Opasraportti

University of Oulu cross-insitutional studies (2020 - 2021)

All cross-institutional study courses and information dealing with these courses is avaible under the tabs Instruction, Examinations and Courses tab.

For more information on cross-institutional study is available at https://www.oulu.fi/forstudents/crossinstitutionalstudy

Tutkintorakenteisiin kuulumattomat opintokokonaisuudet ja -jaksot

521040A: 3D Virtual Environments and Applications, 5 op
521495A: Artificial Intelligence, 5 op
521384A: Basics in Radio Engineering, 5 op
044113S: Basics in eHealth for Medical Students, 3 op
900053Y: Beginners' Finnish Course 2, 5 op
903049A: Business German, 4 op
031010P: Calculus I, 5 op
031075P: Calculus II, 5 op
900100Y: Communicate with Confidence, 5 op
031077P: Complex analysis, 5 op
091792A: Controlling dental caries, 1 op
900054Y: Conversational Skills in Finnish, 3 op
811319A: Data Modeling and Design, 5 op
811312A: Data Structures and Algorithms, 5 op
811325A: Databases, 5 op
091794A: Diagnostics in Orthodontics, 1 op
521337A: Digital Filters, 5 op
521432A: Electronics Design I, 5 op
904016Y: Elementary Course in French I, 5 op
904017Y: Elementary Course in French II, 5 op

903024Y: Elementary Course in German 1, 3 - 4 op
903025Y: Elementary Course in German 2, 3 - 4 op
905042Y: Elementary Course in Japanese 1, 5 op
905043Y: Elementary Course in Japanese 2, 5 op
904066Y: Elementary Course in Russian 1, 5 op
904067Y: Elementary Course in Russian 2, 5 op
811166P: Fundamentals to Information Systems, 5 op
903054Y: German Business Talk and Correspondence, 3 - 4 op
451535P: History of Architecture I, lecture course, 4 op
451537A: History of Architecture II, lecture course, 3 op
812360A: Information Systems Modelling, Desing and Development, 5 op
903021Y: Intensive Course in German Language and Culture, 2 op
903041Y: Intercultural Communication / Tandem - German - Finnish, 2 - 4 op
904026Y: Intermediate Course in French 1, 5 op
904027Y: Intermediate Course in French 2, 5 op
904037Y: Intermediate Course in French 3, 5 op
903029Y: Intermediate Course in German 1, 3 - 4 op
903030Y: Intermediate Course in German 2, 3 - 4 op
903042Y: Intermediate Course in German 3, 2 - 4 op
903048Y: Intermediate Course in German IV, 2 - 4 op
903040Y: Intermediate Course in German for Economic Students, 4 - 5 op
904068Y: Intermediate Course in Russian, part I, 5 op
904069Y: Intermediate Course in Russian, part II, 5 op
900016Y: Intermediate Finnish Course 2, 5 op
080926S: Introduction to Artificial Intelligence for Medical Imaging, 3 - 5 op
521070A: Introduction to Microfabrication Techniques, 5 op
521157A: Introduction to Social Network Analysis, 5 op
811103P: Introduction to Software Engineering, 5 op
905057Y: Japanese KANA Course, 2 op
905049Y: Japanese KANJI Course 1, 2 op
031078P: Matrix Algebra, 5 op
423272S: Music Education in Early Childhood, 5 op
900085Y: Network Communication, 5 op
521241A: Optical systems, 5 op
A540145: Pharmacology and toxicology, 10 op
Compulsory
043045P: Pharmacology and toxicology PART I, 4 op
043046P: Pharmacology and toxicology PART II, 5 op
043047P: Pharmacology and toxicology PART III, 1 op
423274S: Philosophy in Music Education, 5 op
521431A: Principles of Electronics Design, 5 op
031021P: Probability and Mathematical Statistics, 5 op
811104P: Programming 1, 5 op
811322A: Programming 2, 5 op
811367A: Programming 3, 5 op
811368A: Programming 4, 5 op
423260S: Psychology of music, 5 op
904028Y: Reading Comprehension, 3 op
903000Y: Reading Comprehension in German, 2 - 3 op
811391A: Requirements Engineering, 5 op
900092Y: Science Popularisation, 5 op
900084Y: Scientific Communication, 5 op
031080A: Signal Analysis, 5 op
521044A: Social Computing, 5 op
815345A: Software Architectures, 5 op
811301A: Software Modeling and Design, 5 op
811306A: Software Quality and Testing, 5 op
485303A: Soil Mechanics, 5 op
423244S: Space Planning and Maintenance of Instruments and Musical Devices, 5 op
900027Y: Special Course in Finnish: Writing Skills, 3 op
423273S: Special Music Education, 5 op
904008Y: Studying/ Working in France I, 3 op
904009A: Studying/ Working in France II, 3 op
904024Y: Tandem - French - Finnish, 2 - 4 op

905046Y: Tandem - Japanese - Finnish, 2 - 4 op
903017A: Trading Partner Germany, 4 op
488505A: Waste managemet and recycling, 5 op
900086Y: Working Life Communication, 5 op

Opintojaksojen kuvaukset

Tutkintorakenteisiin kuulumattomien opintokokonaisuuksien ja -jaksojen kuvaukset

521040A: 3D Virtual Environments and Applications, 5 op

Voimassaolo: 01.08.2018 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Computer Science and Engineering DP
Arvostelu: 1 - 5, pass, fail
Opettajat: Matti Pouke
Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS / 135 hours of work.
Language of instruction:
Primary instruction language is Finnish. The course can also be completed in English.
Timing:
The course is held in the spring semester, during period IV. It is recommended to complete the course during the 3rd year.
Learning outcomes:
Upon completion of the course, the student will be able to: Upon completion of the course, the student will be able to:

- Independently develop 3D applications containing an interactive environment utilizing contemporary game engines
- Develop game-engine compatible 3D objects utilizing low-polygon modeling
- Develop game-engine compatible materials utilizing Physically Based Rendering workflow
- Understand the principles of 3D application design for different platforms (mobile, desktop, VR)

Contents:
Game engine architecture, basics of 3D graphics, 3D modeling and animation, textures and materials, audio, interaction, multiplayer, game AI, performance and profiling, virtual reality.
Mode of delivery:
Online teaching.
The course consists of online lectures, exercises and a independent assignment.
Learning activities and teaching methods:
The course consists of online lectures (20h), exercises (16h), a group assignment (60), self-study (35h) and a seminar (4h).
Target group:
B.Sc. students from applied computing. The course might also be useful for students of Information processing science and students taking VR and XR related studies.
Prerequisites and co-requisites:
No prerequisites. Programming experience is an advantage.
Recommended optional programme components:
The course is an independent entity, and does not require other simultaneous courses from the student.
Recommended or required reading:
Online-material that is delivered throughout the course.
Assessment methods and criteria:

The students are assessed accorging to the quality of the group assignment (an interactive 3D application and related documentation) that is presented at the seminar. The assessment criteria of the application is based on the learning goals of the course.

Grading:
Numerical (1-5).

Person responsible:
Matti Pouke

Working life cooperation:
When possible, one or multiple visiting lectures by local companies are organized. The topic of the guest lecture can be related to the special knowledge of the visitor, or industry needs for 3D application development.

Other information:
This course uses Moodle learning environment (moodle.oulu.fi).

521495A: Artificial Intelligence, 5 op

Voimassaolo: 01.08.2012 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Computer Science and Engineering DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Jaakko Suutala, Pekka Sangi

Opintokohteen kielet: English

Leikkaavuudet:

ay521495A	Artificial Intellig (OPEN UNI)	5.0 op

ECTS Credits:
5 ECTS credits / 135 hours of work

Language of instruction:
English

Timing:
The course in held in the spring semester, during period III. For bachelor students of Computer Science and Engineering specializing to artificial intelligence, it is recommended to complete the course at the 3rd spring semester.

Learning outcomes:
After completing the course, students

1. know the basic search strategies that can be applied in problem solving and optimization.
2. understand how search-based decisions are made in game-like competitive applications.
3. know the basic principles of probabilistic reasoning in artificial intelligence systems.
4. know how rational decision making under uncertainty can be formulated using utility theory.
5. understand the fundamentals of machine learning and how some of the established methods can be applied to problems in AI.
6. are familiar with advanced AI applications of perception and robotics and how probabilistic inference and machine learning can be used in these settings.

In the course projects, students get some experience in programming and using search methods.

Contents:
intelligent agent types, uninformed search methods, informed (heuristic) search, local search, constraint satisfaction problems, adversarial search, uncertainty handling, probabilistic reasoning, utility, machine learning, decision networks, Markov decision process, reinforcement learning, applications

Mode of delivery:
The tuition is implemented as web-based teaching. Moodle environment is used in the course.
Due to Covid-19 pandemic, teaching in Spring 2021 will be implemented remotely. Course work space can be found from University of Oulu Moodle platform.
Moodle page in Spring 2021 will be https://moodle.oulu.fi/course/view.php?id=3211, where details of implementation will be provided. The page will be available from December 21, 2020.
Online lectures will be given with Zoom and link for them will be provided in Moodle.

Learning activities and teaching methods:
Lectures 28 h / Group work (programming projects) 42 h / Self-study 65 h

Target group:
The primary target group is the students of the Computer Science and Engineering specializing in Artificial Intelligence.

Prerequisites and co-requisites:
Completion of the course "521160P Introduction to Artificial Intelligence" (lectured in Finnish) is recommended, but is not a prerequisite. It is also recommended that a student has completed studies related to probability and statistics (e.g. course "031021P Probability and Mathematical Statistics") and Python programming (e.g. course "521141P Elementary Programming").
Recommended optional programme components:
The course is an independent entity and does not require additional studies carried out at the same time.
Recommended or required reading:
The course is based on the book Stuart Russell, Peter Norvig (2010, global edition 2016): Artificial Intelligence: A Modern Approach (3rd Edition), Chapters 1-6, 13-18, 20-21, partly 24-25.
The course utilizes materials of an introductory course on artificial intelligence taught at UC Berkeley (http://ai.berkeley.edu).
Assessment methods and criteria:
The assessment of the course is based on the final exam. Both the final exam and the course projects must be passed. Well-done course projects can increase the grade by one unit.
Grading:
The course utilizes a numerical grading scale 0-5. In the numerical scale zero stands for a fail.
Person responsible:
Pekka Sangi, Jaakko Suutala
Working life cooperation:
The course does not contain working life cooperation.
Other information:
Course work space can be found from University of Oulu Moodle platform moodle.oulu.fi.
Moodle page in Spring 2021 will be https://moodle.oulu.fi/course/view.php?id=3211

521384A: Basics in Radio Engineering, 5 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Electrical Engineering DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Aarno Pärssinen, Risto Vuohtoniemi

Opintokohteen kielet: Finnish

ECTS Credits:
5
Language of instruction:
Finnish
Timing:
Autumn, 1st period
Learning outcomes:
1. can define what radio engineering is and list its separate areas and applications from FM-radio to 5G systems.

2. understands the meaning of Maxwell's equations and can solve the propagation of radio waves in a homogeneous medium.

3. can solve EM-fields at an interface of two lossless media.

4. knows main properties of most common transmission line types and can solve EM-fields for coaxial lines and rectangular waveguides.

5. can utilize the methods based on the Smith chart for the impedance matching of microwave circuits and antennas.

6. understands the meaning of Y-, Z-, and S-matrix and can use S-parameters for solving characteristics of microwave circuits.

7. can describe the operation of passive transmission line devices, resonators, filters and circuits based on the semiconductor devices.

8. knows the terms to describe antenna characteristics and can define radiation patterns of simple antennas and

antenna arrays.

9. knows different propagation phenomena and can evaluate, which phenomena are relevant in different radio systems in different frequency bands.

10. can describe the structure of a typical radio system and can calculate the S/N-ratio link budget for a radio system on a free-space radio link.

Contents:
Introduction to radio waves and radio engineering. Maxwell's equations. Fundamentals of electromagnetic fields. Transmission lines and waveguides. Impedance matching. Microwave circuit theory. Passive transmission line and waveguide devices. Resonators and filters. Circuits based on semiconductor devices. Antennas. Propagation of radio waves. Radio system. Applications of radio engineering.
Mode of delivery:
Face-to-face teaching.
Learning activities and teaching methods:
Lectures 26 h and exercises 16 h including graded exercise problems.
Target group:
3 rd year bachelor's degree students.
Prerequisites and co-requisites:
Elementary knowledge of the electromagnetic theory.
Recommended optional programme components:
-
Recommended or required reading:
In Finnish: Antti Räisänen & Arto Lehto: Radiotekniikan perusteet. Otatieto, 2011; also older versions of the book can be used as a course book.
Additional reading in Finnish: Jyrki Louhi & Arto Lehto: Radiotekniikan harjoituksia. Otatieto, 1995.
In English: Antti V. Räisänen & Arto Lehto: Radio Engineering for Wireless Communication and Sensor Applications, Artech House, 2003.
Additional literature in english: D.M. Pozar: Microwave Engineering, 4th edition, John Wiley & Sons, Inc., 2012.

Assessment methods and criteria:
The course is passed with a final examination.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
The course unit utilizes a numerical grading scale 1-5.
Person responsible:
Risto Vuohtoniemi, Aarno Pärssinen.
Working life cooperation:
No
Other information:
-

044113S: Basics in eHealth for Medical Students, 3 op

Voimassaolo: 01.08.2016 -

Opiskelumuoto: Optional Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Jarmo Reponen

Opintokohteen kielet: English

ECTS Credits:
3 ECTS credit points / 81 hours of work
Language of instruction:
English
Timing:
The course is held for medical students as elective studies in the spring semester, period IV. It is recommended to complete the course at the 2nd spring semester.
NOTE: this course is for medical students only, for other disciplines, there is the 5 ECTS course 041201A.

Learning outcomes:
After completing the course:
The student can define central information and communication technology (ICT) 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
The student can understand the position of e-health and telemedicine solutions as a part of the national health care information system.
The student receives an initial view of future health ICT trends from clinical perspective and possibilities to contrirute to these with his/her professional background.
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. according to availability
Mode of delivery:
Web-based teaching
Learning activities and teaching methods:
Interactivity takes place in virtual learning environment Moodle. The course consists of video-taped lectures, power point-presentations and links to other material available in the web. Performance of duties includes exams based on lectures, independent searches for additional information and participating in moderated discussions on the grounds of the lectures.
Web lectures 15h / Web exams 30h* / Self-study and participation to the moderated web discussion 36h
(*The student has a possibility to upgrade his degree with an additional essay exam)
Target group:
Medical and dental students of 2nd year as elective studies.
NOTE: for other diciplines, there is 5 ECTS course 041201A.
Prerequisites and co-requisites:
No
Recommended optional programme components:
The course is independent and does not require additional studies carried out at the same time.
Recommended or required reading:
All recommended or required reading are offered in Moodle virtual learning environment or in linked web-pages.
Assessment methods and criteria:
Web tasks, contribution to moderated discussion and course exams and an optional 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 Jarmo Reponen MD, PhD ;
Course teacher Niina Keränen, MD, MSc
Course teacher Anna Maijala

Working life cooperation:
The course does not contain working life cooperation.
Other information:
This course gives the student necessary skills to participate to an elective ”Connected Health” course, code 080927S.

900053Y: Beginners' Finnish Course 2, 5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay900053Y Beginners' Finnish Course 2 (OPEN UNI) 4.0 op

Proficiency level:
A1.3
Status:
International degree and post-graduate degree students, exchange students and the staff members of the University.
Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.
See more information for OAMK students https://www.oulu.fi/forstudents/crossinstitutionalstudy.
Required proficiency level:
A1.2, completion of the Beginners' Finnish course 1 (900013Y) or the equivalent language skills.
ECTS Credits:
5 ECTS credits
Language of instruction:
As much Finnish as possible; English will be used as a help language.
Timing:
-
Learning outcomes:
By the end of the course the student can understand and use some very common everyday expressions and sentences. S/he can communicate in easy and routine tasks requiring a simple and direct exchange of information on familiar everyday matters. The student understands different kinds of short texts. S/he can for example locate important information in them. In addition, s/he has acquired more detailed knowledge of the language and culture.
Contents:
This is a post-elementary course. During the course students learn more about communication in ordinary everyday situations in Finnish. They also extend their vocabulary and knowledge of grammar. Students practise understanding simple Finnish talk and short texts.

The topics and communicative situations covered in the course are: talking about weather, carrying out transactions in clothing stores and at the doctor's, asking about location, asking for help/favours, expressing how you are feeling, writing an invitation and email; talking about past, describing people and things; seasons, the names of the months, travelling, vehicles, body parts, adjectives, food, drink and parties.
The structures studied are: the local cases, more about the change of the consonants k, p and t, more declension types for nouns (word types), nominative plural (basic form plural), basics of the imperfect (past tense of verbs), basics of the object cases, some postposition structures, some sentence types (predicative and necessity sentences).

Mode of delivery:
Contact teaching and quided self study
Learning activities and teaching methods:
Lessons 2 times a week (52 h, including the tests) and guided self study (83 h)
Target group:
International degree and post-graduate degree students, exchange students and the staff members of the University.
Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.
See more information for OAMK students https://www.oulu.fi/forstudents/crossinstitutionalstudy.
Prerequisites and co-requisites:
Completion of the Beginners' Finnish Course 1 or the equivalent language skills.
Recommended optional programme components:
-

Recommended or required reading:
Kuparinen, K. & Tapaninen, T. Oma suomi 1 (chapters 6 - 10)
Assessment methods and criteria:
Regular and active participation in the weekly lessons (twice a week), homework assignments and tests will be taken into consideration in the assessment.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Grading scale is 1-5.
Person responsible:
Arja Haapakoski
Working life cooperation:
-
Other information:
Sign-up in WebOodi or Tuudo. Staff members in staff training portal.

903049A: Business German, 4 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: German

Proficiency level:
B1/B2 on the CEFR scale
Status:
This course may be included either in your faculty's compulsory foreign language studies or in the language minor (25 ECTS). Upon completion of the course the student has proven that he/she has attained the proficiency level required by the Government Decree on University Degrees (794/2004) in one foreign language.
Required proficiency level:
B1 proficiency level (equivalent to approximately 5 years of German studies at school) in the Common European Framework of Reference for Languages (CEFR) or equivalent knowledge, e.g. the approved completion of the course Trading Partner Germany (Handelspartner Deutschland).
ECTS Credits:
4 ECTS credits / 106 h of student's work
Language of instruction:
German
Timing:
Spring term
Learning outcomes:
Upon completion of the course the student should be able to manage in typical professional and special-field specific communication situations in an interactive manner. He/she should be able to actively participate in discussions about current events and special field-specific topics, express his/her views on different matters and present the pros and cons of different options. The student should be experienced in giving short oral presentations about topics related to his/her special field. He/she should understand the culture-specific nature of Finnish and German customs and practices and be able to compare them with each other.
Contents:
The course focuses on themes related to current topics in the German-speaking business world.
Mode of delivery:
Contact teaching
Learning activities and teaching methods:
Contact teaching 2 x 90 min. / week, active preparation for the contact meetings, 106 h in total.
Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
See required proficiency level
Recommended optional programme components:
-
Recommended or required reading:
Material provided by the teacher.
Assessment methods and criteria:
Continuous assessment. Completion of the course requires regular and active participation in teaching and completion of given assignments.
Read more about assessment criteria at the University of Oulu webpage, see https://www.oulu.fi/forstudents/assessment-criteria
Grading:
1 - 5 / fail
Person responsible:
Oliver Jarde
Working life cooperation:
-
Other information:
Registration in WebOodi or in Tuudo. If the registration has closed the student can sign up by contacting the teacher by e-mail: first name.last name(at)oulu.fi

031010P: Calculus I, 5 op

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Applied Mathematics and Computational Mathematics

Arvostelu: 1 - 5, pass, fail

Opettajat: Pauliina Uusitalo

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay031010P Calculus I (OPEN UNI) 5.0 op

ECTS Credits:
5 ECTS credits / 135 hours of work
Language of instruction:
Finnish. The course will be lectured also in English.
Timing:
Fall, period 1
Learning outcomes:
Upon completion of the course, the student
- knows how to solve inequalities and equations with absolute value
- identifies the concepts of vector algebra
- can use vector algebra for solving the problems of analytic geometry
- can explain basic characteristics of elementary functions
- is able to analyse the limit and the continuity of the real valued functions of one variable
- can analyse the local minima and maxima of a function
- knows how to find the derivative for a function given with parametric representation
- is able to evaluate the basic calculation of the complex numbers and can rewrite a complex number in its exponential form
- knows the connection between the integral and area
- knows integral techniques such as integration by parts, a substitution method and a partial fraction composition
- can solve problems associated with the differential and integral calculus of the real valued functions of one variable.

