

Opasraportti

Department of Architecture (2008 - 2010)

1. DEPARTMENT OF ARCHITECTURE

Contact Information

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General Description of the Department of Architecture

The Department of Architecture, University of Oulu is a part of the Faculty of Technology. The Department is one of the three university level architecture schools in Finland and the northernmost school of architecture in the world. The Department is divided into five teaching units, i.e. laboratories: History of Architecture; Contemporary Architecture and Design (including Design and Art Studies); Planning and Urban Design; Building Performance and Construction, and Building Renovation. Teaching concentrates on the principles and aims of planning and building and the methods of design and research.

Location

The Department of Architecture has its own campus centrally located in the historical part of the city of Oulu, nearby the market square at the waterfront of the river delta. The old 19th century city block was completed by the new main building in 2002 as a result of an open architectural competition.

Facilities

All facilities are open for students' use 24 hours per day. Studios for 1st to 4th year students and smaller studios for advanced and diploma students, library, two computer labs, print for student use, wood and metal workshops, art studio, photo lab and exhibition hall.

Academic calendar

The academic year in the Department of Architecture is divided into four parts, i.e. teaching periods. Exams are arranged in-between the periods (weeks 43, 50, 10 and 20).

Autumn term:

Autumn term: September - December

Spring term: January - May

1.1 Staff

Professors and teaching staff 21, part time teachers 20, additional staff 8, several visiting lecturers

Head of the Department: Professor Helka-Liisa Hentilä

Professors Contemporary Architecture: NN and Rainer Mahlamäki

Professors Urban Design: Helka-Liisa Hentilä and NN

Professor History of Architecture: Kaisa Broner-Bauer

Professor Architectural Construction: Jouni Koiso-Kanttila

Professor Building Preservation: Yrjö Tuppurainen

1.2. DEGREE PROGRAMMES IN ARCHITECTURE

1.2.1. Educational and professional Key Learning Outcomes

The objective of the educational programme is to encourage the students to develop a personal relationship with architecture and design and to provide the students with various artistic and practical skills needed in the profession of the architect. One aim of the programme is to provide students with proficiency in research within the fields of architecture, planning and design.

The emphasis of the studies is on exercises and project work while lectures form the theoretical basis of the studies. The exercises initiate the students into architectural problem solving and independent acquisition of knowledge. Intensive workshops and seminars concentrate more deeply on the individual topics of respective courses. Visits and excursions are organized in order to illustrate and demonstrate the issues being taught. Students have the opportunity to participate in various design competitions and research and development projects during their studies.

Graduates from the department are capable of working as architects, designers or researchers in community planning, construction planning, renovation or design.

1.2.2. Structure of the Curriculum

The curriculum is based on a two-phased degree Diploma in architecture (300 ECTS), which was introduced in August 2005, and divided into the three years Bachelor's programme plus the two years Master's programme. For the first three years the students follow a fixed program including basics of the subjects to be studied on the master level. In the fourth year of studies the student selects between the three orientations available: (1) Planning and Urban Design, (2) Building Design and (3) Architectural Design.

1.2.3 BSc Programme

The three years Bachelor's degree (180 ECTS), when completed provides the admission to the Master's degree programme. The teaching focuses on the basics of architecture and architectural form as well as mastering the fundamentals of professional subjects. The BSc program consists of general and subject studies, preparing for the Master level studies, and optional courses. The Bachelor's degree is completed by a personal degree project presented in public in a common seminar. Practical training at a construction site is a compulsory part of the BSc program.

1.2.4 Master's Programme

The two years Master's degree Programme (120 ECTS) has been launched in the autumn term of 2008. The degree program consists of alternative study modules of subject, advanced and special studies within the three orientations available, and a diploma work.

A. Urban Design and Planning

B. Building Design

C. Architectural Design

1.2.5 Key learning outcomes

1.2.6 Orientation A: Urban Design and Planning

Orientation A, Urban Design and Planning mainly consists of studies of land-use planning of built environment and planning in general. The study program contains also courses of building preservation, maintenance of the built environment, detail planning of urban spaces and contemporary architecture. Special attention is paid on the northern conditions and sustainability, and the courses provide various possibilities to co-operate with e.g. local municipalities and international operators.

After completing the studies of this orientation, the student is prepared to become competent in versatile tasks in built environment and land-use planning, and in management, research, control and implementation tasks in these fields. In addition the student is prepared to successfully continue to postgraduate studies.

Orientation B, Building Design is a wide-range program focusing on building design. Within the orientation the student has the opportunity to select between different paths in the fields of contemporary architecture, construction and building management, history of architecture and building renovation.

After completing the studies in Building Design the student can work in practical building design, renovation or restoration or continue to postgraduate studies.

Orientation C, Architectural Design consists of studies in contemporary architecture and design studies in subjects with close connection to architecture, such as interior and fixed furniture design, architectural lighting design, material technologies and design in general. In addition design of urban spaces and detailing is included in the program. Main focus is in design connected with architecture, both in interior and exterior spaces. The program is mainly taught in the English language and totals 120 ECTS credits. Architectural Design Programme is open for foreign Master's degree applicants and the courses within this orientation are available for international exchange students as well.

After completing the studies of this orientation, the student is prepared to become competent in versatile tasks in building design and design closely related to architecture, and in management, research, control and implementation tasks in these fields. In addition the student is prepared to successfully continue to postgraduate studies.

1.2.10. Course structure diagram

Structure of the Degree Studies in Architecture 2008-2010

Architect's Degree (MSc) 120 credit points (ECTS), 2 years

Diploma Work 30 ECTS
Advanced Modules 30 ECTS
Complementary Modules 30 ECTS
Orientation modules 30 ECTS
Urban Design Building Design Architectural Design

Bachelor's Degree (BSc) 180 credit points, 3 years

Bachelor's Work and Related Studies 10 ECTS	Elective Studies 10 ECTS
Preparatory Module 39 ECTS	
Basic and Subject Studies 121 ECTS	

Degree Studies in Architecture 2008-10

Bachelor's Degree in Architecture / BSc. (Arch)

BASIC AND SUBJECT STUDIES

Code		ECTS
450510P	Orientation for New Students	1,5
030006P	Introduction to Information Resources and Databases	0,5
450521P	CAD I	4
450522P	CAD II	5
450525P	Techniques of Visual Presentation in Architecture	3
451501P	History of Architecture I	8
452501P	Contemporary Architecture I	12
453501P	Architectural Construction, basic course	8
453531P	Structural Technology, basic course	3
453532P	Wooden Structures	2
453533P	Concrete and Steel Structures	5
453535P	Basics of Building Physics	2
454521P	History of Urban Design	5
455501P	Design I	4
455511P	Visual Arts I	6
455512P	Visual Arts II	4
901008P	Swedish language / 1	3
900009P	Finnish language	
902011P	Technical English 3/ 2	6

903012P	Technical German 3/	
904054P	Technical Russian 1	
450503A	Construction Site Practical Training	5
451502A	History of Architecture II	6
452502A	Contemporary Architecture II	13
456501A	Building Renovation I	5
454501A	Basic Course of Urban Design	5
454523A	Neighbourhood Design	5
	Basic and Subject Studies, total	121

PREPARATORY MODULE

Code		ECTS
452506A	Housing Design	5
456502A	Building Renovation II	5
453510A	Techniques of PHV	3
453511A	Electrical Installations	2
	<i>The outcome of one of the following compulsory courses will be the student's bachelor's work</i>	
451503A	History of Architecture III	8
452503A	Contemporary Architecture III	8
453503A	Design of Apartment Blocks	8
454503A	Town Planning	8
	Preparatory Module, total	39

BACHELOR'S WORK AND RELATED STUDIES

Code	ECTS
Bachelor's work	8
450551A Seminar	2
Bachelor's Work and Related Studies, total	10

ELECTIVE STUDIES

Code	ECTS
<i>Bachelor's degree in Architecture comprises elective studies totalling 10 ECTS. All of the courses listed below may not be organized annually.</i>	
450524A Image Manipulation / Photoshop & Illustrator	2
450523A CAD III	5
450526A Archicad	2
450527A 3D CAD / Micro Station	2
450528A Presentation / Powerpoint & Acrobat	1
451506A Art History	4
455513A Visual Arts III	4
451513S History of Interior Design / Historical Interiors	5
451021A Introduction to Japanese History of Art	5
451522S Japanese Aesthetics	5
455514A Visual Arts IV	4
456527A Condition Assessment of Buildings	5

451540A	History of Architecture, varying courses	2-10
452540A	Contemporary Architecture, varying courses	2-10
453540A	Architectural Construction, varying courses	2-10
454540A	Urban Design, varying courses	2-10
455540A	Varying courses of Design	2-10
456540A	Building Renovation, varying courses	2-10
	Elective studies total	10

Bachelor's Degree in Architecture total **180 ECTS**

Master's Degree in Architecture / MSc. (Arch)

ORIENTATION MODULES

A. Urban Design and Planning

Code		ECTS
452504A	Contemporary Architecture IV	10
454522A	Urban Space Design	10
455520A	Urban Space Detailing	10
	Orientation A. total	30

B. Building Design

Code		ECTS
452504A	Contemporary Architecture IV	10
453505A	Architectural Construction, Professional Skills	10
456503A	Building Renovation III	5
456504A	Building Renovation IV	5
	Orientation B. total	30

C. Architectural Design (Finnish and English)

Code		ECTS
452504A	Contemporary Architecture IV	10
454522A	Urban Space Design	10
455520A	Urban Space Detailing	10
	Orientation C. total	30

COMPLEMENTARY MODULES

A. Urban Design and Planning

Code		ECTS
451511A	History of Architecture IV / Historic Preservation	10
454524A	Planning of Residential Areas	5
454525S	Planning of Residential Areas, extension course	5
454540A	Urban Design: Varying courses	10
	Orientation A. total	30

B. Building Design

Code		ECTS
451511A	History of Architecture IV / Historic Preservation	10
454524A	Planning of Residential Areas	5
456505A	Building Renovation V	5
<i>10 ECTS to be selected in the list OF courses below:</i>		
451550S	History of Architecture: Varying courses	2-10
452550S	Contemporary Architecture: Varying Courses	2-10
453507S	Architectural Construction III	2-10
	Orientation B. total	30

C. Architectural Design (Finnish and English)

Code		ECTS
455502A	Design II	10
455517S	Architectural Lighting	5
455518A	Interior Design I	5
455519A	Interior Design II	5
455513A	Material Technologies	5
450507A	Modern Nordic Architecture Lecture Course	5
	Orientation C. total	30

