. Measurement of physical activity.

Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures 14h / Assignment 54h / Self-study 67h. Final exam.
Target group:
Biomedical Engineering MSc students (medical technology, information technology, other related degree programs). Physics MSc students (biophysics, medical physics). Other interested MSc students.
Prerequisites and co-requisites:
It is recommended to have basic knowledge on anatomy and physiology, statistical analysis, sensors and measurement techniques and signal processing.

Recommended optional programme components:
The course is an independent entity and does not require additional studies carried out at the same time. Tissue biomechanics will be studied on the course 080915S.
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.
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:
Professor Timo Jämsä
Working life cooperation:
None

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 / English
Timing:
The course can be taken in autumn or spring semester, or during the summer period. The course can be taken as elective course in Bachelor or Master studies.
Learning outcomes:
Upon completion of the course, the student will be able to
- design and generate a solution to a programmig problem related to medical technology and
- report this in written form.

Contents:
Based on the defined task independent computer programming using modern programming tools, a written report.
Mode of delivery:
Independent work.
Learning activities and teaching methods:
Student contacts the supervisor of programming task (list in Optima) in order to agree on the topic and supervision. Student may also suggest own topic for responsible person for evaluation for suitability.

Target group:
Degree students of the Biomedical Engineering (primarily for students from Medical faculty).
Prerequisites and co-requisites:
The required prerequisite is the complementation of the following courses (or student othervise has similar knowledge and skills) prior to enrolling for the course: 521141P Basic of Programming, 764627A/S Virtual Measurement Environments.
Recommended optional programme components:
The course is independent entity.
Assessment methods and criteria:
The grading is based on evaluating the fulfillment of task requirements based on the software and documentation. Read more about assessment criteria at the University of Oulu webpage.

Grading:
The course utilizes grading scale pass/fail.
Person responsible:
Dr Maarit Kangas
Working life cooperation:
Programming task can be commissioned by a company or other organisation. Topic and supervision is agreed together with the organisation

580202S: Biomedical Engineering Project, 5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Jämsä, Timo Jaakko

Opintokohteen kielet: Finnish

ECTS Credits:
5-10 ECTS credits/ 135-270 hours of work
Language of instruction:
Finnish / English
Timing:
The course can be taken during Master studies in autumn or spring semester, or during the summer period.
Learning outcomes:

Upon completion of the course, the student will be able to solve a research or development problem and report it in writing and by oral presentation.
Contents:
Performing a small project example on reseach topic or development.
Mode of delivery:
Independent work
Learning activities and teaching methods:
The student participates in project within or outside the university. The student prepares a personal project plan and after the project student prepares a written research report and presents it in a seminar. Additionally the students participates also other seminar sessions.
Target group:
Degree students of the Biomedical Engineering (primarily for students from Medical faculty).

Recommended optional programme components:
The course is an indpendent entity.
Assessment methods and criteria:
Students makes a project plan, participates in seminar, and reports project results in written report and by oral presentation.
Read more about assessment criteria at the University of Oulu webpage
Grading:
The course utilizes grading scale pass/fail.
Person responsible:
Dr. Maarit Kangas
Working life cooperation:
Project can be commissioned by a company or pther organisation. Topic and supervision is agree together with the client.

080928S: Biomedical Engineering Research Methods and Seminar, 5 op

Voimassaolo: 01.08.2017 -

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, Autumn, 1st period
Learning outcomes:
The student familiarizes with the principles of scientific work. 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:
Lectures, 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 on the basis of the latest scientific publications. Each student will give two presentations and act as an opponent for two (peer-assessment).
Lectures 10h, seminars 20h, self-study 105h.
Target group:
Biomedical Engineering MSc students
Recommended optional programme components:
Prepares the student for thesis work.
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.
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:
Professor Timo Jämsä
Working life cooperation:
The course prepares for working life.
Other information:
Also for doctoral studies

080921S: Biomedical Ultrasound, 5 op

Voimassaolo: 01.08.2017 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Heikki Nieminen

Opintokohteen kielet: English

ECTS Credits:
5 ECTS credit points / 135 hours of work.
Language of instruction:
English
Timing:
The course is held in the spring semester, during period III in even years. It is recommended to complete the course during master studies.
Learning outcomes:
Upon completion of the course, the student will be able to:

- Masters the basics of ultrasound physics
- Understands the working principles of methods used in research and clinic

Contents:
Ultrasound has enabled establishment of emerging technologies for biomedicine in characterization and therapy. This course focuses ultrasound physics behind these technologies. Research and clinical applications exploiting this physics, such as elastography, quantitative tissue characterization, drug delivery, ultrasound surgery (HIFU), acoustic levitation, tissue actuation and tissue stimulation by ultrasound, will be elaborated.