Contents:
- Inequalities and absolute value
- Vector algebra and analytic geometry
- Concept of the function and elementary functions
- Monotonicity of the function, the inverse function
- Limit values

- Derivative as limit value of the difference quotient. Derivatives of elementary functions
- The extreme values of a function
- Parameter presentation of the curve, polar coordinates, complex numbers
- Integral function and definite integral, applications
- Integration by parts, substitution method and integration of rational functions

Mode of delivery:
Blended learning, course material is in Moodle learning environment
Learning activities and teaching methods:
Lectures 28 h / Group work 22 h / Self-study 85 h
Target group:
1. year students of technical sciences, mathematics and physics
Prerequisites and co-requisites:
-
Recommended optional programme components:
-
Recommended or required reading:
Grossman, S.I.: Calculus of One Variable; Grossman, S.I.: Multivariable Calculus, Linear Algebra, and Differential Equations (partly); Adams, R.A.: A Complete Course Calculus (partly)
Assessment methods and criteria:
The course is completed with mid-term exams or a final exam. When completed with mid-term exams, exercise assignments are part of the continuous assessment. The assessment of the course is based on the learning outcomes of the course. Read more about assessment criteria at the University of Oulu webpage.
Grading:
The course utilizes a numerical grading scale 0-5. In the numerical scale zero stands for a fail.
Person responsible:
Pauliina Uusitalo
Working life cooperation:
The course does not contain working live cooperation.
Other information:
-

031075P: Calculus II, 5 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Applied Mathematics and Computational Mathematics

Arvostelu: 1 - 5, pass, fail

Opettajat: Pauliina Uusitalo

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay031075P	Calculus II (OPEN UNI)	5.0 op
031011P	Calculus II	6.0 op

ECTS Credits:
5 ECTS credits / 135 hours of work
Language of instruction:
Finnish. The course can be completed in English by intermediate exams or by a final exam.
Timing:
Spring semester, period 3
Learning outcomes:
Upon completion of the course, the student is able to examine the convergence of series and power series of real terms, can explain the use of power series e.g. in calculating limits, is able to solve problems related to differential and integral calculus of real and vector valued functions of several variables.
Contents:
Sequences, series, power series and Fourier series of real terms. Differential and integral calculus of real and vector valued functions of several variables.
Mode of delivery:

Online teaching
Learning activities and teaching methods:
Lectures 28 h / Group work 22 h / Self-study 85 h.
Target group:
-
Prerequisites and co-requisites:
The recommended prerequisite is the completion of the course 031010P Calculus I.
Recommended optional programme components:
-
Recommended or required reading:
Kreyszig, E: Advanced Engineering Mathematics; Grossman S.I.: Multivariable Calculus, Linear Algebra, and Differential Equations; Adams, R.A.: A Complete Course Calculus.
Assessment methods and criteria:
Intermediate exams or a final exam. The exams are remote exams. It is possibility to take exams also at the university.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
The course utilizes a numerical grading scale 0-5. In the numerical scale zero stands for a fail.
Person responsible:
Pauliina Uusitalo
Working life cooperation:
-
Other information:
-

900100Y: Communicate with Confidence, 5 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Proficiency level:
This course is not offered in English. It is only Finnish-speaking students.
Status:
-
Required proficiency level:
-
ECTS Credits:
5 credits
Language of instruction:
Finnish
Timing:
1st or 2nd acedemic year
Learning outcomes:
-
Contents:
-
Mode of delivery:
-
Learning activities and teaching methods:
Contact teaching ca. 35 hrs, independence work ca 100 hrs
Target group:
Students in all faculties.
Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.
See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
-
Recommended optional programme components:
-
Recommended or required reading:
-
Assessment methods and criteria:
-
Grading:
Pass / fail
Person responsible:
Niina Sarajärvi
Working life cooperation:
-
Other information:
-

031077P: Complex analysis, 5 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Applied Mathematics and Computational Mathematics

Arvostelu: 1 - 5, pass, fail

Opettajat: Jukka Kemppainen

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay031077P	Complex analysis (OPEN UNI)	5.0 op
031018P	Complex Analysis	4.0 op

ECTS Credits:
5 ECTS credits / 135 hours of work
Language of instruction:
Finnish
Timing:
Fall semester, period 1.
Learning outcomes:
After completing the course the student

1. is able to calculate the derivative and the integral of functions of complex variable,
2. understands the concept of analyticity
3. is capable of calculating the contour integrals and using the theory of residues for computing the line integrals, will be able to apply the techniques of complex analysis to simple problems in signal processing.

Contents:
Complex numbers and functions, complex derivative and analyticity, complex series, Cauchy’s integral theorem, Laurent and Taylor expansions, theory of residues, applications to signal analysis.
Mode of delivery:
Face-toface teaching, Stack(web-based too) exercises.
Learning activities and teaching methods:
Lectures 28 h/Exercises 14 h/Self study 93 h.
Target group:
The students in the engineering sciences. The other students are welcome, too.
Prerequisites and co-requisites:
The recommended prerequisite is the completion of the courses Calculus I and II, Differential Equations.
Recommended optional programme components:
The course is an independent entity and does not require additional studies carried out at the same time
Recommended or required reading:
The lecture notes
Assessment methods and criteria:
Intermediate exams or a final exam.
Read more about assessment criteria at the University of Oulu webpage.

Grading:
The course utilizes a numerical grading scale 0-5. In the numerical scale zero stands for a fail.
Person responsible:
Jukka Kemppainen
Working life cooperation:
-

091792A: Controlling dental caries, 1 op

Voimassaolo: 01.08.2020 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opettajat: Marja-Liisa Laitala, Tarja Tanner

Opintokohteen kielet: Finnish

ECTS Credits:
091792A Controlling Dental Caries (1 ECTS cr) course is included to study module A540231 Cariology II (9 ECTS cr)

Language of instruction:
Finnish
Timing:
3rd study year
Learning outcomes:
Upon completion of the course, the student will be able to
- know how to control caries at individual level
- know the basic methods of caries control

Contents:
Caries control at individual level
Mode of delivery:
Face-to-face teaching; lectures and hands-on training
Hands-on-training 100 % attendance required
Learning activities and teaching methods:
Lectures integrated to hands-on training and group work, total of 27 hours work for student (=1 ECTS cr)
Target group:
3rd year dental students and dental hygienist students
Recommended optional programme components:
No options.
Recommended or required reading:
Recent scientific and other relevant articles provided during the course.
Assessment methods and criteria:
The assessment of the course is based on the learning outcomes of the course.
Grading:
The course unit utilizes verbal grading scale pass/fail.
Person responsible:
Professor Marja-Liisa Laitala, PhD Tarja Tanner
Other information:
Part of Basic knowledge and skills in dentistry strand and is provided in collaboration with Oulu University of Applied Sciences.

900054Y: Conversational Skills in Finnish, 3 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Proficiency level:
B1/B2 , according to the Common European Framework.
Status:
The course is intended for the international students in every faculty at the University of Oulu. Students of the Oulu University of Applied Sciences (OAMK) may also participate to this cross-institutional study. See courses, student quota and applying for OAMK students https://www.oulu.fi/forstudents/crossinstitutionalstudy.
Required proficiency level:
A2.2
Completion of Intermediate Finnish 2 (900016Y) or the equivalent language skills.
ECTS Credits:
3 ECTS credits
Language of instruction:
Finnish
Timing:
-
Learning outcomes:
By the end of the course the student can interact with a degree of fluency (and spontaneity) that makes regular interaction with native speakers quite possible. S/he can describe and explain (clearly and in detail) on a wide range of objects, experiences and events, dreams, hopes and ambitions. The student can bring out opinions, give reasons and explanations for them and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options. S/he is also able to give a (clear) prepared presentation and answer the questions posed by the audience.
Contents:
During the course students strengthen their communication skills in formal and informal situations. The goal is to activate the student's Finnish skills and encourage him/her to use them in different situations. There will be various types of situational dialogue, conversation and listening exercises in the course. In addition, students will conduct a short survey which will also be reported to other students in the class.
Mode of delivery:
Contact teaching and guided self study
Learning activities and teaching methods:
Lessons twice a week (28-30 h), group work (15 h) and guided self study (36 h)
Target group:
International degree and post-graduate degree students, exchange students and the staff members of the University. Students of the Oulu University of Applied Sciences (OAMK) may also participate to this cross-institutional study. See courses, student quota and applying for OAMK students https://www.oulu.fi/forstudents/crossinstitutionalstudy.
Prerequisites and co-requisites:
Completion of Intermediate Finnish 2 (900016Y) or equivalent skills
Recommended optional programme components:
-
Recommended or required reading:
Will be provided during the course.
Assessment methods and criteria:
To pass the course, students must attend class on a regular basis and complete group work tasks and homework assignments.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Grading is on a pass/fail basis.
Person responsible:
Anne Koskela
Working life cooperation:
-
Other information:
Sign-up in WebOodi or Tuudo. Staff members in in staff training portal.

811319A: Data Modeling and Design, 5 op

Voimassaolo: 01.08.2019 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Information Processing Science DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Iisakka, Juha Veikko

Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS credits / 133 hours of work
Language of instruction:
Finnish
Timing:
The course is held in the spring semester, during period 3. It is recommended to complete the course in the 2nd spring semester of the Bachelor's studies.
Learning outcomes:
After completing the course, the student will be able to:
• compare traditional relational database to modern distributed databases, as well consider the influence of CAP-theorem to distributed databases,
• identify features affecting the quality of non relational databases and choose appropriate implementation of non relational database for use,
• explain data persistency concepts and can apply database transaction management principles while using databse systems, as well as
• describe (typical) contemporary database solutions and their role in large-scale software systems (such as ERP).
Contents:
Modern database solutions and the use of them as well transactions, concurrency and recovery.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures 4 h, Exercises 12 h, Study groups 8 h (+preparation 32 h), online assignments 36 h, litterature reviews 40 h
Target group:
BSc students
Prerequisites and co-requisites:
The required prerequisite is that the learning outcomes of the following courses and their predecessors are accomplished: Software Quality and Testing, Databases
Recommended or required reading:
Will be anounced in the course. Scientific articles.
Assessment methods and criteria:
Continuous evaluation.
Study groups, online assignments, litterature reviews
Grading:
Numerical scale 1-5 or fail
Person responsible:
Juha Iisakka

811312A: Data Structures and Algorithms, 5 op

Voimassaolo: 01.08.2010 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Information Processing Science DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Juustila, Antti Juhani

Opintokohteen kielet: Finnish

Leikkaavuudet:

521144A Algorithms and Data Structures 6.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work.
Language of instruction:
Finnish
Timing:
The course is held in the autumn semester, during period 2. It is recommended to complete the course in the 2nd autumn semester of the Bachelor's studies.
Learning outcomes:
After completing the course the student will be able to:
* select data structures and algorithms to an application,
* apply induction when proving algorithm correctness and define recursive algorithms,
* describe trees, graphs and their basic algorithms and apply them in a program,
* describe the most common sorting algorithms, as well as
* analyse the correctness and time complexity of an algorithm implemented in a program.
Contents:
* Basic data structures
* Analysis of algorithms
* Sorting algorithms
* Hash tables
* Binary search trees
* Graphs and their algorithms
* Algorithm design paradigms
Mode of delivery:
Face-to-face teaching.
Learning activities and teaching methods:
Lectures 48 h, exercises 21 h, exercise work 27 h, independent study 39 h.

Target group:
BSc students.
Prerequisites and co-requisites:
The required prerequisite is that the learning outcomes of the following courses are accomplished: Databases

Recommended optional programme components:

Recommended or required reading:
Cormen, Leiserson, Rivest, Stein: Introduction to algorithms, Second edition, MIT Press 2001 (or newer) and other material defined during the course.

Assessment methods and criteria:
1. Exam and assignment OR 2. Mid-term exams (2) and assignment
Grading:
Numerical scale 1-5 or fail.
Person responsible:
Antti Juustila

811325A: Databases, 5 op

Voimassaolo: 01.08.2019 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Information Processing Science DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Iisakka, Juha Veikko

Opintokohteen kielet: Finnish

Leikkaavuudet:

811395A	Basics of Databases	5.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work

Language of instruction:
Finnish
Timing:
The course is held in the autumn semester, during period 1. It is recommended to complete the course in the 2nd year autumn semester of the Bachelor's studies.
Learning outcomes:
After completing the course, the student will be able to:
* apply the theory of the relational databases and the basics of the set theory,
* build a good quality relational database and use queries,
* use a relational database for storing persistent objects,
* use conceptual modelling for designing databases, as well as
* normalise a database and assess its quality.
Contents:
* Conceptual modelling
* Relational model and database
* SQL
* Quality of database
* Storing objects to the relational database
Mode of delivery:
Blended teaching
Learning activities and teaching methods:
Lectures 24 h, exercises 16 h, computer exercises 25 h, self-study 68 h
Target group:
BSc students
Prerequisites and co-requisites:
The required prerequisite is that the learning outcomes of the following courses and their predecessors are accomplished: Programming 2.
Recommended or required reading:
Coronel C & Morris S (2018), Database systems : design, implementation, and management, Australia: Cengage Learning
Assessment methods and criteria:
Continuous evaluation. The course will be divided to parts. Every part will be evaluated and all parts must pass.
Grading:
Numerical scale 1-5 or fail
Person responsible:
Juha Iisakka

091794A: Diagnostics in Orthodontics, 1 op

Voimassaolo: 01.08.2020 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Dentistry

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

ECTS Credits:
1 ECTS cr, part of A540232 Orthodontics I (7 ECTS credits)
Language of instruction:
Finnish
Timing:
3rd year. Preclinical studies must be completed before the course.

Learning outcomes:
The student is able to evaluate and diagnose the most common malocclusion on population level and the importance of malocclusions.
The student can make the difference between mild and severe malocclusions.
The student is competent to use the most common diagnostic tools and documentation methods to screen malocclusions.
The student can evaluate the functional factors of occlusion, related to malocclusion.
The student understands the referring system and comprehensive care, related to the treatment of malocclusions.

Contents:
Normal occlusion
Malocclusion
Epidemiology of malocclusions
Characteristics of malocclusions
Diagnostic tools in orthodontics
Emergence timetables of teeth
Occlusion examination on dental casts
Imaging in orthodontics
General growth and orthodontics
Functional issues related to orthodontic patient examination
Extrinsic factor related to the emergency of orthodontic problems
Mode of delivery:
Face to face
Learning activities and teaching methods:
During the lectures and seminars the prevalence of orthodontic problems and the diagnostics are handled.
In the seminars the diagnostics is trained in practical sessions.
The documentation and imaging are handled in relation t orthodontics.
Especially the importance of growth and development and the emergency timetable of dentition is reflected to orthodontic diagnostics.
Target group:
Students in Dentistry 3rd year
Prerequisites and co-requisites:
Clinical Training
Recommended optional programme components:
Oral Development and Orthodontics:
090171A-01 Introduction to Development of Occlusion and Orthodontics (0.5 Credit)
A540232 Orthodontics I including:
- 091794A Diagnostics in Orthodontics (1 Credits) and
- 091795A Basic Orthodontic Skills (6 Credits)

091772S Orthodontics III including:
- 091772S-01 ORTHO-Seminars 1-5 (1.5 credit)
- 091772S-02 Pathology in occlusal development and adult orthodontics (0.5 credit)

090177A-06 Abnormal eruption patterns of permanent teeth 2 h
Lessions in Implantology and facial pain seminars.
Recommended or required reading:
Review of the theoretical and practicing materials in Orthodontics, clinical practice and know-how in Teaching clinic, Oulu City and Oral and Maxillofacial Department, Oulu University Hospital.
Assessment methods and criteria:
In clinical practice OukaOpa app is used for self-assessment in Orthodontics based on national competences, clinical teachers will comment.
Grading:
Pass/fail
Person responsible:
Professor Pertti Pirttiniemi
Programme manager Raija Lähdesmäki
Working life cooperation:
Clinical practice is supervised patient work in Orthodontic field of clinical Dentistry, mainly growing patients and following special care treatment in the University hospital in Orthodontic field.
Other information:
091792A Dental hygienist students also participate in the Diagnostics in Orthodontics (1 Credits) course.

521337A: Digital Filters, 5 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Computer Science and Engineering DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Olli Silven

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay521337A Digital Filters (OPEN UNI) 5.0 op

ECTS Credits:
5 ECTS cr
Language of instruction:
Finnish, English study material available
Timing:
Spring, period 3.
Learning outcomes:
1. Student is able to specify and design respective frequency selective FIR and IIR filters using the most common methods.

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

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

4. Student has the necessary basic skills to use signal processing tools available in Matlab environment and to judge the results.
Contents:
1. Sampling theorem, aliasing and imaging, 2. Discrete Fourier transform, 3. Z-transform and frequency response, 4. Correlation and convolution, 5. Digital filter design, 6. FIR filter design and realizations, 7. IIR filter design and realizations, 8. Finite word length effects and analysis, 9. Multi-rate signal processing.
Mode of delivery:
Online teaching (Lectures), independent work, group work
Learning activities and teaching methods:
Online lectures and exercises 50 h. The design exercises familiarize the students with the methods of digital signal processing using the Matlab software package. The rest as independent work.
Target group:
Computer Science and Engineering students and other Students of the University of Oulu.
Prerequisites and co-requisites:
031077P Complex Analysis, 031080A Signal Analysis
Recommended optional programme components:
The course is an independent entity and does not require additional studies carried out at the same time.
Recommended or required reading:
Lecture notes and exercise materials. Material is in Finnish and in English. Course book: Ifeachor, E., Jervis, B.: Digital Signal Processing, A Practical Approach, Second Edition, Prentice Hall, 2002.
Assessment methods and criteria:
The course can be passed either with week exams or a final exam. In addition, the exercises need to be returned and accepted.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.
Person responsible:
Olli Silven
Working life cooperation:
None.
Other information:
Course work space can be found from University of Oulu Moodle platform moodle.oulu.fi.
Open University students enroll for studies through an open website.

521432A: Electronics Design I, 5 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Electrical Engineering DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Ilkka Nissinen

Opintokohteen kielet: Finnish

ECTS Credits:
5
Language of instruction:
Finnish.
Timing:
Spring, period 4.
Learning outcomes:
1. should be able to recount the principles covering the design of multistage amplifiers

2. should be able to analyze and set the frequency response of a transistor amplifier

3. should be able to make use of feedback to improve the properties of an amplifier in the desired manner

4. should be able to analyze the stability of a given degree of feedback amplification and to dimension an amplifier correctly to ensure stability

5. should be able to describe the principles governing the design of power amplifiers

6. should be able to make widespread use of operational amplifiers for realizing electronic circuits and to take account of the limitations imposed by the non-idealities inherent in operational amplifiers

7. should be able to design low-frequency oscillators, to explain the operating principles of radio frequency oscillators and tuned amplifiers

Contents:
Frequency response of a transistor amplifier, differential amplifier, feedback, power amplifiers, oscillators and tuned amplifiers, non-idealities of an operational amplifier, applications of operational amplifiers.
Mode of delivery:
Remote teaching.
Learning activities and teaching methods:
Link to Moodle will be given later. Lectures 30 h and exercises 20 h.
Target group:
Students of Electrical engineering. Other students of the University of Oulu may also participate.
Prerequisites and co-requisites:
Principles of electronic design
Recommended optional programme components:
This course is required when participating in Laboratory Exercises on Analogue Electronics.
Recommended or required reading:
Lecture notes, book: Behzad Razavi, “Microelectronics”, 2nd Edition, ISBN 9781-118-16506-5
John Wiley & Sons 2015

Assessment methods and criteria:
Final or 2 mid-term exams.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Numerical grading scale 1-5.
Person responsible:
Ilkka Nissinen
Working life cooperation:
-
Other information:
-

904016Y: Elementary Course in French I, 5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: French

Leikkaavuudet:

ay904016Y Elementary Course in French I (OPEN UNI) 5.0 op

Proficiency level:
A1 on CEFR scale.
Status:
See the study guide of your education programme
Required proficiency level:
No requirements
ECTS Credits:
5 ECTS credits
Language of instruction:
Finnish / French / English
Timing:
Autumn term
Learning outcomes:
Upon completion of the course unit the student should:

1. be able to talk about himself/herself and manage in basic everyday situations,
2. be able to ask simple questions and give short answers,
3. know the most common greetings and courtesy phrases,
4. be able to ask his/her discussion partners to slow down their speech or repeat themselves,
5. be able to understand slow and clear speech about everyday topics in familiar and predictable everyday situations,
6. be able to pronounce French understandably.