ADVANCED MODULES

A. Urban Design and Planning

Code		ECTS
450502A	Excursion Abroad	2
450504A	Practical Training in Architects' Office	3
454504S	Municipal Planning	15
<i>10 ECTS of the below courses to be selected:</i>		
451560S	Theory and Research of Architecture	2 - 10
454560S	Urban Design / Extension Course	5 - 10
454507A	Traffic Planning	3
454508A	Municipal Engineering	2
	Orientation A. total	30

B. Building Design

Code		ECTS
450502A	Excursion Abroad	2
450504A	Practical Training in Architects' Office	3
<i>15 ECTS of the below courses to be selected:</i>		
451516S	History of Architecture V / Restoration	15
452505S	Contemporary Architecture V / international studio	15
453505S	Architectural Construction / Main Designer's Work Profile	15

456560S	Building Renovation VI	15
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10 ECTS of the below courses to be selected:

451560S	Theory and Research of Architecture	2 - 10
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452560S	Extension Course of Contemporary Architecture	2 - 10
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453560S	Extension Course of Architectural Construction	2 - 10
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456560S	Extension Course of Building Preservation	2 - 10
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Japanese studies (all courses listed below will not be organized annually):

451523S	Japanese Architecture	2 - 10
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451526S	Japanese Architecture Studio	2 - 10
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	Orientation B. total	30
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C. Architectural Design (Finnish and English)

Code		ECTS
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450502A	Excursion Abroad	2
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450504A	Practical Training in Architects' Office	3
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452505S	Contemporary Architecture V / international studio	15
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10 ECTS of the below courses to be selected:

455560S	Extension Course of Design	10
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Japanese studies (all courses listed below will not be organized annually)

451523S	Japanese Architecture	2 - 10
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451526S	Japanese Architecture Studio	2 - 10
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	Orientation C. total	10
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DIPLOMA WORK

Code	ECTS
450099SDiploma work, dissertation of the studies	30
Master's Degree in Architecture, total	120ECTS
Architect's Degree / Study Modules total	300 ECTS

1.3 Final Examination

The final examination of the BSc level is a personal diploma work (10 ECTS) which is based on one of the 3rd year's compulsory large exercises. The work is presented in public in a common seminar.

The diploma (30 ECTS) in the MSc degree programme is a personal dissertation work which can be a design project, a written thesis or a combination of the two.

1.3.1 Examination and Assessment Regulations

The study entities, including the Master's Thesis, are graded 1- 5 and the grade is determined as follows:

satisfactory knowledge 1,00 - 1,49

very satisfactory knowledge 1,50 - 2,49

good knowledge 2,50 - 3,49

very good knowledge 3,50 - 4,49

excellent knowledge 4,50 - 5,00

Assessment is based on examinations, exercises, papers, field work, reports or any other method determined by the instructor of the particular course. In some cases courses can also be marked as pass/fail.

1.4.1 Access to further studies

The Department awards the following post-graduate degrees: Licentiate in Technology (intermediate doctoral degree) and Doctor in Technology (or in Philosophy). The Doctor's degree can be taken either after the Licentiate's degree or directly after the Master's degree. The post-graduate degree consists of main subject studies, complimentary studies and general studies. The theses may consist either of a research work, or both research and a design project. Mainly the work is done individually under the supervision of professors, but also national doctoral programs within the field of architecture are available for doctoral students. Completing the Doctor's degree normally requires approximately 3-4 years of time.

1.4.2. Qualifications awarded

Tekniikan kandidaatti, BSc (Architecture)

Arkkitehti, MSc (Architecture)

Tekniikan lisensiaatti, Licentiate in Technology (intermediate doctoral degree)

Tekniikan tohtori, Doctor in Technology / Filosofian tohtori, Doctor in Philosophy

[1](#) Alternative domestic languages, total. 3 ECTS

[2](#) Alternative foreign languages, total 6 ECTS

Tutkintorakenteisiin kuulumattomat opintokokonaisuudet ja -jaksot

450527A: 3D CAD / MicroStation, 2 op
 450526A: ArchiCad, 2 op
 453507S: Architectural Construction III, 10 op
 453505A: Architectural Construction, Professional Skills, 3 - 10 op
 453501P: Architectural Construction, basic course, 10 op
 455517S: Architectural Lighting, 5 op
 454501A: Basic Course of Urban Design, 5 op
 453535P: Basics of Building Physics, 2 op
 456502A: Building Renovation, 5 op
 456501A: Building Renovation I, 5 op
 456503A: Building Renovation III, 5 op
 456504S: Building Renovation IV, 8 - 10 op
 456505S: Building Renovation V, 5 op
 456506S: Building Renovation VI, 15 op
 450521P: Computer Aided Design I, 5 op
 450522P: Computer Aided Design II, 5 op
 450523A: Computer Aided Design III, extension course, 5 op
 453533P: Concrete and Steel Structures, 5 op

456527A: Condition Assessment of Buildings, 5 op
 452501P: Contemporary Architecture I, 12 op
 452503A: Contemporary Architecture III, 8 op
 452504A: Contemporary Architecture IV, 15 op
 452502A: Contemporary Architecture II, 14 op
 451525S: Contemporary Japanese Architecture, 5 - 10 op
 455501P: Design I, 5 op
 455502A: Design II, 10 op
 453503A: Design of Apartment Blocks, 8 op
 453511A: Electrical Installation, 2 op
 454560S: Extension Course / Urban Design, 5 - 10 op
 455560S: Extension Course in Architectural Design, 10 op
 453560S: Extension Course of Architectural Construction, 2 - 10 op
 456560S: Extension Course of Building Renovation, 3 - 10 op
 452560S: Extension Course of Contemporary Architecture, 2 - 10 op
 451511A: Historic Preservation, 10 op
 451501P: History of Architecture I, 8 op
 451502A: History of Architecture II, 7 op
 451503A: History of Architecture III, 7 op
 451513S: History of Interior Design / Historical interiors, 5 op
 454521P: History of Urban Design, 5 op
 452506A: Housing Design, 8 op
 450524A: Image Manipulation / Photoshop & Illustrator, 2 op
 455518A: Interior Design I, 5 op
 455520S: Interior Design II, 5 op
 452505S: International Studio, 15 op
 031047S: Introduction Course to the Boundaryelement Method, 6,5 op
 451521A: Introduction to Japanese History of Art, 5 op
 451522S: Japanese Aesthetics, 5 op
 451523S: Japanese Architecture, 5 op
 451526S: Japanese Architecture Studio, 2 - 10 op
 453508S: Main Designer's Work Profile, 15 op
 455519A: Material Technologies, 5 op
 450507A: Modern Nordic Architecture, 5 op
 454008A: Municipal Engineering, 3 op
 454505S: Municipal Planning, 15 op
 454523A: Neighborhood Design, 5 op
 450510P: Orientation, 2 op
 030001P: Orientation Course for New Students, 1 op
 454524A: Planning of Residential Areas, 5 op
 454525S: Planning of Residential, Advanced Course, 5 op
 450528A: Power Point & Acrobat, 1 op
 031072S: Principles of the Boundary Element Method, Homework Exercise, 2 op
 451015A: Restoration, 8,5 op
 453531P: Structural Technology, basic course, 3 op
 017550A: Survey to the history of japanese art, 6 op
 453510A: Techniques of Plumbing, Heating and Ventilation, 3 op
 450525P: Techniques of Visual Presentation in Architecture, 2 op
 451560S: Theory and Research of Architecture, 2 - 10 op
 454503A: Town Planning, 8 op
 451524S: Traditional Japanese Architecture and Garden Art, 5 - 10 op
 454007A: Traffic Planning, 3,5 op
 454522S: Urban Space Design, 10 op
 455521S: Urban Space Detailing, 10 op
 453550S: Varying Courses of Architectural Construction, 5 - 10 op
 453540A: Varying Courses of Architectural Construction, 2 - 10 op
 456540A: Varying Courses of Building Renovation, 2 - 10 op
 452550S: Varying Courses of Contemporary Architecture, 2 - 10 op
 452540A: Varying Courses of Contemporary Architecture, 2 - 10 op
 455550S: Varying Courses of Design, 2 - 10 op
 455540A: Varying Courses of Design, 2 - 10 op
 451540A: Varying Courses of History of Architecture, 2 - 10 op
 454540A: Varying Courses of Urban Design, 2 - 10 op
 454550S: Varying Courses of Urban Design, 2 - 10 op

455511P: Visual Arts I, 5 op
 455512P: Visual Arts II, 3 op
 455513A: Visual Arts III, 4 op
 455514A: Visual Arts IV, 4 op
 031045S: Wavelet Transform in Numerical Analysis, 8 op
 453532P: Wooden Structures, 2 op

Opintojaksojen kuvaukset

Tutkintorakenteisiin kuulumattomien opintokokonaisuuksien ja -jaksojen kuvaukset

450527A: 3D CAD / MicroStation, 2 op

Voimassaolo: - 31.07.2011

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 0,0 - 99,9

Opettajat: Tuominen, Pekka Johannes

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

To provide students with the basic skills of using MicroStation 3D CAD program as well as visual presentation and CAD drawings of design objects.

Learning outcome : After the course the student is able to recognize the working options and possibilities offered by the program. In addition the student can use the 3D material processing tools typical to the program.

Contents:

Lectures on basic functions of programs with the support of small exercises. The exercise of the course comprises dimensioned projections and presentation based on a three-dimensional CAD presentation of an object.

Learning activities and teaching methods:

The program used is MicroStation modeler.

450526A: ArchiCad, 2 op

Voimassaolo: - 31.07.2011

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Tuominen, Pekka Johannes

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

To provide students with the basic skills of using ArchiCad Building approach.

Learning outcome: The student can make an output from sketches into working drawings using the Archicad program. He / she can use the basic functions of the program and recognizes the working options and possibilities offered by the program.

Contents:

Lectures on basic functions of the program and small exercises. A design exercise is made with the help of ArchiCad.

Learning activities and teaching methods:

The course includes lectures and exercises, the program used is Archicad.

453507S: Architectural Construction III, 10 op

Voimassaolo: - 31.07.2012

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To introduce students to the essential issues within architectural construction.

Learning outcome : After completing the course the student has independently initiated into a sector of architectural construction in order to be able to produce detailed documents and justify the functional solutions based on his / her preliminary design for a building. The student can implement her / his skills in producing independently difficult and demanding drawings of building parts and details.

Learning activities and teaching methods:

The course is elective within the Building Design orientation.

453505A: Architectural Construction, Professional Skills, 3 - 10 op

Voimassaolo: 01.08.2005 - 31.07.2017

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To introduce students to the essential issues within architectural construction.

Learning outcome: After completing the course the student has independently initiated into the professional tasks of an architect and is able to define the tasks of an architect acting as the main designer. The student can implement his / her skills of architectural construction in producing difficult and demanding drawings of building parts and details nearly independently.