Mode of delivery:
The course is delivered as face-to-face teaching and partially as distance teaching. The course includes independent work.
Learning activities and teaching methods:
Lectures 24 h. Excercises 8 h. Independent work 40 h. Project study 30 h with a report and oral presentation 33 h.
Target group:
Master students in Biomedical Engineering and Physics, and other interested Master level students.

Prerequisites and co-requisites:
The required prerequisite is the completion of the following course or corresponding information to enrolling for the course: 080920S Diagnostic Imaging 5 credits.
Recommended optional programme components:
The course and the following courses support each other: 080926A Introduction to Biomedical Imaging Methods 1-3 credits, and 080922S Microscopy and Spectroscopic Imaging 5 credits.

Recommended or required reading:
Lecture slides and presented literature.
Assessment methods and criteria:
Taking part in lectures, conducting excercises, preparation of the course work (report + oral presentation).

Read more about assessment criteria at the University of Oulu webpage.
Grading:
The course utilizes numerical grading scale 1-5. In the numerical scale zero stands for a fail.
Person responsible:
Docent Heikki Nieminen

060709A-01: Cardiology, 3 op

Voimassaolo: 01.08.2013 -
Opiskelumuoto: Intermediate Studies
Laji: Partial credit
Vastuuyksikkö: Medicine
Arvostelu: 1 - 5, pass, fail
Opettajat: Juhani Junttila
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 (Chapters 2, 4 and 5))
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

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 spinting.
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 (0.5 ECTS credits)
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 paravenereal diseases. Practical teaching: Demonstrations, patient examination, small group teaching, bedside teaching, outpatient clininc, self study (material available in the Optima).
Mode of delivery:
The tuition will be implemented as lectures (in Finnish), 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 9 h
5. Small group teaching in the outpatient ward 6 h
6. Small group teaching in the inpatient ward 3 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 course unit utilizes a numerical grading scale 1-5.
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

080920S: Diagnostic Imaging, 5 op

Voimassaolo: 01.08.2017 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Miika Nieminen

Opintokohteen kielet: English

ECTS Credits:
5 ECTS credit points / 135 hours of work

Language of instruction:
English
Timing:
Master studies, Autumn 2017, 1st and 2nd periods
Learning outcomes:
The student is able to define the physical principles on which various medical imaging devices are based upon.
Contents:
The course acquaints the students to the basic physics related to imaging modalities and therapeutic systems used in hospitals. Covered topics include e.g. x-ray imaging, computed tomography, magnetic resonance imaging, nuclear medicine and methods of clinical neurophysiology.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures 26h, demonstrations 8h, excercises 4h, independent studying and preparing reports 97h. Final exam.
Target group:
Biomedical Engineering MSc students (medical technology, information technology, and other related degree programs), Physics MSc students (biophysics/medical physics) and other minor subject students. Also for the other students of the University of Oulu.
Prerequisites and co-requisites:
Recommended: physics basic courses and Radiation physics, biology and safety (766116P, 761116P, 764117P or 764317A).
Recommended optional programme components:
BME-courses
Recommended or required reading:
Dowsett, Kenny, Johnston: The Physics of Diagnostic Imaging, 2nd ed., Hodder Arnold, 2006.

Assessment methods and criteria:
Taking part in the lectures and demos. Written report on demonstrations. Final 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:
Professor Miika Nieminen
Working life cooperation:
Demonstrations are held in hospital environment and are related to diagnostics.

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: Timo Hugg
Opintokohteen kielet: Finnish

ECTS Credits:
1.0 ECTS credits / 27 hours of work
Language of instruction:
Finnish/English (Mostly in Finnish); The course can be completed in English as a book examination.
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 or four half-day 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
- 2-3 h of group works
- 1 h of open conversation
- 13 h of independent work

Students will get to know as a group to the topical news related to environmental health and give a short presentation based on it.
Target group:
Graduate students of medicine and dentistry.
Recommended optional programme components:
Studies in question belong to Environment, Lifestyle and Health (ELH) track that continues integrated throughout the curriculum. The course is also linked to C1 – Basics of public health science, C4 – Epidemiology, C11 – Advanced studies of public health science and Evidence Base Medicine and Professional Development in Medicine Studies.
Recommended or required reading:
Reguired 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, group works and pass the final examination.
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 post-doctoral researcher Timo Hugg.

