Opasraportti

Open University - studies at the Faculty of Science (2017 - 2018)

Tutkintorakenteisiin kuulumattomat opintokokonaisuudet ja -jaksot

802355A: Algebraic Structures, 5 op
802354A: Basics in Algebra, 5 op
750124P: Basics of ecology, 5 op
750373A: Biogeography, 5 op
750121P: Cell biology, 5 op
757109P: Concepts of genetics, 5 op
802162P: Continuity and Limit, 5 op
802163P: Derivative, 5 op
802357A: Euclidean Spaces, 5 op
790310A: Field course in Physical Geography, 5 op
790101P: GIS-basics and Cartography, 5 op
790322A: Geographical Information and Research, 5 op
790340A: Geographies of global development, 5 op
ay765308A: History of astronomy (OPEN UNI), 5 op
802120P: Introduction to Matrices, 5 op
802161P: Introduction to Real Functions, 5 op
790141P: Introduction to Regional Development and Regional Policy, 5 op
806113P: Introduction to Statistics, 5 op
790160P: Introduction to Tourism Geography, 5 op
ay765103P: Introduction to astronomy (OPEN UNI), 3 op
802151P: Introduction to mathematical deduction, 5 op
790104P: Introduction to systematic Human Geography, 5 op
790152P: Introduction to the discipline of Geography, 5 op
790102P: Introduction to the systematic Physical Geography, 5 op
ay802158P: Mathematics for Economic Sciences (OPEN UNI), 7 op
761118P: Mechanics 1, 5 op
- *Compulsory*
  - 761118P-01: Mechanics 1, lectures and exam, 0 op
  - 761118P-02: Mechanics 1, lab. exercises, 0 op

791635A: Physical Geography of Fennoscandia, 5 op
756346A: Plant biology lectures, 5 op
801195P: Probability Theory, 5 op
790326A: Qualitative research methods, 5 op
766116P: Radiation physics, biology and safety, 5 op
790106A: Region, culture and society, 5 op
802164P: Series and Integral, 5 op
790305A: Special themes in Human Geography, 5 op
790303A: Special themes in Physical Geography, 5 op
ay806116P: Statistics for Economic Sciences (OPEN UNI), 5 op
802351A: Vector Calculus, 5 op
790349A: World regional geography, 5 op

Opintojaksojen kuvaukset

Tutkintorakenteisiin kuulumattomien opintokokonaisuuksien ja -jaksojen kuvaukset

802355A: Algebraic Structures, 5 op

Voimassaolo: 01.08.2010 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Field of Mathematics
Arvostelu: 1 - 5, pass, fail
Opettajat: Kari Myllylä
Opintokohteen kielet: Finnish
Leikkaavuudet:

800333A Algebra I 8.0 op

ECTS Credits:
5 ECTS credits
Language of instruction:
Finnish
Timing:
Second year, 1. period
Learning outcomes:
After completing the course, student is able to

- derive and proof main results in the course
- use and apply different proof techniques
- recognize algebraic structures and the concepts
- see connections and differences between different algebraic structures

Contents:
The course introduces algebraic structures, such as rings, subrings, ideals, integral domains, fields and finite fields. The course gives an understanding of algebraic terms and concepts used in mathematics and physics.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
28 h lectures, 14 h exercises
Target group:
Major students
Prerequisites and co-requisites:
802354A Basics in Algebra
Recommended optional programme components:
-
Recommended or required reading:
Lecture notes
Assessment methods and criteria:
Final exam
Grading:
1-5
Person responsible:
Kari Myllylä
Working life cooperation:
-

802354A: Basics in Algebra, 5 op

Voimassaolo: 01.08.2010 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Field of Mathematics
Arvostelu: 1 - 5, pass, fail
Opettajat: Kari Myllylä
Opintokohteen kielet: Finnish
Leikkaavuudet:

ay802354A	Number Theory and Groups (OPEN UNI)	5.0 op
800333A	Algebra I	8.0 op

ECTS Credits:
5 ECTS cr
Language of instruction:
Finnish
Timing:
1. year, 3. period
Learning outcomes:
After completing the course, student is able to

- derive and proof main results in the course
- use and apply different proof techniques
- recognize algebraic structures and the concepts
- see connections and differences between different algebraic structures

Contents:
The course includes basics in arithmetics and algebraic structures, such as, congruence, residue classes, prime numbres, Euclidean algorithm, the fundamental theorem of arithmetic, Euler-Fermat formula, groups and morphisms. The course gives an understanding of algebraic terms and concepts used in mathematics and physics.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
28 h lectures, 14 h exercises
Target group:
Major and minor students
Prerequisites and co-requisites:
802151P Introduction to mathematical deduction
Recommended optional programme components:
-
Recommended or required reading:
Lecture notes
Assessment methods and criteria:
Final exam
Grading:
1-5
Person responsible:
Kari Myllylä
Working life cooperation:
-

750124P: Basics of ecology, 5 op

Opiskelumuoto: Basic Studies
Laji: Course
Vastuuyksikkö: Field of Biology
Arvostelu: 1 - 5, pass, fail
Opettajat: Jari-Heikki Oksanen

Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS credits / 133 hours of work.
Language of instruction:
Finnish.
Timing:
B.Sc. 1 st spring.
Learning outcomes:
After completion of the course both biology and minor studies students understand better function of nature and the ecological phenomena in individual, population, community and ecosystem level.
Contents:
The course gives a student a basic idea about ecological interactions in individual-, population-, community- and ecosystem levels. In individual level the focus is on environmental demands of plants and animals. In population level the birth- and death rate of age groups and their effect on population growth is focused. In interactions between different species the emphasis is on how the competition between species leads to differentiation of niches. Predation is viewed as the regulatory effect on the population dynamics of prey populations. In community level the biodiversity and the patterns of succession are the main questions. In ecosystem level the emphasis is on energy flows and nutrient cycling. Evolution and adaptation are important in different fields of ecology.
Mode of delivery:
Face-to-face teaching.
Learning activities and teaching methods:
The course is divided into three parts which follow the course book Krebs, C. J. 2009: Ecology (6 th edition). 1 st part: 24 hours of lectures based mainly on parts 1-2 of the course book. 2 nd part: 24 hours of lectures are based on part 3 of the course book. 3 rd part: students read the part 4 from the course book. In the course exam, there will be three questions, one from each part and all the questions have to be passed.
Target group:
Compulsory biology students.
Prerequisites and co-requisites:
No.
Recommended optional programme components:
-
Recommended or required reading:
Krebs, C. J. 2009: Ecology (6 th edition). Part I.
The availability of the literature can be checked from this link.
Assessment methods and criteria:
Exam.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5 / Fail.
Person responsible:
Doc. Kari Koivula and Prof. Jari Oksanen.
Working life cooperation:
No.
Other information:
-

