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Course Number: 0007114

Course Title: Sketch-1

Credit: 3 Total Credit Hours: 48

Students: Undergraduate students major in Architecture (Grade 1), Undergraduate students major in City Planning (Grade 1)

Prerequisites: None

Evaluation Method: Test

Course Description:

Sketch is the basis of all the plastic arts. To have modeling ability and aesthetic consciousness is required for architecture-major students, and all of this begins with the training of sketch. Through class teaching and exercises, this course aims at gradually cultivating students' basic modeling abilities and aesthetic consciousness in recognizing shapes, understanding space and expressing their creativities, as well as instructing them to understand and master the basic laws of art form.

Recommended Textbooks/References:

1. Edited by Fine Arts Teaching Material Compilation For National Architecture Colleges. Sketch. Shaanxi People's Fine Arts Press. 2001
2. From Design To Sketch. Zhejiang Academy of Fine Arts Press. 1997

Course Number: 0004454

Course Title: Architectural Drawing and Expression

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Architecture (Grade 1), Undergraduate students major in City Planning (Grade 1)

Prerequisites: None

Evaluation Method: Test

Course Description:

This course aims at helping students majoring in architecture or urban planning lay a foundation for architectural drawing. Students are expected to improve their capabilities of spatial imagination and composition, and develop a responsible, cautious and rigorous habit in architectural drawing, which would help them construct a necessary and strong basis for their further study and work related to professional design. The main content of this course includes: basic methods to express spatial forms by using orthographic, oblique and central projections; basic knowledge about architectural drawing and basic ways of drawing shadows and perspectives of buildings.

Recommended Textbooks/References:

1. SUN Jingli. Modern Shadow Perspective. Beihang University Press. 2006

Course Number: 0004775

Course Title: Preliminary Architectural Design I-1

Credit: 7.5 Total Credit Hours: 120

Students: Undergraduate students major in Architecture (Grade 1), Undergraduate students major

in City Planning (Grade 1)

Prerequisites: None

Evaluation Method: Test

Course Description:

This course is set up as an enlightening course for students majoring in architecture or urban planning. Through the study of this course, students are expected to have a good understanding of the interrelationship between different architectural designs and other aspects, such as building materials, building construction, building structure, and the relationship between buildings and people. The teaching contents and basic skill-related training in this course directly provide preliminary knowledge and skills for students' future study of architectural design. The main content of this course includes: preliminary knowledge of space in architecture; contents, methods and professional requirements in architecture; preliminary knowledge of building materials, building methods, building form and the relationship between architecture and people. Based on teaching and skill-related training, and through manual operation training, this course is intended to cultivate students' spatial concept and help them mastering the ways to express their design ideas.

Recommended Textbooks/References:

1. CUI Pengfei. Direct Happen—Spatial Training Base. China Architecture Industry Press. 2005
2. CHAI Haili. The Latest Foreign Architectural Pen Painting Techniques. Zhejiang Academy of Fine Arts Press. 1997
3. ZHONG Xunzheng. Architectural Painting Environmental Rendering and Technique. China Architecture Industry Press. 2005

Course Number: 0007499

Course Title: Introduction to Architectural Design

Credit: 1 **Total Credit Hours:** 16

Students: Undergraduate students major in Architecture (Grade 1), Undergraduate students major in City Planning (Grade1)

Prerequisites: None

Evaluation Method: Test

Course Description:

This course is set up as an enlightening course for students majoring in architecture. Through the study of this course, students are expected to have a good understanding of the significance of architecture, architecture history and architectural design. The main content of this course includes: significance of architecture; the development of architecture; the basic knowledge of architectural aesthetics, the architects and their classic works of modernism and postmodernism; the basic knowledge of structure and material; the basic program and method of architectural design.

Recommended Textbooks/References:

1. SHEN Fuxi. Introduction to Architecture. China Architecture Industry Press. 2006
2. LI Biyu, Yang Zhenjing. Introduction to Architecture. People Traffic Press. 2009

Course Number: 0002417

Course Title: Introduction to Building Technology

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 1), Undergraduate students major in City Planning (Grade 1)

Prerequisites: None

Evaluation Method: Test

Course Description:

This course provides a solid technological foundation for students majoring in architecture with its aim to make them understand the general picture of related technologies in architectural design. Through the study of this course, students are expected to understand the relationship between architectural design and the technological knowledge of building structure, building construction, building physics and building equipment, as well as the role of this technological knowledge in architectural design. With the introduction to the basic contents of design-related technologies, this course will also analyze the relationship between technologies and architectural design based on certain examples. It is intended to develop students' divergent thinking and make them understanding that technology is a support of architectural design.