Working life cooperation:
The course includes the guest lectures of research units and/or university hospital and Environmental Health Care of Oulu region.

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: Kirsi Sipilä

Opintokohteen kielet: English

ECTS Credits:
2 h of work, 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:
The course unit utilizes verbal grading scale pass/fail.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
The course unit utilizes verbal grading scale pass/fail.
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

061002A: Evidence-based Medicine, 7,5 op

Voimassaolo: 01.08.2016 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Marjo Renko, Uhari, Matti Kalervo

Opintokohteen kielet: English

ECTS Credits:
7,5 ECTS credits
Language of instruction:
English
Timing:
Autumn semester
Learning outcomes:
Evidence-based medicine (EBM) is a core of modern medicine and all clinical procedures from diagnosis to treatment should be based on the best available scientific evidence.
The objectives of this course are that after the course the students:
-understand the idea of EBM and are familiar with the skills that are needed to perform it
-know how to use and appraise medical journal articles
-understand what is normal and abnormal, the principles of causation and clinical reasoning, and is able to appraise diagnostic tests
-recognize the most common study designs
-are familiar with describing data and the most common statistical tests and their interpretation
-are able to perform systematic diagnostic reasoning and decisions pn treatments based on evidence

-are able to critically read and analyze medical articles

Contents:
The teaching includes the most important elements needed in reading and appraising medical articles, principles of causation, basics of information technology, biostatistics, epidemiology and clinical decision making.
Mode of delivery:
Lectures and journal clubs. Web based examinations (performed in Optima) in conjunction with books that are available in the library (in paper and online).
Lectures
Lecture 1. What is EBM?
Lecture 2. From information to knowledge and evidence.
Lecture 3. Epidemiology for a practicing physician
Lecture 4. What is normal?Appraising evidence on diagnostic tests
Lecture 5. Clinical reasoning and systematic differential diagnosis
Lecture 6. Evidence based medicine in practice
Evidence Based Section for medical article retrieval. The theoretical background is first explained in five 45 minutes lectures.
Lecture 7. Study design
Lecture 8. Randomization, Sample size
Lecture 9. Most common statistical tests
Lecture 10. Meta-analyses
Lecture 11. Diagnostic tests
Contents of lectures 7.-11. are practiced in weekly journal clubs.
Target group:
International medical students
Recommended or required reading:
Evidence-based Medicine Toolkit. Heneghan C, Badenoch D. BMJ Books, 2nd edition, 2006.
Searching Skills Toolkit. Finding the evidence. De Brun, Pearce-Smith N. BMJ Books, 2nd edition, 2014.
Diagnostics Tests Toolkit. Thompson M, Van den Bruel A. BMJ Books, 2011.
Statistics Toolkit. Perera R, Heneghan C, Badenoch D. BMJ Books, 2008.
Users' guides to the medical literature. Essentials of evidence-based clinical practice. Guyatt G, Rennie D, Meade MO, Cook DJ. 3. painos, JAMAevidence McGrawHill medical, 2015.
Person responsible:
Marjo Renko
Matti Uhari
Terhi Tapiainen

060704A-04: Gastroenterological surgery, 4 op

Voimassaolo: 01.08.2015 -
Opiskelumuoto: Intermediate Studies
Laji: Partial credit
Vastuuyksikkö: Medicine
Arvostelu: 1 - 5, pass, fail
Opettajat: Juvonen, Tatu Sakari
Opintokohteen kielet: English

Ei opintojaksokuvauksia.