750373A: Biogeography, 5 op

Voimassaolo: 01.08.2015 - 31.07.2019

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Field of Biology

Arvostelu: 1 - 5, pass, fail

Opettajat: Kvist, Laura Irmeli, Jari-Heikki Oksanen

Opintokohteen kielet: Finnish

Leikkaavuudet:

750173P	Biogeography	5.0 op
750363A	Biogeography	4.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work.
Language of instruction:
Finnish.
Timing:
B.Sc. 1st autumn.
Learning outcomes:
The course introduces students to basic concepts of biogeography, patterns of distribution and historical and present factors affecting the distribution. Plant biogeography introduces students to modern and historical factors controlling the plant cover, and to the special methods of vegetation science.
Contents:
The course consists of general part and optional part on plant biogeography and vegetation science. The general part introduces basic models and theories of distribution of organisms in the environment. Historical, evolutionary, geographical, climatic and ecological explanations. Research methods used in biogeography. The part on plant biogeography and vegetation science introduces methods on factors controlling the structure and composition of vegetation, and describes major vegetation types in Finland and principal biomes in the World. Methods of vegetation science are briefly surveyed.
Mode of delivery:
Face-to-face teaching.
Learning activities and teaching methods:
General biogeography: 24 h lectures, independent work (3 cr), **Plant biogeography**: 24 h lectures (2 cr); two exams.
Target group:
Compulsory for biology students.
Prerequisites and co-requisites:
No.
Recommended optional programme components:
Other recommended courses related to the field: Basics of Ecology (750124P), Evolution and systematics of organisms (750372A), Evolution, systematics and morphology of organisms, practicals (750374A), Biodiversity in human changed environments (755631S).
Recommended or required reading:
Cox, C.B. & Moore, P.D. 2005: Biogeography. An ecological and evolutionary approach (7 ed.), Blackwell Publishing Ltd, or Cox, C.B. & Moore, P.D. 2010: Biogeography. An ecological and evolutionary approach (8 ed.), John Wiley & Sons Inc.
The availability of the literature can be checked from this link.
Assessment methods and criteria:
Two exams.
Read more about assessment criteria at the University of Oulu webpage.

Grading:
1-5 / Fail. Final grade is average value of the two exams.
Person responsible:
Doc. Laura Kvist and Prof. Jari Oksanen.
Working life cooperation:
No.
Other information:
-

750121P: Cell biology, 5 op

Voimassaolo: - 31.07.2020

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Field of Biology

Arvostelu: 1 - 5, pass, fail

Opettajat: Häggman, Hely Margaretha, Jaana Jurvansuu, Henrika Honkanen, Kuittinen, Helmi Helena

Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS credits / 133 hours of work.

Language of instruction:
Finnish.
Timing:
B.Sc. 1 st autumn.
Learning outcomes:
The student is familiar with cellular structure and functioning in plant and animal cells, understands the social structures in multicellular species and knows why and how the genetic organizations (in nucleus, chloroplast and mitochondria) are co-operating, maintaining and regulating the cellular metabolism. Student understands the common origin and evolution of life on planet Earth, and understands the material basis and mechanisms of this continuity.
Contents:
During the recent years especially the development of molecular and microscopic and imaging techniques has increased our knowledge on cells and their social interactions. The structural and functional characteristics of plant and animal cells will be covered as well as the genetic organization maintaining and regulating the system.
Mode of delivery:
Face-to-face teaching.
Learning activities and teaching methods:
48 h lectures, 87 h independent work including deepening the upper secondary school knowledge in biology and chemistry as home work and book reading. Part of the home assignments is oblicatory.
Target group:
Compulsory to the biology and biochemistry students.
Prerequisites and co-requisites:
Good basics in biology and especially in chemistry from upper elementary school contributes learning.
Recommended optional programme components:
Cell biology is prerequisite for the following courses: Developmental biology-histology (755320A), Animal physiology (755323A), Plant biology lectures (756346A), Concepts of genetics (757109P). Course also gives readiness for studies in molecular biology and biochemistry.
Recommended or required reading:
Suitable parts of Reece ym. 2014: Campbell Biology: a global approach (10e), Pearson, 1350 s. 978-1-292-00865-3, Alberts, B. ym. 2015: Molecular Biology of the Cell (6e), Garland Science Publishing, London, 1464 s. ISBN: 9780815345244, Heino J. & Vuento M. 2014: Biokemian ja solubiologian perusteet (3. painos) WSOY Pro Oy, Helsinki, Jones R. ym. 2013: The molecular life of plants. Wiley-Blackwell, 742 s. ISBN : 978-0-470-87012-9.
The availability of the literature can be checked from this link.

[HK1]linkkiä en osannut uudistaa
Assessment methods and criteria:
Three subexams. After each lecture section is subexam. The only way to do the course is to pass all the three subexams (no credits to Oodi are given from subexams). No final exam. The subexams are ment to be done within one academic year.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5 / Fail. Final grade is average value of the three exams.
Person responsible:
Dr. Jaana Jurvansuu, Doc. Helmi Kuittinen and Prof. Hely Häggman.
Working life cooperation:
No.
Other information:
-

757109P: Concepts of genetics, 5 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Field of Biology

Arvostelu: 1 - 5, pass, fail

Opettajat: Savolainen Outi

Opintokohteen kielet: Finnish

Leikkaavuudet:

757122P	Concepts of genetics for biochemists	3.0 op

753124P General genetics 4.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work.
Language of instruction:
Finnish.
Timing:
B.Sc. 1st spring.
Learning outcomes:
To understand and apply basic concepts of genetics, at Mendelian and molecular level.
Contents:
Part 1. Mendelian genetics, including the ideas of quantitative and population genetics. Part 2. Molecular genetics: replication, transcription, translation, genetic code, mutations, repair of DNA. Part 3. Selected topics on developmental genetics, and genetics of health and diseases.
Mode of delivery:
Face-to-face teaching.
Learning activities and teaching methods:
50 h lectures and seminars, 83 h independent studies, exam.
Target group:
Compulsory to the biology students (5 cr) Biochemistry students: parts 1 and 3 (3 cr) compulsory.
Prerequisites and co-requisites:
Cell biology (750121P) or equivalent knowledge.
Recommended optional programme components:
This course is prerequisite to all other genetics courses.
Recommended or required reading:
Materials are in Optima. Klug et al. 2012. Concepts of Genetics (11. ed). Pearson, 896 p. Alberts, B. et al. 2008: Molecular Biology of the Cell (5. ed). Garland Science Publishing, London, 1268 p.
The availability of the literature can be checked from this link.
Assessment methods and criteria:
Homeworks, home exams, lecture diary, exams.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5 / Fail.
Person responsible:
Prof. Outi Savolainen.
Working life cooperation:
No.
Other information:
-

802162P: Continuity and Limit, 5 op

Voimassaolo: 01.06.2015 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Field of Mathematics

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

800119P Analysis 1 5.0 op
802155P Continuity and limit 4.0 op

Ei opintojaksokuvauksia.