Recommended Textbooks/References:

1. WANG Shujing. Introduction to Architectural Technology. China Architecture Industry Press. 2008
2. Architectural Design Data Set 1, 2, 3. Building Industry Press.

Course Number: 0007490

Course Title: Sketch-2

Credit: 3 Total Credit Hours: 48

Students: Undergraduate students major in Architecture (Grade 1), Undergraduate students major in City Planning (Grade 1)

Prerequisites: None

Evaluation Method: Test

Course Description:

Sketch is the basis of all plastic arts. To have modeling ability and aesthetic consciousness is required for architecture-major students, and all of this begins with the training of sketch. Through class teaching and exercises, this course aims at gradually cultivating students' basic modeling abilities and aesthetic consciousness in recognizing shapes, understanding space and expressing their creativities, as well as instructing them to understand and master the basic laws of art form.

Recommended Textbooks/References:

1. Edited by Fine Arts Teaching Material Compilation for National Architecture Colleges. Sketch. Shaanxi People's Fine Arts Press. 2001
2. From Design To Sketch. Zhejiang Academy of Fine Arts Press. 1997

Course Number: 0005994

Course Title: Preliminary Architectural Design-2

Credit: 7.5 Total Credit Hours: 120

Students: Undergraduate students major in Architecture (Grade 1), Undergraduate students major in City Planning (Grade 1)

Prerequisites: Preliminary Architectural Design I-1

Evaluation Method: Test

Course Description:

Through the study of this course, students are expected to develop their preliminary design capability, be able to connect abstract composition concepts with concrete architectural designs, further improve their 3D spatial thinking, and lay a solid foundation for their future study of architectural design. This course mainly teaches: planar composition; three dimensional composition; and architecture review. With abundant pictures exemplifying certain theories in class teaching, this course also focuses on expanding students' thinking patterns as well as cultivating their spirits of discussion, exploration and originality.

Recommended Textbooks/References:

1. TIAN Xuezhe. Architecture Preliminary. China Building Industry Press. 2001
2. PENG Yigang. Architectural Space Composition Theory. China Building Industry Press. 1997

Course Number: 0007494

Course Title: Building Physics-1 (Thermal Engineering)

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Architecture (Grade 2), Undergraduate students major in City Planning (Grade 2)

Prerequisites: Preliminary Architectural Design I-1, I-2

Evaluation Method: Test

Course Description:

This course plays a fundamental role in cultivating the technological basis of students majoring in architecture. Through the study of this course, students are expected to master the principles of architectural environment design and improve their capabilities in the application of these principles, and lay a theoretical foundation for their future design of a building which not only satisfies functional requirements, but also provides a comfortable environment. The main content of this course includes: architectural thermal engineering. The course focuses on teaching students how to accurately use their knowledge of building construction, building materials and so on to finish the physical environment design of various kinds of buildings.

Recommended Textbooks/References:

1. LIU Xiaotu. Building Physics. China Building Industry Press. 2000
2. Ministry of Construction of PRC. Thermal Design Code for Civil Building. 1993

Course Number: 0007497

Course Title: Color Painting-1

Credit: 3 Total Credit Hours: 48

Students: Undergraduate students major in Architecture (Grade 2), Undergraduate students major in City Planning (Grade 2)

Prerequisites: Sketch-1, Sketch-2

Evaluation Method: Test

Course Description:

Color painting and drawing jointly constitutes a complete training course group on basic skills of painting modeling in architecture. The use of color and expression of color are the two main means of painting in this course, and students are required to master certain skills of color painting and develop their appreciation abilities so as to feel and understand shapes and space and finally express their emotions and creativity through the medium of color.