090505A-21: Glass fibers in periodontal and prosthetic treatment, 0,3 op

Voimassaolo: 01.08.2016 -
Opiskelumuoto: Intermediate Studies
Laji: Partial credit
Vastuuyksikkö: Dentistry
Arvostelu: 1 - 5, pass, fail

Opettajat: Pernu, Hilkka Elina, Ritva Näpänkangas

Opintokohteen kielet: Finnish

ECTS Credits:
0,3 ECTS credits
Language of instruction:
Finnish (handouts in English)
Timing:
Spring term
Contents:
Glass fibers in periodontal and prosthetic treatment (Stick Tech)
Mode of delivery:
Phantom practise 8 h
Learning activities and teaching methods:
Phantom practise 8 h
Target group:
Exchange Students of Dentistry (with 3rd year dental students)
Recommended or required reading:
Handouts (in English)
Grading:
Pass/fail
Person responsible:
Senior lecturers Hilkka Pernu and Ritva Näpänkangas

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 Toxicolocy, 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:

- Endocrinology: Andreoli and Carpenter's Cecil Essentials of Medicine. Section 'Endocrine Disease and Metabolic Disease' s. 623-696.
- Nephrology: The relevant chapters of Axford JS & O´Callaghan C. "Medicine", 2nd Edition, (2004) Wiley-Blackwell. Chapter 8 "Renal Disease, Fluid and Electrolyte Disorders"; pages 502-595

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.

A540140: International Semester, 30 op

Voimassaolo: 01.08.2016 -
Opiskelumuoto: Intermediate Studies
Laji: Study module
Vastuuyksikkö: Medicine
Arvostelu: 1 - 5, pass, fail
Opettajat: Terhi Tapiainen, Mika Rämet
Opintokohteen kielet: English

ECTS Credits:
30 ECTS credits
Language of instruction:
English
Timing:
Autumn semester
Learning outcomes:
The main objectives of the Paediatrics course are to learn to diagnose the most common paediatric diseases, to provide first aid to acutely and critically ill children, and to understand paediatric preventive health care and health education.

The main objectives of Evidence-based Medicine & Journal Clubs are to learn the most important elements needed for reading and appraising medical papers, the principles of causation, and the basics of information technology, biostatistics, epidemiology and clinical decision-making.

At the end of the course of Basics in eHealth you should be able to define the principal information and communication technology terms and solutions used in health care, list their applications to health care services and training, and evaluate their social and economic significance. In the course of Working Life Cooperation the objectives are to put theoretical knowledge into practice by testing medical devices in laboratory simulations, by taking part in an excursion to the Clinical Skills Centre for further simulation training, and to learn about the innovation development process.
Contents:
This International Semester will provide you with an opportunity to gain knowledge and practical skills in paediatrics, evidence-based medicine and the basics of eHealth.
Mode of delivery:
Blended teaching
Learning activities and teaching methods:
The International Semester involves a variety of teaching methods: small groups, seminars, student visits, practical training, lectures, web-based teaching.
Target group:
International medical students
Person responsible:
Terhi Tapiainen
Mika Rämet
Working life cooperation:
Yes

080926A: Introduction to Biomedical Imaging Methods, 1 - 3 op

Voimassaolo: 01.08.2017 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Health Sciences
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: English

ECTS Credits:
1-3 ECTS credit points / 27-81 hours of work.
Language of instruction:
English

Timing:
Master studies, 3rd or 4th period.
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:
Scope of the course and the methods of implementation vary. The course includes lectures 16h and demonstrations 8h. Independent study is determined by the extent of the course to 3-57 hours. The course includes a final exam.

Target group:
All students who are interested in methods of biomedical imaging. The course is suitable for both Master and Doctoral students.
Recommended or required reading:
Required literature is given in the lectures.
Assessment methods and criteria:
Participation in the lectures and demonstrations (compulsory). Written exam (3 ECTS). The course can be taken as 1, 2 or 3 ECTS.
1 ECTS # participation in all the lectures
2 ECTS # participation in all the lectures and demonstrations
3 ECTS # participation in the lectures and demonstrations + final exam
Read more about assessment criteria at the University of Oulu webpage.

Grading:
The 1 and 2 ECTS courses utilize verbal grading: pass or fail. The 3 ECTS course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.
Person responsible:
Postdoctoral researcher Lassi Rieppo

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:
1 h lecture, 1 h phantom-mode teaching, 0.2 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
1 h lecture, 1 h phantom-mode teaching, 0.2 ECTS credits
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: Kirsi Sipilä
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 prosthontodontics**. 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: Kirsi Sipilä
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: Kirsi Sipilä

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

580213S: Master's Thesis in Biomedical Engineering, 30 op

Voimassaolo: 01.08.2013 -

Opiskelumuoto: Advanced Studies

Laji: Diploma thesis

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Jämsä, Timo Jaakko

Opintokohteen kielet: English

ECTS Credits:
30 ECTS credit points / 810 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 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 Biomedical Engineering or Medical Technology
Recommended optional programme components:
Connected with Study plan 5 ects
Assessment methods and criteria:
Writing the thesis
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:
Professor Timo Jämsä
Working life cooperation:
Thesis can be made for an organization outside the university
Other information:
It is recommended that before starting the Master’s Thesis student has completed about 60 credits from master studies.