Contents:

The content of the course is defined in connection with the assignment of the exercise project.

Learning activities and teaching methods:

The course is compulsory within the Building Design orientation

Recommended optional programme components:

Completion of BSc in architecture.

Recommended or required reading:

Announced during the course.

453501P: Architectural Construction, basic course, 10 op

Voimassaolo: 01.08.2005 - 31.07.2012

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To give the student general data on architectural construction and on the functional requirements set for building parts and to familiarise the student in more detail with wood-framed one-family houses.

Learning outcome : After completing the course the student can explain the basic concepts of architectural construction and present the functional principles of the building parts and structures of a wood constructed one-family house. The student is initiated into the use of wood as a building material to the extent of being able to design a wood-frame one-family house and to produce its working drawings, building permission documents and detail drawings

Contents:

Lectures on the education and the position of an architect in a building project, building concepts, basics of structural technology and building physics. Wooden Buildings: wood as a building material, foundations, floors, walls, ceilings, additional building elements and the architecture of wooden buildings. A wood-framed single-family house is designed as an exercise.

Learning activities and teaching methods:

The course is compulsory on Bachelor level.

Recommended or required reading:

Announced during the course.

455517S: Architectural Lighting, 5 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: English

Language of instruction:

Finnish/English

Learning outcomes:

The aim of the course is to study the relationship between architecture and light. Both natural and artificial light are studied.

Learning outcome : After completing the course the student commands the concepts of natural and artificial lighting, in order to be able to analyze the relationship between architecture and light, using basic concepts of lighting. The student can prepare a lighting scheme for his / her own design project and make a cad-visualized lighting design based on the scheme, utilizing both natural light and various artificial light sources.

Contents:

The course includes lectures, personal project work and visits. The lectures deal with architecture and light, concepts of light, means of lighting and different sources of artificial light and types of light fixtures. Both indoor and outdoor lighting solutions are studied. The project work comprises a lighting analysis of a selected object and a CAD visualization of a concept level lighting design, which is connected to project work of contemporary architecture.

Learning activities and teaching methods:

The course is intended for 4th year students and is part of the Architectural Design complementary module. The course is taught both in English and Finnish.

454501A: Basic Course of Urban Design, 5 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To familiarise the student with the basic theories of urban design and their applications.

Learning outcome: After completing the course the student is familiar with seminar practices, can give a presentation on the principles of a contemporary feature within urban design and recognize various town planning solutions.

Contents:

Lectures on the most well-known theoretical models and their applications in Finland in the 20th century. Seminars and quick exercises include critical observation of current urban design trends.

Learning activities and teaching methods:

The course is compulsory for 2nd year students. A written exam is part of the course.

453535P: Basics of Building Physics, 2 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Mäkinen, Seppo Johannes

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The aim of the course is to clarify the basic concepts of building physics and the production methods and technical qualities of main building materials.

Learning outcome : After completing the course the student will have the command of basic concepts of building physics. The student can explain how heat, air and humidity transfer in structures and give an account on the causes of most typical damages in buildings. The student can make a summary of the properties of the most important building materials.

Contents:

The course includes lectures, exercises and an examination. Transition and insulation of heat, air and humidity in building structures. Solar radiation. Temperature. Insulation. Sources of humidity. Humidity and mould damages.

Learning activities and teaching methods:

Lectures, exercises and exam.

Recommended or required reading:

RakMK:n osat: C2 Kosteus, ohjeet ja määräykset; C3 Lämmöneristys, määräykset, C4 Lämmöneristys, ohjeet; RIL 107 Rakennusten veden ja kosteudeneristysohjeet, 1989; RIL 155 Lämmön- ja kosteudeneristys, 1984; RT-kortisto, osat 05 ja 07; Siikanen, Unto: Rakennusfysiikka. Perusteet ja sovellutukset, 1996; Björkholtz, Dick: Lämpö ja kosteus. Rakennusfysiikka, 1987.

456502A: Building Renovation, 5 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

A good command of correct renovation principles and knowledge of damages and repair methods of wooden buildings.

Learning outcome: After completing the course the student can explain the most common damage mechanisms in post-war wooden houses. The student can estimate how different methods of renovation will affect the functions and architecture of a wooden one-family house. The student can make technically safe choices between different ways of renovation, improving energy efficiency and functionality of the building. The student can explain the phases of a renovation design process. He / she can analyze the influences of the output level and the input level of the renovation on the design process. The student knows how to use the technical symbols of building renovation and prepare master plan drawings for the renovation of a one-family house.

Contents:

Completing a renovation plan for a wooden prefabricated dwelling house. Lectures deal especially with special features and post-war one-family houses and technical issues of renovating a wood-frame house. Visits are designed to support the process of composing the plan. Exercise of making master plans of the renovation of a prefabricated wooden house is carried out as pair work.

Learning activities and teaching methods:

The course is compulsory for 3rd year students. A written exam is part of the course.

Recommended or required reading:

A reading list will be handed out during lectures.

456501A: Building Renovation I, 5 op

Voimassaolo: 01.08.2005 - 31.07.2011

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Tuppurainen, Yrjö Kalevi

Opintokohteen kielet: Finnish

Learning outcomes:

To introduce the student to the principles and characteristics of building renovation and the maintenance of real estates as well as a renovation planning process from the viewpoint of an architect.

Learning outcome: After completing the course the student can form a view on the validity of the building as an object of renovation as well as its social values. The student can evaluate the aims of building renovation. He / she can compare the features of different purposes of use and justify the architect's early role in setting the aims in a process of building renovation.

Contents:

Lectures on renovation planning as a process, condition assessment, defining the purpose of use, basics of real estate management.

Exercise: Drawing a sketch plan for the re-utilisation of a public building. The exercise is conducted as a group work

Learning activities and teaching methods:

The course is compulsory for 3rd year students. A written exam is part of the course.

Recommended or required reading:

Reading list will be handed out during the course.

456503A: Building Renovation III, 5 op

Voimassaolo: - 31.07.2011

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Anu-Sisko Soikkeli

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The aim of the course is to provide skills for scientific writing and critical evaluation of sources.

Learning outcome: After completing the course the student can write a survey on a topic based on existing sources, which he / she can evaluate critically. The student can recognize a scientific text and its factors. The student is familiarized with the science of architectural research.

Contents:

Tuition in information skills organized by the Oulu University library is part of the course. Lectures deal with writing of term papers and surveys, basics of academic writing, critical evaluation of sources and research work especially within building renovation carried out by architects. The exercise work is a written survey linked with the topic of the course.

Learning activities and teaching methods:

The course is compulsory for 4th year students in the Building Design orientation. A written exam is part of the course

Recommended or required reading:

A reading list will be handed out during lectures

456504S: Building Renovation IV, 8 - 10 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The aim of the course is to provide skills for completing a renovation plan for a typical apartment house.

Learning outcome: After completing the course the student can explain the most common damage mechanisms in stone-built houses. The student can estimate how different methods of renovation will affect the functions and architecture of a building. The student can make choices between different ways of renovation based on their

impact, and make a safe renovation plan, improving accessibility and energy efficiency of the building. The student can explain the phases of a renovation planning process of a housing corporation apartment building and estimate the interactive character of the process and the challenges caused by the ownership of the building. The student recognizes the debt of refurbishment of our stock of apartment buildings and the possibilities of improving the living environment of e.g. the aging through renovation of apartment houses.

Contents:

Specific issues concerning renovation of concrete and stone structure apartment houses. Forms of damages of various types of structures, methods of evaluating condition and usability, repair measures but also project managing and project documents, and the design process.

Exercise: Drawing a renovation plan for an apartment house, group work in pairs.

Learning activities and teaching methods:

The course is compulsory for 4th year students in the Building Design orientation. A written exam is part of the course.

Recommended or required reading:

A reading list will be handed out during lectures.

456505S: Building Renovation V, 5 op

Voimassaolo: 01.08.2005 - 31.07.2011

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Anu-Sisko Soikkeli, Tuppurainen, Yrjö Kalevi

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To acquaint the student thoroughly with the design process of renovating a public building.

Learning outcome: After completing the course the student can draw conclusions from the condition and the requirements for renovation of a public building. The student can develop and plan a new adaptable use for a building.

Contents:

To complete a renovation and pre-utilisation plan for a public building, including condition assessment.

Learning activities and teaching methods:

Lectures and exercise work. The course is compulsory for 4th year students in the Building Design orientation.

Recommended or required reading:

A list of relevant literature in respect of the renovation plan the student is preparing will be handed out.

456506S: Building Renovation VI, 15 op

Voimassaolo: - 31.07.2012

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Tuppurainen, Yrjö Kalevi, Anu-Sisko Soikkeli

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

The aim of the course is to provide students with skills for acting as the principal designer in renovation projects and in leading positions within real estate business. The course focuses on real estate management, but the aim is also to give the student means for understanding the influence of building renovation on preservation and utilization value of buildings.

Learning outcome: After completing the course the student can evaluate the tasks of real estate management and long-term profitability of renovation solutions, also regarding the values of the building.

Contents:

The course deals with investment planning and condition assessment and the architect's role, tasks and responsibilities in renovation projects. The exercise work is a re-utilization plan of a large scale building, focusing on technical issues and the original architecture of the building.

Learning activities and teaching methods:

The course is optional and intended for 5^h year students within the Building Design orientation. A written exam is part of the course.

Recommended or required reading:

Material handed out during lectures.

450521P: Computer Aided Design I, 5 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Asko Leinonen

Opintokohteen kielet: Finnish

Language of instruction:

In Finnish

Learning outcomes:

To initiate the student in the routines and concepts of using computers as an aid in architectural design. Programs generally used by architects' offices are being introduced as well as accessories of computer technologies.

Learning outcome : The student is able to produce ordinary 2D drawings and sheets using a CAD program. The student can make 3D models of simple objects using 3D programs taught within the course.

Contents:

Features of 2D CAD design, small design exercises using Autocad. After the lecture course students will complete a building design exercise, using Autocad

Learning activities and teaching methods:

Lectures, practical training and 2D design exercises, using Autodesk Autocad.

450522P: Computer Aided Design II, 5 op

Voimassaolo: 01.08.2005 - 31.07.2012

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Tuominen, Pekka Johannes

Opintokohteen kielet: Finnish

Language of instruction:

In Finnish.

Learning outcomes:

To initiate the student with demanding 3D CAD design, producing of presentation material with the help of CAD programs and transferring of data between different computer programs.

Learning outcome : The student is able to produce drawings as well as drawing sheets using the basic functions of a CAD program. The student can produce completed presentation material (CAD drawings and illustrations) using one CAD program selected individually by the student. In addition the student can exchange files between different computer and CAD programs.