Contents:
The main body of the course unit consists of essential grammatical structures and vocabulary and various listening, reading, writing, discussion and pronunciation exercises. The language proficiency needs of both everyday life and working life are taken into account when selecting topics. These topics include talking about oneself, talking about one's own interests and hobbies, discussing daily plans, suggesting to do something, agreeing to do something and declining to do something. Grammatical structures covered include the most common present tense and near future tense verb forms, gender and number of nouns, definite and indefinite articles, negative and positive sentences and interrogative sentences.
Mode of delivery:
Contact teaching
Learning activities and teaching methods:
52 hours of lectures in groups (4 hours per week) and independent work (completion of agreed upon exercises).
Target group:
Students in all faculties.
Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.
See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.
Prerequisites and co-requisites:
-
Recommended optional programme components:
-
Recommended or required reading:
Textbook and exercise book(**Méthode et cahier d´exercice**) **"Edito 1, niv. A1"**, Editions Didier (Unités 1,2,3,4).
Assessment methods and criteria:
Regular and active participation in contact teaching, completion of the given assignments and final exam.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Successful completion of the course unit is assessed on the scale of 1-5. If the student so wishes, he/she may receive the grade "Pass" on his/her study register instead of a numeric grade.
Person responsible:
Cécile Rousselet-Karinen
Working life cooperation:
-
Other information:

Sign-up takes place in Weboodi or Tuudo. In case you do not have an WebOodi account or the registration time has ended you may sign up by sending e-mail to the contact teacher. The teacher responsible for the course will gladly help you choose the correct course unit. The contact email is: **cecile.rousselet-karinen[at]oulu.fi**

904017Y: Elementary Course in French II, 5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: French

Leikkaavuudet:

ay904017Y Elementary Course in French II (OPEN UNI) 5.0 op

Proficiency level:
A1 / A2 (Common European Framework of Reference)
Status:
See the study guide of your education programme
Required proficiency level:
Successful completion of Elementary Course 1 (904016Y) or equivalent knowledge (e.g. a maximum of one year of French studies at another institution).
ECTS Credits:
5 credits
Language of instruction:
Finnish / French / English
Timing:
Spring term
Learning outcomes:
Upon completion of the course unit the student should:

1. be able to talk about his/her living environment in more detail,
2. be able to talk about past events,
3. be able to manage in everyday speech situations and short dialogues,
4. be able to understand parts of normal-speed speech when the topic is familiar to him/her,
5. have a basic understanding of the cultures of French-speaking countries and be able to make everyday arrangements (lunch dates etc.).

Contents:
Topics covered by the course unit include telling directions, living environment, shopping for groceries, discussing daily plans and describing daily events (also in the past tense). The grammatical structures covered include adjective pronouns (possessive and demonstrative), partitive case, reflexive verbs, *-er, -ir* and *-re* verbs and the most common irregular verbs (present tense and perfect tense).
Mode of delivery:
Contact teaching
Learning activities and teaching methods:
52 hours of lectures in groups (4 hours per week) and independent work (completion of agreed upon exercises).
Target group:
Students of all faculties. Students of the Oulu University of Applied Sciences (OAMK) may also participate to this cross-institutional study. See courses, student quota and applying for OAMK students https://www.oulu.fi/forstudents/crossinstitutionalstudy.
Prerequisites and co-requisites:
Elementary Course 1 in French or equivalent knowledge
Recommended optional programme components:
The course is a continuation to 904016Y Elementary Course in French 1.
Recommended or required reading:
Text book and exercise book (**Méthode et cahier d´exercice**) **"Edito 1, niv. A1"**, Éditions Didier (Unités 5,6,7,8).
Assessment methods and criteria:
Regular and active participation in contact teaching, completing the the given assignments and final exam. Read more about assessment criteria at the University of Oulu webpage.
Grading:

Successful completion of the course unit is assessed on the scale of 1-5. If the student so wishes, he/she may receive the grade "Pass" on his/her study register instead of a numeric grade.
Person responsible:
Cécile Rousselet-Karinen
Working life cooperation:
-
Other information:
Sign-up takes place in Weboodi or Tuudo. In case you do not have an WebOodi account or the registration time has ended you may sign up by sending e-mail to the contact teacher. The teacher responsible for the course will gladly help you choose the correct course unit. The contact email is: **cecile.rousselet-karinen[at]oulu.fi**

903024Y: Elementary Course in German 1, 3 - 4 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay903024Y Elementary Course in German 1 (OPEN UNI) 4.0 op

Proficiency level:
CEFR, A1.
Status:
The course is optional and it may be included in your faculty's Language, Cultural and Communication Studies (KieKuVi) or in other optional studies.
Required proficiency level:
Elementary Course in German 1 requires no previous German studies. This course unit is also intended for those students who have studied German before, in school or during secondary education, but a long time has passed since the previous studies.
ECTS Credits:
3 - 4 credits / 80 - 106 h of student's work
Language of instruction:
Finnish and German
Timing:
The course unit is held every semester. There are three teaching groups in the autumn semester and two in the spring.
The course lasts for one semester.
Learning outcomes:
Upon completion of the course unit the student should be able to communicate by using simple phrases in everyday language use situations both orally and in writing. The student should also know some basic information about German-speaking countries and their customs.
Contents:
The main body of the course unit consists of essential grammatical structures and vocabulary and various listening, reading, writing, discussion and pronunciation exercises. The course unit aims to help you develop your German communication skills and introduce you to the cultures of the German-speaking countries. Both everyday communication needs and professional life have been taken into account when choosing the topics to be discussed during the course unit.

Topics covered by the course unit include German-speaking countries, customs, holidays, talking about oneself, one's family and one's studies, standard professional vocabulary, one's own interests and hobbies, asking for and giving directions, making appointments, scheduling, inquiring about services, receiving services and restaurant and travelling situations.
Grammatical structures covered include verbs in the present tense, separable-prefix verbs, nominative and accusative forms of nouns, personal pronouns and possessive pronouns, accusative prepositions, conjunctions and word order in main clauses and interrogative sentences.
Mode of delivery:
Contact teaching. More detailed information in the beginning of the course.
Learning activities and teaching methods:

Contact teaching 2 times 90 min. / week , independent study
80 h of work for 3 credits
106 h of work for 4 credits
Target group:
Students in all faculties. This course is not offered in English. It is only Finnish-speaking students.
Students of the Oulu University of Applied Sciences (OAMK) students. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.
See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.
Prerequisites and co-requisites:
-
Recommended optional programme components:
-
Recommended or required reading:
Freut mich 1 (Otava). Authors: Anja Blanco and Pauli Kudel. Chapters 1-7. Also additional study material prepared by the teacher.
Assessment methods and criteria:
Continuous assesment, 2 exams. Regular and active participation, homework assignments and tests. Students will get feedback during the course.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1 - 5 scale
Person responsible:
Kaisu Jarde and Marja Pohjola-Effe
Working life cooperation:
-
Other information:
The course with this code will be available last time in 2020-2021.
Registration in WebOodi. If the registration has closed the student can sign up by contacting the teacher by e-mail.

903025Y: Elementary Course in German 2, 3 - 4 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay903025Y	Elementary Course in German II (OPEN UNI)	4.0 op

Proficiency level:
CEFR levels A1 and A2.
Status:
The course is elective and it may be included in your faculty's Language, Cultural and Communication Studies (the KieKuVi module) or in other optional studies.
Required proficiency level:
Completion of Elementary Course in German 1 or A1 proficiency level (CEFR). This course unit is also intended for those students who have studied German before, in school or during secondary education, but a long time has passed since the previous studies.
ECTS Credits:
3 - 4 ECTS credits / 80 - 106 h of student's work.
Language of instruction:
Finnish and German
Timing:
The couse unit is held every semester. There are two teaching groups in the autumn semester and three in spiring. The course unit lasts for one semester.
Learning outcomes:
Upon completion of the course unit the student should be able to communicate by using simple phrases in everyday language use situations both orally and in writing. The student should also know some basic information about German-speaking countries and their customs.

Contents:
The main body of the course unit consists of essential grammatical structures and vocabulary and various listening, reading, writing, discussion and pronunciation exercises. The course unit aims to help you develop your German communication skills and introduce you to the cultures of the German-speaking countries.
Both everyday communication needs and professional life have been taken into account when choosing the topics to be discussed during the course unit. Topics covered by the course unit include shopping and talking about one's home country.
Grammatical structures covered include present tense, perfect tense, accusative and dative, possessive pronouns, dative prepositions, the so called "dual" prepositions (accusative and dative forms), imperative form, conditional form, ordinal numerals, dates, units of time, conjunctions and word order of main clauses and subordinate clauses. The course unit allows the student to brush-up on the grammar learned during Elementary Course 1.
Mode of delivery:
Contact teaching. More detailed information in the beginning of the course.
Learning activities and teaching methods:
Contact teaching 2 times 90 min / week, independent study
80 h of work for 3 credits
106 h of work for 4 credits.
Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:

See Required proficiency level

Recommended optional programme components:
-
Recommended or required reading:
Freut mich 1 (Otava). Tekijät: Anja Blanco ja Pauli Kudel. Chapters 8-12. Also additional study material prepared by the teacher.
Assessment methods and criteria:
Continuous assessment, 2 exams. Regular and active participation, homework assignments and tests
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5 / fail
Person responsible:
Kaisu Jarde and Marja Pohjola-Effe
Working life cooperation:
-
Other information:
The course with this code will be available last time in 2020-2021.

Registration in WebOodi or Tuudo. If registration has closed the student can sign up contacting the teacher by email.

905042Y: Elementary Course in Japanese 1, 5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay905042Y Elementary Course in Japanese 1 (OPEN UNI) 5.0 op

Proficiency level:
A1 on the CEFR scale

Status:
This course is optional. It may be included in the language minor (25 ECTS) in OBS. The course may also be included in Language, Cultural and Communication Studies (the KieKuVi module). Voluntary for students who study Japanese Studies as a minor subject.
Required proficiency level:
For beginners. No previous studies required.
ECTS Credits:
5 ECTS credits
Language of instruction:
Japanese / Finnish
Timing:
Autumn term
Learning outcomes:
Upon completion of the course the student should be able to communicate both orally and in writing by using simple phrases and idioms. The student should be able to introduce himself/herself and his/her family and discuss daily and weekly events using relevant basic vocabulary. The student should be familiar with the basics of Japanese etiquette and customs.
Contents:
The course unit offers the student basic information about Japanese grammar and essential vocabulary for everyday situations. The student will participate in various kinds of exercises such as pair/group conversation, listening, making example sentences, text comprehension and textbook exercises.
Mode of delivery:
Contact teaching
Learning activities and teaching methods:
4 hours of teaching per week (2 sessions) and independent study.
Target group:
Students in all faculties. This course is not offered in English. It is only Finnish-speaking students.

Students of the Oulu University of Applied Sciences (OAMK) may also participate to this cross-institutional study. The quota principle is as follows: one OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
-
Recommended optional programme components:
905057Y Japanese KANA Course.
Recommended or required reading:
Textbook: T. Karppinen, Japanin kielen alkeet 1, Finn Lecture, 2014.
Students will be provided with some additional material by the teacher.
Assessment methods and criteria:
Regular and active participation in contact teaching and final exam.
Read more about assessment criteria on the University of Oulu webpage.
Grading:
1 - 5 / fail
Person responsible:
Takako Karppinen
Working life cooperation:
-
Other information:
Students sign up for the course in WebOodi or Tuudo. If you do not yet have your WebOodi username and password, or if the sign-up period has passed, sign up by emailing the teacher.

905043Y: Elementary Course in Japanese 2, 5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay905043Y Elementary Course in Japanese 2 (OPEN UNI) 5.0 op

Proficiency level:
A1-A2 on the CEFR scale.
Status:
This course is optional. It may be included in the language minor (25 ECTS) in OBS. It may also be included in Language, Cultural and Communication Studies (the KieKuVi module). Voluntary for students who study Japanese Studies as a minor subject.

Required proficiency level:
905042Y Elementary Course in Japanese I. (The Japanese KANA and KANJI Course I is also recommended.).
ECTS Credits:
5 ECTS credits
Language of instruction:
Japanese / Finnish
Timing:
Spring term
Learning outcomes:
Upon completion of the course the student should be able to manage in various simple language use situations. Additionally, the student should be able to converse with a Japanese person using basic vocabulary and be able to express his/her opinions about matters relating to everyday life. The student should be able to write simple Japanese texts that include subordinate clauses with Japanese characters and read similar texts aloud. The student should have become more knowledgeable of Japanese customs.
Contents:
Throughout the course unit the student learns more about basic Japanese grammar and subordinate clauses. The student broadens his/her vocabulary, learns more useful phrases and practises speaking and listening comprehension. Topics covered include various everyday activities: going to the supermarket, travelling, studies, hobbies, talking on the phone etc. The student practises the inflectional forms of the most essential verbs and adjectives with a partner or in small groups. The forms covered include the *nai, te, tari* and *ta* forms.
Mode of delivery:
Contact teaching
Learning activities and teaching methods:
4 hours of teaching per week (2 sessions) and independent study.
Target group:
Students in all faculties. This course is not offered in English. It is only Finnish-speaking students.

Students of the Oulu University of Applied Sciences (OAMK) may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
See Required proficiency level
Recommended or required reading:
The same material as on the previous course the Elementary Japanes I.
Assessment methods and criteria:
Regular and active participation in contact teaching and final exam.
Read more about assessment criteria on the University of Oulu webpage.
Grading:
1 - 5 / fail
Person responsible:
Takako Karppinen
Working life cooperation:
-
Other information:
Students sign up for the course unit in WebOodi. If you do not yet have your WebOodi username and password, or if the sign-up period has passed, sign up by emailing the teacher.

904066Y: Elementary Course in Russian 1, 5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies
Laji: Course
Vastuuyksikkö: Languages and Communication
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish
Leikkaavuudet:

ay904066Y Elementary Course in Russian 1 (OPEN UNI) 5.0 op

Proficiency level:
A1 on the CEFR scale.
Status:
This course is optional in all study programmes.
Required proficiency level:
No previous studies of Russian are required.
ECTS Credits:
5 ECTS credits
Language of instruction:
Russian and Finnish
Timing:
Autumn term
Learning outcomes:
Upon completion of the course the student should know the Cyrillic alphabet, be able talk about himself/herself and his/her background in Russian and be somewhat familiar with Russian culture.
Contents:
The Cyrillic alphabet, getting to know one another, introductions, language skills, at a cafe, at a restaurant, the Russian way of addressing a person, telling about workplace and likes.
Mode of delivery:
Multimodal teaching
Learning activities and teaching methods:
Self-study, group work and online sections. Successful completion of the course requires active participation, completion of all given assignments and attaining a passing grade in the course exam. Students who complete this course may continue on to Elementary Course in Russian 2 held in the spring.
Target group:

Students in all faculties. This course is not offered in English. It is only Finnish-speaking students.

Students of the Oulu University of Applied Sciences (OAMK) students. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
-
Recommended optional programme components:
-
Recommended or required reading:
To be announced at the beginning of the course.
Assessment methods and criteria:
Regular and active participation on the contact teaching. Completion of the given assignments.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1 - 5 / fail
Person responsible:
Ari Hepo-aho
Working life cooperation:
-

904067Y: Elementary Course in Russian 2, 5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay904067Y Elementary Course in Russian 2 (OPEN UNI) 5.0 op

Proficiency level:
A1 on the CEFR scale.
Status:
This course is optional in all study programmes.
Required proficiency level:
Elementary Russian course I or equivalent knowledge.
ECTS Credits:
5 ECTS credits
Language of instruction:
Russian and Finnish
Timing:
Spring term
Learning outcomes:
Upon completion of the course the students should be able to manage in various everyday communication situations.
Contents:
Shopping, clothes and colours, situations in tourisim, presenting one's home and surrounding, catching up, telephone conversations, visits, telling about itinerary, working life, studying, arranging a meeting, weather.
Mode of delivery:
Multimodal teaching
Learning activities and teaching methods:
Self-study, group work and online sections. Successful completion of the course requires active participation, completion of all given assignments and attaining passing grades in the course exams. Students who complete this course may continue on to Intermediate Course in Russian (part I) in the following semester.
Target group:
Students of all faculties. This course is not offered in English. It is only Finnish-speaking students.

Students of the Oulu University of Applied Sciences (OAMK) students. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
Elementary Russian course I or equivalent knowledge.
Recommended optional programme components:
-
Recommended or required reading:
To be announced at the beginning of the course.
Assessment methods and criteria:
Regular and active participation on the contact teaching. Completion of the given assignments.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1 - 5 / pass / fail
Person responsible:
Ari Hepo-aho
Working life cooperation:
-

811166P: Fundamentals to Information Systems, 5 op

Voimassaolo: 01.08.2020 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Information Processing Science DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Pasi Karppinen

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay811166P Fundamentals to Information Systems (OPEN UNI) 5.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work
Language of instruction:
Finnish
Timing:
The course is held in the autumn semester, during period 2. It is recommended to complete the course in the 1st year autumn semester of the Bachelor's studies.
Learning outcomes:
After completing the course, the student will be able to:
* use basic concepts of information systems,
* recognize challenges regarding the use of information systems and users,
* describe the basics of organisation, e.g. its structure and function,
* recognize different types of information systems and their roles in an organisation,
* describe how organizational knowledge is formed and recognizes challenges of managing it,
* recognize ethical and social challenges related to information systems,
* describe the role of information systems in leadership and decision making,
* recognize the possibilities of information systems renewal and financial impact of it, as well as
* describe the basics of the history of information systems discipline, its research methods and scientific journals.
Contents:
* Basic terms and concepts of information systems.
* Challenges regarding the use of information systems and its users.
* Basics of organisation.
* Types of information systems and their roles in an organisation.
* How knowledge is formed in organizations.
* Ethical and social challenges related to information systems.
* Information systems in decision making process.
* Possibilities of information systems renewal and financial impact of it.
* The history of information systems discipline, its research methods and scientific journals.
Mode of delivery:
Online teaching
Covid-19 pandemian vuoksi opetus on kokonaan etäopetuksena syksyllä 2020./ Due to Covid-19 pandemic, teaching in Autumn 2020 will be implemented remotely. Details of arrangement can be found from the course web page, which will be available in Moodle. https://moodle.oulu.fi/course/view.php?id=4498(opens before the start of the course)
Learning activities and teaching methods:
Familiarizing lecture material, independent study of the course literature, weekly tasks and scientific essay. Total 133h.
Target group:
BSc students
Recommended or required reading:
Lecture materials and Laudon, K. C. (2018). Management information systems: Managing the digital firm (Fifteenth
edition, global edition.). Harlow, England: Pearson.
Management Information Systems: Managing the Digital Firm, Global Edition
Kenneth C. Laudon; Jane P. Laudon
Pearson International Content
2020
Assessment methods and criteria:
Active participation in lectures or online environment. Weekly tasks and scientific essay.
Grading:
Numerical scale 1-5 or fail
Person responsible:

Liisa Kuonanoja
Working life cooperation:
Possibly visiting lecturers from companies and other organizations

903054Y: German Business Talk and Correspondence, 3 - 4 op

Voimassaolo: 01.01.2017 -
Opiskelumuoto: Language and Communication Studies
Laji: Course
Vastuuyksikkö: Languages and Communication
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: German

Proficiency level:
B1 on the CEFR scale
Status:
This course may be included either in your faculty's compulsory foreign language studies or in the language minor (25 ECTS).
Required proficiency level:
B1 proficiency level (equivalent to at least 3 years of German studies at school) in the Common European Framework of Reference for Language (CEFR) or equivalent knowledge.
ECTS Credits:
3 – 4 ECTS credits / 80 - 106 h of students' work
Language of instruction:
Finnish and German
Timing:
Autumn and spring term.
Learning outcomes:
Upon completion of the course the student should be familiar with some of the essential differences between the business cultures of Finland and German-speaking countries and he/she should be able to apply this knowledge to real business situations. The student should be experienced in performance situations and able to get his/her message across in a manner that is mindful of the customs and practices of German-speaking countries. The student should be able give a company presentation, to write a contact letter, a call for offers, an offer, an order, a reclamation claim and a response to a reclamation claim in German. He/she should be able to receive German-speaking business guests and plan a company visit and present it.
Contents:
The course includes oral and written exercises. Receiving German-speaking guests, a company presentation, writing business letters, telephone conversations. The German-speaking countries and their cultures.
Mode of delivery:
Contact teaching
Learning activities and teaching methods:
Contact teaching 1 x 90 min. /week, active preparation for the contact meetings. For 4 ECTS additional independent work.
Target group:
Students in all faculties.
Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.
See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.
Prerequisites and co-requisites:
See Required proficiency level
Recommended optional programme components:
This course consists of the former courses 903044Y Projekt Firmenpräsentation (2 op) and 903045Y Geschäftskontakte (2-3 op). If a student has completed both courses already, the course 903054Y Geschäftsdeutsch can't be taken anymore. However, if a student has completed one of the two courses already, the other course can still be taken. In this case, the student may also supplement this part of the course with the code and credit points as formerly specified.
Recommended or required reading:
Material provided by the teachers.
Assessment methods and criteria:

Completion of the course requires regular and active participation in teaching and completion of given written and oral assignments. Continuous assessment.
Grading:
1 – 5 / fail
Person responsible:
Marja Pohjola-Effe and Oliver Jarde
Working life cooperation:
-
Other information:
Registration in WebOodi. If the registration has closed the student can sign up by contacting the teacher by e-mail.