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 ETCS credits a textbook-based final examination in April must be passed.

Target group:
For medical students in their final year of study OR after passing Neurology course in their home University.
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:
Maximum of four exchange student can be accepted to the course yearly.

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:
4-6 th 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 10 h (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 quide 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, quiding 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 Insitute 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. 7th 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: Niskanen, Leena Marita, Jorma Virtanen
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

060704A-01: Orthopaedics and Traumatology, 4 op

Voimassaolo: 01.08.2015 -
Opiskelumuoto: Intermediate Studies
Laji: Partial credit
Vastuuyksikkö: Medicine
Arvostelu: 1 - 5, pass, fail
Opettajat: Juvonen, Tatu Sakari
Opintokohteen kielet: English

Ei opintojaksokuvauksia.

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.

061001A: Paediatrics, 14 op

Voimassaolo: 01.08.2016 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Medicine
Arvostelu: 1 - 5, pass, fail
Opettajat: Terhi Tapiainen
Opintokohteen kielet: English

ECTS Credits:
14 ECTS

Language of instruction:
English
Timing:
The course unit is held in the autumn semester (weeks 33-42).
Learning outcomes:
Upon completion the student is able:
-to diagnose and treat the most common pediatric diseases as a general practioner or as a first-year resident in a hospital
-to provide first aid to acutely and critically ill children
-to understand pediatric preventive health care and health education
Contents:
Growth and development, medical history and clinical examination of a child, allergology, endocrinology, diabetology, gastroenterology, hematology, infectious diseases, cardiology, pediatric surgery, pediatric neurology, nephorology, neonatology, oncology, emergency medicine
Mode of delivery:
Blended teaching
Learning activities and teaching methods:
Theme-day 4 h

Small group teaching
- Group teaching 39h
- Ward rounds and learning at wards, following of the own patient 24h
- Outpatient clinic learning 26 h
- Attending to the paediatric emergency (including patient examinations and 7 case records) 12 hours

Seminars 16 h
Student-visit 4 h
Practical training, 2 weeks in Oulu University Hospital

The admission exam 1h (web-based)
The patient exam 1 h
The final exam 4 h

Self-study 133 h
Target group:
Medical Students
Prerequisites and co-requisites:
The prerequisites for the course unit are previous studies (C1-8 course units)
Recommended optional programme components:
No alternative course units.
Recommended or required reading:
Macdante Karen J & Kliegmann Robert M (edit.) Nelson Essentials of Pediatrics, Seventh Edition, 1 Elsevier (2015).
E-book available from the Oulu University Library.

Assessment methods and criteria:
The assessment of the course unit is based on the learning outcomes of the course unit.
Preliminary test is multiple choice test. Required literature: text book. The preliminary test is evaluated from 0 to 50 points (the approval limit is 20 points). Exam should be passed during one week from the beginning of the course.
Attending to all compulsory teaching (evaluated pass/ fail).
Patient cases exam (evaluated from 0 to 20. approval limit is 5 points). Grading 1-5/ fail.
The final exam (evaluated from 0-60 points, approval limit is 35 points. Grading 1-5/ fail.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
The course unit utilizes a numerical grading scale 1 – 5. In the numerical scale zero stands for a fail.

The final grade of the course is formed of final exam (85%) and patient cases exam (15%)
Person responsible:
Mika Rämet
Terhi Tapiainen
Working life cooperation:
Yes. Each student will follow the work of pediatricians taking care of patients in two weeks in Oulu University Hospital.