Contents:

The course focuses on 3D programs and applications, three-dimensional modelling and visualisation

Learning activities and teaching methods:

The lecture course is arranged during the autumn term. The computer-based design exercise is integrated with the design project and week-schedule of the Contemporary Architecture II. The program used is Autodesk Architectural Desktop.

450523A: Computer Aided Design III, extension course, 5 op

Voimassaolo: 01.08.2006 - 31.07.2011

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Tuominen, Pekka Johannes

Opintokohteen kielet: Finnish

Language of instruction:

In Finnish.

Learning outcomes:

Initiate the student with advanced 3D CAD design and making an animation using a 3D program.

Learning outcome : The student is able to use the basic tools of 3D modelling programs and especially the functions for visualization of schemes, producing almost photorealistic views. The student can exchange files between 3D modelling and additional programs.

Contents:

Lectures on 3D visualization programs, exercises on using 3D programs together with CAD design programs.

Learning activities and teaching methods:

The topic of the exercise is 3D visualization and animation of a design exercise according to the student's own choice. The program used is Autodesk 3D studio VIZ.

453533P: Concrete and Steel Structures, 5 op

Voimassaolo: 01.08.2005 - 31.07.2011

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Tervaoja, Jussi Matti

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To introduce the student to the material properties of concrete, reinforced concrete, masonry and steel and to the principles of the designing of simple structures composed of these materials.

Learning outcome : After completing the course the student will obtain the knowledge of how concrete and steel should be used to form a load-bearing frame for a building. The student has the knowledge for designing buildings with a long life-span, considering fire protection and sound insulation. The student can particularly design a load-bearing structure of concrete for a multi-story apartment building, design light steel structures and draw a framework diagram.

Contents:

History, manufacture and properties of wooden, concrete, reinforced concrete structures and site technology, principles of structural planning. Prefabricated concrete structures, shells. development of masonry structures. Materials. Dimensioning and design principles. Steel as a building material, joints, principles of designing and dimensioning, structural elements and structures, frameworks, fire and corrosion protection of steel structures. Load-bearing masonry structures, materials and structural features. Principles of structural design. Technical drawings.

Learning activities and teaching methods:

Lectures, exercises and exam.

Recommended or required reading:

Handout with the list of course literature.

456527A: Condition Assessment of Buildings, 5 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The course provides the student with facilities for making a condition assessment even in a demanding renovation project.

Learning outcome : After completing the course the student can draw conclusions from the condition and the requirements for renovation of a building. The student can classify the forms of condition assessment, carry out the assessment and prepare a report.

Contents:

Common methods and all phases of condition assessment. As an exercise a condition assessment is made a situ and in laboratory circumstances.

Learning activities and teaching methods:

Lectures, laboratory exercises, group work, examination. An optional course.

452501P: Contemporary Architecture I, 12 op

Voimassaolo: 01.08.2005 - 31.07.2012

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The aim is to provide an understanding of basics of architecture and guide the student to creative design work.

Learning outcome : After completing the course the student can explain the basic concepts of architecture, such as space, light, place, structure etc. He / she can also explain works of the most important architects of the modern times (1900's), i.e. works of Alvar Aalto, Le Corbusier, Frank Lloyd Wright, Mies van der Rohe and Louis Kahn. In addition he / she can describe the nature of architecture and architectural design. The student can apply contemporary architecture in forming of space, composition and designing a small building, containing housing functions. The student is able to use methods of perspective drawing and basics of architectural presentation (traditional techniques).

Contents:

Lectures on basic architectural concepts, development of contemporary architecture and the nature of artistic work. The exercises are small-scale composition and design tasks, dealing with basic elements of architecture.

Learning activities and teaching methods:

Lectures, exercises and a written examination. The type of the examination will be specified at the beginning of the course.

Recommended or required reading:

Handout; Stenros, Aura: Arkkitehtuurin muoto ja sisältö; Ching: Form, Space and Architecture. Supplemental reading list will be supplied during the course.

452503A: Contemporary Architecture III, 8 op

Voimassaolo: 01.08.2006 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

Aim is to provide students with abilities to architectural design of public buildings.

Learning outcome: After completing the course the student is familiar with design principles and architecture of public buildings. He / she has the facility for making schematic plans for a small public building.

Contents:

Lectures on the design of public buildings and architecture with reference to individual building types, both Finnish and foreign examples. The exercise is a supervised, relatively small-scale design task of a public building. The designs are evaluated in open critique sessions. The student may present the project of the course as his/her Bachelor's diploma work.

Learning activities and teaching methods:

Lectures, sketch exercises, project work, oral exam.

Recommended optional programme components:

Contemporary Architecture I and II.

Recommended or required reading:

Handout; a supplemental reading list will be handed out during the course.

452504A: Contemporary Architecture IV, 15 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish/English

Learning outcomes:

To initiate students into architectural design of public buildings through lectures and exercises.

Learning outcome: After completing the course the student is familiar with design principles of public buildings and contemporary architecture. The student can present his / her work and justify the design solutions. He / she has the facility for making schematic plans for a demanding public building.

Recommended or required reading:

Handout; a supplemental reading list will be handed out during the course.

452502A: Contemporary Architecture II, 14 op

Voimassaolo: 01.08.2005 - 31.07.2012

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

Aim is to provide an understanding of architecture and guide to creative design work.

Learning outcome: After completing the course the student can name internationally essential phenomena and important names within modern architecture. He/she can explain the main features of the development of post-war Finnish architecture. The student can design a small building, implementing the design basics included in the course, i.e. basics of giving form to space, architectural solutions and dimensioning. The student can carry out the design work utilizing background information (basics of housing design, dimensioning) and fundamentals of dimensioning of dwellings. Furthermore, the student is able to illustrate his/her design with the help of computer technology.

Contents:

Lectures on basic architectural concepts, architectural phenomena of current interest, the nature of artistic work and knowledge of housing design. Composition and design exercises with emphasis on dimensioning and basics of housing design.

Learning activities and teaching methods:

Lectures, exercises and a written examination. The type of the examination will be specified at the beginning of the course.

Recommended or required reading:

Course handout; Ching: Form, Space and Architecture; Sharp: Twentieth Century Architecture; Toimituskunta: Ars Suomen Taide, osa 6, arkkitehtuuri.

451525S: Contemporary Japanese Architecture, 5 - 10 op

Voimassaolo: - 31.07.2012

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Broner-Bauer Kaisa, Mahlamäki Rainer

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

Learning outcome: After completing the course the student is able to describe the tendencies of contemporary Japanese architecture and explain its special features in relation to international development

Contents:

Lectures on features of contemporary Japanese architecture and basics of design in a Japanese context.

Learning activities and teaching methods:

The course is arranged every second year. Visiting lecturers. The exercise is either a design project or survey.

455501P: Design I, 5 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Aulikki Herneoja

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The aim of the course is to guide the student to understanding the basics of design and detailing closely connected to architecture.

Learning outcome : After completing the course the student can carry out a design exercise, making good use of the basics of design and detailing closely related to architecture. The exercise work is based on application of basics of design and detailing to practice.

Contents:

Lectures deal with basics of design related to architecture with focus on detailing, jointing, materials, colour, light, fixed furnishing and designing of stairs. The exercise is a detailed study of an indoor staircase.

Learning activities and teaching methods:

The course is compulsory for 2nd year students

455502A: Design II, 10 op

Voimassaolo: 01.08.2005 - 31.07.2012

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Aulikki Herneoja

Opintokohteen kielet: English

Language of instruction:

Finnish/English

Learning outcomes:

To give a general overview of history, theory and praxis of industrial design.

Learning outcome : After completing the course the student is able to recognize an industrially designed product and analyze its design related substance. The student can carry out an exercise work of designing an object, applying the contents of the course as well as history of industrial design and contemporary design.

Contents:

The lectures deal with main issues of the history of industrial design and recent features of design. Students make a summary of a book on contemporary design. The emphasis of the course is on design exercise work, which is a design task of an architecture related object. The exercise is common with the Nordic Design exchange program.

Learning activities and teaching methods:

The course is intended for 4th year students and is part of the Architectural Design orientation module. The course is taught both in English and Finnish.

453503A: Design of Apartment Blocks, 8 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Jouni Koiso-Kanttila

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To introduce students to the essential issues within architectural construction.

Learning outcome : After completing the course the student can explain the functional principles of the building parts and structures of a multi-storey building and implement these principles in construction design of main structural elements and complimentary building parts. The student is able to design a block of flats which fulfils the building regulations and to produce its working and detail drawings.

Contents:

The content of the course is defined in connection with the assignment of the exercise project.

Learning activities and teaching methods:

The course is compulsory. The exercise is a part of the compulsory joint studio course arranged in collaboration with the Laboratories of Contemporary Architecture and Urban Design. The student may present the project of the course as his/her Bachelor's diploma work.

Recommended optional programme components:

Completion of Architectural Construction, basic course.

Recommended or required reading:

Announced during the course.

453511A: Electrical Installation, 2 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To give the student a general idea of systems of electricity and lighting in various types of buildings.

Learning outcome : After completing the course the student recognizes the technical symbols of electrical installations and systems, can interpret the plans, define the need of space required by the systems and present how the installations of the systems, their maintenance and detecting of damage can be taken into consideration in the design work. The student can also explain the central criteria of artificial lighting design.

Contents:

Lectures on official regulations, space reservations for electrical equipment, electrical plans and knowledge of the electrical information file, mounting and space reservations. Lighting technology, sources of light and lamps.

Design exercises: necessary provisions in designs for spaces, ducts and piping routes, drawing up of an electrical plan. Exercises are based on the design exercise of the course 453503A Design of Apartment Blocks.

Learning activities and teaching methods:

Lectures, exercises and written examination. The course is compulsory.

Recommended or required reading:

Announced during the course.

454560S: Extension Course / Urban Design, 5 - 10 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The aim is to go deeply into theories and practices of urban design and planning.

Learning outcome: Shall be defined individually depending on the content of the course.

Contents:

The course concentrates on built environment and theories, practices and design which are linked with planning and urban design. The exact contents of the course are defined individually. The course can be an extension course of the Municipal Planning or the Town Planning course.

Learning activities and teaching methods:

The course is intended for 4th and 5th year students within the orientation of Urban Design.

455560S: Extension Course in Architectural Design, 10 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Aulikki Herneoja

Opintokohteen kielet: English

Language of instruction:

Finnish/English

Learning outcomes:

The aim of the course is to give the student the opportunity to go deeply into a special issue of design according to the his/her own choice.

Learning outcome : After completing the course the student is able to quite independently carry out a project work related to design. In the work he / she can implement the previously learned through particular issues, which will be defined individually with the teacher. Alternatively the student can deepen into the selected topic through project work.