802163P: Derivative, 5 op

Voimassaolo: 01.06.2015 -

Opiskelumuoto: Basic Studies

Laji: Course
Vastuuyksikkö: Field of Mathematics
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish
Leikkaavuudet:

800317A	Analysis 2	5.0 op
802156P	Derivative	4.0 op

Ei opintojaksokuvauksia.

802357A: Euclidean Spaces, 5 op

Voimassaolo: 01.06.2015 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Field of Mathematics
Arvostelu: 1 - 5, pass, fail
Opettajat: Ville Suomala
Opintokohteen kielet: Finnish
Leikkaavuudet:

802352A	Euclidean Topology	4.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work
Language of instruction:
Finnish
Timing:
2nd year 4t period
Learning outcomes:
After passing the course the student
- will be able to define basic topological concepts
- will be able to handle sequences
- will be able to justify basic properties of continuous vector valued functions
Contents:
Sequences, continuity and limit of a vector valued function, basic topological concepts
Mode of delivery:
Contact teaching
Learning activities and teaching methods:
28 hours of lectures, 14 hours of excercises, independent work
Target group:
Major and minor students
Prerequisites and co-requisites:
Functions and limits, Continuity and derivative, Introduction to Matrices
Recommended optional programme components:
-
Recommended or required reading:
Lecture notes
Assessment methods and criteria:
Final exam
Grading:
Fail, 1-5
Person responsible:
Ville Suomala
Working life cooperation:
No
Other information:
-

790310A: Field course in Physical Geography, 5 op

Voimassaolo: - 31.07.2018
Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Field of Geography
Arvostelu: 1 - 5, pass, fail
Opettajat: Janne Alahuhta
Opintokohteen kielet: Finnish
Leikkaavuudet:

790324A Field course in Physical Geography 10.0 op

Ei opintojaksokuvauksia.

790101P: GIS-basics and Cartography, 5 op

Opiskelumuoto: Basic Studies
Laji: Course
Vastuuyksikkö: Field of Geography
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish
Leikkaavuudet:

ay790101P GIS-basics and Cartography (OPEN UNI) 5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
5 ECTS
Language of instruction:
Finnish, partly in English. English speaking students are asked to contact prof. Rusanen before the course.
Timing:
1 year, 2nd semester
Learning outcomes:
Course gives basic information about Geographical Information System and about the theory of cartography. After the course the student can use ArcGIS program and he/she is able to produce cartographic presentations.
Contents:
Basics of GIS, theories of cartography and statistical graphics and use of ArcGIS program.
Mode of delivery:
Face-to-face learning.
Learning activities and teaching methods:
16 h lectures, 56 h practicals.
Target group:
Common course to all 1st year students of Geography.
Prerequisites and co-requisites:
-
Recommended optional programme components:
Course is part of the minor studies of GIS.
Recommended or required reading:
Paul A Longley, Michael G Goodchild, David J. Maguire & David W. Rhind (2005). Geographic Information Systems and Science. 2 nd edition. 516 p
Assessment methods and criteria:
Exam on exam day.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1–5.
Person responsible:
Professor Rusanen
Working life cooperation:

No
Other information:
English speaking students are asked to contact prof. Rusanen before the course.

790322A: Geographical Information and Research, 5 op

Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Field of Geography
Arvostelu: 1 - 5, pass, fail
Opettajat: Paasi Anssi, Janne Alahuhta
Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS
Language of instruction:
Finnish.
Timing:
1st year, 1st semester.
Learning outcomes:
The student will deepen his/her understanding about geographical information and research, and he/she will see the research as a part of society. The student will learn the correct practise in scientific researh and the principles of copyrights.
Contents:
Communication in science, modes, ethics and interests of georgaphy and science in general;ethical scientific pratices; ethichs of researcher; as well as stucture of a research paper

Mode of delivery:
Face-to-face learning.
Learning activities and teaching methods:
12 hrs lectures, written exam.
Target group:
Common course to all 1st year students of Geography.
Prerequisites and co-requisites:
-
Recommended optional programme components:
Course is part of minor studies of Geography.
Recommended or required reading:
To be announced later
Assessment methods and criteria:
Exam on exam day.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5.
Person responsible:
Janne Alahuhta, Anssi Paasi and Toni Ahlqvist
Working life cooperation:
No.

790340A: Geographies of global development, 5 op

Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Field of Geography
Arvostelu: 1 - 5, pass, fail
Opettajat: Juha Ridanpää
Opintokohteen kielet: Finnish
Leikkaavuudet:

ay790340A Geographies of global development (OPEN UNI) 5.0 op

ECTS Credits:
5 ECTS
Language of instruction:
Finnish or English.
Timing:
2nd or 3rd year, 1st or 2nd semesters (autumn or spring semesters).
Learning outcomes:
This course gives knowledge of global development problems from geographical point of view. After the course the student can explain what development indicates and what kind of social and economic phenomena will explain both development and under development. He/she is also able to compare different actions that are aimed to diminish the uneven development based on different theories and strategies.
Contents:
The course familiarizes students to the theories that aim to explain differences in uneven development. Under development, and its social, cultural and economic aspects will be studies from national, regional and local level. This course also quires to political programs and strategies that are aimed to stabiles equalizes uneven development.
Mode of delivery:
Book exam.
Learning activities and teaching methods:
Book exam.
Target group:
Compulsory for teachers, others obligatory.
Prerequisites and co-requisites:
-
Recommended optional programme components:
–
Recommended or required reading:

- Potter, R.B.T, T. Binns, J.A.Elliot & D.Smith (2004). Geographies of development.