Recommended Textbooks/References:

1. Edited by Fine arts teaching material compilation for national architecture colleges. Gouache. Shanxi People's Fine Arts Press. 2001
2. Landscape Painting. People's Fine Arts Press.1999
3. Still Object. Hebei Fine Arts Press.1997

Course Number: 0006025

Course Title: Architectural Design II-1

Credit: 6 Total Credit Hours: 96

Students: Undergraduate students major in Architecture (Grade 2), Undergraduate students major in City Planning (Grade 2)

Prerequisites: Preliminary Architectural Design I-1, I-2

Evaluation Method: Test

Course Description:

This course can be viewed as a developing stage for students to develop their methods of design and thinking patterns. Through the study of this course, students can further strengthen their training of fundamental skills, gradually get to understand and form their own correct learning methods, working methods and thinking patterns. Moreover, through a series of design training, students are expected to preliminarily develop their capabilities of designing medium-sized buildings, which could lay a basic foundation for their future designs of large or medium-sized buildings. This course also aims at strengthening students' capabilities in following aspects: design of independent small houses; the correct application of structure system; a careful consideration of some technological problems, building details and construction methods; a good understanding of related building economy. The focus of the course is to develop students' capabilities of using architectural theories to guide their designs.

Recommended Textbooks/References:

1. Tianjin University ed. Principles of Public Architecture Design. China Building Industry Press. 2001
2. PENG Yigang. Architectural Space Composition Theory. China Building Industry Press.1983

Course Number: 0007491

Course Title: Principles of Public Building Design -1

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 2)

Prerequisites: Architectural Design I-1, I-2, Architectural Design II-1

Evaluation Method: Test

Course Description:

This course plays an important role in the cultivation of architecture. Through the teaching of the principles of public building design basic knowledge, analyzing the common problem of public buildings, clarifying their universality and regularity, it will lay a good design and theoretical foundation for public building design, and guide students in future public building design to grasp correct design ideas. Through the learning of this course, students will master the progress of architectural design, master the basic principles of architectural design, and will be able to use their knowledge flexibly in design, and improve their ability in applying knowledge. The main contents include: the basic principle of public building design, architectural function, architectural patterns and design and other aspects of knowledge. This course will mainly take the form of lectures, interact with students, arouse their learning initiative, and help to establish the framework of architectural design knowledge.

Recommended Textbooks/References:

1. ZHANG Wenzhong. The Principles of Public Architecture Design (Fourth Edition). China Building Industry Press.2008
2. PENG Yigang. Architectural Space Composition Theory. China Building Industry Press.1983
3. Tongji University, Department of architecture architectural design basis teaching section. Architectural Form Design Base. China Building Industry Press.1981
4. Ashihara Yoshinobu (Japan). The Design of Exterior Space. China Building Industry Press .1985

Course Number: 0007498

Course Title: Color Painting-2

Credit: 3 Total Credit Hours: 48

Students: Undergraduate students major in Architecture (Grade 2), Undergraduate students major in City Planning (Grade 2)

Prerequisites: Sketch-1, Sketch-2

Evaluation Method: Test

Course Description:

Color painting and drawing jointly constitutes a complete training course group on basic skills of painting modeling in architecture. The use of color and expression of color are the two main means of painting in this course, and students are required to master certain skills of color painting and develop their appreciation abilities so as to feel and understand shapes and space and finally express their emotions and creativity through the medium of color.

Recommended Textbooks/References:

1. Edited by Fine arts teaching material compilation for national architecture colleges. Gouache. Shanxi people's fine arts press. 2001

2. Landscape Painting. People's Fine Arts Press.1999
3. Still Object. Hebei Fine Arts Press.1997

Course Number: 0006026

Course Title: Architectural Design II-2

Credit: 6 Total Credit Hours: 96

Students: Undergraduate students major in Architecture (Grade 2), Undergraduate students major in City Planning (Grade 2)

Prerequisites: Preliminary Architectural Design I-1, I-2, Architectural Design II-1

Evaluation Method: Test

Course Description:

As an architectural design course set up for junior students, this course not only helps students learn the basic principles of design, but further strengthens the training of their basic skills in architectural design, assists them to preliminarily master the procedure and methods of architectural design, and enables them with the ability to design medium or small-sized buildings. Particularly, this course will inspire and guide students to think creatively, and help them lay a solid foundation of thinking, knowledge, habit and ability for their designs of medium-sized buildings in the third year. The main content of this course includes: design of medium- and small-sized buildings; principles of architectural design; introduction to the methods of architectural design. This course focuses on teaching students to have a good mastery of learning and working methods of correct architectural design as well as strengthening their spatial concepts in the process of architectural design and cultivating their creative thinking capabilities.