Contents:

The content of the course is formed by the subject being studied. The student completes an exercise project as agreed with the teacher. There are no lectures organized during the course. Visits to sites closely related to the subject selected by the student are made. The course may include 3D CAD tuition of 3D visualization (lectures 30 h, exercise work 20 h).

Learning activities and teaching methods:

The course is intended for 5th year students and is part of the Architectural Design advanced module.

453560S: Extension Course of Architectural Construction, 2 - 10 op

Voimassaolo: - 31.07.2012

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Jouni Koiso-Kanttila

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

The aim of the course is to deepen one's skills within the field of architectural construction.

Learning outcome: After completing the course the student has independently gone deeply into a specific field within architectural construction in order to be able to implement his / her skills in producing drawings of demanding building parts and details independently and to present the functional justifications of the selected solutions.

Alternatively the student can independently write a survey, dealing with a specific field within architectural construction according to his / her own choice. In the survey the student can analyze, explain and estimate the issues of architectural construction in question.

Contents:

The content of the course varies. The exercise work can alternatively be a design project, including a sufficient extent of working and detail drawings, or a written study on an individually defined topic.

Learning activities and teaching methods:

The course is elective within the Building Design orientation.

456560S: Extension Course of Building Renovation, 3 - 10 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Tuppurainen, Yrjö Kalevi

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The aim of the course is to go deep into specific issues within building renovation and to provide design skills for demanding renovation projects or research and product development within the field of renovation.

Learning outcome: After completing the course the student can adapt to use and analyze critically or develop specific knowledge connected with renovation planning through analytic design or research.

Contents:

The course deals with obtaining and applying special expertise within demanding renovation projects, e.g. re-utilization of public buildings or problematic technical solutions. The exercise is alternatively a design project or a written survey on an individually defined topic.

Learning activities and teaching methods:

The course is elective and intended for 5^h year students within the Building Design orientation.

452560S: Extension Course of Contemporary Architecture, 2 - 10 op

Voimassaolo: 01.08.2005 - 31.07.2012

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The course develops the student's concept of architecture and design skills through exercises.

Learning outcome : After completing the course the student has deepened his / her knowledge of design principles of public buildings and features of contemporary architecture. The student is familiar with fresh architectural tendencies and has developed a personal view on architecture. He / she has the facility for making schematic plans for a demanding public building with a personal touch.

Contents:

A design exercise on a public building according to the student's free choice. The course concentrates on a special issue within architecture related to the subject of the exercise the student has selected. Completed works are presented in an open critique session.

Recommended optional programme components:

Contemporary Architecture IV

451511A: Historic Preservation, 10 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Anna-Maija Ylimaula

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The aims of teaching History of Architecture are to enable students to realize the interaction between social changes and technical development, and to appreciate the different periods of architecture, to introduce the students to historical architecture and tradition and to the principles of preservation and building renovation, as well as to give the students a basic knowledge of the theories and methods used in research within architectural history.

Learning outcome: During the course the student learns to analyze the contextual meaning of building heritage and built environment. He / she can classify architectural and cultural values of buildings and milieus, and different values in general, identity and integrity of place. After completing the course the student can define the historic and theoretical principles and the modern methods of historic preservation. He / she can apply the methods in practice from documentation and evaluation up to planning of building preservation and maintenance of built environment.

Contents:

Lectures include the basics of preservation of built environments, legislation and international recommendations and the practices of conservation of buildings. The course includes excursions and lectures by visiting lecturers. Exercises: The exercise consists of a preservation plan for a cultural milieu.

Learning activities and teaching methods:

Teaching is arranged during the autumn term. Instead of a written exam a lecture journal is required.

Recommended or required reading:

A reading list will be handed out during the course.

451501P: History of Architecture I, 8 op

Voimassaolo: 01.08.2005 - 31.07.2012

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay451501P History of Architecture I (OPEN UNI) 8.0 op

Language of instruction:

Finnish.

Learning outcomes:

The aims of teaching History of Architecture are to enable students to realize the interaction between social changes and technical development, and to appreciate the different periods of architecture, to introduce the students to historical architecture and tradition and to the principles of preservation and building renovation, as well as to give the students a basic knowledge of the theories and methods used in research within architectural history.

Learning outcome: After completing the course the student can evaluate the interaction between style periods of European architectural history, technical development and social changes. He / she can classify the different eras and recognize their most significant buildings and architects. After the course the student can 'read the language of the classical architecture' and use the stylistic vocabulary of architecture as well as recognize the historical layers of built environment.

Contents:

Lectures on the history of architecture and on the general study of architecture from the Classical period to the late 18th century. Attention is also paid to ancient building methods such as bonding brick constructions and vaulting.

Exercises: Paintings and drawings primarily regarding forms of classical architecture such as column systems. Students are introduced to various means of graphic expression, to observation of symbols found in the surroundings, and to compositions of historical milieu in order to facilitate their understanding of traditional architectural terminology.

Learning activities and teaching methods:

Teaching is arranged in the autumn and spring Terms, including a three-part written examination.

Recommended or required reading:

A literature list will be handed out during the course.

451502A: History of Architecture II, 7 op

Voimassaolo: 01.08.2005 - 31.07.2012

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The aims of teaching History of Architecture are to enable students to realize the interaction between social changes and technical development, and to appreciate the different periods of architecture, to introduce the

students to historical architecture and tradition and to the principles of preservation and building renovation, as well as to give the students a basic knowledge of the theories and methods used in research within architectural history.

Learning outcome: During the course the student learns to recognize the historical roots of contemporary architecture and recount the development up to today. After the course the student recognizes the most essential phenomena and styles of the 19th and 20th century architecture and can reflect his / her own personal views on contemporary architecture.

Contents:

Lectures on the general history of architecture in the 19th and 20th centuries. Exercises: Measurement drawings for buildings or groups of buildings, introduction to the drawing up of inventories of historical buildings.

Learning activities and teaching methods:

Teaching is provided in 4 periods during the autumn and spring terms. A written examination is arranged.

Recommended or required reading:

A literature list will be handed out during the course.

451503A: History of Architecture III, 7 op

Voimassaolo: 01.08.2005 - 31.07.2011

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The aims of teaching History of Architecture are to enable students to realize the interaction between social changes and technical development, and to appreciate the different periods of architecture, to introduce the students to historical architecture and tradition and to the principles of preservation and building renovation, as well as to give the students a basic knowledge of the theories and methods used in research within architectural history.

Learning outcome: After completing the course the student masters the historical background of the architecture of Finland and Scandinavia starting from pre-historical times. He / she recognizes the temporal and stylistic layers of the history of our building tradition and can explain the development of the history of architecture in Finland in correlation to international features and the Nordic context.

Contents:

Lectures on historical architecture and its monuments in the Nordic countries and Finland, in particular from the pre-historical time to the 20th century.

Exercises: A plan for restoration of a small historic building. The student may present the project of the course as his/her Bachelor's diploma work.

Learning activities and teaching methods:

Teaching is arranged during the autumn and spring terms. A written exam is required.

Recommended or required reading:

A literature list will be handed out during the course.

451513S: History of Interior Design / Historical interiors, 5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Virpi Harju

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay451513S History of Interior Design and Historical interiors (OPEN UNI) 5.0 op

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

To provide a general impression of the history of European interior decoration and the development of Finnish interior decoration in relation to it.

Learning outcome : After completing the course the student recognizes and is able to describe the periods of the European history of interior design in general and to compare the special features of the development of Finnish interior design in relation to the European.

Contents:

The lecture topics cover interior decoration from the Classical period to modern times. Attention is paid to the connections between architecture, the general way of life and interior decoration.

Assessment methods and criteria:

A written examination after the lectures, essay / restoration or reconstruction plan.

454521P: History of Urban Design, 5 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Hentilä, Helka-Liisa

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To introduce the student to the basics of urban design and to provide the student with the basic skills for contemporary planning and urban design.

Learning outcome : After completing the course the student is familiar with the different eras of town planning.

The student can make a written description or schematic drawings of the main principles of the eras of town planning. He / she can also recognize the factors of urban architecture and apply the knowledge to an exercise in town planning.

Contents:

Lectures on general history of urban planning and design, historical development of towns in Finland, Finnish towns and 20th century Finnish town planning as part of the general cultural history. The exercises aim at deepening the student's knowledge of the concept of urban spatial structure.

Learning activities and teaching methods:

The course is compulsory for 1st year students. A written exam is part of the course

452506A: Housing Design, 8 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

Aim is to familiarize the student with specific issues concerning housing design.

Learning outcome : After completing the course student can explain the typology of multi-storey houses and basics of housing design. The student is also able to carry out project work, taking into consideration the basis for housing design as well as the starting points of functional planning and dimensioning of a dwelling. He / she is able to produce preliminary plans for a block of flats.

Contents:

Lectures on contemporary architecture, building science and urban planning. Participation in the open critique sessions organized by the Laboratory of Building Performance and Construction is required

Learning activities and teaching methods:

A housing design task is included in the course. The course is the second part of the 3rd year joint design project.

Recommended or required reading:

Course handout; Kahri, Pyykönen: Asuntosuunnittelu.

450524A: Image Manipulation / Photoshop & Illustrator, 2 op

Voimassaolo: 01.08.2005 - 31.07.2012

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Tuominen, Pekka Johannes

Opintokohteen kielet: Finnish

Language of instruction:

In Finnish.

Learning outcomes:

To teach image manipulation from the point of view of architectural presentation.

Learning outcome : The student is able to select the most suitable programs and file formats in consideration of their technical differences. The student can produce an output (image manipulation), using basic functions of the programs and special functions essential for manipulating architectural images. The student can select suitable file formats and produce appropriate versions of the images for different purposes.

Contents:

Lectures on basic functions of programs, means of image manipulation and printing of documents. The exercise of the course is to make a printed poster with the help of the programs taught.

Learning activities and teaching methods:

The programs used are Adobe Photoshop and Adobe Illustrator.

455518A: Interior Design I, 5 op

Voimassaolo: 01.08.2005 - 31.07.2012

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: English

Leikkaavuudet:

ay455518A Interior Design (OPEN UNI) 5.0 op

Language of instruction:

Finnish/English

Learning outcomes:

The aim of the course is to provide students with basic skills of interior design and to guide the students to practical design work.

Learning outcome: After completing the course the student can produce preliminary designs for an interior, utilizing various sectors of interior design in a creative manner.

Contents:

Lectures deal with basic concepts of interior design and the connection between architecture and interior design.

The focus is on materials, colours and lighting of the space, design of fixed furniture and textiles. The exercise work is a sketch level design of an interior. Visits to designed interiors are included in the course.