Assessment methods and criteria:
Exam on examinarium.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1–5.
Person responsible:
Juha Ridanpää
Working life cooperation:
No.

ay765308A: History of astronomy (OPEN UNI), 5 op

Voimassaolo: 01.08.2017 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish
Leikkaavuudet:

765308A History of astronomy 5.0 op

Ei opintojaksokuvauksia.

802120P: Introduction to Matrices, 5 op

Voimassaolo: 01.06.2015 -
Opiskelumuoto: Basic Studies
Laji: Course
Vastuuyksikkö: Field of Mathematics

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

802118P Linear Algebra I 4.0 op

ECTS Credits:
5 ECTS credits
Language of instruction:
Finnish
Timing:
1. year, 4. periodi
Learning outcomes:
After completing the course the student is able to
- apply arithmetic operations of matrices
- solve system of linear equations by matrix methods
- study linear depence and linear indepence of vectors
- recognize the subspace of R^n and understands the concepts of basis and dimension of a vector space
- analyse matrices by the parameters and the vectors.

Contents:
Vectors and matrices, Systems of linear equations, determinant of a matrix, subspaces of R^n, linear depence and linear indepence of vectors, base, dimension, eigenvalues and eigenvectors of a matrix, diagonalization.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures 28 h, Exercises 14 h
Target group:
Major and minor studies
Prerequisites and co-requisites:
802151P Introduction to Mathematical Deduction
Recommended or required reading:
Lecture notes
Grossman, S.I. : Elementary Linear Algebra, David C. Lay: Linear Algebra and Its Applications.
Assessment methods and criteria:
Final exam
Grading:
Fail, 1-5
Person responsible:
Marko Leinonen
Working life cooperation:
-

802161P: Introduction to Real Functions, 5 op

Voimassaolo: 01.06.2015 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Field of Mathematics

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

802154P Elementary functions 3.0 op

800147P Basic Methods in Mathematics I / appl. 8.0 op

Ei opintojaksokuvauksia.

790141P: Introduction to Regional Development and Regional Policy, 5 op

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Field of Geography

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay790141P Introduction to planning geography (OPEN UNI) 5.0 op

ECTS Credits:
5 ECTS
Language of instruction:
Finnish.
Timing:
1st year, 1st semester.
Learning outcomes:
The student is able to apply the most essential concepts of regional development and regional policy. He/she can tell the historical progress of regional development, regional policy and regional planning of Finland and its relationship to contemporary development of European Union.
Contents:
Regional development and regional policy from conceptual and empirical aspects; Theories and mechanisms of RD and RP; Local, national and international development based on regional planning.
Mode of delivery:
Face-to-face learning.
Learning activities and teaching methods:
20 hrs lectures, literature and written exam.

Target group:
Common course to all 1st year students of Geography.
Prerequisites and co-requisites:
-
Recommended optional programme components:
Course is part of minor studies in Geography and minor studies of Regional Development and regioanl planning.
Recommended or required reading:
Moisio, Sami (2012). Valtio, alue, politiikka. Suomen tilasuhteiden sääntely toisesta maailmansodasta nykypäivään. Vastapaino, Tampere.

Assessment methods and criteria:
Exam on exam day.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5.
Person responsible:
Toni Ahlqvist
Working life cooperation:
No.

806113P: Introduction to Statistics, 5 op

Voimassaolo: 01.01.2011 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Field of Mathematics

Arvostelu: 1 - 5, pass, fail

Opettajat: Hanna Heikkinen

Opintokohteen kielet: Finnish

Leikkaavuudet:

806118P Introduction to Statistics 5.0 op

806119P A Second Course in Statistics 5.0 op

806116P Statistics for Economic Sciences 5.0 op

ECTS Credits:
5 ECTS cr
Language of instruction:
Finnish
Timing:
4th period. 1st or 2nd year of studies.
Learning outcomes:
Upon completion of the course, student will be
- able to identify and define the main principles of statistical research, collection of the data and analysis
- able to apply basic methods of descriptive statistics and statistical inference in simple quantitative research using a statistical software
- able to critically evaluate results of the statistical research presented in media
- prepared for teaching statistics in secondary school and high school
- prepared for participating in a group.

Contents:
- the nature and the meaning of statistics
- data and the acquisition of them: observations, variables, measuring and designs of a study
- the descriptive statistics of empirical distributions: tables, graphical presentations and descriptive measures of center, variation and dependence
- the most important probability distributions
- the principles and the basic methods of statistical inference: random sample, sample statistics, point estimation, confidence intervals and statistical testing of hypotheses.

Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures 16 h (partly compulsory) / instructed group work (28 h) / independent work 80 h. Group works will be returned. Additional independently implemented learning diary tasks. Independent work contains also preparation for group work and peer assessment.
Target group:
Students of mathematics and physics and other interested students.
Prerequisites and co-requisites:
The recommended prerequisite prior to enrolling for the course is the completion of the courses: 802151P Introduction to mathematical deduction and 800119P Functions and limit.

Recommended optional programme components:
After the course, student is able to continue other statistics courses.
Recommended or required reading:
Lecture notes.
Assessment methods and criteria:
This course utilizes continuous assessment. Practical works and learning diaries are assessed weekly. In addition web tests. The assessment of the course is based on the learning outcomes of the course. The more detailed assessment criteria is available in the beginning of the course. In addition one compulsory lecture and peer assessment.
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:
Hanna Heikkinen
Working life cooperation:
No

790160P: Introduction to Tourism Geography, 5 op

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Field of Geography

Arvostelu: 1 - 5, pass, fail

Opettajat: Saarinen, Jarkko Juhani

Opintokohteen kielet: Finnish

Leikkaavuudet:

790160A Introduction to tourism geography 5.0 op

ECTS Credits:
5 ECTS
Language of instruction:
Finnish
Timing:
1st year, 1st semester.
Learning outcomes:
Student will learn about the toursim phenomenon and its regional and development characteristics and impacts. After the course the student can define and interpret different aspects of the tourism geography and its subject matters.
Contents:
Basic concepts of the tourism phenomena, spatial characteristics of tourism and its development aspects.
Mode of delivery:
Face-to-face learning.
Learning activities and teaching methods:
16 h lectures, exam.
Target group:
Common course to all 1st year students of Geography.
Prerequisites and co-requisites:
-
Recommended optional programme components:
Course is part of the minor studies of Tourism studies.
Recommended or required reading:

- Hall, C.M., Muller, D.K. and J. Saarinen (2009). Nordic Tourism: Issues and Cases.
- Hall, C.M. and S. Page (1999 or later edition). The Geography of Tourism and Recreation - Environment, Place and Space (partly)

Assessment methods and criteria:
Exam on exam day.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1–5.
Person responsible:
Jarkko Saarinen
Working life cooperation:
No

ay765103P: Introduction to astronomy (OPEN UNI), 3 op

Voimassaolo: 01.08.2012 -

Opiskelumuoto: Basic Studies

Laji: Course

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

765103P Introduction to astronomy 2.0 op

ECTS Credits:
3 credits
Language of instruction:
Finnish
Learning outcomes:
Student can describe by full sentences the role of astronomy in the formation of physical world view, can name the most central astronomical research subjects and can describe the proportions of the Universe.
Contents:
Basic level introduction to astronomical topics: history of astronomy, astronomica methods, the Solar System, the Sun, stars and their evolution, interstellar matter, star clusters, the Milky Way and galaxies.
Mode of delivery:

Face-to-face teaching
Learning activities and teaching methods:
Lectures 21 h, self-study 59 h
Prerequisites and co-requisites:
No specific prerequisites
Recommended or required reading:
Course lectured in Finnish, possible English study material will be decided later.
Assessment methods and criteria:
One written examination.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Numerical grading scale 0 – 5, where 0 = fail
Person responsible:
Petri Kostama
Other information:
https://wiki.oulu.fi/display/765103P/

802151P: Introduction to mathematical deduction, 5 op

Voimassaolo: 01.08.2009 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Field of Mathematics

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay802151P	Introduction to mathematical deduction (OPEN UNI)	5.0 op

ECTS Credits:
5 ECTS cr
Language of instruction:
Finnish
Timing:
First period at the first semester.
Learning outcomes:
After completing the course, student is:
- able to use different methods proving techniquesis
- able to use basic set theoretic concepts and definitionsis
- able to define and apply basic definitions related to functions
Contents:
The course in an introduction to mathematical deduction and introduces different types of proof techniques. The course covers the concepts familiar from upper secondary school studies more profound way. Main concepts in this course are basic set theory and functions.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures 28 h, exercises 14 h
Target group:
Major and minor students
Prerequisites and co-requisites:
-
Recommended optional programme components:
-
Recommended or required reading:
Lecture notes
Assessment methods and criteria:
Final exam
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Pass/Fail

Person responsible:
Marko Leinonen
Working life cooperation:
-

790104P: Introduction to systematic Human Geography, 5 op

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Field of Geography

Arvostelu: 1 - 5, pass, fail

Opettajat: Juha Ridanpää

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay790104P Introduction to systematic humangeography (OPEN UNI) 5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
5 ECTS
Language of instruction:
Finnish
Timing:
1st year, 2nd semester.
Learning outcomes:
The aim is to learn the development of Human Geography and contemporary questions of systematic fields of HG.
Contents:
Cultural and human phenomena in geographical scale: economy, industry, politics, religion, urban way of life, population, ethnicity, languages, globalization, popular culture and folklore.
Mode of delivery:
Face-to-face learning.
Learning activities and teaching methods:
20 hrs lectures, 56 hrs practical's and written report. Final grade is based on exam and report (fifty-fifty).
Target group:
Common course to all 1st year students of Geography.
Prerequisites and co-requisites:
-
Recommended optional programme components:
Course is part of the minor studies of Geography.
Recommended or required reading:
To be announced later
Assessment methods and criteria:
Exam on exam day.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5.
Person responsible:
Juha Ridanpää (lectures) and Tuomo Alhojärvi (practicals).
Working life cooperation:
No.

790152P: Introduction to the discipline of Geography, 5 op

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Field of Geography

Arvostelu: 1 - 5, pass, fail

Opettajat: Jan Hjort, Juha Ridanpää

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay790152P Introduction to the discipline of geography (OPEN UNI) 5.0 op

ECTS Credits:
5 ECTS
Language of instruction:
Only in Finnish.
Timing:
BSc, 1st year, 1st semester
Learning outcomes:
With this course the students can analyse the history of Geography and contents of its different fields, concepts and research aspects.
Contents:
Lectures will give a general overview of Geography as an independent discipline. It will be completed by considering history, concepts and research aspects of Geography.
Mode of delivery:
Face-to-face learning.
Learning activities and teaching methods:
20 hours lectures, literature and written exam.
Target group:
Obligatory for all the 1st year students of Geography.
Prerequisites and co-requisites:
-
Recommended optional programme components:
Course is part of the minor studies of Geography.
Recommended or required reading:

- International Encyclopedia of Human Geography (toim. Rob Kitchin & Nigel Thrift), chapters: Metaconcepts: Landscape, Place, Scale, Space I, Space-Time, Space II, Territory and Territoriality Philosophy and Geography: Regional Geography I Political Geography: Regionalism Social & cultural geography: Citizenship, Cultural Geography, Sense of Place.
- Lecture slides and three articles (Harrison 2009, Rhoads 2009, Alahuhta ym. 2013) can be found from the Noppa Study Portal (under the heading “Yhteinen lisämateriaali”).

Assessment methods and criteria:
Exam on exam day.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5.
Person responsible:
Jan Hjort, Juha Ridanpää
Working life cooperation:
No.

790102P: Introduction to the systematic Physical Geography, 5 op

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Field of Geography

Arvostelu: 1 - 5, pass, fail

Opettajat: Jan Hjort

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay790102P Introduction to the systematic physical geography (OPEN UNI) 5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
5 ECTS cr
Language of instruction:

Finnish and English (Lectures are only in Finnish, but this course can be completed also in English with some extra readings. Practicals are also organized in English.)
Timing:
1 year, 2nd semester
Learning outcomes:
This introductory course will give information about systematic fields of Physical Geography and its contemporary research. After the course, the student recognizes the most essential phenomena of geosphere (geomorphology), hydrosphere (hydrogeography), biosphere (biogeography), atmosphere (climatology), and he/she is able to do conclusions about the factors that influence those phenomena. The aim of the practical's is that the student can use basic methods of the research of Physical Geography.
Contents:
Geomorphology, climatology, hydrogeography, biogeography; and geosphere, atmosphere, hydrosphere and biosphere. The students will learn how nature works and how to resolve multiple environmental questions. Practical's are focused to the importance of the material compilation and its technical use.
Mode of delivery:
Face-to-face learning.
Learning activities and teaching methods:
20 h lectures, 56 h practicals.
Target group:
Common course to all 1st year students of Geography.
Prerequisites and co-requisites:
-
Recommended optional programme components:
Course is part of the minor studies of Geography.
Recommended or required reading:
- Strahler, Alan (2013). Introducing Physical Geography.
- More material from the practicals.