451535P: History of Architecture I, lecture course, 4 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Oulu School of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Petri Vuojala

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay451535P History of Architecture I, lecture course (OPEN UNI) 4.0 op

ECTS Credits:
4 ECTS
Language of instruction:
Finnish
Timing:
Autumn term I and 2
Learning outcomes:
After completing the course the student can evaluate the interaction between style periods of European architectural history, technical development and social changes. The student can classify the different eras and recognize their most significant buildings and architects. After the course the student can interpret the classical language of architecture the classical grammar of architecture, as well as recognize the historical layers of built environment.
Contents:
Lectures discuss the general history of architecture and discipline of styles from prehistory until the end of 18th century and introduce old building methods like brickwork bonds and traditional vault constructions.
Mode of delivery:
Lectures, additionally independent studies
Learning activities and teaching methods:
Lessons 50 hrs
Target group:
1st year Bachelor level students
Prerequisites and co-requisites:
-
Recommended optional programme components:
Course is combined to exercises (451536P)
Recommended or required reading:
Handouts, digital slides. A literature list will be delivered during the course.
Assessment methods and criteria:
Assessment is based on attendance, learning diary or written examination.
Grading:
1-5. Learning diary or written examination.
Person responsible:
Dos. Petri Vuojala
Working life cooperation:
-
Other information:
-

451537A: History of Architecture II, lecture course, 3 op

Voimassaolo: 01.08.2015 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Oulu School of Architecture
Arvostelu: 1 - 5, pass, fail
Opettajat: Petri Vuojala
Opintokohteen kielet: Finnish
Leikkaavuudet:

ay451537A History of Architecture II, lecture course (OPEN UNI) 3.0 op

ECTS Credits:
3
Language of instruction:
Finnish (literature partly in English)
Timing:
Spring term I and 2
Learning outcomes:
During the course the student learns to recognize the historical roots of the contemporary architecture and recount the development up to today. Having completed the course, the student recognizes the most essential phenomena and styles of 19th and 20th century architecture and can reflect own personal views on contemporary architecture.
Contents:
Course discusses the general history of architecture of 19th and 20th centuries.
Mode of delivery:
Lectures, additionally independent studies.
Learning activities and teaching methods:
Lectures 48 hrs
Target group:
1st year Bachelor’s level students
Prerequisites and co-requisites:
History of architecture I, lecture course (451535P)
Recommended optional programme components:
Course is combined to practices (451538A)
Recommended or required reading:
Handouts, digital slides. A literature list will be handed out during the course
Assessment methods and criteria:
Assessment is based on attendance, learning diary or written examination
Grading:
1-5
Person responsible:
Dos. Petri Vuojala
Working life cooperation:
-
Other information:
-

812360A: Information Systems Modelling, Desing and Development, 5 op

Voimassaolo: 01.08.2020 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Information Processing Science DP
Arvostelu: 1 - 5, pass, fail
Opettajat: Mikko Rajanen
Opintokohteen kielet: Finnish

Leikkaavuudet:

ay812360A Information Systems Modelling, Desing and Development (OPEN UNI) 5.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work
Language of instruction:
Finnish
Timing:
The course is held in the spring semester, during period 4. It is recommended to complete the course in the 1st year spring semester of the Bachelor's studies.
Learning outcomes:
After completing the course, the student will be able to:
* describe the basics of modelling,
* describe the importance of modelling when designing information systems,
* use different kinds of modelling types to represent and design information systems from different points of view,
* use modelling in definition phase of information system design,
* recognize and model stakeholder groups for information system design,
* recognize and model use cases for information system design,
* use modelling in the final parts of the information system design,
* describe the connections between design, modelling and implementation,
* use prototyping and modelling as communication method towards stakeholders, as part of requirement specification and as part of evaluating design concepts, as well as
* recognizes the ethical issues in information system desing and the designer responsibility.
Contents:
* Basics of modelling
* Importance of modelling when designing information systems
* Modelling types to represent and design informationsystems from different points of view
* Modelling in definition phase of information system design
* Modelling stakeholder groupsfor information system design
* Modelling use cases for information system design
* Modelling in the final parts of the informationsystem design
* Connections between design, modelling and implementation
* Prototyping and modelling as communication method towards stakeholders, as part of requirement specification and as part of evaluating design concepts
* Ethical issues in information system desing and the designer responsibility.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures 27 h, exercises 21 h, assignment 85 h, tasks 3 h
Target group:
BSc students
Prerequisites and co-requisites:
The required prerequisite is that the learning outcomes of the following courses and their predecessors are accomplished: Fundamentals of Information Systems.
Recommended or required reading:
Satzinger, Jackson ja Burd (2007), Systems Analysis and Design in a Changing World. Hoffer, George and Valacich (2008), Modern systems Analysis and Design, 5. edition
Assessment methods and criteria:
Group assignment which is done and presented in exercises. Tasks that replace exam.
Grading:
Numerical scale 1-5 or fail
Person responsible:
Mikko Rajanen
Working life cooperation:
Possibly visiting lecturers from companies and other organizations

903021Y: Intensive Course in German Language and Culture, 2 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: German

Proficiency level:
A2 on the CEFR scale
Status:
Optional course
Required proficiency level:
Elementary knowledge of German language, e.g. 2 - 3 years of German in school.
ECTS Credits:
2 ECTS credits / 54 h of student's work
Language of instruction:
Finnish and German
Timing:
The course will be organised in January - February -March
Learning outcomes:
Upon completion of the course the student should be able to manage in situations he/she might face during exchange studies in a German-speaking university. The student should be familiar with the differences and similarities between studies in Finnish and German universities. He/she should be able to talk about himself /herself, his/her hobbies and studies in German. He/she should also be able to discuss his/her country, it's history, current events, school system and culture. The student should be able to recognise some differences and similarities between Finnish and German-speaking cultures. He/she should be able to take into account the distinctive cultural features of the target country in his/her German communication.
Contents:
Discussion and writing exercises, listening comprehension and reading comprehension exercises. Themes covered by the course include studying and student culture at a German-speaking university, one's own studies, discussing Finland and Finnish culture in German, German-speaking countries, culture, customs and behaviour in German-speaking countries, cultural differences, everyday situations (going to the bank or government office etc.). The student can also brush up on basic grammar, if necessary.
Mode of delivery:
Contact teaching. More detailed information in the beginning of the course.
Learning activities and teaching methods:
Contact teaching (minimum) 1 x 90 min./ week, independent work, 54 h in total.
Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle. See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
See Required proficiency level.
Recommended optional programme components:
-
Recommended or required reading:
Material provided by the teacher.
Assessment methods and criteria:
Completion of the course requires the completion of all agreed upon exercises and regular participation in contact teaching.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Pass / fail
Person responsible:
Marja Pohjola-Effe
Working life cooperation:
-
Other information:
Registration in WebOodi or Tuudo. If the registration has closed the student can sign up by contacting the teacher by e-mail.

903041Y: Intercultural Communication / Tandem - German - Finnish, 2 - 4 op

Voimassaolo: 01.08.1995 -
Opiskelumuoto: Language and Communication Studies
Laji: Course
Vastuuyksikkö: Languages and Communication
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish, German
Voidaan suorittaa useasti: Kyllä

Proficiency level:
A2/B1 in German language
Status:
Optional / compulsory. See the study guide of your study programme.
Required proficiency level:
Finnish students: CEFR-level A2. Three years of German in school or equivalent knowledge. German speaking students: No Finnish skills required. The proficiency level may vary depending on the students.
ECTS Credits:
2 - 4 ECTS credits / 54 - 106 h of student's work.
Language of instruction:
German and Finnish
Timing:
Autumn or spring term. The independent meetings with the Tandem partner may last the whole academic year.
Learning outcomes:
Upon completion of the course the student should be more confident in authentic communication situations with native German speakers and he/she should be well conversant with the cultures of German-speaking countries. The student should be familiar with some basic concepts of culture and intercultural communication. He/she should understand the culture-specific nature of Finnish and German customs and practices and be able to compare them with each other (values, etiquette, taboo subjects, communication and interaction in various situations, everyday situations, work and study-related situations etc.).
Contents:
Introduction to working in tandem with another student(s) and intercultural communication (observations and experiences of domestic and foreign cultures, interpreting and classifying these experiences, cultural differences). The course covers various themes relating to the cultures of Finland and the German-speaking countries (values, etiquette, communication and interaction in various situations, everyday situations, taboo subjects, work and student life). The course provides the tandem study partners with discussion topics and exercises for their meetings.
Mode of delivery:
Contact teaching and independent meetings. More detailed information in the beginning of the course.
Learning activities and teaching methods:
10 hours of contact teaching (schedule to be agreed upon at the first meeting), the rest of the course consists of independent meetings with the student's tandem group.
Target group:
The course is intended for Finnish students studying German and (exchange) students who are native German speakers.
Students in all faculties. Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
See Required proficiency level
Recommended optional programme components:
-
Recommended or required reading:
Material prepared by the teacher.
Assessment methods and criteria:
2 op/ECTS: Active participation to contact teaching +12 meetings with the Tandem partner + final report.
3 op/ECTS: Active participation to contact teaching +20 meetings with the Tandem partner + final report.
4 op/ECTS: Active participation to contact teaching +30 meetings with the Tandem partner + final report.

Read more about assessment criteria at the University of Oulu webpage.
Grading:
Pass / fail
Person responsible:
Marja Pohjola-Effe
Working life cooperation:
-
Other information:
Registration in WebOodi or Tuudo. If the registration has closed the student can sign up by contacting the teacher by e-mail.

904026Y: Intermediate Course in French 1, 5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: French

Proficiency level:
A2 on the CEFR scale.
Status:
See the study guide of your study programme.
Required proficiency level:
Elementary courses or equivalent knowledge.
ECTS Credits:
5 ECTS credits
Language of instruction:
French (also English and Finnish are used)
Timing:
Autumn term
Learning outcomes:
Upon completion of the course unit the student should:

1. be able to express his/her opinions and feelings using simple language,
2. be able to describe persons and everyday things and events,
3. be able to manage in short dialogues and talk about future events,
4. be able to describe his/her own experiences,
5. be able to understand the gist and some details of normal-speed speech when the topic is familiar to him /her,
6. be able to recognise some differences and similarities between Finnish and French-speaking cultures.

Contents:
Topics covered by the course unit include accepting and declining a proposal, giving advice, expressing opinions, talking about weather, talking about one's life, plans, leisure time and holidays. Grammatical structures covered include auxiliary verbs (*pouvoir, voulour, savoir*), personal pronouns , the use of *passé composé* and the imperfect form, near-future tense and the so called simple future tense (*le futur simple*).
Mode of delivery:
Contact teaching
Learning activities and teaching methods:
52 hours of lectures in groups (4 hours per week) and independent work (completion of agreed upon exercises).
Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
Elementary course II completed in the Languages and Communication unit or equivalent knowledge.
Recommended optional programme components:

-

Recommended or required reading:
Text book and exercise book(**Méthode et cahier d´exercice**) ”Édito 1, niv.1. A1, Éditions Didier (Unités 9,10,11,12).

Assessment methods and criteria:
Regular and active participation in contact teaching, completion of the given assignments and final exam.
Read more about assessment criteria at the University of Oulu webpage, see https://www.oulu.fi/forstudents/assessment-criteria

Grading:
Successful completion of the course unit is assessed on the scale of 1-5. If the student so wishes, he/she may receive the grade "Pass" on his/her study register instead of a numeric grade.

Person responsible:
Cecile Rousselet-Karinen

Working life cooperation:
-

Other information:
The teacher responsible for the course will gladly help you choose the correct course unit.
Sign-in by WebOodi or Tuudo or send email to the teacher.

904027Y: Intermediate Course in French 2, 5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: French

Proficiency level:
A2 / B1 on the CEFR scale

Status:
See the study guide of your study programme.

Required proficiency level:
Intermediate French course part I or equivalent knowledge.

ECTS Credits:
5 ECTS credits

Language of instruction:
French / English

Timing:
Spring term

Learning outcomes:
Upon completion of the course the student shoud:

1. be able to make polite requests and describe his/her goals and dreams,
2. be able to express his/her needs and wishes,
3. be able to make comparisons between different living environments,
4. be able to manage in simple work and study-related situations using French,
5. be able to give advice and solutions to problems,
6. be able to understand the gist of a simple text,
7. be able to understand the gist and some details of normal-speed speech even when the topic is not familiar to him/her,
8. be able to justify his/her opinions and briefly explain them as well as write text about familiar topics,
9. be able to recognise some differences and similarities between Finnish and French-speaking cultures.

Contents:
Topics covered by the course unit include the French and their way of life, health matters and work environment. The grammatical structures covered include relative pronouns, present conditional tense, comparative and the subjunctive present tense.

Mode of delivery:
Contact teaching

Learning activities and teaching methods:
52 hours of lectures in groups (4 hours per week) and independent work (completion of agreed upon exercises).

Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
Intermediate French course part I or equivalent knowledge.
Recommended optional programme components:
The course unit is a continuation to Y904026 Intermediate Course in French 1.
Recommended or required reading:
Text book and exercise book (**Méthode et cahier d´exercice**) **"Edito2, niv. A2"**, Éditions Didier (Unités 1,2,3,4,5,6).
Assessment methods and criteria:
Regular and active participation in contact teaching, completion of given assignments and exams.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Successful completion of the course is assessed on the scale of 1-5. If the student so wishes, he/she may receive the grade "Pass" on his/her study register instead of a numeric grade.
Person responsible:
Cecile Rousselet-Karinen
Working life cooperation:
-
Other information:
The teacher responsible for the course will gladly help you choose the correct course, cecile.rousselet-karinen[at] oulu.fi.

904037Y: Intermediate Course in French 3, 5 op

Voimassaolo: 01.01.2019 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: French

Proficiency level:
(A2) B1
Required proficiency level:
Intermédiaire II, 904027Y or similar skills (for example 5 years french at school).
ECTS Credits:
5 ECTS cr
Language of instruction:
French (English/Finnish)
Timing:
In Autumn
Learning outcomes:
After completing the course the student:
* copes with most work and study situations
* can participate in general negotiations
* can express intentions, responsibilities and limitations
* is able to compare different education systems and identify differences between one's own and French culture
* is able to present his / her own perspectives, express his / her unanimity and opposite opinion
* is able to express his / her own values and defend his / her opinion
* copes with general work and study situations
* be able to participate in discussions on topics covered in the course
* identify differences and similarities between the cultures of one's own and French-speaking countries.
Contents:
Käsiteltävät teemat: Informaatio, lehdistö, tiedotusvälineet. Matkustaminen. Opinnot ja työelämä. Ympäristö ja saasteet.

Kielioppi: Syy-ja seuraussuhteet, konditionaalin preesens, prepositionaaliverbit, passiiviset muodot, pronominien paikka, subjunktiivi.
Mode of delivery:
Contact teaching
Learning activities and teaching methods:
Contact teaching 52 hours (4 hours in week) and independent work (including agreed tasks).
Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle. See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Recommended or required reading:
Méthode et cahier d´exercice, "Edito 2, niv. A2", Éditions Didier (Unités 7, 8, 9, 10, 11, 12).
Assessment methods and criteria:
Regular participation and active work, as well as conducting agreed assignments and course-related exams. Read more about grading on the university's website.
Grading:
A grade for an approved course is given on a scale of 1 to 5. If desired, the student can obtain a grade of "passed" in the study register.
Person responsible:
Cècile Rousselet-Karinen
Working life cooperation:
-
Other information:
Registration via WebOodi or Tuudo.
If you do not have IDs or the registration period has expired, register by sending email to course teacher.
The person in charge of the course will be happy to guide you in choosing the right course.
If necessary, you can contact by e-mail: cecile.rousselet-karinen@oulu.fi.

903029Y: Intermediate Course in German 1, 3 - 4 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: German

Proficiency level:
CEFR level A2/B1
Status:
The course is optional. It can be approved as a partial completion of the course unit 903010P Technical German 1. This partial completion is worth 3 ECTS credits.
Required proficiency level:
3 years of German studies during secondary education or equivalent knowledge. 903024Y Elementary Course in German 1 & 903025Y Elementary Course in German 2.
ECTS Credits:
3 - 4 ECTS credits / 80 - 106 h of students's work.
Language of instruction:
German
Timing:
The course is held in autumn term (2 groups). Please note: Intermediate Course in German 2 and Intermediate Course in German 1 can be studied in a way that first Course 2 can be taken in spring term and after that Course 1 in autumn term.
Learning outcomes:
The aim of the course is to develop the student's language skills in different areas. Upon completion of the course unit the student should be able to communicate in situations where familiar everyday topics are discussed. He/she should be able to understand relatively simple texts, express his/her opinions and manage in short dialogues. The student should be able to recognise some differences and similarities between Finnish and German-speaking

cultures. He/she should be able to communicate in various everyday situations while taking into account the distinctive cultural features of the German-speaking country in question.
Contents:
Discussion exercises, grammar exercises and listening and reading comprehension exercises. Topics covered by the course include family, daily routines, free time, studies, working life and German-speaking countries and their cultures.
Mode of delivery:
Contact teaching. More detailed information in the beginning of the course.
Learning activities and teaching methods:
Contact teaching 2 times 90 min. / week , independent study
80 h of work for 3 credits
106 h of work for 4 credits
Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy
Prerequisites and co-requisites:
See Required proficiency requirement
Recommended optional programme components:
-
Recommended or required reading:
Material prepared by the teacher.
Assessment methods and criteria:
Regular and active participation, homework assignments and tests. Continuous assesment.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Scale 1 - 5 or pass / fail
Person responsible:
Oliver Jarde
Working life cooperation:
-
Other information:
The course with this code will be available last time in 2020-2021.

Registration in WebOodi or in Tuudo. If the registration has closed the student can sign up by contacting the teacher by e-mail.

903030Y: Intermediate Course in German 2, 3 - 4 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: German

Proficiency level:
CEFR scale A2/B1
Status:
The course is optional and it may be included in your faculty's Language, Cultural and Communication Studies (KieKuVi) or in Other Studies. It may also be included as a partial 3 credit course in the Technical German 1 or 3.
Required proficiency level:
3 years of German studies during secondary education or equivalent knowledge. 903024Y Elementary Course in German 1 & 903025Y Elementary Course in German 2.
ECTS Credits:
3 - 4 ECTS credits / 80 - 106 h of work for the student.
Language of instruction:
German, Finnish and English. Students are using German in Exams etc.

Timing:
The course is held in spring term. Please note: Intermediate Course in German 2 and Intermediate Course in German 1 can be studied in a way that first Course 2 can be taken in Spring term and after that Course 1 in Autumn term.
Learning outcomes:
The aim of the course is to develop the student's language skills in different areas: improve the student's oral and written capabilities, develop his/her listening comprehension and broaden his/her vocabulary. Upon completion of the course the student should be able to manage in everyday communication situations and express and justify his /her opinions. He/she should be able to understand texts about familiar topics written in standard language and produce coherent text on topics and themes interesting to him/her.
Contents:
Grammar exercises, reading and listening comprehension exercises and writing exercises relating to work and study-related situations, small talk, politeness and German-speaking countries.
Mode of delivery:
Contact teaching. More detailed information in the beginning of the course.
Learning activities and teaching methods:
Contact teaching 2 times 90 min. / week , independent study
80 h of work for 3 credits
106 h of work for 4 credits
Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
See Required proficiency level
Recommended or required reading:
Material prepared by the teacher.
Assessment methods and criteria:
Regular and active participation, homework assignments and tests. Continuous assesment.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Scale 1 - 5 or pass / fail
Person responsible:
Oliver Jarde
Working life cooperation:
-
Other information:
The course with this code will be available last time in 2020-2021.
Registration in WebOodi or Tuudo. If the registration has closed the student can sign up by contacting the teacher by e-mail.

903042Y: Intermediate Course in German 3, 2 - 4 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: German

Proficiency level:
CEFR level B1
Status:
The course is optional. It can be approved as a partial completion of the course 903012P Technical German 3. This partial completion is worth 3 ECTS credits. It may also be included in your faculty's Language, Culture and Communication Studies (KieKuVi) or in other optional studies.
Required proficiency level:

7 years of German studies during secondary education or equivalent knowledge, for example 903030Y Intermediate German II.
ECTS Credits:
2 - 4 ECTS credits / 54 - 106 h of student's work.
Language of instruction:
German
Timing:
The course is held in autumn term (1 group). Please note: Intermediate Course in German 2 and Intermediate Course in German 1 can be studied in the way that first Course 2 can be taken in spring and after that Course 1 in autumn term.
Learning outcomes:
Upon completion of the course the student should be able to manage in typical professional and special-field specific communication situations in an interactive manner. He/she should be able to actively participate in discussions about current events and special field-specific topics, express his/her views on different matters and present the pros and cons of different options. The student should be experienced in giving short oral presentations about topics related to his/her special field. He/she should understand the culture-specific nature of Finnish and German customs and practices and be able to compare them with each other.
Contents:
The course covers themes relating to German-speaking countries and student and professional life with the help of various discussion exercises. The course also includes project work and self-study, which allow the student to immerse himself/herself into topics he/she is interested in.
Mode of delivery:
Contact teaching
Learning activities and teaching methods:
2 ECTS credits: 1 x 90 min./week or 2 x 90 min./week , 26 h in total and regular and active participation in teaching and completion of agreed upon exercises 28 h.
3 ECTS credits: 2 x 90 min./week, 48 h in total and regular and active participation in teaching and completion of agreed upon exercises 32 h.
4 ECTS credits: 2 x 90 min./week, 48 h in total and regular and active participation in teaching and completion of agreed upon exercises 32 h **and** self-study (reading comprehension exercises and project) 26 h.
Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
See Required proficiency level.
Recommended optional programme components:
-
Recommended or required reading:
Material prepared by the teacher.
Assessment methods and criteria:
Completion of the course requires regular and active participation in teaching and completion of the project. Continuous assesment.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Scale 1 - 5 or pass / fail
Person responsible:
Oliver Jarde
Working life cooperation:
-
Other information:
The course with this code will be available last time in 2020-2021.
Registration in WebOodi or Tuudo. If the registration has closed the student can sign up by contacting the teacher by e-mail.