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-20: Periodontal instrumentation, phantom training, 0,3 op

Voimassaolo: 01.08.2016 -

Opiskelumuoto: Intermediate Studies

Laji: Partial credit

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Syrjälä, Anna-Maija Hannele

Opintokohteen kielet: Finnish, English

ECTS Credits:
8 hours of student working, 0,3 ECTS credits
Language of instruction:
English
Timing:
Periodontal phantom training is organized during spring semester
Learning outcomes:
The aim of the study module is that student manage basic principles of periodontal instrumentation with hand instruments and ultrasonic scalers
Contents:
Study module includes basic principles of periodontal instrumentation with hand instruments and ultrasonic scalers
Mode of delivery:
Study module includes reading independently before training chapters dealing with periodontal instrumentation in textbook of periodontology and during phantom training information of basic principles of periodontal instrumentation with hand instruments and ultrasonic scalers and phantom training
Learning activities and teaching methods:
Independent reading of textbook of periodontology 4 hours and phantom training 4 hours
Target group:
Exchange Students of Dentistry
Prerequisites and co-requisites:
Not applicable
Recommended or required reading:
Carranza`s Clinical Periodontology, 12th edition, pages 480-514, 621-627

Assessment methods and criteria:
Presence during phantom training
Grading:
Pass/fail
Person responsible:
Anna-Maija Syrjälä, Senior research fellow
Working life cooperation:
Not applicable

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

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 / English
Timing:
The course can be taken during Master studies in autumn or spring semester, or during the summer period.
Learning outcomes:
Upon completion of the course, the student will be able to solve a research or development problem and report it in writing and by oral presentation.
Contents:
Performing a small project example on reseach topic or development.
Mode of delivery:
Independent work.
Learning activities and teaching methods:
The student participates in project within or outside the university. Project topics are offered in Optima. The student prepares a personal project plan according to separate specifications, participates in seminars, prepares a written research report and presents it in a seminar.
Target group:
Master degree students of the Biomedical Engineering or Medical Technology (primarily for students from Medical Faculty).
Recommended optional programme components:
The course is an indpendent entity.
Assessment methods and criteria:
Students prepares a project plan, participates in seminars, and reports project results in written report and by oral presentation.
Read more about assessment criteria at the University of Oulu webpage.

Grading:
The course utilizes grading scale pass/fail.
Person responsible:
Dr Lassi Rieppo
Working life cooperation:
Project can be commissioned by a company or other organisation. Topic and supervision is agreed together with the organisation.

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 / English
Timing:
The course can be taken in autumn or spring semester, or during the summer period. It is recommended to take this course at the 3rd spring semester.
Learning outcomes:
Upon completion of the course, the student will be able to solve a research or other type of problem and report it in writing and by oral presentation.
Contents:
Performing a small project example on reseach topic or development.
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:
Degree students of the Biomedical Engineering (primarily for students from Medical faculty).
Recommended optional programme components:
The course is an indpendent entity.
Assessment methods and criteria:
Students makes and presents a project plan, participates in seminar, and reports project results in written report and oral presentation.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
The course utilizes grading scale pass/fail.
Person responsible:
Maarit Kangas
Working life cooperation:
Project can be commissioned by a company or pther organisation. Topic and supervision is agreef together with the client.

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 / English
Timing:
The course can be taken during Master studies in autumn or spring semester, or during the summer period.
Learning outcomes:
Upon completion of the course, the student will be able to solve a research or development problem and report it in writing and by oral presentation.
Contents:

Performing a small project example on reseach topic or development.
Mode of delivery:
Independent work.
Learning activities and teaching methods:
The student participates in project within or outside the university. Project topics are offered in Optima. The student prepares a personal project plan according to separate specifications, participates seminars, prepares a written research report and presents it in a seminar.
Target group:
Master degree students of the Biomedical Engineering or Medical Technology (primarily for students from Medical Faculty).
Recommended optional programme components:
The course is an indpendent entity.
Assessment methods and criteria:
Students prepares a project plan, participates in seminars, and reports project results in written report and by oral presentation.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
The course utilizes grading scale pass/fail.
Person responsible:
Professor Timo Jämsä
Working life cooperation:
Project can be commissioned by a company or other organisation. Topic and supervision is agreed together with the organisation.

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:
Writing a study plan which includes a research plan. Supervised research work and writing a thesis or a scientific paper (student as first or second writer).
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: Riitta Kaarteenaho
Opintokohteen kielet: English

ECTS Credits:
3 ECTS credits
Language of instruction:
English
Timing:
Autumn Semester

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:
3 rd-6 th 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 Riitta Kaarteenaho
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.

