

# Opasraportti

(2016 - 2017)

## Tutkintorakenteisiin kuulumattomat opintokokonaisuudet ja -jaksot

ay756347A: Conservation of biodiversity (OPEN UNI), 5 op  
ay752175P: Environmental ecology (OPEN UNI), 5 op  
ay780117P: General and Inorganic Chemistry A (OPEN UNI), 5 op  
ay780118P: General and Inorganic Chemistry B (OPEN UNI), 5 op  
ay780116P: Introduction to Organic Chemistry (OPEN UNI), 5 op  
ay765103P: Introduction to astronomy (OPEN UNI), 3 op  
ay750116P: Legislation in environmental protection (OPEN UNI), 5 op  
ay802158P: Mathematics for Economic Sciences (OPEN UNI), 7 op  
ay806116P: Statistics for Economic Sciences (OPEN UNI), 5 op

## Opintojaksosten kuvaukset

### Tutkintorakenteisiin kuulumattomien opintokokonaisuuksien ja -jaksosten kuvaukset

#### **ay756347A: Conservation of biodiversity (OPEN UNI), 5 op**

**Voimassaolo:** 01.08.2015 -

**Opiskelumuoto:** Intermediate Studies

**Laji:** Course

**Vastuuyksikkö:** Open University, Oulu

**Arvostelu:** 1 - 5, pass, fail

**Opetus suunnattu:** Open University, Oulu

**Opintokohteen kielet:** Finnish

**Leikkaavuudet:**

756347A Conservation of biodiversity 5.0 op

**Assessment methods and criteria:**

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

#### **ay752175P: Environmental ecology (OPEN UNI), 5 op**

**Voimassaolo:** 01.08.2014 -

**Opiskelumuoto:** Basic Studies

**Laji:** Course

**Vastuuyksikkö:** Open University, Oulu

**Arvostelu:** 1 - 5, pass, fail

**Opetus suunnattu:** Open University, Oulu

**Opintokohteen kielet:** Finnish

**Leikkaavuudet:**

752175P Environmental ecology 5.0 op

## **ay780117P: General and Inorganic Chemistry A (OPEN UNI), 5 op**

**Voimassaolo:** 01.01.2016 -

**Opiskelumuoto:** Basic Studies

**Laji:** Course

**Vastuuyksikkö:** Open University, Oulu

**Arvostelu:** 1 - 5, pass, fail

**Opetus suunnattu:** Open University, Oulu

**Opintokohteen kielet:** Finnish

**Leikkaavuudet:**

780117P	General and Inorganic Chemistry A	5.0 op
780114P	General and Inorganic Chemistry I	6.0 op
780115P	General and Inorganic Chemistry II	6.0 op
780113P	Introduction to Chemistry	12.0 op
780101P	Introduction to Physical Chemistry	7.0 op
780102P	Introduction to Inorganic Chemistry	5.0 op
780109P	Basic Principles in Chemistry	4.0 op

### **ECTS Credits:**

5 credits /134 hours of work

### **Language of instruction:**

Finnish

### **Timing:**

1st autumn

### **Learning outcomes:**

After this course the student should understand basic concepts of chemistry as described in international general chemistry curriculum.

### **Contents:**

Basic concepts of chemistry, chemical formula, chemical reaction, chemical equation, oxidation-reduction reactions, stoichiometry, gases, chemical equilibrium, acids and bases, additional aspects of acid-base equilibria, solubility and complex-ion equilibria.

### **Mode of delivery:**

Face-to-face teaching

### **Learning activities and teaching methods:**

32 hours of lectures and applications, 20 hours of exercises and 82 hours of self-study

### **Target group:**

Biochemistry, Chemistry compulsory. In the entity of 25 credits (minor studies), compulsory. Physical sciences, Mathematical sciences, optional.

### **Prerequisites and co-requisites:**

Upper secondary school chemistry

### **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:**

Petrucci, R.H., Herring, F.G., Madura, J.D. ja Bissonnette, C.: General Chemistry: Principles and Modern Applications, 10. edition (also 7., 8. and 9. edition), Pearson Canada Inc., Toronto, 2011. Chapters 1 – 6, 15 – 18.

**Assessment methods and criteria:**

Two intermediate examinations or one final examination. 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:**

N.N.

**Working life cooperation:**

No

**Other information:**

No

## ay780118P: General and Inorganic Chemistry B (OPEN UNI), 5 op

**Voimassaolo:** 01.08.2015 -

**Opiskelumuoto:** Basic Studies

**Laji:** Course

**Vastuuyksikkö:** Open University, Oulu

**Arvostelu:** 1 - 5, pass, fail

**Opetus suunnattu:** Open University, Oulu

**Opintokohteen kielet:** Finnish

**Leikkaavuudet:**

780118P	General and Inorganic Chemistry B	5.0 op
780114P	General and Inorganic Chemistry I	6.0 op
780115P	General and Inorganic Chemistry II	6.0 op
780113P	Introduction to Chemistry	12.0 op
780101P	Introduction to Physical Chemistry	7.0 op
780102P	Introduction to Inorganic Chemistry	5.0 op

**ECTS Credits:**

5 credits /134 hours of work

**Language of instruction:**

Finnish

**Timing:**

1st autumn

**Learning outcomes:**

After this course the student should understand basic concepts of chemistry as described in international general chemistry curriculum.