903048Y: Intermediate Course in German IV, 2 - 4 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: German

Proficiency level:
CEFR levels B1/B2
Status:
The course is optional and it may be included in your faculty's Language, Cultural and Communication Studies (KieKuVi) or in other optional studies.
Required proficiency level:
7 years of German studies during secondary education or equivalent knowledge, for example 903042Y Intermediate course in German III.
ECTS Credits:
2 - 4 ECTS credits / 54 - 106 h of student's work.
Language of instruction:
German
Timing:
The course is held at Spring semester.
Please note: Intermediate Course in German IV and Intermediate Course in German III can be studied in a way that first Course IV can be taken in spring term and after that Course III in autumn term.

Learning outcomes:
The student should be able to actively participate in discussions about familiar topics and explain his/her views on the different matters as well as discuss the pros and cons of different options. He/she should understand the culture-specific nature of Finnish and German customs and practices and be able to compare them with each other.
Contents:
The course covers themes relating to German-speaking countries and professional and student life with the help of various discussion exercises and text and video material. The course also includes project work and self-study, which allow the student to immerse himself/herself into topics he/she is interested in. The course also focuses on intercultural communication and current events and phenomena in German-speaking countries.
Mode of delivery:
Contact teaching and self-study. More detailed information in the beginning of the course.
Learning activities and teaching methods:
Contact-teaching 2 x 90 min/week, self-study, together 106 h / course. Number of contact teaching can vary depending on the credits needed.
Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
See Required proficiency level
Recommended optional programme components:
-
Recommended or required reading:
Material prepared by the teacher.
Assessment methods and criteria:
Completion of the course requires regular and active participation in teaching and completion of the project. Continuous assesment.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Scale 1 - 5 or pass / fail
Person responsible:
Oliver Jarde
Working life cooperation:
-
Other information:
The course with this code will be available last time in 2020-2021.

Registration in WebOodi or Tuudo. If the registration has closed the student can sign up by contacting the teacher by e-mail.

903040Y: Intermediate Course in German for Economic Students, 4 - 5 op

Voimassaolo: 01.08.1995 -
Opiskelumuoto: Language and Communication Studies
Laji: Course
Vastuuyksikkö: Languages and Communication
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish

Proficiency level:
A2/B1 on the CEFR scale
Status:
This course may be included either in your faculty's compulsory foreign language studies or in the language minor.
Required proficiency level:
3 years of German studies at school or equivalent knowledge, e.g. the elementary courses in German I and II.
ECTS Credits:
4 - 5 ECTS credits / 106 - 133 h of student's work
Language of instruction:
Finnish and German
Timing:
Autumn and spring term. It is recommended to take this course after the elementary courses in German I and II.
Learning outcomes:
The aim of the course is to develop the student's language skills in different areas. Upon completion of the course the student should be able to manage in the most common everyday and professional situations in a manner that is fluent and mindful of the distinctive cultural features of the target country. The student should be able to express and justify his/her opinions and discuss plans and past events. He/she should be able to understand texts written in standard language and have the ability to summarise them and orally explain their main points. He/she should be able to write coherent texts about familiar topics. The student should be able to understand clear speech and participate in and sustain discussions about familiar topics. The student should be able to recognise some differences and similarities between Finnish and German-speaking cultures.
In order to complete further courses in German (903054Y Geschäftsdeutsch) it is recommended to pass this course with grade 3 or higher.

Contents:
Grammar exercises, listening and reading comprehension exercises, oral and written exercises.Themes covered by the course include talking about one's daily rhythm, free time, home town and living environment, discussing one's studies and employment and the differences and similarities between Finnish culture and the cultures of the German-speaking countries.
Grammatical structures: imperfect tense, perfect tense; conditional form and the imperfect tense of the subjunctive; reflexive and governing verbs; passive, genitive, comparative and superlative forms; adjective inflection; prepositions; use of connectors and conjunctions; basic grammatical structures such as cases, present tense, perfect tense and word order.

Mode of delivery:
Multimodal teaching. More detailed information in the beginning of the course.
Learning activities and teaching methods:
Contact teaching 2 x 90 min. / week, preparation for the contact meetings, for those who will do 5 ECTS credit course also extra independent work.
Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
See Required proficiency level.

Recommended optional programme components:
-
Recommended or required reading:
Will be informed in the beginning of course.
Assessment methods and criteria:
Continuous assessment, 2 exams. Completion of the course requires regular and active participation in teaching and completion of given assignments and exams. During the course the student will receive feed-back on his / her progress in language learning.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1 - 5 / fail.
Person responsible:
Kaisu Jarde and Marja Pohjola-Effe
Working life cooperation:
-
Other information:
Registration in WebOodi and Tuudo. If the registration has closed the student can sign up by contacting the teacher by e-mail.

904068Y: Intermediate Course in Russian, part I, 5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Proficiency level:
A2 on the CEFR scale.
Status:
This course is optional in all study programmes.
Required proficiency level:
Elementary Russian courses or equivalent knowledge.
ECTS Credits:
5 ECTS credits
Language of instruction:
Russian and Finnish
Timing:
Autumn term
Learning outcomes:
Upon completion of the course the student should be able to talk about his/her background and manage in more demanding communication situations in Russian.
Contents:
Activities and leisure time, express one's opinion, celebration and everyday, characteristic, congratulations, travelling, holidaymaking, compliments, advisement.
Mode of delivery:
Multimodal teaching
Learning activities and teaching methods:
Self-study and group work. Successful completion of the course requires active participation, completion of all given assignments and attaining a passing grade in the course exam. Students who complete this course may continue on to Intermediate Course in Russian (part II) held in the spring.
Target group:

Students in all faculties. This course is not offered in English. It is only Finnish-speaking students.

Students of the Oulu University of Applied Sciences (OAMK) students. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
Elementary Russian courses or equivalent knowledge.
Recommended optional programme components:
-
Recommended or required reading:
To be informed in the beginning of the course.
Assessment methods and criteria:
Regular and active participation on the contact teaching. Completion of the given assignments.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1 - 5 / pass / fail
Person responsible:
Ari Hepo-aho
Working life cooperation:
-

904069Y: Intermediate Course in Russian, part II, 5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Proficiency level:
A2/B1 on the CEFR scale.
Status:
This course is optional in all study programmes.
Required proficiency level:
Intermediate Russian I or equivalent knowledge.
ECTS Credits:
5 ECTS credits
Language of instruction:
Russian and Finnish
Timing:
Spring term
Learning outcomes:
Upon completion of the course the student should have improved his communication skills.
Contents:
Customer service, holidaymaking and sports, being ill, vocabulary in media, culture, environment and environmental protection, animals and plants, politics and voluntary work, expressing opinions and suspicions

Mode of delivery:
Multimodal teaching
Learning activities and teaching methods:
Group work and independent study.
Target group:

Students in all faculties. This course is not offered in English. It is only Finnish-speaking students.

Students of the Oulu University of Applied Sciences (OAMK) students. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Recommended optional programme components:
-
Recommended or required reading:
Will be informed in the beginning of the course.

Assessment methods and criteria:
Regular and active participation on the contact teaching. Completion of the given assignments.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1 - 5 / pass / fail
Person responsible:
Ari Hepo-aho
Working life cooperation:
-

900016Y: Intermediate Finnish Course 2, 5 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Proficiency level:
A2.2
Status:
The course is intended for the international students in every faculty at the University of Oulu.
Also students of the Oulu University of Applied Sciences (OAMK) may also participate to this cross-institutional study. See courses, student quota and applying for OAMK students https://www.oulu.fi/forstudents/crossinstitutionalstudy.
Required proficiency level:
A2.1, Completion of the Intermediate Finnish course 1 (900015Y) or the equivalent language skills.
ECTS Credits:
5 ECTS credits
Language of instruction:
Finnish
Timing:
-
Learning outcomes:
By the end of the course the student can communicate in various informal situations in Finnish. The student understands the main points of messages and talk around her/him. S/he can produce simple connected text on topics which are familiar or of personal interest and describe experiences and also report heard content to others.
Contents:
The course is an upper intermediate course. During the course students learn the necessary written and oral skills to be able to cope in informal situations arising during everyday life, work and study. In the course, students practise understanding more Finnish talk and written texts, and finding information and talking about it to other people. In the classes the main stress is on oral exercises and group work.
The topics and communicative situations covered in the course are: transactions e.g. in clothes shops and on the phone, Finnish small talk, reacting in different situations, information and facts about Finnish celebrations and features of colloquial/spoken language.
The structures studied are: the perfect and pluperfect, revision of all the verb tenses, comparison of adjectives, conditional, more about the plural declension of nouns (particularly the plural partitive case), more about object and predicative cases, the passive imperfect.
Mode of delivery:
Contact teaching and guided self-study
Learning activities and teaching methods:
Lessons (52 h, including the tests) and guided self-study (83 h).
Target group:
International degree and post-graduate degree students, exchange students and the staff members of the University.
Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.
See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.
Prerequisites and co-requisites:

Completion of the Intermediate Finnish Course 1 or equivalent skills
Recommended optional programme components:
-
Recommended or required reading:
Gehring, S. & Heinzmann, S.: **Suomen mestari 2 (chapters 6 - 8).**
Assessment methods and criteria:
Regular and active participation in the weekly lessons (twice a week), homework assignments and the tests will be taken into consideration in the assessment.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Grading scale is 1-5.
Person responsible:
Anne Koskela
Working life cooperation:
-
Other information:
Sign-up in WebOodi or Tuudo.

080926S: Introduction to Artificial Intelligence for Medical Imaging, 3 - 5 op

Voimassaolo: 01.08.2020 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Health Sciences

Arvostelu: 1 - 5, pass, fail

Opettajat: Simo Saarakkala

Opintokohteen kielet: English

ECTS Credits:
3 ECTS, 81 hours of work
5 ECTS credits, 135 hours of work.
Language of instruction:
English
Timing:
Master studies, autumn term, 1st period.
The course will be organized every year.
Learning outcomes:
Upon completion of this course, the student will be able to:
1. Formalize problems in terms of machine learning
2. Understand common issues related medical data analysis and predictive modelling as well as the ways to mitigate them
3. Design machine learning experiments and assess their results
4. Use basic computer vision techniques to solve image recognition and segmentation problems
Contents:
Basics of Machine Learning, Machine Learning Experiments Design, Simple parametric and Non-parametric Models,
Deep Convolutional Neural Networks, Image Recognition, Image Segmentation, Interpretability of Deep Learning, Practical use cases.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
3 ECTS: Lectures 20 h, Project work 34 h, Self-study 16 h, weekly Moodle midterm exams 8 h, final exam 3 h.
5 ECTS: Lectures 20 h, Exercises 14 h, Project work 34 h, Self-study 44 h, Home Programming Exercises 12 h, weekly Moodle midterm exams 8 h, final exam 3 h.
Target group:
Biomedical Engineering and Computer Science MSc students (for 5 ECTS course) as well as Medical students (for 3 ECTS course). Also BSc students can take the course, given basic understanding of mathematics and programming.
Prerequisites and co-requisites:
• Basics of Linear Algebra, probability and statistics (not needed for 3 ECTS)
• Basics of Programming (not needed for 3 ECTS)

• Basic knowledge of medical physics
Recommended or required reading:
Friedman, J., Hastie, T., & Tibshirani, R. (2001). The elements of statistical learning (Vol. 1, No. 10). New York: Springer series in statistics.
Goodfellow, I., Bengio, Y., & Courville, A. (2016). Deep learning. MIT press.

Assessment methods and criteria:
3 ECTS: Lecture attendance, accepted project work, weekly Moodle midterm exams, final exam
5 ECTS: Lecture attendance, exercises, accepted project work, home programming exercises, weekly Moodle midterm exams, final exam.
Read more about assesment criteria at the University of Oulu webpage.
Grading:
The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for fail.
Person responsible:
Professor Simo Saarakkala
Working life cooperation:
Guest lectures from industry will be organized.

521070A: Introduction to Microfabrication Techniques, 5 op

Voimassaolo: 01.08.2015 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Electrical Engineering DP
Arvostelu: 1 - 5, pass, fail
Opettajat: Niina Halonen
Opintokohteen kielet: Finnish
Leikkaavuudet:

521218A	Introduction to Microelectronics and Micromechanics	4.0 op
521218A-02	Introduction to Microelectronics and Micromechanics, demonstration	0.0 op
521218A-03	Introduction to Microelectronics and Micromechanics, exercise	0.0 op
521218A-01	Introduction to microelectronics and micromechanics, exam	0.0 op

ECTS Credits:
5
Language of instruction:
Finnish
Timing:
2nd period
Learning outcomes:
1. Can present the process of source materials used to manufacture micro- and nanoelectronics/mechanics and analyse the required material properties depending of the application

2. Can explain the fabrication methods and discuss the characteristic features of each fabrication method, inculding their utilisation and restrictions.

3. Is capable of designing a fabrication process for a simple microelectronics application and is able to indetify the process steps also in complex application.
Contents:
The content of the course covers fabrication methods of micro-, nano- and optoelectronics as well as MEMS systems. 1. Fabrication methods for silicon based electronics and MEMS systems 2. Additive manufacturing methods 3. Nanomaterials and fabrication.
Mode of delivery:
Face-to face teaching
Learning activities and teaching methods:
Lectures (20 hours) and exercises (10 +10).
Target group:
Electrical engineering bachelor degree students.
Prerequisites and co-requisites:

Course content of 521104P Introduction to Materials Physics and 521071A Principles of Semiconductor Devices.
Recommended optional programme components:
-
Recommended or required reading:
Lecture notes, Franssila Sami: Introduction to Microfabrication
Assessment methods and criteria:
Final written exam and passes laboratory exercises.
Grading:
Numerical grading 1-5.
Person responsible:
Merja Teirikangas
Working life cooperation:
No

521157A: Introduction to Social Network Analysis, 5 op

Voimassaolo: 01.08.2017 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Computer Science and Engineering DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Mourad Oussalah

Opintokohteen kielet: English

ECTS Credits:
5 ECTS credits / 120 hours of works
Language of instruction:
English
Timing:
Period 4. It is recommended to complete the course at the end of period 4
Learning outcomes:
Upon completing the course, the student is expected to i) understand social aspects of the web; ii) learn to collect, clean and represent social media data; iii) quantify important properties of social media; iv) find and analyze (online) communities; v) understand the diffusion process in social network; vi) familiarize with simple modelling toolkits for social media analysis
Contents:
The course describes basics of social network analysis, allowing the students to understand structure and evolution of the network, while enabling them to use appropriate tools and techniques to draw inferences and discover hidden patterns from the network. The course is designed to accommodate computer science, mathematical and social science student background, which helps in emergence of multi-disciplinary research in the university
Mode of delivery:
Face- to-face teaching and laboratory sessions
Learning activities and teaching methods:
Lectures (24 h), tutorial/laboratory sessions (12h), seminar (6 h) and practical work. The course is passed with an approved practical work and class test. The implementation is fully in English.
Target group:
Students with moderate logical reasoning skills
Prerequisites and co-requisites:
None
Recommended optional programme components:
The course is an independent entity and does not require additional studies carried out at the same time
Recommended or required reading:
R. Zafarani, M. A. Abbasi, and H. Liu, Social Media Mining: An Introduction, Cambridge University Press, 2014
Assessment methods and criteria:
One class test (30%) in the middle of the term + Project work (70%)
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5
Person responsible:
Mourad Oussalah

Working life cooperation:
-
Other information:
We hope to attract students from humanties, economics and political in order to encourage multidisciplinary studies and enforce interesting student projects where each group contains at least one student from computer science and one from another faculty.

811103P: Introduction to Software Engineering, 5 op

Voimassaolo: 01.08.2019 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Information Processing Science DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Oivo, Markku Tapani

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay811103P	Introduction to Software Engineering (OPEN UNI)	5.0 op
811346A	Software Engineering	5.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work
Language of instruction:
Finnish
Timing:
The course is held in the autumn semester, during period 2. It is recommended to complete the course at the 1st autumn semester of the Bachelor's studies.
Learning outcomes:
After completing the course, the student will be able to:
* describe the principles, define the key concepts and use professional terminology of software engineering,
* describe software engineering as a professional practice and a field of industry,
* describe and work following professional practices that are important for software engineers,
* describe contemporary software processes and choose appropriate ones for specific situations,
* describe and apply valid problem identification and structuring methods in software engineering,
* identify and apply some contemporary software engineering models, methods and tools, as well as
* describe the necessity of continuing learning and professional development.
Contents:
* Principles of professional software development
* Software processes
* Agile software development
* Requirements engineering
* System modelling
* Architectural design
* Design and implementation
* Software testing
* Software evolution
Mode of delivery:
Blended teaching
Learning activities and teaching methods:
Lectures, group exercises, independent work, 133h
Target group:
BSc students
Prerequisites and co-requisites:
The suggested prerequisite is that the learning outcomes of the following courses are accomplished: Introduction to Information Processing Science
Recommended or required reading:
Sommerville, Ian (2016). Software Engineering, 10th Edition
Assessment methods and criteria:
Moodle exercises and essays
Grading:

Numerical scale 1-5 or fail
Person responsible:
Markku Oivo
Working life cooperation:
Guest lectures and /or company visits

905057Y: Japanese KANA Course, 2 op

Voimassaolo: 01.08.2019 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opettajat: Takako Karppinen

Opintokohteen kielet: Finnish

Proficiency level:
A1 on the CEFR scale
Status:
This course is optional and it may be included in Language, Cultural and Communication Studies (the KieKuVi module). Voluntary for students who study Japanese Studies as a minor subject. This course may be included in the OBS language minor (25 ECTS).
Required proficiency level:
The course is intended for students taking Elementary Course in Japanese I.
ECTS Credits:
2 ECTS credits
Language of instruction:
Japanese / Finnish
Timing:
Autumn term
Learning outcomes:
Upon completion of the course the student should be able to read and write *hiragana* (46) and *katakana* (46) characters and write short texts using the characters.
Contents:
The contact teaching consists of exercises where the student learns to read and write *hiragana* and *katakana* characters. The student will also learn to use the characters to read and write Japanese text.
Mode of delivery:
Mode of delivery: two groups. One group digitally and one group has contact teaching (13 hrs)
In both groups the amount of work for the student is 54 hrs / 2 ECTS.
Learning activities and teaching methods:
The amount of work for the student is 54 hrs / 2 ECTS, as follows:

- Homework and independent study 41 hrs
- contact teaching 13 hrs.

Target group:
Students in all faculties. This course is not offered in English. It is only Finnish-speaking students.

Students of the Oulu University of Applied Sciences (OAMK) may also participate to this cross-institutional study. The quota principle is as follows: one OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy

Prerequisites and co-requisites:
-
Recommended optional programme components:
905042Y Elementary Course in Japanese I
Recommended or required reading:
Textbook: T. Karppinen, Japanin kielen alkeet 1, Finn Lectura 2014. Students will be provided with some additional material by the teacher.
Assessment methods and criteria:
Regular participation in the contact teaching, completion of all assignments, intermediate exam in the autumn and final exam.

Read more about assessment criteria on the University of Oulu webpage.
Grading:
1-5, pass/fail.
Person responsible:
Takako Karppinen
Working life cooperation:
-
Other information:
Students sign up for the course unit in WebOodi or Tuudo. If you do not yet have your WebOodi username and password, or if the sign-up period has passed, sign up by emailing the teacher.

905049Y: Japanese KANJI Course 1, 2 op

Voimassaolo: 01.08.2006 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Proficiency level:
A2 on the CEFR scale
Status:
This course is optional and it may be included in Language, Cultural and Communication Studies (the KieKuVi module). Compulsory for students who study Japanese Studies as a minor subject. This course may be included in in the language minor (25 ECTS) in OBS.
Required proficiency level:
Elementary Course in Japanese 1 (5 ECTS) and Japanese KANA course (2 ECTS).
ECTS Credits:
2 ECTS credits
Language of instruction:
Japanese / Finnish
Timing:
Spring term
Learning outcomes:
After completing the course, the student learns 109 basic kanji characters and is able to understand and write text containing those characters.
Contents:
In the contact teaching students are studying the use 109 basic kanji characters. The course also includes homework and independent learning of kanji characters and words. Homework includes to read and write example words and sentences.
Mode of delivery:
Multimodal teaching: Contact teaching 13 hrs and self-study 40 hrs (including homeworks). At the end of the course there is a one hour final exam.
Learning activities and teaching methods:
- Independent study and homeworks 40 hrs
- contact teaching 13 hrs

Target group:
Students in all faculties. This course is not offered in English. It is only Finnish-speaking students.
Students of the Oulu University of Applied Sciences (OAMK) may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.
See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
See Required proficiency level
Recommended optional programme components:
Elementary Course in Japanese 2 (905043Y).