Learning activities and teaching methods:

The course is intended for 4th year students and is part of the Architectural Design orientation module. The course is taught both in English and Finnish.

455520S: Interior Design II, 5 op

Voimassaolo: 01.08.2005 - 31.07.2012

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: English

Language of instruction:

Finnish/English

Learning outcomes:

The aim of the lectures and the exercise work of the course is to deepen the students' knowledge in special issues within interior design, in particular designing fixed furniture.

Learning outcome: After completing the course the student can prepare working drawings for fixed furnishing, displaying his / her command of the basics of designing fixed furniture.

Contents:

Lectures on special issues within interior design. The exercise work is a working drawing level fixture design.

Visits to designed interiors are included in the course.

Learning activities and teaching methods:

The course is intended for 4th year students and is part of the Architectural Design complementary module. The course is taught both in English and Finnish.

452505S: International Studio, 15 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish/English

Learning outcomes:

To widen the students' knowledge and skills of designing public buildings. The course initiates the student to international design tasks and develops the student's skills required to carry out such projects.

Learning outcome : After completing the course the student is familiar with design principles of public buildings and contemporary architecture. The student has expanded his / her knowledge on international architecture and developed his / her views on design as a designer. He / she has the facility for making schematic plans for a demanding public building.

Contents:

Lectures dealing with special issues of architecture and design support the exercise of a large-scale public building, which can be a demanding design task, either an imaginary project or an open international architectural competition. The exercise includes problem solving of fire protection, acoustics, building structures and technical installations. The work is carried out in teams. Completed works are presented in an open critique session.

Recommended or required reading:

Recommended reading will be announced during lectures. The exercises are evaluated in open critique session

031047S: Introduction Course to the Boundaryelement Method, 6,5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Mathematics Division

Arvostelu: 1 - 5, pass, fail

Opettajat: Hamina, Martti Aulis

Opintokohteen kielet: Finnish

Leikkaavuudet:

031083S Principles of the boundary element method 7.0 op

Learning outcomes:

The student is given a description of the mathematical machinery which is necessary for implementation of the boundary element method. Both theoretical and practical aspects are included. Learning Outcomes : The students will be able to program a solution algorithm by using the Boundary Element Method. They understand the underlying principles of basic numerical methods (FDM, FEM, BEM) used for approximate solution of the boundary value problem of the potential equation.

Contents:

Connections between differential and integral equations. The variational form and minimum characterization of a boundary value problem. Formulation of a potential problem as a boundary integral equation. The numerical solution of a boundary integral equation. Spline interpolation. Numerical integration. Functional analytical background. The Lax-Milgram theorem. Comparison between the method of finite differences, finite elements and boundary elements. Convergence.

Learning activities and teaching methods:

Lectures and classroom exercises.

Recommended optional programme components:

Calculus I and II, matrix algebra, differential equations, numerical methods.

Recommended or required reading:

Lecture notes in Finnish. Chen G., Zhou J.: Boundary Element Methods. Hackbusch W.: Integralgleichungen. Brebbia C.A, Dominguez J.: Boundary Elements. An Introductory Course.

451521A: Introduction to Japanese History of Art, 5 op

Voimassaolo: - 31.07.2011

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Minna Eväsoja

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

Learning outcome : After completing the course the student can describe the main features of the basics of general history of Japanese art, explain the chronology of different eras and recognize their most essential examples.

Contents:

Lectures on the history of Japanese art, written examination.

Learning activities and teaching methods:

Organized as an intensive study unit.

451522S: Japanese Aesthetics, 5 op

Voimassaolo: - 31.07.2011

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Minna Eväsoja

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish/English

Learning outcomes:

Learning outcome: After completing the course the student can explain the basic concepts and terms of Japanese aesthetics and their meaning in Japanese context and their relation to different time periods.

Contents:

Lectures 24 hours in the form of an intensive course.

Assessment methods and criteria:

Essay or book examination.

451523S: Japanese Architecture, 5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay451523S Traditional Japanese Architecture and Garden Art (OPEN UNI) 5.0 op

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

Learning outcome: After completing the course the student is able to recognize the features of Japanese Architecture, describe the eras of the history of Japanese architecture in general and to recognize values of the Japanese culture, reflecting both in traditional and contemporary architecture.

Contents:

The course deals with Japanese architecture and cultural heritage from selected viewpoints, and familiarizes the students with the literature in architecture and cultural philosophy relating to Japan. Students are expected to produce an essay or an analysis on a topic of interest in Japanese architecture, garden art or urban art.

Assessment methods and criteria:

Essay

451526S: Japanese Architecture Studio, 2 - 10 op

Voimassaolo: - 31.07.2011

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Broner-Bauer Kaisa, Mahlamäki Rainer

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish/English

Learning outcomes:

Learning outcome: After completing the studio course the student is able to implement means of expression and cultural values typical to Japanese architectural design and he / she can create design solutions with connection to the Japanese cultural context.

Contents:

Design project in a Japanese context.

Learning activities and teaching methods:

The course is arranged every second year as an intensive course, when possible. Visiting lecturers.

453508S: Main Designer's Work Profile, 15 op

Voimassaolo: - 31.07.2012

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Jouni Koiso-Kanttila

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

The aim of the course is to provide the student with basic skills required in the role of main designer within building projects. The course provides also basic knowledge on contract jurisprudence and entrepreneurship. Learning outcome : After completing the course the student can name the tasks and legal responsibilities of the main designer architect. The student can as in the role of the main designer overview the process of reconciling all the planning documents of a building process. The student can explain the most common building processes and define the contract documents required.

Contents:

The focus of the course is on the work profile and responsibilities of the architect as the main designer along with private entrepreneurship, and coordination of the engineering and technical installation plans. The exercise work is a preliminary diagram level plan for a large public building with focus on the coordination of technical systems and their solutions.

Learning activities and teaching methods:

The course is elective within the Building Design orientation.

455519A: Material Technologies, 5 op

Voimassaolo: 01.08.2005 - 31.07.2011

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Aulikki Herneoja

Opintokohteen kielet: English

Language of instruction:

Finnish/English

Learning outcomes:

To provide the student with a basic knowledge of the properties of wood, metals and stone and their working and treatment methods. The course deals also with painting treatments of additional building parts.

Learning outcome : After completing the course the student can make a prototype of a small scale piece of fixed furniture, taking into account from various points the properties of wood, metal and stone, as well as their surface finishing and treatment methods.

Contents:

Lectures, visits, exercises, practical work demonstrations. The students design and make a prototype of a piece of small scale fixed furniture. The course comprises also small exercises of painting treatments.

Learning activities and teaching methods:

The course is intended for 4th year students and is part of the Architectural Design orientation module. The course is taught both in English and Finnish.

450507A: Modern Nordic Architecture, 5 op

Voimassaolo: 01.08.2005 - 31.07.2011

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Kuorelahti, Leena Katriina

Opintokohteen kielet: Finnish

Language of instruction:

English

Learning outcomes:

The aim of the course is to initiate foreign students into the history and the presence of Finnish and Nordic contemporary architecture, recent tendencies of architecture and planning and special northern features of design and building.

Learning outcome: After completing the course the student recognizes the main tendencies of Finnish architecture and design and the most important designers and architects of the 20th and 21st centuries. Furthermore, the student can describe the special features of building in the northern conditions, such as the history of wooden towns and buildings, as well as features of contemporary architecture in Finland and in the Nordic countries.

Contents:

The course is intended especially for the exchange students of the Department. The lectures deal with Finnish and Nordic architecture, urban design, design and interior design. The course includes lectures by visiting lecturers and guided study trips and visits. A lecture and excursion diary is required.

Learning activities and teaching methods:

The course is intended for master level students and is part of the Architectural Design complementary module. The course is taught in English and is compulsory for exchange students studying at the Department.

454008A: Municipal Engineering, 3 op

Voimassaolo: - 31.07.2012

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To introduce the student to the principles of municipal engineering with special reference to town planning.

Learning outcome : After completing the course the student can explain the organization, legislation and main principles of building and costs per unit of municipal engineering. He / she can explain and analyze the roles of water, waste and energy management as part of community planning.

Contents:

Organisations and legislation. Water supply and sewerage, geo-technology, waste management, energy management, costs per unit.

Learning activities and teaching methods:

The course is intended 5th year students within the orientation of Urban Design. The course is an optional study unit linked with the Municipal Planning course.

454505S: Municipal Planning, 15 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Hentilä, Helka-Liisa

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To initiate students into general land use planning at the local level and to provide basic information on planning at regional and national levels.

Learning outcome: After completing the course the student can, as a part of a planning process, utilize the opinions of local inhabitants and other participating groups as well as information provided by municipal experts. The student is able to recognize the main features and phases of master and regional planning and to work out an overall land use plan. besides he / she can explain how an interactive land use planning process shall be carried out.

Contents:

The course offers exercises in general land use practices in municipalities as part of a holistic strategic development, and traffic and infrastructure planning. At the same time students learn methods of cooperative planning and evaluation in a joint project with the inhabitants, officials and trustees of a municipality in Northern Finland.

Learning activities and teaching methods:

The course is intended for 5th year students within the orientation of Urban Design.

454523A: Neighborhood Design, 5 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The course offers basic knowledge of different factors of designing urban space and of the interaction between the man and built environment.

Learning outcome : After completing the course the student recognizes the correlation between the basic factors of spatial design and functional planning. The student also recognizes the fundamentals of the interdependency of humans with the built environment. The student can make a land use plan on a block layout level.

Contents:

Lectures on the basic factors contributing to town and urban space planning. The student is introduced to urban planning through the design of a city block in an existing city structure.

Learning activities and teaching methods:

The course is compulsory for 2nd year students. A written exam is part of the course.

450510P: Orientation, 2 op

Voimassaolo: 01.08.2005 - 31.07.2015

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The aim of the course is to introduce the student to the university, academic studies, the department and the studies in the field of Architecture.

Learning outcome: After the course the student is able to inquire issues concerning the study programme of the responsible persons in the course. The student recognizes his / her own study environment and teachers. In addition the student can describe the studying and operation practices of the department as well as architect's work practices.

Contents:

Orientation day of the Faculty of Technology, tutorials, orientation to the Department of Architecture.

030001P: Orientation Course for New Students, 1 op

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Faculty of Technology

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

477000P Planning of Studies and Career 1.0 op

454524A: Planning of Residential Areas, 5 op

Voimassaolo: 01.08.2005 - 31.07.2012

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Hentilä, Helka-Liisa

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To give an in-depth approach to the planning of residential areas from the viewpoint of urban design.

Learning outcome : After completing the course the student can name the main principles of Finnish planning practices and the process of town planning. The student comprehends and recognizes the various technical symbols and regulations of planning. Furthermore, he / she can apply the learning outcome to a town plan level design exercise and can produce documents, corresponding to an official town plan.