Recommended Textbooks/References:

- 1.BAO Jiasheng, Du Shunbao ed. Public Building Design Basis. Nanjing Institute of Technology Press. 2001
- 2.PENG Yigang. Architectural Space Composition Theory. China Building Industry Press.1983

Course Number: 0005015

Course Title: History of Chinese Architecture

Credit: 3 Total Credit Hours: 48

Students: Undergraduate students major in Architecture (Grade 2)

Prerequisites: Preliminary Architectural Design I-1, I-2; Architectural Design II-1, II-2

Evaluation Method: Test

Course Description:

Through the study of this course, students are expected to review the evolution of Chinese architecture from a historical perspective, clearly understand the different stages of historical study and the limitations of all kinds of conclusions, and apply their knowledge of the classification, composition, decoration and technology of ancient buildings into the designs of contemporary buildings. The main content of this course includes: history of Chinese ancient architecture, history of modern architecture, history of contemporary architecture. The course aims at guiding students to understand the nature of Chinese traditional architecture culture, apply the essence of

Chinese history study into modern designs, and put forward architectural designs with truly Chinese characteristics.

Recommended Textbooks/References:

- 1.PAN Guxi. Chinese Architecture History. China Building Industry Press.2009
2. LIU Dunzhen. Ancient Chinese Architecture History. China Building Industry Press.1984
- 3.LIANG Sicheng. Notes on Construction Rule. China Building Industry Press.1983

Course Number: 0007492

Course Title: Principles of Public Building Design-2

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 3), Undergraduate students major in City Planning (Grade 3)

Prerequisites: Principles of Public Building Design -1

Evaluation Method: Test

Course Description:

This course is a basic compulsory course. It plays an important role in the cultivation of architecture. Through the teaching of the principles of public building design basic knowledge, analyzing the common problem of public buildings, clarifying their universality and regularity, students are required to grasp public building design principles, methods and steps, and can carry out analysis, judgment and combination (emphasis on space, environment, technology) on the design key points of different types of public buildings, and be able to apply principles learned in architectural design, in order to improve their ability in applying knowledge. The main contents include: the basic principle of public building design, architectural space, environment, technology and other aspects of the design knowledge. This course will mainly take the form of lectures, interact with students, arouse their learning initiative, and help to establish the framework of architectural design knowledge.

Recommended Textbooks/References:

- 1.ZHANG Wenzhong. The Principles of Public Architecture Design (Fourth Edition). China Building Industry Press .2008
2. PENG Yigang. Architectural Space Composition Theory. China Building Industry Press.1983
- 3.CHENG Dajin. Architecture: Form, Space And Order (Third Edition).Tianjin University Press. 2008

Course Number: 0007834

Course Title: Building Tectonics -1

Credit: 3 Total Credit Hours: 48

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Preliminary Architectural Design I -1, I -2, Architectural Design II-1, Principles of Public Building Design, Architectural Drawing and Expression

Evaluation Method: Test

Course Description:

This course lays a theoretical foundation for students' future building construction study. Through the study of this course, students are expected to have the basic knowledge of building tectonics design, and master the basic principles of building tectonics as well as the commonly-used construction methods and basic expression methods of construction drawing. The focus of the course is to help students master a great number of the common principles of civil building tectonics design, and instruct them to be able to design the often-used constructions for civil buildings according to actual situations.

Recommended Textbooks/References:

1. YANG Weiju et al . Building Structure Design. China Architecture Industry Press.2005
2. Edited by LIU Zhaoru. Building Construction Design Basis. Science Press.2000

Course Number: 0006027

Course Title: Architectural Design III-1

Credit: 6 Total Credit Hours: 96

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Preliminary Architectural Design I -1, I -2, Architectural Design II-1, Architectural Design II-1, Principles of Public Building Design-1

Evaluation Method: Test

Course Description:

Through the study of this course, students are expected to make great progress in designs of large- and medium-sized buildings, methods of spatial composition, and analysis of complex environmental factors, as well as lay a good foundation for their designs of large- and medium-sized buildings in the fourth year. The main content of this course includes: design of medium-sized public buildings; principles of medium-sized public building design; developing trends of large-sized public buildings in both China and other countries; and current building code. After learning this course, students will be able to develop their abilities in solving some functional problems of medium-sized buildings, have a good understanding of buildings' technical problems, and master some methods of dealing with spatial arts.