Recommended or required reading:
Student will receive material to be printed out.
Assessment methods and criteria:
Completion of all assignments and the final exam.
Read more about assessment criteria on the University of Oulu webpage.
Grading:
1 - 5 / fail
Person responsible:
Takako Karppinen
Working life cooperation:
-
Other information:
Students sign up for the course unit in WebOodi or Tuudo. If you do not yet have your WebOodi username and password, or if the sign-up period has passed, sign up by emailing the teacher.

031078P: Matrix Algebra, 5 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Applied Mathematics and Computational Mathematics

Arvostelu: 1 - 5, pass, fail

Opettajat: Matti Peltola

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay031078P	Matrix Algebra (OPEN UNI)	5.0 op
031019P	Matrix Algebra	3.5 op

ECTS Credits:
5 ECTS credits / 135 hours of work
Language of instruction:
Finnish
Timing:
The course is held in the autumn, during period 2. It is recommended to complete the course at the 1th autumn semester.
Learning outcomes:
The student is able to apply arithmetic operations of matrices and can solve system of linear equations by matrix methods and can apply matrix factorizations to find the solution of the system of linear equations.
The student is able to recognize the vector space and understands the concepts of basis and dimension of a vector space and can analyse matrices by the parameters, vectors and vector spaces of matrices. He/She knows how to calculate determinant, eigenvalues and eigenvectors of a square matrix, and is able to diagonalize matrices and apply diagonalization to the simple problems.
Contents:
1. Vectors and matrices 2. Systems of linear equations. 3. Matrix factorizations. 4. Vector spaces. 5. The rank, nullity, row space and the column space of a matrix. 6. The determinant of a matrix. 7. Eigenvalues and eigenvectors of a matrix. 8. The diagonalization with applications.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures 28 h / Group work 22 h / Self-study 85 h.
Target group:
1. year students of technical sciences, mathematics and physics.
Prerequisites and co-requisites:
-
Recommended optional programme components:
-
Recommended or required reading:
Recommented literature: Grossman, S.I: Elementary Linear Algebra; David C. Lay: Linear Algebra and Its Applications.
Assessment methods and criteria:

The course can be completed by intermediate exams (2 exams) or by a final exam.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
The course utilizes a numerical grading scale 0-5. In the numerical scale zero stands for a fail
Person responsible:
Matti Peltola
Working life cooperation:
-
Other information:
-

423272S: Music Education in Early Childhood, 5 op

Voimassaolo: 01.08.2017 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Faculty of Education

Arvostelu: 1 - 5, pass, fail

Opettajat: Poikela, Leena Riitta

Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS
Language of instruction:
Finnish
Learning outcomes:
Having completed the study module, the student

- identifies the importance of play in experiential learning
- knows how to apply music education in early childhood education through integration between different c
- has been trained and encouraged in the skills of self-expression, empathy and interaction with children
- identifies the pedagogical and expressive possibilities of different genres of music, especially children' s music, in early childhood education
- is capable of planning, implementing and developing music education among children aged 0 to 8

Contents:

- music education in supporting the overall personality in early, pre-primary and primary years
- methods of music education: singing, playing, music and movement, listening, integration with other orientation areas, art subjects and drama
- play, self-expression, interaction skills, storytelling as tools of the early years music educator
- combining fairytales and music
- general and musical development of children aged 0-8

Mode of delivery:
Face-to-face teaching, blended teaching
Learning activities and teaching methods:
Lectures 4 h, exercises 36 h, independent work 95 h
Target group:
Student of music education
Recommended optional programme components:
To be agreed on at the start of the study module
Recommended or required reading:
Lindeberg-Piiroinen, A & Ruokonen, I 2017 (edit). Musiikki varhaiskasvatuksessa käsikirja. Classicus Oy
Assessment methods and criteria:
Active participation in teaching, completion of independent assignments, possibly a visit, planning and implementa a teaching episode, pedagogical diary
Fail

- The student' s performance is unfinished or reveals deficiencies in skills and knowledge relative to the expected learn

Pass

- Takes actively part in teaching
- Completes successfully the course assignments

- Assesses his/her own accomplishment in relation to the objectives set for the study module
- Identifies the learning processes related to early years music education
- Identifies practices connected with work and information acquisition in early years music education.
- Identifies, uses and applies integrative methods of art education.
- Uses and applies the possibilities of early years music education in an appropriate manner.

Grading:
0-5
Person responsible:
Leena Poikela
Working life cooperation:
None

900085Y: Network Communication, 5 op

Voimassaolo: 01.08.2014 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay900085Y Network Communication (OPEN UNI) 5.0 op

Proficiency level:
-

Status:
-
Required proficiency level:
-
ECTS Credits:
-
Language of instruction:
Finnish
Timing:
1st or 2nd academic year
Learning outcomes:
-
Contents:
-
Mode of delivery:
Online course
Learning activities and teaching methods:
-
Target group:
Students in all faculties. This course is not offered in English. It is only Finnish-speaking students.

Students of the Oulu University of Applied Sciences (OAMK) may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
-
Recommended optional programme components:
-
Recommended or required reading:
-
Assessment methods and criteria:
-
Grading:

-
Person responsible:
-
Working life cooperation:
-
Other information:
Language of instruction is Finnish.

521241A: Optical systems, 5 op

Voimassaolo: 01.08.2017 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Electrical Engineering DP
Arvostelu: 1 - 5, pass, fail
Opettajat: Anssi Mäkynen
Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS cr
Language of instruction:
Lectures are in Finnish. All written material is also in English. In guided labworks the assistant can English.
Timing:
Period 1.
Learning outcomes:
1. is capable of explaining the basic facts of geometrical and physical optics
2. is able of explaining the operating principles of simple optical components and instruments
3. is able to describe an optical system as a principal point representation
4. is able to trace the most important paraxial rays through the system
5. is able to explain the properties of a laser beam
6. is able to estimate the radiometric properties and resolving power of an ideal optical system
7. is capable of recognizing and explaining the difference between imaging, non-imaging and laseroptics as well as able to conclude from which of these viewpoints he/she should approach a given design task
8. is capable of designing and optimizing simple imaging and non-imaging lens systems as well as optics for laser beam modification using optical design software tools and 3D printing.
Contents:
Basics of geometrical and physical optics, optical components and instruments. Optical design software tools.
Mode of delivery:
Face-to-face teaching.
Learning activities and teaching methods:
Lectures 24 exercises 12 h and self-study 100 h.
Target group:
Cource is mandatory for Electrical Engineering students. All students of the University of Oulu can attend the course.
Prerequisites and co-requisites:
None.
Recommended optional programme components:
-
Recommended or required reading:
Material in Optima
Assessment methods and criteria:
Final exam and passed lab exercises.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1 - 5
Person responsible:
Anssi Mäkynen
Working life cooperation:
-
Other information:
-

A540145: Pharmacology and toxicology, 10 op

Voimassaolo: 01.08.2017 -
Opiskelumuoto: Basic Studies
Laji: Study module
Vastuuyksikkö: Medicine
Arvostelu: 1 - 5, pass, fail
Opettajat: Risto Kerkelä
Opintokohteen kielet: Finnish

ECTS Credits:
10 ECTS credits/ 270 hours of work.
Language of instruction:
Finnish
Timing:
The course is held during the spring semester in the second study year (C4 / DC4).
Learning outcomes:
After passing the courses, the student has ability to carry out safe and efficient drug therapy. Upon completion of the courses, the student:
- is able to explain pharmacokinetics of a specific drug after administration
- is able to explain physiologic effects of drugs and their mechanisms of action
- is familiar with major drug classes and their role in the treatment of diseases.
- understands the basis of individualized drug therapy.
- understands the basics of toxicology

In addition, the student will learn team working skills and presentation skills.
Contents:
043045P Pharmacology and toxicology PART I 4 ECTS:
The basic terminology of pharmacology: pharmacodynamics and pharmacokinetics. Systematic review of major classes of drugs: drugs affecting cardiovascular system, anti-diabetic medications, drugs affecting the respiratory tract, antimicrobial agents.

043046P Pharmacology and toxicology PART II 5 ECTS:
Systematic review of major classes of drugs: drugs affecting gastrointestinal drugs, drug treatment of pain, psychiatric medications, neurological drugs. Toxicology: the basics of toxicology, the most common poisonings and fundamentals of toxicological risk assessment.

043047P Pharmacology and toxicology PART III 1 ECTS:
Systematic review of major classes of drugs and basics of toxicology.

Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
043045P Pharmacology and toxicology PART I 4 ECTS:
Lectures 34h / tutorials 6-8h / Self-study 66-68h. The tutorials are completed as small group work.

043046P Pharmacology and toxicology PART II 5 ECTS:
Lectures 40h / tutorials 10-12h / Self-study 83-85h. The tutorials are completed as small group work.

043047P Pharmacology and toxicology PART III 1 ECTS:
Exam 4 h, self-study 27 h

Target group:
Medical and dental students. Also other students can be admitted to the course.
Recommended or required reading:
Recommended or required reading: Ruskoaho H., Hakkola J., et al: Lääketieteellinen farmakologia ja toksikologia (Kustannus Oy Duodecim, latest edition, 2019). The electronic version of the book can be found in “oppiportti” and in “Duodecim lääketietokanta”. Other textbooks that can be used are “Farmakologia ja Toksikologia” edited by

Markku Koulu and Eero Mervaala (10th ed. 2018) or Rang, Ritter, Flower, Henderson: Rang & Dale's Pharmacology, Churchill Livingstone (latest edition). In addition, Duodecim and Suomen lääkärilehti publish articles of current advances in drug therapy.

Assessment methods and criteria:

043045P Pharmacology and toxicology PART I 4 ECTS:

Lectures. Active participation in tutorials that are mandatory. At the beginning of the course students study independently for an exam evaluating the required level of knowledge of basic pharmacokinetics and pharmacodynamics. In addition, an exam is given for the entire contents of the course. The exam is graded on a pass/fail basis.

043046P Pharmacology and toxicology PART II 5 ECTS:

Lectures. Active participation in tutorials that are mandatory. At the beginning of the course students study independently for an exam evaluating the required level of knowledge of basic pharmacokinetics and pharmacodynamics. In addition, an exam is given. The exam is graded on a pass/fail basis.

043047P Pharmacology and toxicology PART III 1 ECTS:

The course includes an exam. Two failed answers in final exam result in failing of the exam.

Grading:

043045P: Pharmacology and toxicology:

Two exams with the grading scale pass/fail.

043046P Pharmacology and toxicology PART II:

Exam with the grading scale pass/fail.

043047P Pharmacology and toxicology PART III:

Exam. Two failed answers in final exam result in failing of the exam. The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

Person responsible:

Professor Risto Kerkelä

Working life cooperation:

The course includes guest lectures from specialists from Oulu University Hospital.

Compulsory

043045P: Pharmacology and toxicology PART I, 4 op

Voimassaolo: 01.08.2016 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Medicine

Arvostelu: 1 - 5, pass, fail

Opettajat: Johanna Magga, Risto Kerkelä

Opintokohteen kielet: Finnish

ECTS Credits:

4 ECTS credits/ 108 hours of work.

Language of instruction:

Finnish

Timing:

The course is held suring the spring semester in the second study year (C4 / DC4).

Learning outcomes:

After passing the course, the student has ability to carry out safe and efficient drug therapy. Upon completion of the course, the student:
- is able to explain pharmacokinetics of a specific drug after administration
- is able to explain physiologic effects of drugs and their mechanisms of action
- is familiar with major drug classes and their role in the treatment of diseases.

In addition, the student will learn team working skills and presentation skills.

Contents:

The basic terminology of pharmacology: pharmacodynamics and pharmacokinetics. Systematic review of major classes of drugs: drugs affecting cardiovascular system, anti-diabetic medications, drugs affecting the respiratory tract, antimicrobial agents.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Lectures 34h / tutorials 6-8h / Self-study 66-68h. The tutorials are completed as small group work.

Target group:

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

Recommended or required reading:

Recommended or required reading: Ruskoaho H., Hakkola J., et al: Lääketieteellinen farmakologia ja toksikologia (Kustannus Oy Duodecim, latest edition, 2019). The electronic version of the book can be found in “oppiportti” and in “Duodecim lääketietokanta”. Other textbooks that can be used are “Farmakologia ja Toksikologia” edited by Markku Koulu and Eero Mervaala (10th ed. 2018) or Rang, Ritter, Flower, Henderson: Rang & Dale's Pharmacology, Churchill Livingstone (latest edition). In addition, Duodecim and Suomen lääkärilehti publish articles of current advances in drug therapy.

Assessment methods and criteria:

Lectures. Active participation in tutorials that are mandatory. At the beginning of the course students study independently for an exam evaluating the required level of knowledge of basic pharmacokinetics and pharmacodynamics. In addition, an exam is given. The exam is graded on a pass/fail basis.

Grading:

The grading scale for the course is pass/fail.

Person responsible:

Professor Risto Kerkelä

Working life cooperation:

No

043046P: Pharmacology and toxicology PART II, 5 op

Voimassaolo: 01.08.2016 -
Opiskelumuoto: Basic Studies
Laji: Course
Vastuuyksikkö: Medicine
Arvostelu: 1 - 5, pass, fail
Opettajat: Risto Kerkelä
Opintokohteen kielet: Finnish

ECTS Credits:

5 ECTS credits / 135 hours of work

Language of instruction:

Finnish

Timing:

The course is held suring the spring semester in the second study year (C4 / DC4).

Learning outcomes:

After passing the course, the student has ability to carry out safe and efficient drug therapy. Upon completion of the course, the student:
- is able to explain pharmacokinetics of a specific drug after administration
- is able to explain physiologic effects of drugs and their mechanisms of action
- is familiar with major drug classes and their role in the treatment of diseases.
- understands the basis of individualized drug therapy.
- understands the basics of toxicology

In addition, the student will learn team working skills and presentation skills.

Contents:

Systematic review of major classes of drugs: drugs affecting gastrointestinal drugs, drug treatment of pain, psychiatric medications, neurological drugs.
Toxicology: the basics of toxicology, the most common poisonings and fundamentals of toxicological risk assessment.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

Lectures 40h / tutorials 10-12h / Self-study 83-85h. The tutorials are completed as small group work.

Target group:

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

Recommended or required reading:

Recommended or required reading: Ruskoaho H., Hakkola J., et al: Lääketieteellinen farmakologia ja toksikologia (Kustannus Oy Duodecim, latest edition, 2019). The electronic version of the book can be found in “oppiportti” and in “Duodecim lääketietokanta”. Other textbooks that can be used are “Farmakologia ja Toksikologia” edited by Markku Koulu and Eero Mervaala (10th ed. 2018) or Rang, Ritter, Flower, Henderson: Rang & Dale's Pharmacology, Churchill Livingstone (latest edition). In addition, Duodecim and Suomen lääkärilehti publish articles of current advances in drug therapy.

Assessment methods and criteria:

Lectures. Active participation in tutorials that are mandatory. At the beginning of the course students study independently for an exam evaluating the required level of knowledge of basic pharmacokinetics and pharmacodynamics. In addition, an exam is given. The exam is graded on a pass/fail basis.

Grading:

The grading scale for the course is pass/fail.

Person responsible:

Professor Risto Kerkelä

Working life cooperation:

The course includes guest lectures from specialists from Oulu University Hospital.

043047P: Pharmacology and toxicology PART III, 1 op

Voimassaolo: 01.08.2016 -
Opiskelumuoto: Basic Studies
Laji: Course
Vastuuyksikkö: Medicine
Arvostelu: 1 - 5, pass, fail
Opettajat: Risto Kerkelä
Opintokohteen kielet: Finnish

ECTS Credits:

1 ECTS credit / 27 hours of work

Language of instruction:

Finnish

Timing:

The course is held during the spring semester in the second study year (C4 / DC4).

Learning outcomes:

After passing the course, the student has ability to carry out safe and efficient drug therapy. Upon completion of the course, the student:
- is able to explain pharmacokinetics of a specific drug after administration
- is able to explain physiologic effects of drugs and their mechanisms of action
- is familiar with major drug classes and their role in the treatment of diseases.
- understands the basis of individualized drug therapy.

- understands the basics of toxicology

Contents:

Systematic review of major classes of drugs and basics of toxicology.

Mode of delivery:

Self-study, exam.

Learning activities and teaching methods:

Self-study 19 h, exam 4 h.

Target group:

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

Prerequisites and co-requisites:

The required prerequisite is the completion of the following courses prior to enrolling for the course: 043045P Pharmacology and toxicology, part 1 and 043046P Pharmacology and toxicology, part 2.

Recommended or required reading:

Recommended or required reading: Ruskoaho H., Hakkola J., et al: Lääketieteellinen farmakologia ja toksikologia (Kustannus Oy Duodecim, latest edition, 2019). The electronic version of the book can be found in “oppiportti” and in “Duodecim lääketietokanta”. Other textbooks that can be used are “Farmakologia ja Toksikologia” edited by Markku Koulu and Eero Mervaala (10th ed. 2018) or Rang, Ritter, Flower, Henderson: Rang & Dale's Pharmacology, Churchill Livingstone (latest edition). In addition, Duodecim and Suomen lääkärilehti publish articles of current advances in drug therapy

Assessment methods and criteria:

The course includes an exam. Two failed answers in final exam result in failing of the exam.

Grading:

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

Person responsible:

Professor Risto Kerkelä

423274S: Philosophy in Music Education, 5 op

Voimassaolo: 01.08.2017 -
Opiskelumuoto: Advanced Studies
Laji: Course
Vastuuyksikkö: Faculty of Education
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS
Language of instruction:
Finnish
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures 16 h, 24 h, individual work 93 h
Target group:
Students of music education
Grading:
0-5
Person responsible:
Musiikkikasvatuksen professori
Working life cooperation:
None

521431A: Principles of Electronics Design, 5 op

Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Electrical Engineering DP
Arvostelu: 1 - 5, pass, fail
Opettajat: Ilkka Nissinen
Opintokohteen kielet: Finnish

ECTS Credits:
5
Language of instruction:
Finnish.
Timing:
Spring, period 3
Learning outcomes:
1. should be able to analyze and design such electronic building blocks as rectifiers, clamping circuits, amplifiers and CMOS logic elements using diodes, operational amplifiers and MOS and bipolar junction transistors.
Contents:
Analogue and digital circuits, basic amplifier related concepts, diodes and diode circuits, single stage bipolar and MOS transistor amplifiers, small signal modeling and analyzing ac properties of amplifiers, internal structures of digital circuits (mainly CMOS), MOS/CMOS switch, operational amplifier.
Mode of delivery:
Remote teaching.
Learning activities and teaching methods:
Lectures 30 h and exercises 20 h. Link to Moodle https://moodle.oulu.fi/course/view.php?id=5894.
Target group:
Students of Electrical engineering. Other students of the University of Oulu may also participate.
Prerequisites and co-requisites:
Circuit Theory I
Recommended optional programme components:
Recommended course Principles of Semiconductor Devices.
Recommended or required reading:
Lecture notes and Behzad Razavi, “Microelectronics”, 2nd Edition, ISBN 9781-118-16506-5
John Wiley & Sons 2015

Assessment methods and criteria:
Final or 2 mid-term exams.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Numerical grading scale 1-5.
Person responsible:
Respon responsible: Ilkka Nissinen
Lecturer: Juha Häkkinen
Assistant: Tuomo Talala
Working life cooperation:
-

031021P: Probability and Mathematical Statistics, 5 op

Opiskelumuoto: Basic Studies
Laji: Course
Vastuuyksikkö: Applied Mathematics and Computational Mathematics
Arvostelu: 1 - 5, pass, fail
Opettajat: Jukka Kemppainen
Opintokohteen kielet: Finnish
Leikkaavuudet:

ay031021P	Probability and Mathematical Statistics (OPEN UNI)	5.0 op

ECTS Credits:
5 ECTS credits / 135 hours of work
Language of instruction:
Finnish
Timing:
Spring semester, period 3
Learning outcomes:
After completing the course the student
1. knows the key concepts of probability and the most important random variables,
2. will be able to use them in calculating probabilities and parameters of probability distributions,
3. is capable of analyzing statistical data by calculating interval and point estimates for the parameters,
4. will be able to formulate statistical hypotheses and test them,
5. knows the basics of linear regression.

Contents:
The key concepts of probability, random variable, parameters of probability distributions, estimation of parameters, hypothesis testing, regression analysis.
Mode of delivery:
Online teaching
Learning activities and teaching methods:
Lectures 28 h/Exercises 20 h/Self study 87 h.
Target group:
The students in the engineering sciences. Other students are welcome, too.
Prerequisites and co-requisites:
The recommended prerequisities are the course 031010P Calculus I and some parts of the course 031075P Calculus II.
Recommended optional programme components:
The course is an independent entity and does not require additional studies carried out at the same time.
Recommended or required reading:
Milton, J.S., Arnold, J.C. (1992): Introduction to Probability and Statistics.
Assessment methods and criteria:
Intermediate exams or a final exam. The exams are remote exams. It is possibility to take exams also at the university.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
The course utilizes a numerical grading scale 0-5. In the numerical scale zero stands for a fail.
Person responsible:
Jukka Kemppainen
Working life cooperation:
-

811104P: Programming 1, 5 op

Voimassaolo: 01.08.2019 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Information Processing Science DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Lappalainen, Jouni Esko Antero

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay811104P	Programming 1 (OPEN UNI)	5.0 op
811122P	Introduction to Programming	5.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work
Language of instruction:
Finnish
Timing:
The course is held in the autumn semester, during periods 1 and 2. It is recommended to complete the course at the 1st autumn semester of the Bachelor's studies.