Assessment methods and criteria:
Exam on an exam day.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1–5.
Person responsible:
Jan Hjort and Olli-Matti Kärnä
Working life cooperation:
No.
Other information:
Exchange students are asked to contact prof. Hjort before the course.

ay802158P: Mathematics for Economic Sciences (OPEN UNI), 7 op

Voimassaolo: 01.08.2014 -
Opiskelumuoto: Basic Studies
Laji: Course
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish
Leikkaavuudet:

802158P	Mathematics for Economic Sciences	7.0 op

761118P: Mechanics 1, 5 op

Voimassaolo: 01.08.2017 -
Opiskelumuoto: Basic Studies
Laji: Course
Vastuuyksikkö: Field of Physics
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish

Leikkaavuudet:

766343A	Mechanics	7.0 op
761111P	Basic mechanics	5.0 op
761101P	Basic Mechanics	4.0 op
766323A	Mechanics	6.0 op
761323A	Mechanics	6.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work
- 761118P-01, Lectures and exam (4 cr)
- 761118P-02, Lab. exercises (1 cr)

Language of instruction:
The lectures will be in Finnish. The textbook is in English and exercises are selected from the textbook. For further information, contact the responsible person of the course.

Timing:
Autumn

Learning outcomes:
The student is able to describe the basic concepts of mechanics and to apply those when solving the problems related to mechanics.

Contents:
We encounter many phenomena related to mechanics in our everyday life. Most engineering sciences are based on mechanics and mechanics forms the basis of many other fields of physics, including modern physics. Contents in brief: Short summary of vector calculus. Kinematics, projectile motion and circular motion. Newton's laws of motion. Work and different forms of energy. Momentum, impulse and collisions. Rotational motion and moment of inertia. Torque and angular momentum. Rigid body equilibrium problems. Gravitation. Periodic motion. Fluid mechanics.

Mode of delivery:
Face-to-face teaching

Learning activities and teaching methods:
Lectures 30 h, 7 exercises (14 h), 2 laboratory exercises (3 hours/exercise), self-study 83 h

Target group:
For the students of the University of Oulu.

Prerequisites and co-requisites:
Knowledge of vector calculus and basics of differential and integral calculus.

Recommended optional programme components:
No alternative course units or course units that should be completed simultaneously.

Recommended or required reading:
Text book: H.D. Young and R.A. Freedman: University physics, Addison-Wesley, 13th edition, 2012, chapters 1-14. Also older editions can be used. Lecture material: Finnish lecture material will be available on the web page of the course.

Assessment methods and criteria:
Both parts (761118P-01 and 761118P-02) will be graded separately. The final grade of the course is the weighted average of the grades of part 1 (4 cr) and part 2 (1 cr).
761118P-01: Three midterm exams or final examination
761118P-02: Two laboratory exercises
Read more about assessment criteria at the University of Oulu webpage.

Grading:
Numerical grading scale 0 – 5, where 0 = fail

Person responsible:
Juha Vaara

Working life cooperation:
No work placement period

Other information:
https://wiki.oulu.fi/display/761118P

Compulsory

761118P-01: Mechanics 1, lectures and exam, 0 op

Voimassaolo: 01.01.2017 -

Opiskelumuoto: Basic Studies

Laji: Partial credit

Vastuuyksikkö: Field of Physics

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

766343A Mechanics 7.0 op
761111P-02 Basic mechanics, lab. exercises 0.0 op
761111P-01 Basic mechanics, lectures and exam 0.0 op
761111P Basic mechanics 5.0 op
761121P Physical Measurements I 3.0 op
761101P Basic Mechanics 4.0 op
761323A Mechanics 6.0 op
766323A Mechanics 6.0 op

Language of instruction:

The lectures will be in Finnish. The textbook is in English and exercises are selected from the textbook. For further information, contact the responsible person of the course.

Timing:

Autumn

Learning outcomes:

The student is able to describe the basic concepts of mechanics and to apply those when solving the problems related to mechanics.

Contents:

We encounter many phenomena related to mechanics in our everyday life. Most engineering sciences are based on mechanics and mechanics forms the basis of many other fields of physics, including modern physics. Contents in brief: Short summary of vector calculus. Kinematics, projectile motion and circular motion. Newton’s laws of motion. Work and different forms of energy. Momentum, impulse and collisions. Rotational motion and moment of inertia. Torque and angular momentum. Rigid body equilibrium problems. Gravitation. Periodic motion. Fluid mechanics.

Mode of delivery:

Face-to-face teaching

Learning activities and teaching methods:

The whole course: Lectures 30 h, 7 exercises (14 h), 2 laboratory exercises (3 hours/exercise), self-study 83 h

Target group:

For the students of the University of Oulu

Prerequisites and co-requisites:

Knowledge of vector calculus and basics of differential and integral calculus.

Recommended optional programme components:

No alternative course units or course units that should be completed simultaneously

Recommended or required reading:

Text book: H.D. Young and R.A. Freedman: University physics, Addison-Wesley, 13th edition, 2012, chapters 1-14. Also older editions can be used. Lecture material: Finnish lecture material will be available on the web page of the course.

Assessment methods and criteria:

Three small midterm exams or final examination.

Grading:

Numerical grading scale 0 – 5, where 0 = fail

Person responsible:

Juha Vaara

Working life cooperation:

No work placement period

Other information:

Course website

761118P-02: Mechanics 1, lab. exercises, 0 op

Voimassaolo: 01.01.2017 -
Opiskelumuoto: Basic Studies
Laji: Partial credit
Vastuuyksikkö: Field of Physics
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish
Leikkaavuudet:

766343A Mechanics 7.0 op
761111P-01 Basic mechanics, lectures and exam 0.0 op
761111P-02 Basic mechanics, lab. exercises 0.0 op
761111P Basic mechanics 5.0 op
761101P Basic Mechanics 4.0 op
761323A Mechanics 6.0 op
766323A Mechanics 6.0 op

Other information:

Course website

791635A: Physical Geography of Fennoscandia, 5 op

Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Field of Geography
Arvostelu: 1 - 5, pass, fail
Opettajat: Janne Alahuhta
Opintokohteen kielet: Finnish
Leikkaavuudet:

ay791635A Physical Geography of Fennoscandia (OPEN UNI) 5.0 op

ECTS Credits:
5 ECTS
Language of instruction:
Finnish and English
Timing:
2nd or 3rd year, 1st or 2nd semester.
Learning outcomes:
Course familiarizes students to the geography of the Fennoscadia. When the student has passed the written exam, he/she can define the special characters of the physical geography of Fennoscandia
Contents:
Physical geography of the Fennoscandia.
Mode of delivery:
Book exam.
Learning activities and teaching methods:
Book exam.
Target group:
Obligatory for teachers, others voluntary.
Prerequisites and co-requisites:
-
Recommended optional programme components:

Course is part of minor studies of Geography.
Recommended or required reading:
- Seppälä, Matti (ed.) (2005). Physical Geography of Fennoscandia, 1st ed. 432 p. Oxford University Press.