Recommended Textbooks/References:

1. Architectural Design Data Set. China Building Industry Press.
2. PENG Yigang. Architectural Space Composition Theory. China Building Industry Press.1983

Course Number: 0007493

Course Title: History of World Architecture (Chinese/English)

Credit: 5.5 Total Credit Hours: 88

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Introduction to Architectural Design, Introduction to Building Technology, History of Chinese Architecture

Evaluation Method: Test

Course Description:

This course plays an important role in cultivating students majoring in architecture. Through the

study of this course, students are expected to learn the various influences that natural conditions, ecological environment, culture types, society, technology and economy have on architecture development, master the rules and trends of architecture development, and learn the evolution and influences of modern architecture schools. The main content of this course includes: history of ancient foreign architecture, history of modern foreign architecture, and the trend of contemporary architecture thoughts. These could help students improve their comprehensive capabilities from conception to design, from review to analysis and from abstract theories to practical application. Moreover, students could hopefully digest some useful information from historical examples and apply them in their future research, investigation and architectural designs.

Recommended Textbooks/References:

1. CHEN Zhihua. Foreign Architecture History. China Building Industry Press. 2006
2. Foreign Architecture History Textbook Compiling Group. Foreign Modern Architectural History. China Building Industry Press. 2006

Course Number: 0006028

Course Title: Architectural Design III-1

Credit: 6 Total Credit Hours: 96

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Architectural Design III-1

Evaluation Method: Test

Course Description:

This course is very important for students in terms of improving their design methods and thinking patterns. Students are expected to further strengthen their training in basic skills and equip themselves with the capabilities of designing medium-sized buildings. Moreover, this course is very helpful for students' comprehensive basic skill training and will assist them to lay a good foundation for the design of large- and medium-sized buildings in the fourth year. The main content of this course includes: design of medium-sized buildings; application of structural system; technical problems and building details; related architectural economics; and relevant design regulation.

Recommended Textbooks/References:

1. Architectural Design Data Set. China Building Industry Press.
2. PENG Yigang. Architectural Space Composition Theory. China Building Industry Press. 1983

Course Number: 0007495

Course Title: Building Physics-2 (Lighting)

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Preliminary Architectural Design I-1, II-2

Evaluation Method: Test

Course Description:

This course plays a fundamental role in cultivating the technological basis of the students

majoring in architecture. Through the study of this course, students are expected to master the principles of architectural lighting design and improve their capabilities in applying these principles into practice, and lay a theoretical foundation for their future design of a building which not only satisfies the functional requirements, but also provides an excellent lighting environment. The main content of this course includes: architectural lighting designs. The course focuses on teaching students how to accurately use their knowledge of building construction, building materials and so on to finish the lighting environment design of a building.

Recommended Textbooks/References:

1. LIU Jiaping. Building Physics. China Building Industry Press. 2007
2. Ministry of Construction of PRC. Standard For Lighting Design Of Buildings.2001.

Course Number: 0007496

Course Title: Building Physics-3 (Acoustic)

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Architectural Design III-1, III-2, Building Tectonics-1

Evaluation Method: Open-book examination

Course Description:

This course plays a fundamental role in cultivating the technological basis of the students majoring in architecture. Through the study of this course, students are expected to master the principles of architecture acoustic design and improve their capabilities in applying these principles into practice, and lay a theoretical foundation for their future design of a building which not only satisfies the functional requirements, but also provides an excellent acoustic environment. The main content of this course includes: including the choice of hall size and volume, the optimal reverberation time and its frequency characteristics, and the appropriate combination of the sound-absorbing material, and designing reflecting surface to obtain reasonable recent times reflections. In addition, we must consider the relationship between the acoustic parameters indoor and subjective heard effect, namely the subjective assessment of sound quality and architecture acoustic measurements. Noise is related to the noise intensity in addition, noise spectral characteristics, the duration of repeated times, and human auditory characteristics, psychological, physiological and other factors. It is another important aspect of architectural acoustics that ensuring the building interior to achieve a certain standard of quiet by controlling of building environmental noise

Recommended Textbooks/References:

- 1.WANG Jiqing. Tone Quality Design of Auditorium. Tianjin Science and Technology Press.2001
- 2.Bernak. Concert Halls & Opera Houses. Tongji University Press. 2002
- 3.XIANG Duanqi. The Acoustics Decoration Design of Performing Arts Architecture. China Machinery Industry Press. 2004