Learning outcomes:
After completion of this course, the student will be able to:
* create simple working programs
* identify and use the basic control structures of a program.
* identify the concepts of modularity, table, storage of information.
* apply the concepts of modular structure, tables and information storage techniques into a program.
* find and fix errors in the program.
* solve a computational problem by using abstraction and stepwise refinement
* explain the concept of recursion.
* operate with binary and hexadecimal number systems, as well as knows the presentation of numbers on a computer.
* document the program.

Contents:
1. Software design method (waterfall) 2. Problem solving 3. Stepwise refinement 4. Control structures 5. Modular programming, calling modules, communication between modules 6. Data types 7. Arrays 8. Pointers 9. Character strings 10. Data structures 11. Storing data.

Mode of delivery:
Blended teaching

Learning activities and teaching methods:
Theory studies at lectures and/or online (in Finnish) 40h, programming exercises in a computer lab and/or an online learning environment 24h, self-study 70h

Target group:
BSc students

Recommended or required reading:
Deitel, Deitel: C HOW TO PROGRAM; Pearson Education Inc. 2007, or a newer edition. Lecture slides.

Assessment methods and criteria:
1. Final exam and exercise points and programming assignment. OR 2. Mid-term exams (2) and exercise points and home programming assignment.

Grading:
Numerical scale 1-5 or fail

Person responsible:
Jouni Lappalainen

811322A: Programming 2, 5 op

Voimassaolo: 01.08.2019 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Information Processing Science DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Päivi Raulamo-Jurvanen

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay811322A	Programming 2 (OPEN UNI)	5.0 op
812341A	Object-Oriented Programming	5.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work

Language of instruction:
Finnish

Timing:
The course is held in the spring semester, during periods 3 and 4. It is recommended to complete the course at the 1st spring semester of the Bachelor's studies.

Learning outcomes:
After completion of this course, the student will be able to:
* describe the principles of object paradigm (encapsulation, polymorphism, inheritance, composition), generics, and design patterns and is able to utilise these concepts when creating software,
* describe exception and error management and create fault tolerant programs,

* explain the connection between the UML models and the source code,
* test an application and interpret the structure and functionality of the source code, as well as
* use basic programming tools, such as a version control system, an IDE, and code analysis tools.

Contents:
The concept of an object, encapsulation, composition, inheritance, polymorphism, exceptions, UML charts and code, generics (templates), libraries, containers, design patterns, development tools, version control, documenting, unit testing.
Mode of delivery:
Face-to-face teaching, can also be implemented as blended teaching
Learning activities and teaching methods:
Lectures 32 h and laboratory exercises 24 h (or an equivalent amount of independent learning) plus weekly assignments and independent work 72 h
Target group:
BSc students
Prerequisites and co-requisites:
The required prerequisite is that the learning outcomes of the following courses are accomplished: Programming 1
Recommended or required reading:
Timothy Budd: Introduction to object-oriented programming, 3rd edition, and other material announced in the beginning of the course.
Assessment methods and criteria:
The weekly assignments (preferred) or a final exam in Examinarium + a programming assignment.
Grading:
Numerical scale 1-5 or fail
Person responsible:
Päivi Raulamo-Jurvanen

811367A: Programming 3, 5 op

Voimassaolo: 01.08.2019 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Information Processing Science DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Markus Kelanti

Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS credits / 133 hours of work
Language of instruction:
Finnish
Timing:
The course is held in the spring semester, during period 3. It is recommended to complete the course at the 2nd spring semester of the Bachelor's studies.
Learning outcomes:
After completion of this course, the student will be able to:
* recognise the influence and requirements of the interface specification on the server development and is able to apply them in his/her own work.
* implement and document a good quality database and use it in an application.
* iImplement and document the server functionality of a client-server application and apply concurrency when appropriate.
* use existing programming interfaces and message passing protocols in a server application
* test a server application and interpret code written by someone else.
* use programming tools, such as a version control system, an IDE, and code analysis tools in the server development.

Contents:
Databases, database programming, data formats, the design, implementation, and testing of a server interface, the safety and security of a server, concurrency.
Mode of delivery:
Face-to-face teaching, may also be implemented as blended teaching
Learning activities and teaching methods:

Lectures 32 h and laboratory exercises 24 h (or an equivalent amount of independent learning) plus weekly assignments and independent work 72 h
Target group:
BSc students
Prerequisites and co-requisites:
The required prerequisite is that the learning outcomes of the following courses are accomplished: Data Structures and Algorithms
Recommended or required reading:
Announced in the beginning of the course.
Assessment methods and criteria:
Programming assignments and coursework defined during the course.
Grading:
Numerical scale 1-5 or fail
Person responsible:
Markus Kelanti

811368A: Programming 4, 5 op

Voimassaolo: 01.08.2019 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Information Processing Science DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Lappalainen, Jouni Esko Antero

Opintokohteen kielet: Finnish

Leikkaavuudet:

811375A User Interface Programming 5.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work
Language of instruction:
Finnish
Timing:
The course is held in the spring semester, during period 4. It is recommended to complete the course at the 2nd spring semester of the Bachelor's studies.
Learning outcomes:
After completion of this course, the student will be able to:
* recognise the influence and requirements of the design/implementation interface on the user interface development process and is able to apply them in his/her own work,
* utilize UI libraries and frameworks in his/her application,
* implement and document the client functionality of a client-server application,
* test the application and test and interpret the code and the application structure with its effects to testing, maintenance and further development,
* use programming tools, such as a version control system, an IDE, and code analysis tools, as well as
* act as a member of a software development team.
Contents:
User interface elements, foundations of user interface libraries, user interface design principles, user interface layout, the relationship between user interfaces and software architectures, web usability, web user interfaces, web programming.
Mode of delivery:
Blended teaching
Learning activities and teaching methods:
Exercise 24h, coursework 75h, independent study 35h
Target group:
BSc students
Prerequisites and co-requisites:
The required prerequisite is that the learning outcomes of the following courses are accomplished: Programming 3
Recommended or required reading:
Provided reading material during the course. In addition, Lauesen, S. 2005. User Interface Design: A Software Engineering Perspective.

Assessment methods and criteria:
The student must submit coursework that fulfils the given requirements (defined with the student during the course), as well as answers to given study questions.
Grading:
Numerical scale 1-5 or fail
Person responsible:
Jouni Lappalainen

423260S: Psychology of music, 5 op

Voimassaolo: 01.08.2013 -
Opiskelumuoto: Advanced Studies
Laji: Course
Vastuuyksikkö: Faculty of Education
Arvostelu: 1 - 5, pass, fail
Opettajat: Pirkko Paananen
Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS
Language of instruction:
Finnish
Learning outcomes:
Upon the completion of the course, the student will
• be conversant with the fundamental concepts and phenomena of music psychology, music cognition, and music therapy
• be able to assess learner's musical abilities and potentials in relation to models of musical development and current scholarship of music psychology
• have familiarized with the principles of music therapy and be able differentiate between the professions of music educator and music therapist
• be able to pose relevant pedagogical and research question pertaining to the relationship of mind and music.
Contents:
Psychophysiological fundamentals of music, principles of perception and processing of sound, models and theories of musical development, basic concepts of social psychology of music, meaning and motivation in learning music, the notion of musicality, introduction to the theoretical and practical principles of music therapy
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures 16h, written assignment 24h, independent work 95h
Target group:
Students of music education
Recommended optional programme components:
It is recommended that this course be studied together with Master's thesis (in its early stages).
Recommended or required reading:
Hallam, Cross & Thaut (eds.): The Oxford Handbook of Music Psychology (selections) and additional material in English to be negotiated.
Assessment methods and criteria:
This course utilizes continuous assessment and final examination. Learning diary of lectures, demonstrations and group work. The assessment of the course is based on the learning outcomes of the course.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
0-5
Working life cooperation:
No

904028Y: Reading Comprehension, 3 op

Voimassaolo: 01.08.1995 -
Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: French

Proficiency level:
B1 on the CEFR scale
Status:
See the study guide of your study programme
Required proficiency level:
904027Y Intermédiaire 2, or equivalent knowledge.
ECTS Credits:
3 ECTS credits
Language of instruction:
French / English / Finnish
Timing:
Spring term
Learning outcomes:
Upon completion of the course the student should have developed his/her ability to read French texts using various reading strategies and be more familiar with the French language and culture area through what he/she has read. The student should be able to understand standard language texts as well as academic texts from his /her own academic field.
Contents:
13 texts on various topics chosen by the course's teacher and 5 texts chosen by the student on topics relevant to his/her studies. The course also includes a series of online reading comprehension exercises. (11 texts)
Mode of delivery:
Self-study
Learning activities and teaching methods:
Self-study and a final exam
Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
904027Y Intermédiaire 2, or equivalent knowledge.
Recommended optional programme components:
-
Recommended or required reading:
Course material is distributed at the course meeting held at the beginning of the semester, or it can be acquired by request after signing up for the course.
Assessment methods and criteria:
Self-study course
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Pass / fail
Person responsible:
Cecile Rousselet-Karinen
Working life cooperation:
-
Other information:
Réunion d´information : 25.01.2019, 13 – 14
The teacher responsible for the course will gladly help you choose the correct course, cecile.rousselet-karinen@oulu.fi

903000Y: Reading Comprehension in German, 2 - 3 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: German

Proficiency level:
B1/B2 on the CEFR scale
Status:
Optional / compulsory. See the study guide of your study programme.
Required proficiency level:
Five years of German in school or equivalent knowledge, e.g. Intermediate Course in German II.
ECTS Credits:
2 - 3 ECTS credits / 54 - 80 h of student's work.
Language of instruction:
German
Timing:
Autumn and spring term
Learning outcomes:
Upon completion of the course the student should be able to understand standard language texts as well as scientific texts from his/her own special field and recognise how the writers' personal perspectives manifest themselves in the texts. He/she should be able to comment on the content of texts and summarise them in Finnish. The student should be conversant with various reading strategies and be familiar with the distinctive features of written German expression.
Contents:
The course introduces the student to the German language and cultural area through written texts. The student reads texts of his/her own choosing and completes various exercises related to the texts. Special attention is paid to the student's reading comprehension skills and his/her command of vocabulary. The contents of the course are agreed upon in more detail with the students. During the tutoring sessions the teacher gives feedback and guides the student in his/her learning process.
Mode of delivery:
Guided sefl-study.
Learning activities and teaching methods:
Orientation meeting, independent work. See registration information in order to find out the time of the orientation meeting.
54 h of work for 2 credits
80 h of work for 3 credits.
Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
See Required proficiency level
Recommended optional programme components:
-
Recommended or required reading:
To be agreed on at the beginning of the course.
Assessment methods and criteria:
Completion of the course requires the completion of all agreed.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1 - 5 / fail
Person responsible:
Kaisu Jarde and Marja Pohjola-Effe.
Working life cooperation:
-
Other information:
Registration in WebOodi. If the registration has closed the student can sign up by contacting the teacher by e-mail.

811391A: Requirements Engineering, 5 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Information Processing Science DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Markus Kelanti

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay811391A Requirements Engineering (OPEN UNI) 5.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work.
Language of instruction:
Finnish
Timing:
The course is held in the spring semester, during period 4. It is recommended to complete the course in the 1st spring semester of the Bachelor's studies.
Learning outcomes:
After completing the course, the student will be able to:
* apply requirements engineering skills and techniques individually and in teams, and understands the requirements fundamentals,
* choose and apply some of the requirements elicitation techniques,
* choose and apply some of requirements specification and documentation techniques, as well as
* apply appropriate requirements validation techniques, as well as learn new requirements engineering methods and techniques.
Contents:
* Requirements traceability
* Different stakeholder viewpoints and requirement categories
* Requirements change
* Problem structuring methods
* Requirements engineering skills and techniques in iterative development environment
* Requirements identification, elicitation, specification and documentation techniques
* Requirements prioritization and validation techniques
Mode of delivery:
Blended teaching
Learning activities and teaching methods:
Lectures and exercises 32h; independent work, group project and individual work 101h. Alternatively, independend study and book exam 133h.
Target group:
B.Sc. students.
Prerequisites and co-requisites:
The required prerequisite is that the learning outcomes of the following courses and their predecessors are accomplished: Introduction to Software Engineering
Recommended optional programme components:

Recommended or required reading:
Wiegers, Karl & Beatty, Joy (2013). Software Requirements, 3rd Edition.
Assessment methods and criteria:
Active participation (lectures, weekly assignments, group project and individual project), or alternatively book exam
Grading:
Numerical scale 1-5 or fail.
Person responsible:
Markus Kelanti
Working life cooperation:
Guest lectures

900092Y: Science Popularisation, 5 op

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Proficiency level:
This course is not offered in English. It is only Finnish-speaking students.
Required proficiency level:
-
ECTS Credits:
5 credits
Language of instruction:
Finnish
Timing:
1st or 2nd acedemic year
Learning outcomes:
Upon completion of the course the student should be conversant with the possibilities and problems related to the popularisation of science as well as with some of the techniques used to accomplish it. The student should be able to read popular scientific articles in a critical way.
Contents:
Practises and distinctive features of scientific communication and popularised science, group-writing , acedemic reading strategies, observation and analysis of speech communication situations.
Mode of delivery:
Multimodal teaching
Learning activities and teaching methods:
Contact teaching ca. 35 hrs, independent work ca. 100 hrs.
Target group:
Students of the Faculty of Humanities at a Bachelor level and Kiekuvi minor. Also students of all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
-
Recommended optional programme components:
-
Recommended or required reading:
Material from the teacher
Assessment methods and criteria:
Active participation in contact teaching, independent study and completion of given assignments.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Pass / fail
Person responsible:
Outi Mikkola
Working life cooperation:
-

900084Y: Scientific Communication, 5 op

Voimassaolo: 01.08.2014 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay900084Y Scientific Communication (OPEN UNI) 5.0 op

Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

031080A: Signal Analysis, 5 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Applied Mathematics and Computational Mathematics

Arvostelu: 1 - 5, pass, fail

Opettajat: Kotila, Vesa Iisakki

Opintokohteen kielet: Finnish

Leikkaavuudet:

031050A Signal Analysis 4.0 op

ECTS Credits:
5 ECTS credits / 135 hours of work
Language of instruction:
Finnish.
The course can be completed in English by a final exam.
Timing:
The course is held in the autumn semester, during period II. It is recommended to complete the course at the 2nd autumn semester.
Learning outcomes:
Upon completion of the course, the student:
-is able to calculate the energy, the power, the convolution and the frequency spectrum of discrete and analog, periodic and non-periodic deterministic signals
-is able to study the effect of sampling on the signal
-is able to calculate the Hilbert transform and the complex envelope of a signal
-is able to study the stationarity, the mutual dependence and the frequency content of random signals by means of the auto- and cross-correlation functions, and the power- and cross-power spectral densities
-is able to study the effect of an LTI system on a signal
Contents:
Signals, classification, frequency. Fourier analysis, analog and digital signal, fast Fourier transform. LTI system. Hilbert transform. AM- FM- and PM-modulation. Random variable. Covariance matrix. Random signal. Stationarity, autocorrelation. Power spectral density. Random signal in LTI system. Signal estimation.

Mode of delivery:
The lectures and exercise classes will be arranged as distance learning via Zoom. The Zoom-links, directions and other material (in Finnish) will be made available in the Moodle-workspace for the course, which can be found at https://moodle.oulu.fi/course/view.php?id=5361
Learning activities and teaching methods:
Lectures 28 h / Exercises 14 h / Self-study privately or in a group 93 h. The independent work includes individual STACK-assignments as online work.
Target group:
-
Prerequisites and co-requisites:
The recommended prerequisite is the completion of the courses 031078P Matrix Algebra, 031021P Probability and Mathematical Statistics and 031077P Complex Analysis.

Recommended optional programme components:
The course is an independent entity and does not require additional studies carried out at the same time.
Recommended or required reading:
Lecture notes. Additional reading: Proakis, J.G., Manolakis, D.K.: Introduction to Digital Signal Processing. Shanmugan, K.S., Breipohl, A.M.: Random Signals, Detection, Estimation and Data Analysis.

Assessment methods and criteria:
The course is completed with mid-term exams or a final exam. When completed with mid-term exams, exercise assignments are part of the continuous assessment. The assessment of the course is based on the learning outcomes of the course.
Grading:
The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.
Person responsible:
Vesa Kotila
Working life cooperation:
-

521044A: Social Computing, 5 op

Voimassaolo: 01.08.2018 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Computer Science and Engineering DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Simo Hosio

Opintokohteen kielet: English

ECTS Credits:
5 ECTS cr / 135 hours of work
Language of instruction:
English.
Timing:
Autumn semseter, period I.
Learning outcomes:
By the end of the course, students:

- possess the skills for analysing (reverse-engineering) social applications that consist of individuals and computing devices in a variety of contexts.
- can design social software, especially software that deal with crowdsourcing and human-computation
- have advanced understanding of both the positive and negative real-world consequences/aspects of social aspects of computing online
- are able to explain human behaviour with social computing systems by using selected basic theories from such as sociology or psychology

Contents:
Basics of social computing, computer-mediated human communication, designing social software, analysing social computing projects, crowdsourcing
Mode of delivery:
The course consists of lectures, exercises and individual / group-based assignments.
Learning activities and teaching methods:
The course consists of lectures (12h), exercises (16h), assignments and self-study (102h).
Target group:
M.Sc. and B.Sc. students. The course recommended for anyone who wishes to strengthen their expertise on social aspects of computational systems as well as designing for humans.
Prerequisites and co-requisites:
No recommended or required preparations.
Recommended optional programme components:
The course is an independent entity and does not require additional studies carried out at the same time. The course involves design exercises that demand some experience with computer programs (not programming per se).
Recommended or required reading:
Required reading will be delivered during the course.
Assessment methods and criteria:
The course completion relies on a number of completed solo-works (such as reflections and evaluation of specific online systems that are graded). The majority of the numerical assessment is project-based. Students have to complete several individual exercises throughout the semester: ideating an application, designing various versions of its prototype, evaluating those prototypes, documenting the final application designs. Passing criteria: all stages of the project-based work must be completed, each receiving more than 50% of the available points.
Grading:

The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.
Person responsible:
Associate Professor Simo Hosio
Assistant Ville Paananen
Working life cooperation:
The course contains optional guest lectures.
Other information:
Uses Moodle as the learning environment: https://moodle.oulu.fi/course/view.php?id=4449

815345A: Software Architectures, 5 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Information Processing Science DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Pertti Seppänen

Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS credits / 133 hours of work
Language of instruction:
Finnish
Timing:
The course is held in the spring semester, during period 4. It is recommended to complete the course at the 2nd spring semester of the Bachelor's studies.
Learning outcomes:
After passing the course, the student is able to:
* describe the concepts and techniques of the software architecture design – especially in case of object-oriented design,
* describe typical architecture solutions of main-stream modern software solutions – for instance apps of smart devices and server-based systems,
* identify and analyze the pros and cons of different software architectures from the viewpoints of software design & implementation, software execution, software quality and software maintainability,
* use UML modeling techniques to describe different perspectives of a software architecture,
* create different optional architectural solutions for a software based on its functional and non-functional requirements and evaluate the applicability of the optional architectures to the problem in question, as well as
* describe the role of architectural design in agile and iterative software development processes.
Contents:
The fundamentals of software architectures. Documenting software architectures. Components and interfaces, Software dependencies. Design patterns. Architectural styles. Evaluation methods of software architectures. Agile and iterative software development processes and software archteture desing.
Mode of delivery:
Face-to-face teaching.
Learning activities and teaching methods:
Lectures 24 h, exercises 20 h, exercise work as group work 90 h.
Target group:
BSc students.
Prerequisites and co-requisites:
The required prerequisite is that the learning outcomes of the following courses and their predecessors are accomplished: Data Modeling and Design
Recommended or required reading:
Robert Hanmer: Pattern-Oriented Software Architecture For Dummies, 2013; K. Koskimies, T. Mikkonen: Ohjelmistoarkkitehtuurit. Talentum 2005; L. Bass, R. Clements, R. Kazman: Software Architecture in Practice Third Edition. Addison-Wesley 2013; Agile Software Architecture 1st Edition Aligning Agile Processes and Software Architectures (2013) to an applicable extend.
Assessment methods and criteria:
The course is passed by participating in the course assignments as well as by evaluation of the exercise work.
Grading:
Numerical scale 1-5 or fail.
Person responsible:

Pertti Seppänen
Working life cooperation:
Guest lectures

811301A: Software Modeling and Design, 5 op

Voimassaolo: 01.08.2019 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Information Processing Science DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Tero Päivärinta

Opintokohteen kielet: Finnish

Leikkaavuudet:

812342A Object Oriented Analysis and Design 5.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work
Language of instruction:
Finnish
Timing:
The course is held in the autumn semester, during period 1. It is recommended to complete the course at the 2nd autumn semester of the Bachelor's studies.
Learning outcomes:
After completing the course, the student will be able to:
* apply possibilities of UML-language family to describe different views of software development,
* produce detailed descriptions using static and dynamic modelling and code from design models,
* describe principles of object-orientation, reverse engineering and general principles and concepts of software design (such as abstraction, modularization, cohesion, connectedness), as well as
* describe role of best practices in software modelling and design.
Contents:
UML notation and methodology. Some of UML -diagrams (at least class, sequence and static diagrams). Principles of object-orientation and quality aspects of it. Design best practices.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures 32 h, exercises 32 h, self study 66 h
Target group:
BSc students
Prerequisites and co-requisites:
The required prerequisite is that the learning outcomes of the following courses are accomplished: Requirements Engineering, Programming 2.
Recommended or required reading:
Advanced UML literature chosen by the teacher as well as course material and related literature
Assessment methods and criteria:
Examination and week exams.
Weekly every exercises will be evaluated. Moreover there will an examination of topics not covered in exercises. All must be passed.
Grading:
Numerical scale 1-5 or fail
Person responsible:
Tero Päivärinta

811306A: Software Quality and Testing, 5 op

Voimassaolo: 01.08.2019 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Information Processing Science DP

Arvostelu: 1 - 5, pass, fail

Opettajat: Mika Mäntylä

Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS credits / 133 hours of work
Language of instruction:
Finnish
Timing:
The course is held in the autumn semester, during period 2. It is recommended to complete the course at the 2nd autumn semester of the Bachelor's studies.
Learning outcomes:
After passing the course, the student will be able to:
* describe of different views on software quality and the role of testing in software engineering,
* detect defects in software using different techniques,
* describe testing levels, and techniques,
* create test cases and conduct unit testing with appropriate testing tools,
* describe the basics of test-driven development and test automation, as well as
* define the scope of software testing and quality assurance projects.
Contents:
1. Why Testing and Software quality are important
2. Testing as a process
3. Testing as a technique
4. Designing tests (using testing techniques and domain knowledge)
5. Oracles and Coverage
6. Unit testing and TDD
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Independent work, Group exercise sessions, Lectures, Project Based Learning, Visiting Lectures from Industry
Target group:
BSc students
Prerequisites and co-requisites:
The required prerequisite is that the learning outcomes of the following courses are accomplished: Software Modeling and Design
Assessment methods and criteria:
Lab Exercises, Quiz, Final exam, Student project
Grading:
Numerical scale 1-5 or fail
Person responsible:
Mika Mäntylä
Working life cooperation:
Guest lectures when available

485303A: Soil Mechanics, 5 op

Voimassaolo: 01.08.2019 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Civil Engineering field

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS credits / 135 hours of work
Language of instruction:
Finnish
Timing:

The course unit is held in the spring semester, during period 4
Learning outcomes:
Upon completion this course, the student will understand 1) the fundamentals of consolidation theory, 2) calculation of settlement, 3) stability of slopes, 4) lateral earth pressures and calculations, 5) braced excavation, 6) bearing capacity of soils.
Contents:
Settlement calculation, consolidation settlement, shear strength of soils, stresses in soil from surface load, slope stability, bearing capacity, earth retaining structures.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures (24 h) and calculation exercises (16 h) also independent work (95 h)
Target group:
Students in Bachelor program of civil engineering
Prerequisites and co-requisites:
No
Recommended optional programme components:
-
Recommended or required reading:
Lecture handout and other materials delivered in lectures, Principles of Geotechnical Engineering by Das B.M and Craig's Soil Mechanics by Craig R.F.
Assessment methods and criteria:
Examination
Grading:
The course unit utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.
Person responsible:
Anne Tuomela
Working life cooperation:
No
Other information:
-

423244S: Space Planning and Maintenance of Instruments and Musical Devices, 5 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Faculty of Education

Arvostelu: 1 - 5, pass, fail

Opettajat: Jussi Jaako

Opintokohteen kielet: Finnish

ECTS Credits:
5 cr
Language of instruction:
Finnish
Timing:
2th year autumn
Learning outcomes:
After the course student is able to:

- handle the maintenance of different string and electric instruments, as well as, audio technology
- take care of hearing safety as a part of acoustic and music premises planning
- maintain the band instruments
- find more information concerning these issues
- act as an expert on building up a music class premises

Contents:

- Planing of modern musicclass facilities from the point of pedagogy and acoustics.
- Maintainance of music class
- Equipment and intstrument maintainance and service
- School visits

Mode of delivery:

Classroom learning/diverse learning/distance learning
Learning activities and teaching methods:
Lectures 16h, demonstrations 24h, independent work 95 h
Target group:
Music teacher candidates, classroom and early childhood students
Prerequisites and co-requisites:
422271A Music technology
Recommended or required reading:

- Unkari, J. (toim.) 2012. Musiikkitilojen suunnitteluopas
- Laaksonen, J. 2006. Äänityön kivijalka
- Nuutinen, A., Eriksson, T.2011. Sähkökitaran rakentaminen

Assessment methods and criteria:
Active participation, independent course work. Learning diary.
Grading:
0-5
Person responsible:
Jaako, Jussi
Working life cooperation:
Yes

900027Y: Special Course in Finnish: Writing Skills, 3 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Proficiency level:
B1/B2, according to the Common European Framework.
Status:
Course is intended for the international students in every faculty at the University of Oulu.
Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.
Required proficiency level:
A2.2 Completion of the Finnish for Advanced Students (900020Y) or the equivalent language skills.
ECTS Credits:
3 ECTS credits
Language of instruction:
Finnish
Timing:
-
Learning outcomes:
By the end of the course the student can write coherent and detailed descriptions and summaries about various matters. S/he is able to summarize text and justify his/her own statements of opinions. In addition, the student knows the steps of the writing process and understands the significance of a text's function and target audience. S /he can also differentiate between formal and informal writing styles.
Contents:
During the course students develop their writing skills in Finnish and are guided in the drafting of different text types and documents needed in studies and work. In the course students learn how to write informal and formal letters, an argument-essay, a summary, a job application and a report.
Mode of delivery:
One contact lesson at the beginning of the course and guided independent studying using online
Learning activities and teaching methods:
The course will be held online using a Moodle environment.
Target group:
Course is intended for the international students in every faculty at the University of Oulu.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.
Prerequisites and co-requisites:
Completion of the Intermediate Finnish Course 2
Recommended optional programme components:
-
Recommended or required reading:
Web based material in Moodle.
Assessment methods and criteria:
To pass the course, the student must complete all the required writing assignments.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Grading is on a pass/fail basis.
Person responsible:
Anne Koskela
Working life cooperation:
-
Other information:
Sign-up in WebOodi or in Tuudo. Staff members in staff training portal.

423273S: Special Music Education, 5 op

Voimassaolo: 01.08.2017 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Faculty of Education

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

ECTS Credits:
5 cr
Language of instruction:
Finnish
Timing:
1.-2. year
Learning outcomes:
After completing the course, the student will be able to:

- improve the skills and knowledge in inclusive music education
- apply music education approaches in the context of inclusive music education among diverse students
- know the latest research of inclusive music education and the basic concepts of special education.
- know different approaches to inclusive music education (figure notes)
- understand the role of the inclusive music education as a part of equal arts education

Contents:

- basic concepts and perspectives to special education in the context of music education
- perspectives to inclusive music education, diversity, equality, and accessibility
- possibilities of music education approaches in diverse, inclusive contexts
- field studies based on own interest

Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures 40 h, independent work 95h, teaching practice, written work
Target group:
Music education students
Recommended or required reading:
Material distributed during the course
Assessment methods and criteria:
Active participation in the lessons and field studies, research diary
Grading:
0-5

Person responsible:
Katja Sutela
Working life cooperation:
Field studies

904008Y: Studying/ Working in France I, 3 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: French

Proficiency level:
B1 on the CEFR scale
Status:
-
Required proficiency level:
904037Y Intermédaire II, or equivalent knowledge (at least 5 years of previous studies in French language).
ECTS Credits:
3 ECTS credits
Language of instruction:
French
Timing:
Spring term
Learning outcomes:
The student practises basic vocabulary and the oral and writing skills needed in working life and studies. The course aims to add to the student's knowledge of grammar, clause structures and vocabulary.
Contents:
Topics covered by the course include vocabulary and grammar related to everyday life, booking times, working life issues, travelling.
The grammatical structures covered include question formation, prepositions with verbs and adjectives, comparative and superlative forms, temporal prepositions (*pendant, depuis, il y a*) and the present participle. France and French culture are also discussed.
Mode of delivery:
Contact teaching
Learning activities and teaching methods:
52 hours of lectures in groups (4 hours per week) and independent work (completion of agreed upon exercises).
Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
904037Y Intermédaire II, or equivalent knowledge (at least 5 years of previous French studies).
Recommended optional programme components:
-
Recommended or required reading:
Français.com, Français professionnel **»** – Niveau intermédiaire, B1, (Livre de l´élève et cahier d´exercices), 3ème édition (Oct.2018), Auteur : J.L. Penfornis,
Livre de l´élève : ISBN : 978-2-09-038687-1
Cahier d´exercice : ISBN : 978-2-09-038685-1
Assessment methods and criteria:
Regular and active participation in contact teaching, completion of given assignments andexams.
Read more about assessment criteria at the University of Oulu webpage.
Grading:

1 - 5 or pass / fail
Person responsible:
Cécile Rousselet-Karinen
Working life cooperation:
-
Other information:
Cécile Rousselet-Karinen, cecile.rousselet-karinen@oulu.fi

Languages and communication

904009A: Studying/ Working in France II, 3 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: French

Proficiency level:
B1 / B2 on the CEFR scale
Status:
-
Required proficiency level:
Travailler/Etudier en France 1 or equivalent knowledge
ECTS Credits:
3 ECTS credits
Language of instruction:
French
Timing:
Spring term
Learning outcomes:
The course offers a more thorough look into French culture and France as a country. Professional and study-related French is another focus point of the course.
Contents:
Topics covered by the course include composing a CV, job interviews, talking about one's work tasks, work rhythm, cultural knowledge, politeness, *savoir-vivre* and the meaning of abbreviations (PME, PMI, PDG, DRH), business operations, working life skills.
Grammatical structures covered include forming and using conditional forms, indefinite pronouns (*tous, toutes, certains, quelques-uns*), declining and accepting propositions and passive forms.
Mode of delivery:
Contact teaching
Learning activities and teaching methods:
26 hours of lectures in groups (4 hours per week) and independent work (completion of agreed upon exercises).
Target group:
Students in all faculties.

Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy. Courses offered through cross-institutional studies at the University of Oulu are listed in the WebOodi course catalogue. There in "Instruction" and see "Intermediate Studies".
Prerequisites and co-requisites:
Travailler/Etudier France 1 or equivalent knowledge
Recommended optional programme components:
-
Recommended or required reading:
Français.com, Français professionnel **»** – Niveau intermédiaire, B1, (Livre de l´élève et cahier d´exercices), 3ème édition (Oct.2018), Auteur : J.L. Penfornis.
Livre de l´élève : ISBN : 978-2-09-038687-1

Cahier d´exercice : ISBN : 978-2-09-038685-1
Assessment methods and criteria:
Regular and active participation, completion of given assignments and exams.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1 - 5 or pass / fail
Person responsible:
Cécile Rousselet-Karinen
Working life cooperation:
-
Other information:
Cécile Rousselet-Karinen, cecile.rousselet-karinen@oulu.fi
Registration in WebOodi of in Tuudo. If you do not have an access to WebOodi or if the registration has closed the student can sign up by contacting the teacher by e-mail.
More information from website: Languages and communication

904024Y: Tandem - French - Finnish, 2 - 4 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: French, Finnish

Voidaan suorittaa useasti: Kyllä

Proficiency level:
A2 – C1
Status:
Optional course
Required proficiency level:
Niveau minimum (français) exigé: A2 / B1
ECTS Credits:
2 - 4 ECTS credits
Language of instruction:
French / Finnish
Timing:
Spring and Autumn term. Can be decided by students themselves.
Learning outcomes:

- To have the chance to get to know the target language and culture under the guidance of a native speaker, as well as improve oral communication.
- In exchange, the native speaker can share information about his/her own culture and way of life.
- To use both languages equally so as to offer both language speakers practice in the target language.
- To increase contacts between Finnish and foreign students.
- To help foreign students adapt to life in Finland and provide the Finnish students with the opportunity to have cross-cultural contacts.

Contents:
The pairs meet on a regular basis each week to discuss pre-arranged topics. The course content is agreed upon at the beginning of the course together with the tutor, and learning progress reports are made after each meeting by means of a journal. There are meetings with the tutor during the course and at the end.
Mode of delivery:
Independent study
Learning activities and teaching methods:
Conditions for obtaining credits (2 credits):
- 13 - 15 meetings (1.30 to 2 hours) noted on a diary.
- Writing in French of the learning journal.
N.B .: The learning diary is not a detailed writing of each meeting but a summary of all the meetings (2 pages maximum) where the student addresses the points which seem interesting to him in relation to his experience.
- Review meeting.
Target group:
Students from French sepaking countries who would like to know Finnish and Finnish culture.

Finnish students who would like to improve their French skills and cultural knowledge.
Students in all faculties. Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
Minimum level of French required A2/B1
Recommended optional programme components:
-
Recommended or required reading:
Will be distributed during the course
Assessment methods and criteria:
Active and regular participating and writing of the final report.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Pass / fail
Person responsible:
Cécile Rousselet-Karinen
Working life cooperation:
-
Other information:
Register by e-mail cecile.rousselet-karinen@oulu.fi or in WebOodi or in Tuudo.

905046Y: Tandem - Japanese - Finnish, 2 - 4 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Proficiency level:
A2 – B1 in Japanese.
Status:
Optional course.
Required proficiency level:
A2 – B1 in Japanese, no required proficiency level needed in Finnish.
ECTS Credits:
2 ECTS credits.
Language of instruction:
Japanese / Finnish
Timing:
Spring or/and Autumn term. Can be decided by students themselves.
Learning outcomes:

- To have the chance to get to know the target language and culture under the guidance of a native speaker, as well as improve oral communication.
- In exchange, the native speaker can share information about his/her own culture and way of life.
- To use both languages equally so as to offer both language speakers practice in the target language.
- To increase contacts between Finnish and foreign students.
- To help foreign students adapt to life in Finland and provide the Finnish students with the opportunity to have cross-cultural contacts.

Contents:
The pairs meet on a regular basis each week to discuss pre-arranged topics or study the target language together. The student writes down the session dates and topics. After all sessions the student writes a report (1-2 pages long) and sends it to the teacher.
Mode of delivery:
Independent study

Learning activities and teaching methods:
One meeting and after that independet study.
Target group:
Japanese (exchange) students in the university of Oulu. Finnish students who would like to improve their Japanese skills and cultural knowledge.
Students of all faculties. Students of the Oulu University of Applied Sciences (OAMK) may also participate to this cross-institutional study. The quota principle is as follows: one OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:
Minimum level of Japanese required A2/B1
Recommended optional programme components:
-
Recommended or required reading:
-
Assessment methods and criteria:
Active and regular participation and writing of the final report.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Pass / Fail
Person responsible:
Takako Karppinen
Working life cooperation:
-
Other information:
Register in WebOodi or Tuudo, if not possible please be in contact to by email takako.karppinen@oulu.fi.

903017A: Trading Partner Germany, 4 op

Voimassaolo: 01.08.1995 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: German

Proficiency level:
B1/B2 on the CEFR scale
Status:
This course may be included either in your faculty's compulsory foreign language studies or in the language minor (25 ECTS). Upon completion of the course unit the student has proven that he/she has attained the proficiency level required by the Government Decree on University Degrees (794/2004) in one foreign language.
Required proficiency level:
B1 proficiency level (equivalent to approximately 5 years of German studies at school) in the Common European Framework of Reference for Languages (CEFR) or equivalent knowledge, e.g. the approved completion of the course German Business Talk and Correspondence.
ECTS Credits:
4 ECTS credits / 106 of student's work
Language of instruction:
German
Timing:
Autumn term
Learning outcomes:
The aim of the course is to bolster the student's command of standard language and develop his/her professional language skills. Upon completion of the course the student should be able to compose a job application and a CV in German and be conversant with various discussion strategies. He/she should also be able to look for information and discuss current news items in German. The student will know more about the German-speaking areas, their economy and political organizations. The student should be able to manage in even the more demanding business-related communication situations using both spoken and written German.

Contents:
The course covers common professional situations (including writing a job application and CV, going to a job interview etc.), foreign trade-related situations, like going to expositions. The course also focuses on intercultural communication and current events and phenomena in German-speaking countries.
Mode of delivery:
Contact teaching. More detailed information in the beginning of the course.
Learning activities and teaching methods:
1 x 90 min. / week, 26 h in total and active preparation for the contact meetings, altogether 106 h.
Target group:
Students in all faculties.
Students of the Oulu University of Applied Sciences (OAMK) students and OAMK's international and exchange students may also participate to this cross-institutional study. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.
See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy. Courses offered through cross-institutional studies at the University of Oulu are listed in the WebOodi course catalogue. There in "Instruction" and see "Intermediate Studies".
Prerequisites and co-requisites:
See Required proficiency level
Recommended optional programme components:
-
Recommended or required reading:
Material prepared by the teacher.
Assessment methods and criteria:
Continuous assesment. Completion of the course requires regular and active participation in teaching and completion of the given assignments.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1 - 5 / fail
Person responsible:
Oliver Jarde
Working life cooperation:
-
Other information:
Registration in WebOodi or in Tuudo. If the registration has closed the student can sign up by contacting the teacher by e-mail.

488505A: Waste managemet and recycling, 5 op

Voimassaolo: 01.09.2018 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Field of Process and Environmental Engineering

Arvostelu: 1 - 5, pass, fail

Opettajat: Eva Pongracz, Jenni Ylä-Mella

Opintokohteen kielet: Finnish

Leikkaavuudet:

488130A	Waste management and resources recovery	5.0 op

ECTS Credits:
5 cr/133 hours of work
Language of instruction:
English
Timing:
Spring, period 3-4.
Learning outcomes:
After completing the course, the student will be familiar with the waste legislation and other policy instruments and is able to use the waste-related terminology. The student understands the responsibilities of the different actors and stakeholders in the municipal waste management system and knows the key waste minimization and

recycling requirements. The student will also be familiar with the municipal waste collection system for households and able to calculate the recycling and recovery rates of recyclables. The student knows the key recycling technologies for the main waste fractions and can calculate treatment costs for the major streams.
Contents:
Waste legislation in the EU and Finland. Waste Act and Regulations, waste hierarchy. Sorting of household waste: waste containers, collection points, transport and reception, responsibilities. Waste recycling and energy recovery technologies, recycling rates, producer responsibility schemes, utilization of bio-waste and energy recovery technologies. Waste Center operations, safe disposal of waste. Consumer habits, consumers responsibilities and future challenges in waste management.
Mode of delivery:
Distance learning, starting 22.1.2021 in zoom. More detailed instructions for those who registered by e-mail on 21.1.2021. Lectures, lecture assignments and an exercise in Moodle. The course has compulsory assignment requirements and the course evaluation will be based on the grades of intermediate tasks. No exam.

Learning activities and teaching methods:
Online and video lectures; lecture assignments and an exercise as a personal work.
Target group:
Master's students of process and environmental engineering; Bachelor's students of environmental engineering; Minor subject students.
Recommended or required reading:
Video lectures and information on recommended reading material will be provided during the course.
Assessment methods and criteria:
Continuous evaluation. Completion of all personal lecture assignments and the exercise during the course are mandatory.

Grading:
The evaluation is based on personal lecture assignments and an exercise during the course. Each intermediate task must be passed, and the scores obtained from assignments forms the final grade. The course uses a numerical grading scale 1-5. In the numerical scale, zero stands for a fail.
Person responsible:
D.Sc.(Tech.) Jenni Ylä-Mella

Other information:
This course replaces the course 488130A Waste management and resources recovery.
The course can also be taken in Finnish in autumn term period 1. (See the course desription in Finnish.)

900086Y: Working Life Communication, 5 op

Voimassaolo: 01.08.2014 -

Opiskelumuoto: Language and Communication Studies

Laji: Course

Vastuuyksikkö: Languages and Communication

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Proficiency level:
This course is not offered in English. It is only Finnish-speaking students.
Status:
-
Required proficiency level:
-
ECTS Credits:
-
Language of instruction:
Finnish
Timing:
-
Learning outcomes:
-
Contents:

-

Mode of delivery:

-

Learning activities and teaching methods:

-

Target group:

Students in all faculties. This course is not offered in English. It is only Finnish-speaking students.

Students of the Oulu University of Applied Sciences (OAMK) students. The quota principle is as follows: at least two OAMK students in a course and if there are more places, they are filled according to the queuing principle.

See more information https://www.oulu.fi/forstudents/crossinstitutionalstudy.

Prerequisites and co-requisites:

-

Recommended optional programme components:

-

Recommended or required reading:

-

Assessment methods and criteria:

-

Grading:

-

Person responsible:

Anne Koskela

Working life cooperation:

-

Other information:

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