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: Kirsi Sipilä
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 – 8.0 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 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 and treatment of the ankle and distal radius fracture, 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 2 h

Urology (2 ECTS):
- Seminars 8 h
- Examination 2 h

Gastroenterological Surgery (2 ECTS):
- Examination 2 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
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 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

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
Urology: Dr. Teija Parpala
Gastroenterological Surgery: Jyrki Mäkelä

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
Opintokohteen kielet: English

ECTS Credits:
5 ECTS credit points /135 hours of work.
Language of instruction:
English
Timing:
The course is held in the autumn semester, during period 1. It is recommended to complete the course during Master studies.
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:
Master students of Biomedical Engineering (all degree programs) and Physics (biomedical physics major and other minor subject students). The course is also suitable for other interested students with adequate prerequisites.

Prerequisites and co-requisites:
It is recommended that the student has basic knowledge on cell biology, anatomy and physiology, mechanics, differential equations, and matrix algebra.

Recommended optional programme components:
The course is an independent entity and does not require additional studies carried out at the same time. Motion biomechanics will be studied on the course 080916S Biomechanics of Human Movement.
Recommended or required reading:
Material given during the course.

Assessment methods and criteria:
Accepted exercises, assignment and written final exam. The final exam is based on lectures and other given materials, and it includes definition and explanation assignments and problems (including mathematical calculations).
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
Other information:

060704A-03: Urology, 2 op

Voimassaolo: 01.08.2015 -
Opiskelumuoto: Intermediate Studies
Laji: Partial credit
Vastuuyksikkö: Medicine
Arvostelu: 1 - 5, pass, fail
Opettajat: Juvonen, Tatu Sakari
Opintokohteen kielet: English

Ei opintojaksokuvauksia.

764327A: Virtual measurement environments, 5 op

Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Health Sciences
Arvostelu: 1 - 5, pass, fail
Opettajat: Jämsä, Timo Jaakko
Opintokohteen kielet: Finnish
Leikkaavuudet:

764627S Virtual measurement environments 5.0 op

ECTS Credits:
5 ECTS, 135 hours of work
Language of instruction:
English
Timing:
Bachelor studies, 2nd period
Learning outcomes:
The students will learn how to construct software environments for measurements and data analysis.
Contents:
The course gives basic skills to use MATLAB and LabView programming environments to construct their own (custom) programs, with which they can both measure and analyze data with the computer.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures 10 h, project work 60 h, self-study 65 h
Target group:
Bachelor students of Medical Technology and Biophysics. Also for the other students of the University of Oulu.
Prerequisites and co-requisites:
Basic skills in programming.
Recommended or required reading:
Lecture and exercise notes, other given material
Assessment methods and criteria:
Completion of projects.
Read more about assessment criteria at the University of Oulu webpage.

Grading:
The course utilizes a numerical grading scale 1-5 or fail. The grading is based on projects.
Person responsible:
Professor Timo Jämsä
Working life cooperation:
None

061004A: Working life cooperation, 2 op

Voimassaolo: 01.08.2016 -

Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Medicine
Arvostelu: 1 - 5, pass, fail
Opettajat: Terhi Tapiainen, Parkkila, Virpi Susanna
Opintokohteen kielet: English

ECTS Credits:
2 ECTS credit points / 52 hours of work
Language of instruction:
English
Timing:
2nd period for exchange students
Learning outcomes:
Apply theoretical knowledge into practice.
Contents:
Theme 1: Medical device testing (4 hours)
-state-of-the-art equipment/medical devices available
-expert review
-teamwork
-multidisciplinary education

Theme 2: Simulation education in Simulation Center (4 hours)
Program for an afternoon in Tampere:
- Introduction to basics of simulation
- A guided tour in the Simulation center in ARVO (Tampere University Medical School)
- Paediatric simulation cases in the Simulation center
- Feedback and closing words

Theme 3: Development of innovations (8 hours)
-Process of development of new innovation
-Core skills required for recognizing opportunities and needs
-Validation of ideas
-Knowledge of basics of intellectual property rights
-Performing patent databases searches
Mode of delivery:
Blended teaching

Learning activities and teaching methods:
Seminars 16h / Self-study 36h
Target group:
International exchange students from the Faculty of Medicine
Assessment methods and criteria:
Attending to all compulsory seminars
Grading:
Pass/Fail
Person responsible:
Terhi Tapiainen
Virpi Parkkila
Other information:
Only 15 exchange students can be accepted to the course yearly