Course Number: 0000220

Course Title: Building Equipment

Credit: 4 Total Credit Hours: 64

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Building Tectonics-1, Building Physics-1, Building Physics-2, Building Physics-3

Evaluation Method: Open-book examination

Course Description:

This course plays a fundamental role in cultivating the technological basis of the students majoring in architecture. Through the study of this course, students can understand the type of work related to the construction drawings, improve their ability of solving varied technical problems during design and construction. At the same time, this course will lay the foundation for achieving the basic requirements of registered architects for building technology. Major topics include: fluid mechanics and heat transfer basis, water supply and sewerage works, heating, ventilation and air conditioning, building power distribution.

Recommended Textbooks/References:

1. GAO Mingyuan. Building Facilities Engineering (third Edition). China Architecture & Building Press. 2006

Course Number: 0003495

Course Title: Urban Design

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Introduction to Urban Design

Evaluation Method: Test

Course Description:

Urban design is a professional course for students majoring in architecture. The purpose is, through the completion of the design of a specific environment area in a city, to understand the formation of urban space, the basic elements of urban space, the mutual relations between the elements, the role of urban spatial form for urban functions, the establishment of three-dimensional urban physical environment and the generalized concept of architecture. Students will gradually master the basic methods of urban design, and explain the program concept and design process of thinking through correct expression. The task of the course is to select specific areas or site of a city and organize students to carry out research and analysis, and find out the design problem, to form design ideas from a multi-perspective and multi-comparison, and finally complete the expression of design ideas.

Recommended Textbooks/References:

1. WANG Jianguo. Urban Design. Southeast University Press. 1999
2. JIN Guangjun. Diagram of Urban Design. Heilongjiang Science and Technology Press. 1999

Course Number: 0007500

Course Title: Residential District Planning and Residential Building Design

Credit: 4.5 Total Credit Hours: 72

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Architectural Design III-1, -2, Principles of Urban Planning-2

Evaluation Method: Test

Course Description:

This course is a compulsory subject, which teach students professional knowledge and basic skills in building cluster design. Through learning this course, students should be able to establish a group design concept, master the basic content of residential planning and housing design, learn the basic techniques residential planning and design. Through a 10 hectares residential planning and design, students are required to understand the theory, policy, laws and regulations of residential district planning and housing design, to improve their ability to work independently and their integrated application ability, and can undertake residential district planning and housing design.

Recommended Textbooks/References:

1. LI Dehua. The Principles of Urban Planning. China Building Industry Press.2001
- 2.ZHU Changlian. Principles of Residential Building Design. China Building Industry Press.1999

Course Number: 0006030

Course Title: Architectural Design IV-2

Credit: 6 Total Credit Hours: 96

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Urban Design, Residential District Planning and Residential Building Design, Principles of Public Buildings Design-1, -2, Building Equipment

Evaluation Method: Test

Course Description:

As an architectural design course for senior students, it is intended to teach students the methods of designing multi-functional large-sized public buildings. Students are expected to learn the methods of spatial composition of long-span, multi-functional and tall buildings, develop their consciousness of environmental design and urban design, select the correct structural systems, and apply relevant architectural design disciplines like fire control and evacuation. The main content of this course includes: design of tall buildings, horizontal and vertical combination of multi-functions, structural systems of tall buildings, and safe evacuation and fire control of tall buildings. This course will develop students' independent thinking capabilities as well as their comprehensive capabilities in dealing with contradictions among functions, technology and arts.

Recommended Textbooks/References:

1. Principles of Public Architecture Design. China Building Industry Press.2001
2. Structure Selection. China Building Industry Press .2000
3. Architectural Design Data Set. China Building Industry Press.
4. Ministry of Public Security of the People's Republic of China. Code for Fire Protection Design Of Tall Buildings. China Plan Publishing.1998

Course Number: 0004552

Course Title: Introduction to Ecologic and Sustainable Architecture

Credit: 6 Total Credit Hours: 96

Students: Undergraduate students major in Architecture (Grade 1), Undergraduate students major in City Planning (Grade 1)

Prerequisites: Preliminary Architectural Design I-1

Evaluation Method: Test

Course Description:

This course aims at guiding students to construct a consciousness of ecological and sustainable architecture, and to actively participate in innovation practices related to ecological and sustainable architecture in their future study of architectural design, and to realize the gap between China and developed countries, and thus understand the responsibilities that they are facing. With abundant references of pictures, this course will introduce the history of the development, the present situation and the trends of ecological and sustainable architecture, and introduce its basic concepts, principles, basic strategies and means as well as the application of other disciplines in architecture.