Contents:

Lectures and exercises on current and future challenges of residential areas, such as dynamics of growth of changing urban edges and sustainable land use planning. The course goes deep into dimensioning of town plans and views the process of planning of residential areas from perspectives of different population groups.

Learning activities and teaching methods:

The course is intended for 4th year students and is compulsory in the orientation of Urban Design.

454525S: Planning of Residential, Advanced Course, 5 op

Voimassaolo: 01.08.2005 - 31.07.2012

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Hentilä, Helka-Liisa

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To go deeply into basic surveys linked to land-use planning and general methods of collecting information.

Learning outcome : After completing the course the student can use various surveys as part of the process of designing residential areas. He / she can carry out simple preliminary studies on a planning area, utilizing various methods of collecting information.

Contents:

Basic surveys of land use planning (e.g. landscape and nature surveys) as part of planning of residential areas. The exercise work consists of written surveys.

Learning activities and teaching methods:

The course is intended for 4th year students within the orientation of Urban Design and is linked with the course of Planning of Residential Areas.

450528A: Power Point & Acrobat, 1 op

Voimassaolo: - 31.07.2011

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Tuominen, Pekka Johannes

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

The aim of the course is to teach the students the basics of producing computer aided visual presentation material both with Power Point and Acrobat.

Learning outcome: The student can prepare the material of his / her studio project or survey according to the requirements of the presentation program. The student can define the settings affecting the presentation procedure and create an optimal presentation file for different technical situations.

Contents:

Lectures contain exercises on making a presentation of given material. The exercise of the course is to make a Power Point or Acrobat presentation of one studio project.

Learning activities and teaching methods:

The programs used are Power Point and Acrobat. The course is realized as a part of the Bachelors' diploma seminar.

031072S: Principles of the Boundary Element Method, Homework Exercise, 2 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Mathematics Division

Arvostelu: 1 - 5, pass, fail

Opettajat: Hamina, Martti Aulis

Opintokohteen kielet: Finnish

Learning outcomes:

The purpose of the homework exercise is to deepen the students understanding on the implementation of a mathematical algorithm.

Learning Outcomes : The student will be faced against various problems which occur while implementing a numerical solution by using the Boundary Element Method. This will be very instructive for the student.

Contents:

A homework exercise from the field of the course: Principles of the Boundary Element Method. Usually it consists of programming and documentation of a boundary element algorithm (C, MATLAB, Fortran, etc.). Literature work is also optional. A reasonable documentation is required.

Recommended optional programme components:

Principles of the boundary element method.

451015A: Restoration, 8,5 op

Voimassaolo: - 31.07.2011

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The aims of teaching History of Architecture are to enable students to realize the interaction between social changes and technical development, and to appreciate the different periods of architecture, to introduce the students to historical architecture and tradition and to the principles of preservation and building renovation, as well as to give the students a basic knowledge of the theories and methods used in research within architectural history.

Learning outcome: After completing the course the student can explain the principles of history and theory of restoration. The student can explain the principles of new use of buildings and apply these skills to practice. He / she can analyze the values of a historical building and make a renovation plan based on the evaluation.

Contents:

The lectures discuss the history, theory and practice as well as technical aspects of architectural conservation and restoration of historic buildings.

Exercises: Exercises focus on the problems of the reuse of historic buildings and their restoration and how to plan and organise a restoration project.

Learning activities and teaching methods:

The course is organized during the spring term. Instead of a written exam a lecture journal is required.

Recommended or required reading:

A reading list will be handed out during the course.

453531P: Structural Technology, basic course, 3 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Tervaoja, Jussi Matti

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To introduce the student to the basic concepts of theory of structures and understanding the static functioning of various structures, formation of building frames and controlling various loads. The principles of soil mechanics and foundation engineering are discussed in the section of foundation engineering. The course provides preliminary knowledge for subsequent studies of structural technology.

Learning outcome: After completing the course the student is familiar with different load bearing structures of buildings. The student can explain the concepts of equilibrium of body and pattern of free body and draw stress diagrams of a simple beam. The student can explain the modes of origin of soil and soil types and their use as building materials and as building ground, as well as the principles of foundation.

Contents:

Structural frames of buildings, frameworks, loads; Basic laws and concepts of theory of structures; equilibrium of body; stress quantities of simple beams; soil, sub-grade investigations, types of foundation, foundation supports, soil pressure.

Learning activities and teaching methods:

Lectures and exercises

Recommended or required reading:

Handout with the list of course literature.

017550A: Survey to the history of Japanese art, 6 op

Voimassaolo: - 31.05.2008

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Faculty of Humanities

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Ei opintojaksokuvauksia.

453510A: Techniques of Plumbing, Heating and Ventilation, 3 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Pentti Kuurola

Opintokohteen kielet: Finnish

Leikkaavuudet:

485506A Heating, Ventilation and Air Conditioning Technology 3.0 op

Language of instruction:

Finnish

Learning outcomes:

The course gives the student a general idea of heating, plumbing and air-conditioning technology.. One aim of the course is to introduce the student to the requirements of such technology as part of designing and building, including demands of indoor climate, energy efficiency, spatial needs and dimensioning of technical installations, maintenance and detecting of damage.

Learning outcome : After completing the course the student recognizes the technical symbols of plumbing, heating and ventilation, can interpret the plans, define the need of space required by the systems and present how the installations of the systems, their maintenance and detecting of damage can be taken into consideration in the design work. The student can also explain the influence of heating, plumbing and ventilation systems on the energy efficiency, interior climate and pleasantness of buildings.

Contents:

Lectures on official regulations, technical drawings and space reservations for various installation systems and methods. Design exercises: necessary provisions in designs for spaces, ducts and piping routes. Exercises are based on the design exercise of the course 453503A Design of Apartment Blocks.

Learning activities and teaching methods:

Lectures, exercises and written examination. The course is compulsory.

Recommended or required reading:

Announced during the course.

450525P: Techniques of Visual Presentation in Architecture, 2 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Laurila, Jukka Pekka

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

To provide students with skills to present plans three-dimensionally using both traditional techniques and digital image processing and to familiarise them with the techniques and instruments of model building and layout design of architectural presentation.

Learning outcome: In computer work the student is able to import various objects (drawings, photographs etc.) to image processing programs. The student can manipulate images, taking into account the differences between bitmap and vector based images. The student can apply the basic functions of the programs, fix images and make simple lay-outs.

Contents:

Perspective, geometry, vertical and axonometric projections. The exercise is carried out by drawing, with the help of an image manipulation program and as a combination of the both.

Learning activities and teaching methods:

The course is integrated with the exercise of Contemporary Architecture I.

Recommended or required reading:

Material will be handed out during the course, recommended reading will be announced in the beginning of the course.

451560S: Theory and Research of Architecture, 2 - 10 op

Voimassaolo: 01.08.2006 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To provide a student with knowledge of specific issues of history and theory of architecture and to introduce the student to the basics of scientific research.

Learning outcome: During the course the student learns to view and analyze architecture from the standpoint of architectural theories. After completing the course the student can explain the basic principles of sectors and methods of architectural research.

Contents:

Lectures on the history of architectural theories concentrating on annually varying themes.

Seminar: Detailed examination of the topic of the course through literature and project analyses. Presentation of the exercises and discussion.

Exercises : A written paper applying the methods of scientific research.

Learning activities and teaching methods:

The course is recommended particularly for students who intend to do their diploma work in the field of history of architecture. For accomplishing the course, an active participation is required. Instead of an exam student writes a journal based on the course.

Recommended or required reading:

A literature list will be handed out during the course.

454503A: Town Planning, 8 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish**Language of instruction:**

Finnish

Learning outcomes:

To provide basic knowledge of the Finnish planning system with emphasis on detailed town planning.

Learning outcome : After completing the course the student can name the main principles of Finnish planning practices and the process of town planning. The student comprehends and recognizes the various technical symbols and regulations of planning. Furthermore, he / she can apply the learning outcome to a town plan level design exercise and can produce documents, corresponding to an official town plan.

Contents:

Lectures deal with practices of town planning, laws and regulations. The course goes into different stages of planning of built environment and deals with problems between town planning and actual building design.

Exercise in the level of a town plan will be completed using CAD programs. The student may present the project of the course as his/her Bachelor's diploma work.

Learning activities and teaching methods:

course is compulsory for 3rd year students. A written exam is part of the course.

451524S: Traditional Japanese Architecture and Garden Art, 5 - 10 op

Voimassaolo: - 31.07.2012

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Broner-Bauer Kaisa

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

Learning outcome: After completing the course the student is able to describe the historical eras of Japanese architecture. He / she can evaluate the tradition of Japanese architecture and garden art as a whole and recognize the most essential examples of existing building tradition, as well as the traditional values of Japanese culture and their reflections in the built environment.

Contents:

Lectures on Japanese traditional architecture and garden art. The content of the course varies yearly.

Learning activities and teaching methods:

The course is arranged every second year. Visiting lecturers.

454007A: Traffic Planning, 3,5 op

Voimassaolo: - 31.07.2012

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

To clarify traffic issues at the various levels of town planning, forms of transportation and their connections with the planning of land use.

Learning outcome : After completing the course the student can recognize various traffic forms and systems and how they are linked with land use planning.

Contents:

Forms of traffic and traffic systems in connection with land use planning

Learning activities and teaching methods:

The course is intended 5th year students within the orientation of Urban Design. The course is an optional study unit linked with the Municipal Planning course

454522S: Urban Space Design, 10 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: English

Language of instruction:

Finnish/English

Learning outcomes:

The aim is to go deeply into improving and developing built environment and public out-door spaces in urban areas and localities with special focus on sustainability.

Learning outcome : After completing the course the student is able to recognize features of current interest within design of public urban space. The student can report various programs, plans and aims for development of functional and physical environment. The student is able to carry out a development plan for improving public space in urban centres

Contents:

The lectures deal especially with the design of public urban spaces, objectives and programs intended for developing the design management of such areas. The exercise work focuses on design and development of the functional and physical environment of urban centres. The course is linked with the Urban Space Detailing course unit.

Learning activities and teaching methods:

The course is intended for 4th year students within the orientations of Urban Design and Architectural Design and is partly taught in English.

455521S: Urban Space Detailing, 10 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Aulikki Herneoja

Opintokohteen kielet: English

Language of instruction:

Finnish/English

Learning outcomes:

The aim of the course is to go deeply into issues of detailing of urban space with focus on sustainability. The purpose is to initiate the students into designing of outdoor furniture, accessories and lighting and to acquaint the students with materials and requirements of designing green areas.