**Contents:**

Thermodynamics, reaction kinetics, electrochemistry, electrons in atoms, periodic table, chemical bond, intermolecular forces.

**Mode of delivery:**

Face-to-face teaching

**Learning activities and teaching methods:**

36 hours of lectures and applications, 22 hours of exercises, 82 hours of self-study

**Target group:**

Biochemistry, Chemistry, compulsory. In the entity of 25 credits (minor studies), compulsory. Physical sciences, Mathematical sciences, optional.

**Prerequisites and co-requisites:**

Upper secondary school chemistry

**Recommended optional programme components:**

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**Recommended or required reading:**

Petrucci, R.H., Herring, F.G., Madura, J.D. ja Bissonnette, C.: General Chemistry: Principles and Modern Applications, 10. edition (also 7., 8. and 9. edition), Pearson Canada Inc., Toronto, 2011. Chapters 7 – 12.1, 12.5 – 12.7, 14, 19 – 20.

**Assessment methods and criteria:**

Two intermediate examinations or one final examination. 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:**

N.N.

**Working life cooperation:**

No

**Other information:**

No

**ay780116P: Introduction to Organic Chemistry (OPEN UNI), 5 op**

**Voimassaolo:** 01.08.2015 -

**Opiskelumuoto:** Basic Studies

**Laji:** Course

**Vastuuyksikkö:** Open University, Oulu

**Arvostelu:** 1 - 5, pass, fail

**Opetus suunnattu:** Open University, Oulu

**Opintokohteen kielet:** Finnish

**Leikkaavuudet:**

780116P Introduction to Organic Chemistry 5.0 op

**ECTS Credits:**

5 credits /134 hours of work

**Language of instruction:**

Finnish. Book-examination in English as well.

**Timing:**

1st autumn and 1st spring

**Learning outcomes:**

After this course, the student can explain organic chemistry fundamentals, basic concepts and terminology, can use them for the description of organic chemistry phenomena. He/she can name organic structures, explain their properties, deduce basic reaction types and solve their mechanisms.

**Contents:**

Basic reactions of organic compounds, basic principles of stereochemistry and reaction mechanisms: Addition, elimination, substitution, including electrophilic aromatic substitution, reactions of carbonyl group. Applications.

**Mode of delivery:**

Face-to-face teaching

**Learning activities and teaching methods:**

42 hours of lectures plus 12 hours of exercises, 80 hours of independent self-study

**Target group:**

Biochemistry, Chemistry, Biology, Process Engineering, Environmental Engineering and in the study entity of 25 credits, compulsory. Physical Sciences, Geology, Geography, Mathematical Sciences, optional.

**Prerequisites and co-requisites:**

Upper secondary school chemistry

**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:**

Hart, H., Hart, D.J. and Craine, L.E.: Organic Chemistry: A Short Course, 10 th ed. or the newer edition, Houghton Mifflin Boston, 1999; Hart, H., Hart, D.J. and Craine, L.E.: Study Guide & Solutions Book, Organic Chemistry: A Short Course, 10th ed. or the newer edition, Houghton Mifflin Boston, 1999.

**Assessment methods and criteria:**

Two intermediate examinations or one final examination 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:**

Dr. Johanna Kärkkäinen

**Working life cooperation:**

No

**Other information:**

No

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

**Voimassaolo:** 01.08.2012 -

**Opiskelumuoto:** Basic Studies

**Laji:** Course

**Vastuuyksikkö:** Open University, Oulu

**Arvostelu:** 1 - 5, pass, fail

**Opetus suunnattu:** Open University, Oulu

**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, astronomical 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/>

**ay750116P: Legislation in environmental protection (OPEN UNI), 5 op**

**Voimassaolo:** 01.08.2014 -

**Opiskelumuoto:** Basic Studies

**Laji:** Course

**Vastuuyksikkö:** Open University, Oulu

**Arvostelu:** 1 - 5, pass, fail

**Opetus suunnattu:** Open University, Oulu

**Opintokohteen kielet:** Finnish

**Leikkaavuudet:**

750116P Legislation in environmental protection 5.0 op

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

**Voimassaolo:** 01.08.2014 -

**Opiskelumuoto:** Basic Studies

**Laji:** Course

**Vastuuyksikkö:** Open University, Oulu

**Arvostelu:** 1 - 5, pass, fail

**Opetus suunnattu:** Open University, Oulu

**Opintokohteen kielet:** Finnish

**Leikkaavuudet:**

802158P Mathematics for Economic Sciences 7.0 op

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

**Voimassaolo:** 01.08.2014 -

**Opiskelumuoto:** Basic Studies

**Laji:** Course

**Vastuuyksikkö:** Open University, Oulu

**Arvostelu:** 1 - 5, pass, fail

**Opetus suunnattu:** Open University, Oulu

**Opintokohteen kielet:** Finnish

**Leikkaavuudet:**

806116P Statistics for Economic Sciences 5.0 op