Recommended Textbooks/References:

- 1.XIA Yun. Ecological and Sustainable Architecture. China Building Industry Press.2002
- 2.Tsinghua University. Building Ecological Design Strategy. China Plan Publishing.2000
- 3.QIAN Yi. Environmental Protection And Sustainable Development. Higher Education Press.

Course Number: 0007514

Course Title: The Principles of Architectural Composition and its Design -1

Credit: 1.5 Total Credit Hours: 24

Students: Undergraduate students major in Architecture (Grade 2), Undergraduate students major in City Planning (Grade 2)

Prerequisites: Preliminary Architectural Design I-1, I-2

Evaluation Method: Design Report

Course Description:

Architectural composition training is an important means for cultivating form making ability, aesthetic ability and comprehensive abilities of architects. The purpose of this course and its tasks are: first, expand students' imagination on architectural form and space; second, learn and master the visual or aesthetic rules of architectural form design; third, explore new ideas and the possibility of multiple solution; fourth, improve their modeling and aesthetic ability. This course focuses on architectural composition and form making, through targeted teaching and design training to enable students to master the basic principles and design methods of architectural form. The key points of teaching are the perception, understanding and analysis of form composition, the recognition of the basic laws of form making, and the ability to create form under certain condition. The difficulty of teaching is to understand and grasp the abstractive and creative thinking method of form composition.

Recommended Textbooks/References:

1. DAI Jian. Analysis of Architectural Form. Tianjin: Tinjing University Press. 2002
2. Kobayashi Katsuhiro (Japan). Architectural Composition Techniques. Beijing: China Building

Industry Press. 1999

3. ZHONG Dekun. Architectural Composition. Beijing: China Building Industry Press. 2005

Course Number: 0007515

Course Title: The Principles of Architectural Composition and Its Design -2

Credit: 1.5 Total Credit Hours: 24

Students: Undergraduate students major in Architecture (Grade 2), Undergraduate students major in City Planning (Grade 2)

Prerequisites: Preliminary Architectural Design I-1, I-2, the Principles of Architectural Composition and its Design-2

Evaluation Method: Design Report

Course Description:

This course is the continuation of The Principles of Architectural Composition and Its Design -1. It continues to focus on architectural composition or architectural form making, through targeted teaching and design training to enable students to master the basic principles and design methods of architectural form. Specific content includes: the generation logic of architectural form making; architectural form making principles and methods; the analysis of master works. Design training selects the topics of design courses in the second semester of second year, such as architectural office design or kindergarten design, which are the medium of the training. Course requirements are consistent with the Principles of Architectural Composition and its Design -1, while the difficulty will be increased, more attention will be given to architectural form logic and concept. Finally, the course will require students to complete a design report which contains the diagrams, models and text summary of each step of the training.

Recommended Textbooks/References:

1. DAI Jian. Analysis of Architectural Form. Tianjin: Tinjing University Press. 2002
2. Kobayashi Katsuhiko (Japan). Architectural Composition Techniques. Beijing: China Building Industry Press. 1999
3. ZHONG Dekun. Architectural Composition. Beijing: China Building Industry Press. 2005

Course Number: 0004548

Course Title: Architectural Environment Psychology

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Architectural Design Courses

Evaluation Method: Test

Course Description:

This course is intended to introduce the relevant principles of human behaviors and psychology as well as their applications in architectural designs. Through the study of this course, students are expected to preliminarily master the basic knowledge of behavioral psychology, correctly understand the basic principles of behavioral psychology, learn the scopes of application and preconditions of some commonly-used laws and principles in behavioral psychology, master the

basic principles of behavioral psychology closely-related to architectural design, and finally be able to apply these principles into practical architectural designs in a scientific and artistic way.

Recommended Textbooks/References:

1. LIN Yulian, Hu Zhengfan. Environmental Psychology. China Architecture & Building Press. 2006

Course Number: 0007516

Course Title: Building Codes -1

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Principles of Public Building Design -1, -2, Preliminary Architectural Design I-1, I-2, Architectural Design II-1, Introduction to Architectural Design, Introduction to Building Technology

Evaluation Method: Test

Course Description:

This course focuses on teaching architecture-related codes, namely, the laws for architecture and building codes by the State. In class teaching, the codes for architectural design will be emphasized. Through the study of this course, students are expected to have a comprehensive understanding of architectural design and lay a solid foundation for their future architectural trainings. The class teaching will attach special importance to the association with the courses of public building design as well as the combination of theory with practice.

