Courses for exchange students  
Degree Programme in Design, specialisation in Industrial Design  
Spring semester 2019

Here incoming exchange students can find courses offered by Degree Programme in Design. Courses in Design are usually taught in Finnish. However, the ones below are practice-based courses with more individual teaching and the teachers will guide exchange students in English. No Finnish skills are required to follow the courses.

The courses are available only for the incoming exchange students accepted to the Degree Programme in Design. Students should have a matching study background for the courses.

The courses listed below are subject to change and subject to availability. Please note that places are limited.

Contact person for the Learning agreements in 
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Preliminary course list (courses are subject to availability and schedules):
- Project II Product Development (10 ECTS)
- CAD / 3D I (Rhinoceros) (5 ECTS)
- Life Drawing and Painting (5 ECTS)
- Material and Manufacturing Technology (10 ECTS)

Additional courses for exchange students:
- Finnish for Exchange Students 3 ECTS
- Finland Close-up 5 ECTS

Course descriptions:

Project II Product Development (10 ECTS) KQ00BT65

Learning outcomes of the course

The students will learn to utilize industrial design methods on a wide scale in the product development. The students will know the basic phases of the product development project and know how to act as members of the multidisciplinary product design team. The students will be trained to analyze the product development related problems and can formulate design-based solutions to the observed problems. The students will know how to incorporate design solutions in a product as design
features. The student will know how to document the product development process and how to use 3DCAD design systems to create presentation material out of a finalized concept.

Course contents
- Different stages of the product development process and the meaning for the company’s operations
- The role of industrial design and the designer in the product development
- Recognizing and solving product related problems with industrial design tools
- Product concepts
- Working in a product development project
- utilizing CAD solutions in the product development

Assessment criteria

Satisfactory
The students are familiar with the phases of the product development process. The students know the industrial designer’s role in the product development. The students can act professionally in a product development team. The students can solve challenges related to the product development with the industrial designer’s tools. The students are able to justify the used design solutions. The students know how to create product design concepts. The students can produce professional presentation material. The students know how to utilize 3DCAD and CAM tools in product development. The students are able to document the product development process executed during a project.

Good
The students are familiar with the phases of the product development. The students master the industrial designer’s role in the product development. The students can act professionally in a product development team. The students can successfully solve the product development challenges with the industrial designer’s tools. The students are successfully able to justify the used design solutions. The students master making the product design concepts. The students can produce high quality presentation material. The students know how to successfully utilize 3DCAD and CAM tools in the product development. The students are able to successfully document the product development process executed during a project.

Excellent
The students master the phases of the product development process and the industrial designer’s role in the product development. The students can act professionally in a product development team. The student can solve the product development challenges in an excellent way with the industrial designer’s tools. The students are able to justify the used design solutions in an excellent way. The students know how to make product design concepts in an excellent way. The students can produce professional presentation material. The students master utilizing 3DCAD and CAM tools in the product development. The students are able to document in an excellent way the product development process executed during a project.

Approved / Failed
The students are familiar with the phases of the product development process and the industrial designer’s role in the product development. The students can act professionally in a product development team. The student can solve the product development related challenges with the industrial designer’s tools. The students are able to justify the used design solutions. The students know how to create product design concepts. The students can produce professional presentation material. The students knows how to utilize 3DCAD and CAM tools in the product development. The students are able to document the product development process executed during a project.
CAD / 3D I (Rhinoceros) (5 ECTS) KQ00BT59

Learning outcomes of the course
The students will explore 3D surface modeling used in design processes, concept creation, and visualization.

Course contents
- Solving design problems via computer-assisted design
- Basics of 3D surface modeling
- Requirements for data transfer between different CAD systems

Assessment criteria
Satisfactory
The students know the basics of 3D surface modeling. The students can produce and visualize concepts. The students are able to produce high quality presentation materials. The students know the requirements for data transfer between different CAD systems.

Good
The students master the basics of 3D surface modeling. The students can successfully produce and visualize concepts. The students are able to successfully produce high quality and finalized presentation materials. The students master the requirements for data transfer between different CAD systems.

Excellent
The student master the basics of 3D surface modeling in an excellent way. The student can produce and visualize concepts in an excellent way. The students are able to produce high quality presentation material in an excellent way. The students master the requirements for data transfer between different CAD systems.

Approved / Failed
The students know the basics of 3D surface modeling. The students can produce and visualize concepts. The students are able to produce high quality presentation materials. The students knows the requirements for data transfer between different CAD systems.

Life Drawing and Painting (5 ECTS) KQ00BO35

Learning outcomes of the course
The students will know the anatomical dimensions and functions of the human body. The students will be able to express their perceptions of the human body using different drawing and painting methods and thus develop their visual expression and ergonomic design skills. The students will understand the continuous sketching and using the picture as a means of thinking and designing make up a part of their professional development and identity.

Course contents
- observing, exploring and presenting the anatomy, movements and dimensions of the human body
- exploring the human body visually with respect to space
Learning outcomes of the course

Upon completion the student will have basic knowledge of the raw materials used in industrially manufactured products, their attributes and processing methods. The student will explore the special features of design processes for a plastic and metal product and will learn to evaluate the suitability of different materials and manufacturing methods when deciding on product requirements set for functionality and usage.

Course contents

- Classifying plastics, most common plastics and their attributes
- Plastic product manufacturing methods
- Designing a plastic product
- Technical materials, especially the most common metals
- Manufacturing methods in metal industry
- Designing a metal product
- Interaction between design, material choices and manufacturing methods

Assessment criteria

Satisfactory
The student is able to describe the raw materials, their attributes and processing methods used in industrially manufactured products.

The student can describe the special features of design processes for a plastic and metal product and can evaluate the suitability of different materials and manufacturing methods.

Good
The student is able to describe well the raw materials, their attributes and processing methods used in industrially manufactured products. The student can describe well the special features of design processes for a plastic and metal product and can evaluate the suitability of different materials and manufacturing methods.

Excellent
The student is able to describe excellently the raw materials, their attributes and processing methods used in industrially manufactured products. The student can describe excellently the special features of design processes for a plastic and metal product and can evaluate the suitability of different materials and manufacturing methods.

Approved / Failed
The student is able to describe the raw materials, their attributes and processing methods used in industrially manufactured products.

The student can describe the special features of design processes for a plastic and metal product and can evaluate the suitability of different materials and manufacturing methods.
Additional courses open to exchange students:

XXXAB02 Finnish for Exchange Students 3 ECTS

**Learning outcomes of the course**

On completion of the course, the students are able to identify and use common Finnish words and grammatical structures, and cope in simple conversations in Finnish. They will also be familiar with features of Finnish culture.

**Course contents**

- Finnish pronunciation, everyday conversations, basic structures and vocabulary.

**Finland Close-up (organized by the degree programme in Film & Television)**

**Course content:**

The course offers a glimpse into the past and present of Finnish culture in all its forms and variations (high culture, sub culture, multiculture, urban culture, Finnish, Finnish-Swedish and Sami culture etc.) as well as Finnish media, design and politics.