Learning outcome: After completing the course the student can make a detailed plan for an urban space, taking into account various sectors and approaches of urban space detailing, including material alternatives and different lighting options. In the project work the student can apply the use of large variations of scale to an instrument of urban space detailing.

Contents:

Lectures, exercise work and visits to the site. The students make a detailed design for the site studied as an exercise work within the Urban Space Design course.

Learning activities and teaching methods:

The course is intended for 4th year students and is part of the Architectural Design and Urban Design complementary module. The course is organized in co-operation with the Laboratory for Planning and Urban Design. The course is taught both in English and Finnish.

453550S: Varying Courses of Architectural Construction, 5 - 10 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Jouni Koiso-Kanttila

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

The aim of the course is to deepen one's skills within the field of architectural construction.

Learning outcome: After completing the course the student has independently gone deeply into a specific field within architectural construction in order to be able to implement his / her skills in producing drawings of demanding building parts and details independently and to present the functional justifications of the selected solutions.

Alternatively the student can independently write a survey, dealing with a specific field within architectural construction according to his / her own choice. In the survey the student can analyze, explain and estimate the issues of architectural construction in question.

Learning activities and teaching methods:

The course is elective. Assessment is based on the exercise, no exam is included in the course.

453540A: Varying Courses of Architectural Construction, 2 - 10 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

The aim of the course is to deepen one's skills within the field of architectural construction.

Learning outcome: After completing the course the student has independently gone deeply into a specific field within architectural construction in order to be able to implement his / her skills in producing drawings of demanding building parts and details independently and to present the functional justifications of the selected solutions.

Alternatively the student can independently write a survey, dealing with a specific field within architectural construction according to his / her own choice. In the survey the student can analyze, explain and estimate the issues of architectural construction in question.

Contents:

The content of the course varies. The exercise work can alternatively be a design project, including a sufficient extent of working and detail drawings, or a written study on an individually defined topic.

Learning activities and teaching methods:

The course is elective. Assessment is based on the exercise, no exam is included in the course.

456540A: Varying Courses of Building Renovation, 2 - 10 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The aim of the course is to deepen one's skills within the field of building renovation.

Learning outcome : After completing the course the student can produce the necessary plans for a renovation project in question. In case the exercise is a written survey, the student can analyse or develop the topic of study dealing with building renovation.

Learning activities and teaching methods:

The course is elective. Assessment is based on the exercise, no exam is included in the course.

452550S: Varying Courses of Contemporary Architecture, 2 - 10 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

To initiate students to recent tendencies in architecture through exercises.

Learning outcome : After completing the course the student knows the design principles of public buildings and features of contemporary architecture. The student is familiar with fresh architectural tendencies and has developed a personal view on architecture. He / she has the facility for making schematic plans for a demanding public building with a personal touch.

Learning activities and teaching methods:

The design exercise and studio classes.

Recommended optional programme components:

Contemporary Architecture IV

452540A: Varying Courses of Contemporary Architecture, 2 - 10 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

To initiate students to recent tendencies in architecture through exercises.

Learning outcome : After completing the course the student knows the design principles of public buildings and features of contemporary architecture. The student is familiar with fresh architectural tendencies and has developed a personal view on architecture. He / she has the facility for making schematic plans for a demanding public building with a personal touch.

Contents:

Varies yearly. The course contains one design exercise of a public building. Participation in an open competition is possible. Completed works are presented in an open critique session

Learning activities and teaching methods:

The design exercise and studio classes

Recommended optional programme components:

Contemporary Architecture IV

455550S: Varying Courses of Design, 2 - 10 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Aulikki Herneoja

Opintokohteen kielet: English

Language of instruction:

Finnish/English

Learning outcomes:

To go deeply into current features of design in architectural context.

Learning outcome : After completing the course the student is able to quite independently carry out a project work related to design. In the work he / she can implement the previously learned through particular issues, which will be defined individually with the teacher. Alternatively the student can deepen into the selected topic through project work.

Contents:

The content of the course is defined individually and can be e.g. an open design competition or a project, or a written survey.

Learning activities and teaching methods:

No lectures are included in the course. The evaluation is based on the project work or the written survey.

455540A: Varying Courses of Design, 2 - 10 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Aulikki Herneoja

Opintokohteen kielet: English

Language of instruction:

Finnish/English

Learning outcomes:

To go deeply into current features of design in architectural context.

Learning outcome : After completing the course the student is able to quite independently carry out a project work related to design. In the work he / she can implement the previously learned through particular issues, which will be defined individually with the teacher. Alternatively the student can deepen into the selected topic through project work.

Contents:

The content of the course is defined individually and can be e.g. an open design competition or a project, or a written survey.

Learning activities and teaching methods:

No lectures are included in the course. The evaluation is based on the project work or the written survey.

451540A: Varying Courses of History of Architecture, 2 - 10 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Learning outcomes:

The aim of the course is to deepen a student's knowledge of the history and theory of architecture by concentrating on specific issues in the fields of planning and research.

Learning outcome: After the course the student is able to write a small survey or carry out a design project on a special topic within history of architecture, obtaining and applying scientific information quite independently.

Contents:

Seminars and an individual design exercise on a specific topic on which the seminar is based on.

Learning activities and teaching methods:

The course is an elective study unit of the advanced level. Assessment is based on the seminar and the exercise, no exam is included in the course.

Recommended or required reading:

A reading list will be handed out during the course.

454540A: Varying Courses of Urban Design, 2 - 10 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Hentilä, Helka-Liisa

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Language of instruction:

Finnish

Learning outcomes:

To go deeply into current features of planning and urban design.

Learning outcome : Shall be defined individually depending on the content of the course.

Contents:

The content of the course is defined individually and can be e.g. an open land use planning competition.

Learning activities and teaching methods:The course is part of the Urban Design and Planning orientation and intended for 4th year students.**454550S: Varying Courses of Urban Design, 2 - 10 op****Voimassaolo:** 01.08.2005 -**Opiskelumuoto:** Advanced Studies**Laji:** Course**Vastuuyksikkö:** Department of Architecture**Arvostelu:** 1 - 5, pass, fail**Opettajat:** Hentilä, Helka-Liisa**Opintokohteen kielet:** Finnish**Voidaan suorittaa useasti:** Kyllä**Language of instruction:**

Finnish

Learning outcomes:

To go deeply into current features of planning and urban design.

Learning outcome : Shall be defined individually depending on the content of the course.

Contents:

The content of the course is defined individually and can be e.g. an open land use planning competition

Learning activities and teaching methods:

The course is elective.

455511P: Visual Arts I, 5 op**Voimassaolo:** 01.08.2005 -**Opiskelumuoto:** Basic Studies**Laji:** Course**Vastuuyksikkö:** Department of Architecture**Arvostelu:** 1 - 5, pass, fail**Opintokohteen kielet:** Finnish**Leikkaavuudet:**

ay455511P Visual Arts I (OPEN UNI) 5.0 op

Language of instruction:

Finnish

Learning outcomes:

To deal with different aspects of visual expression, to expand general knowledge relative to the various fields of art and to develop independent creative expression.

Learning outcome : After completing the course the student is able to comprehend various sides of visual expression and can implement these skills in exercise work.

Contents:

Object and spatial drawing, classical model drawing, composition and modelling.

Assessment methods and criteria:

Based on exercises. Attention is also paid to the student's mastery of the basic information given during the course and independent creative expression.

455512P: Visual Arts II, 3 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay455512P Visual Arts II (OPEN UNI) 3.0 op

Language of instruction:

Finnish

Learning outcomes:

To deal with different aspects of visual expression, to expand general knowledge relative to the various fields of art and to develop independent creative expression.

Learning outcome: After completing the course the student is experienced in individual creative work. The student is able to analyze the relationship of a work of art and architectural space. The student is able to examine the relationship between architecture and colour, and apply the learned to practice.

Contents:

Classical model drawing and various applications of composition and colour theory. The relationship between architecture and colour as well as art and space is studied during the course.

Assessment methods and criteria:

Based on exercises. Attention is also paid to the student's mastery of the basic information given during the course and independent creative expression.

455513A: Visual Arts III, 4 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay455513A Visual Arts III (OPEN UNI) 4.0 op

Voidaan suorittaa useasti: Kyllä

Ei opintojaksokuvauksia.

455514A: Visual Arts IV, 4 op

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Voidaan suorittaa useasti: Kyllä

Ei opintojaksokuvauksia.

031045S: Wavelet Transform in Numerical Analysis, 8 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Mathematics Division

Arvostelu: 1 - 5, pass, fail

Opettajat: Ruotsalainen Keijo

Opintokohteen kielet: Finnish

Language of instruction:

Finnish

Learning outcomes:

The objectives are the mathematical foundations of the wavelet transform and their construction methods. The fast wavelet transform is introduced and will be applied for the numerical approximation of the solution of partial differential equations.

Learning outcomes: The student knows the basic properties of the wavelets and their construction methods. He/She learns how to solve some partial differential equations by means of the fast wavelet transform.

Contents:

Wavelet transform. Frames and the Riesz basis. Orthogonal and biorthogonal wavelets. Fast wavelet transform. Solution of partial differential equations.

Learning activities and teaching methods:

Lectures in agreement (4 h/week and exercises 2h/week). Two intermediate exams or one final exam.

Recommended optional programme components:

Calculus 1, Calculus 2, Matrix algebra, Differential equations, Numerical Methods, Signals and Systems, Variational methods.

Recommended or required reading:

- I. Daubechies; Ten lectures on wavelets
- A. Louis, P. Maas and A. Richter; Wavelets

453532P: Wooden Structures, 2 op

Voimassaolo: 01.08.2005 -

Opiskelumuoto: Basic Studies

Laji: Course

Vastuuyksikkö: Department of Architecture

Arvostelu: 1 - 5, pass, fail

Opettajat: Tervaoja, Jussi Matti

Opintokohteen kielet: Finnish

Leikkaavuudet:

ay453532P Wooden Structures (OPEN UNI) 2.0 op

Language of instruction:

Finnish

Learning outcomes:

To introduce the student to the material properties of wood and the planning and functions of simple load-bearing wooden and wood-based structures.

Learning outcome: After completing the course the student is familiar with the properties of wood in order to be able to use different wood-based products for constructing a wooden framework. The student can design the load-bearing frame of a wooden one-family house and knows the principles of forming a wooden frame for a large-scale building. The student can design wooden constructions with consideration to the requirements set by the lifespan of wood when designing ecologically sustainable buildings.

Contents:

Structural properties of wooden constructions, joints, wooden frameworks of single-family houses, long span wooden structures, technical drawings of wooden structures.

Learning activities and teaching methods:

Lectures and exercises

Recommended or required reading:

Handout with the list of course literature.