Opasraportti

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

Tutkintorakenteisiin kuulumattomat opintokokonaisuudet ja -jaksot

466106S: Advanced topics on design of steel structures, 6 op
466105S: Design of Steel Structures, 6 op
ayA440190: Industrial Engineering and Management (IEM) Minor Subject Studies (OPEN UNI), 25 op
Compulsory
ay555225P: Basics of industrial engineering and management (OPEN UNI), 5 op
ay555285A: Project management (OPEN UNI), 5 op
ay555286A: Process and quality management (OPEN UNI), 5 op
ay555264P: Managing well-being and quality of working life (OPEN UNI), 5 op
ay555242A: Product development (OPEN UNI), 5 op

Opintojaksojen kuvaukset

Tutkintorakenteisiin kuulumattomien opintokokonaisuuksien ja -jaksojen kuvaukset

466106S: Advanced topics on design of steel structures, 6 op

Voimassaolo: 01.08.2015 -
Opiskelumuoto: Advanced Studies
Laji: Course
Vastuuyksikkö: Field of Mechanical Engineering
Arvostelu: 1 - 5, pass, fail
Opettajat: Kangaspuoskari, Matti Johannes
Opintokohteen kielet: Finnish
Leikkaavuudet:

ay466106S Advanced topics on design of steel structures (OPEN UNI) 6.0 op
460128S-01 Advanced Course in Design of Steel Structures I, examination 0.0 op
460128S-02 Advanced Course in Design of Steel Structures I, exercise work 0.0 op
460128S Advanced Topics on Design of Steel Structures I 4.0 op

ECTS Credits:

6 ECTS
Language of instruction:
Finnish
Timing:
Periods 3 and 4
Learning outcomes:
After completing the course the student is capable of explain the performance and design principles of welded steel structures exposed to fatigue loading. He is able to design the plated structural elements and cold-formed members. He is able to analyze and design a steel frame. He is able to analyze dynamically loaded structures and can explain the effect of vibration on steel structures strength and reliability.
Contents:
The following topics are covered during the course: Steel structure under fatigue load. Fracture toughness. Stability and bracing of a steel frame building. Fire design. Plated structural elements with stiffeners. Elements resistance to transverse forces. Cold-formed members. Mechanical vibrations. Seismic design. Chimneys. Crane supporting structures. Accidental design situations and progressive collapse.
Mode of delivery:
Face-to-face.
Learning activities and teaching methods:
Lectures and exercises 52 h. Self-study 110 h. Total 162 h = 6 ECTS Credits.
Target group:
Major students in Structural Engineering, Mashine design, and Engineering Mechancs. 466102A
Prerequisites and co-requisites:
460117A Introduction to Structural Design and 466105S Design of Steel Structures. Key notes in courses Statics, Strength of Materials I, Strength of Materials II, Mechanics of materials and Mechanical Vibrations.
Recommended or required reading:
Lecture notes (in Finnish). Eurocodes 1990-1999.
Assessment methods and criteria:
Three midterm exams or one final exam is required. One design exercise is required.
Grading:
The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.
Person responsible:
Matti Kangaspuoskari

466105S: Design of Steel Structures, 6 op

Voimassaolo: 01.08.2015 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Mechanical Engineering

Arvostelu: 1 - 5, pass, fail

Opettajat: Kangaspuoskari, Matti Johannes

Opintokohteen kielet: Finnish

Leikkaavuudet:

485118S Design of Steel Structures 5.0 op
ay466105S Design of Steel Structures (OPEN UNI) 6.0 op
460127S-01 Design of Steel Structures, examination 0.0 op
460127S-02 Design of Steel Structures, exercise work 0.0 op
460125A Introduction to Design of Steel Structures 4.0 op
460125A-01 Introduction to Design of Steel Structures, examination 0.0 op
460125A-02 Introduction to Design of Steel Structures, exercise work 0.0 op
460127S Design of Steel Structures 4.0 op