Assessment methods and criteria:
Exam on examinarium.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1–5.
Person responsible:
Janne Alahuhta
Working life cooperation:
No.

756346A: Plant biology lectures, 5 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Field of Biology

Arvostelu: 1 - 5, pass, fail

Opettajat: Häggman, Hely Margaretha, Anna-Maria Pirttilä

Opintokohteen kielet: Finnish

Leikkaavuudet:

752345A Basics of functional plant biology, lectures 4.0 op

ECTS Credits:
5 ECTS credits / 133 hours of work.
Language of instruction:
Finnish.
Timing:
B.Sc. 2nd spring.
Learning outcomes:
The student can understand and explain the function and regulation of plant cells, tissues and entire plants.
Contents:
The most important phenomena of plant life, like photosynthesis, nitrogen metabolism and plant hormones are discussed.
Mode of delivery:
Face-to-face teaching, book exam.
Learning activities and teaching methods:
Lectures (20 h) and exams.
Target group:
Compulsory to the biology students.
Prerequisites and co-requisites:
Cell biology (750121P) or equivalent knowledge helps in following this course. This course is a prerequisite for course Plant biology practicals (756341A) and Advanced course in plant biology (752682S).
Recommended optional programme components:
-
Recommended or required reading:
Taiz, L. et al. 2015. Plant Physiology and Development. Sixth Edition.761 p. Sinauer Associates, Inc. ISBN-9781605352558.
Terävä, E. & Kanervo, E. 2008: Kasvianatomia or equivalent.
The availability of the literature can be checked from this link.
Assessment methods and criteria:
Lectures, book, exams.
Read more about assessment criteria at the University of Oulu webpage.

Grading:
1-5 / Fail.
Person responsible:
Prof. Hely Häggman and Doc. Anna Maria Pirttilä.

Working life cooperation:
No.
Other information:
-

801195P: Probability Theory, 5 op

Voimassaolo: 01.01.2011 -
Opiskelumuoto: Basic Studies
Laji: Course
Vastuuyksikkö: Field of Mathematics
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS credits
Language of instruction:
Finnish
Timing:
2nd year, 2nd period.
Learning outcomes:
Upon completing the course the student will be able to
- solve simple practical problems associated with probability
- solve simple theoretical problems associated with probability
- derive the basic properties of probability, starting from the axioms
Contents:
The course is an introduction to probability. In the beginning high school level probability is reviewed and after that axiomatic treatment of the theory starts. The central concepts discussed include probability space, conditional probability, independence, and random variable together with its distribution and expected value.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
28 h of lectures, 14 h of exercises, 91 h of independent study
Target group:
Mathematics majors and minors
Prerequisites and co-requisites:
Integral 800318A
Recommended optional programme components:
-
Recommended or required reading:
Lectures.
Text book: Pekka Tuominen, "Todennäköisyyslaskenta I", Limes ry, Helsinki.
Assessment methods and criteria:
Final exam and small tests.
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:
Hanna Heikkinen
Working life cooperation:
-

790326A: Qualitative research methods, 5 op

Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Field of Geography
Arvostelu: 1 - 5, pass, fail

Opettajat: Juha Ridanpää

Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS
Language of instruction:
Finnish.
Timing:
2nd year, 2nd semester.
Learning outcomes:
Students understand the starting points in qualitative research and perceive the different phases of research projects. They also understand the basic factors behind analyzing the data.
Contents:
The lectures introduve the main concepts, viewpoints and methodologies in qualitative research. During the exercises students read and analyze relevant articles.
Mode of delivery:
Face-to-face learning.
Learning activities and teaching methods:
8 hrs lectures, 20 hrs practicals, seminar report.
Target group:
For the students of Human Geography, Geoinformatics, Tourism Geography and Regional development and regional policy.
Prerequisites and co-requisites:
790104P Introduction to systematic Human Geography
Recommended optional programme components:
Course is part of minor studies of Geography and the themes of this course continues in the course "Field course in human geography".
Recommended or required reading:
To be announced later.
Assessment methods and criteria:
Prepairing the report.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5.
Person responsible:
Juha Ridanpää
Working life cooperation:
No.

766116P: Radiation physics, biology and safety, 5 op

Voimassaolo: 01.01.2015 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Field of Physics

Arvostelu: 1 - 5, pass, fail

Opettajat: Seppo Alanko

Opintokohteen kielet: Finnish

Leikkaavuudet:

761116P	Radiation physics, biology and safety	3.0 op

ECTS Credits:
5 ECTS credits
Language of instruction:
Finnish
Timing:
Spring
Learning outcomes:

The student knows the origin of ionising radiation and the principles of its interaction with matter. He/she can explain the essential effects of ionising radiation on human tissue and remembers the principles of radiation safety and laws and regulations (in Finland) concerning this.
Contents:
The topics of the course include the origin of ionizing radiation e.g. as a result of radioactive decay and in nuclear reactions, the interaction between radiation and matter, the detection and measurements of radiation, physical quantities and measuring units related to radiation, radiation in the environment, and examples of utilizing radiation. The biologic effects of radiation and the legislation on radiation safety are also discussed.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
Lectures 28 h, problem solving exercises 8 h and laboratory exercises 8 h. Self-study 90 h.
Target group:
For the students of the University of Oulu.
Prerequisites and co-requisites:
No specific prerequisites
Recommended optional programme components:
740368A Radiation and safety
Recommended or required reading:
Lecture material (in Finnish), Laws and regulations concerning radiation safety
Assessment methods and criteria:
Final examination
Grading:
Numerical grading scale 0 – 5, where 0 = fail
Person responsible:
Seppo Alanko
Working life cooperation:
No work placement period