ECTS Credits:
6 ECTS
Language of instruction:
Finnish
Timing:
Periods 1 and 2

Learning outcomes:
After completing the course the student is capable of explaining the crystalline structure of steel material and he understands elasto-plastic material model. He is able to explain the effect of inclusions, heat treatment and welding process to the mechanical properties of a steel material. The student is familiar with fire design of steel structures. He is able to explain common types of corrosion. The student is able to design the most typical joints in a steel frame and he can analyze simple steel structures. He is also able to analyze stability problems and explain the effects of imperfections and second order effects on frame behavior and member forces.
Contents:
The following topics are covered during the course: Ferrous metals and their properties. Principles of Eurocodes. Design of simple steel structure under base loading cases and loading combinations. Corrosion. Design of joints in steel structures. Composite structures with steel member. Section classification. Effective cross-section. Cross-sections with stiffeners. Steel members in bending and axial compression. Buckling, lateral torsional buckling, and torsion.
Mode of delivery:
Face-to-face.
Learning activities and teaching methods:
Lectures and exercises 52 h. Self-study 110 h. Total 162 h = 6 ECTS Credits.
Target group:
Major students in Structural Engineering and Construction Technology, Mashine design, and Engineering Mechancs.
Prerequisites and co-requisites:
466102A Introduction to Structural Design. Key notes in courses Statics, Strength of Materials I, Strength of Materials II, Energy principles and Their Use in Beam Structures, and Plates and Shells and Mechanics of materials
Recommended or required reading:
Lecture notes (in Finnish). Eurocodes 1990-1999.
Assessment methods and criteria:
Three midterm exams or one final exam is required. One design exercise is required.
Grading:
The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.
Person responsible:
Matti Kangaspuoskari

ayA440190: Industrial Engineering and Management (IEM) Minor Subject Studies (OPEN UNI), 25 op

Voimassaolo: 01.01.2014 -

Opiskelumuoto: Intermediate Studies

Laji: Study module

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

A440190 Industrial Engineering and Management (IEM) Minor Subject Studies 25.0 op

Compulsory

ay555225P: Basics of industrial engineering and management (OPEN UNI), 5 op

Voimassaolo: 01.01.2014 -

Opiskelumuoto: Basic Studies

Laji: Course

Arvostelu: 1 - 5, pass, fail

Opettajat: Jukka Majava

Opintokohteen kielet: Finnish

Leikkaavuudet:

555225P Basics of industrial engineering and management 5.0 op

ay555285A: Project management (OPEN UNI), 5 op

Voimassaolo: 01.01.2014 -
Opiskelumuoto: Basic Studies
Laji: Course
Arvostelu: 1 - 5, pass, fail
Opettajat: Kirsi Aaltonen
Opintokohteen kielet: Finnish
Leikkaavuudet:

555288A	Project Management	5.0 op
555285A	Project management	5.0 op

ay555286A: Process and quality management (OPEN UNI), 5 op

Voimassaolo: 01.01.2014 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Arvostelu: 1 - 5, pass, fail
Opettajat: Osmo Kauppila
Opintokohteen kielet: Finnish
Leikkaavuudet:

555286A	Process and quality management	5.0 op

ay555264P: Managing well-being and quality of working life (OPEN UNI), 5 op

Voimassaolo: 01.01.2014 -
Opiskelumuoto: Basic Studies
Laji: Course
Arvostelu: 1 - 5, pass, fail
Opintokohteen kielet: Finnish
Leikkaavuudet:

555264P	Managing well-being and quality of working life	5.0 op

ay555242A: Product development (OPEN UNI), 5 op

Voimassaolo: 01.01.2014 -
Opiskelumuoto: Intermediate Studies
Laji: Course
Arvostelu: 1 - 5, pass, fail
Opettajat: Kai Hänninen
Opintokohteen kielet: Finnish
Leikkaavuudet:

555242A	Product development	5.0 op