790106A: Region, culture and society, 5 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Field of Geography

Arvostelu: 1 - 5, pass, fail

Opettajat: Paasi Anssi

Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS
Language of instruction:
English and Finnish
Timing:
2nd year, 1st semester.
Learning outcomes:
A student can explain and represent the main ideas of regional geography, theoretical and practical meanings of concept 'region' and the role of region in order to manage society and culture.
Contents:
Development of (contemporary) regional geography, theoretical meanings of concept 'region', region and power. Lecture serves different fields of specialization.
Mode of delivery:
Face-to-face learning.
Learning activities and teaching methods:
16 h lectures and an exam (lectures and literature)
Target group:
Common course to all students of Geography.
Prerequisites and co-requisites:
-
Recommended optional programme components:
Course is part of minor studies of Geography.
Recommended or required reading:

Material will be delivered during the course.
Assessment methods and criteria:
Exam on exam day.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1–5.
Person responsible:
Anssi Paasi.
Working life cooperation:
No.

802164P: Series and Integral, 5 op

Voimassaolo: 01.06.2015 -
Opiskelumuoto: Basic Studies
Laji: Course
Vastuuyksikkö: Field of Mathematics
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish
Leikkaavuudet:

800318A	Analysis 3	5.0 op
802353A	Series and Integrals	6.0 op

Ei opintojaksokuvauksia.

790305A: Special themes in Human Geography, 5 op

Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Field of Geography
Arvostelu: 1 - 5, pass, fail
Opettajat: Paasi Anssi
Opintokohteen kielet: Finnish
Voidaan suorittaa useasti: Kyllä

ECTS Credits:
5 ECTS
Language of instruction:
Finnish.
Timing:
1st year, 2nd semester.
Learning outcomes:
After lectures the student is familiar with the research fields of cultural geography of the department and their research practices.
Contents:
The aim is to make student to interpret and understand cultural reality in geographical way. Lectures will lead to the seleceted themes of the cultural geography.
Mode of delivery:
Face-to-face learning.
Learning activities and teaching methods:
20 hrs lectures and a study circle
Target group:
Obligatory for students of Human Geography and HG-orientated teachers.
Prerequisites and co-requisites:
-
Recommended optional programme components:

Course is part of the minor studies of Geography for students of Biology (teachers). This course is possible to perform by substituting book exam (790348A).
Recommended or required reading:
Reading circle:
- Häkli, J. (1999). Meta hodos: johdatus ihmismaantieteeseen. 231 s.

Exam
- Other readings, to be announced later.

Assessment methods and criteria:
Exam on exam day and participation in reading circle
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5.
Person responsible:
Anssi Paasi and Tuomo Alhojärvi
Working life cooperation:
No.

790303A: Special themes in Physical Geography, 5 op

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Field of Geography

Arvostelu: 1 - 5, pass, fail

Opettajat: Janne Alahuhta

Opintokohteen kielet: Finnish

ECTS Credits:
5 ECTS
Language of instruction:
Finnish.
Timing:
1st year, 2nd semester.
Learning outcomes:
After this course, the student is able to define and interpret the phenomena of physical nature.
Contents:
Special characteristics of northern nature. GIS in environmental research.
Mode of delivery:
Face-to-face learning.
Learning activities and teaching methods:
8 hrs lectures, 20 hrs practicals and report.
Target group:
Obligatory for students of Physical Geography and teachers.
Prerequisites and co-requisites:
GIS Basics and Cartography (790101P)
Recommended optional programme components:
Course is part of the minor studies of Geography. Course is also possible to perform by substituting book exam (790346A)
Recommended or required reading:
-
Assessment methods and criteria:
Learning diary and report.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5.
Person responsible:
Janne Alahuhta
Working life cooperation:
No.

ay806116P: Statistics for Economic Sciences (OPEN UNI), 5 op

Voimassaolo: 01.08.2014 -
Opiskelumuoto: Basic Studies
Laji: Course
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish
Leikkaavuudet:

806116P	Statistics for Economic Sciences	5.0 op

802351A: Vector Calculus, 5 op

Voimassaolo: 01.06.2015 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Field of Mathematics
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish
Leikkaavuudet:

800328A	Calculus of several variables	5.0 op
800322A	Analysis II	8.0 op

ECTS Credits:
5 ECTS credits
Language of instruction:
Finnish
Timing:
1st or 2nd year, 3rd period
Learning outcomes:
After completing the course the student is able to
- operate functions of several variables
- apply derivates of functions of several variables
- calculate multiple integrals

Contents:
The course concerns calculus of severable variables. The central concepts of the course are partial derivative, gradient, divergence, curl and multiple integral. Integral theorems related to functions of several variables are also presented. The course offers basic tools for further courses in analysis as well as for applications.
Mode of delivery:
Face-to-face teaching
Learning activities and teaching methods:
28 h lectures, 14 h exercises, 91 h study a part of which may be guided
Target group:
Mathematics major and minor students
Prerequisites and co-requisites:
802161P Introduction to Real Functions
802120P Introduction to Matrices
Recommended optional programme components:
-
Recommended or required reading:
-
Assessment methods and criteria:
Final exam
Grading:
1-5, fail
Person responsible:
Mahmoud Filali
Working life cooperation:
No

Other information:
-

790349A: World regional geography, 5 op

Opiskelumuoto: Intermediate Studies
Laji: Course
Vastuuyksikkö: Field of Geography
Arvostelu: 1 - 5, pass, fail
Opettajat: Janne Alahuhta
Opintokohteen kielet: Finnish
Leikkaavuudet:

ay790349A World regional geography (OPEN UNI) 5.0 op

ECTS Credits:
5 ECTS
Language of instruction:
Finnish and English.
Timing:
2nd or 3rd year, 1st or 2nd semester.
Learning outcomes:
After the course, the student can define and interpret different regional phenomena and processes in the global level.
Contents:
Regional phenomena of the world and their role in Physical Geography.
Mode of delivery:
Book exam.
Learning activities and teaching methods:
Book exam.
Target group:
Obligatory to the teachers, other voluntary.
Prerequisites and co-requisites:
-
Recommended optional programme components:
Course is part of the minor studies of geography.
Recommended or required reading:

- Hobbs, Joseph J. (2013): Fundamentals of World Regional Geography, 3. painos. Brooks/Cole Cengage Learning, 443 s.

Assessment methods and criteria:
Exam on examinarium.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1–5.
Person responsible:
Janne Alahuhta
Working life cooperation:
No.