Recommended Textbooks/References:

1. Code for Design of Civil Buildings. JGJ37-87 revised
2. Code for Fire Protection Design of Buildings. GBJ16-87
3. Design Code for Garage. JGJ100-98

Course Number: 0007835

Course Title: Building Tectonics -2

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Building Tectonics -1, Building Structure and Selection -1

Evaluation Method: Test

Course Description:

This course lays a theoretical foundation for students' future building construction design. It will help them understand the common technology design problems and construction methods in the architectural design of industrial buildings, high-rise buildings and long-span buildings as well as instructing them to know the construction of some special decoration and the functions and specifications of some typical architectural decorative materials. The main content of this course includes: construction of industrial buildings; construction of large-sized public buildings; market research of home decorating materials.

Recommended Textbooks/References:

1. YANG Weiju et al . Building Structure Design. China Architecture Industry Press.2005
2. Edited by LIU Zhaoru. Building Construction Design Basis. Science Press.2000

Course Number: 0007517

Course Title: Building Tectonics -2

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Building Tectonics -1; Building Structure and Selection -1

Evaluation Method: Test

Course Description:

According to the students“-2” period building construction course requirements, with the completion of follow-up, adapted to the detail node structure design, understanding of building space design and detail node layout to coordinate the relationship between understanding technology design, application effect, promote the construction design ability and depth, as the next step in curriculum design, the design institute or firm of professional practice to do the preliminary preparation. On the basis of the national probation architect examination subjects related to the content requirements, students should complete one of the following tasks: Master of stair and detail design; Master of large-span space building rooftop detail design; master the underground space (including the sunken square) waterproof structure design; understand the roof plane, balcony detail design; understand all kinds of curtain wall design and detail; understanding of materials and key parts decoration detail design.

Recommended Textbooks/References:

1. Yang Weiju et al. “ Construction design” (in Chinese). Construction press, .2005years07months.
2. Li Biyu et al. “Architecture”. Architecture & Building Press,1998June.
3. Architectural Design Information Collection edited. “Architectural structure design data set. Architecture & Building Press,1990 06.
4. Architectural Design Information Collection edited. “Architectural design information set”. Architecture & Building Press,1990 06.
5. J.G reenland, et al. “A summer cloud Architectural Science”. Shaanxi science and Technology Press.

Course Number: 0004558

Course Title: Construction Engineering Economic

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Architectural design III – 1, Building construction - 1

Evaluation Method: Written examination and work at ordinary times

Course Description:

The course of the main teaching purpose is to make the students master the construction engineering economy and building enterprise management of the basic theory, basic knowledge and basic methods, know the modern enterprise management system and modern management

methods and means, have basic engineering economic analysis ability and the construction enterprise management ability.

This course teaching content including construction engineering economy and building enterprise management two parts. The construction ministry of economic affairs is divided into teaching, the construction enterprise management in part by the teacher recommend bibliography, the student to study independently. Construction engineering economy teaching content including: cash flow structure and capital time value, engineering project investment structure, project economic effect evaluation method, uncertainty analysis, financial analysis, value engineering, etc.

Recommended Textbooks/References:

1. Liu XiaoJun editor. "engineering economics". China architecture & building press. January 2008.
2. Shao YingGong editor. "engineering economics (the fourth edition)" tongji university press. September 2009.
3. Huang ShiCheng. Construction engineering economy and enterprise management (third edition). China building industry press. 2007.

Course Number: 0007518

Course Title: History of Landscape Architecture

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: History of Chinese Architecture, History of World Architecture(Chinese/English), Principles of Urban Planning-2

Evaluation Method: Test

Course Description:

Through garden history studies, students will master the garden development process, the characteristic and the classification of garden art, and the differences and mutual influence between Chinese and foreign landscape. And this course will let students know the famous landscape architecture and art of the development history of garden, widen the range of knowledge, absorb the knowledge of varied designs, and provide a good foundation for creating modern gardens. Course content includes Chinese classical garden history, landscape development and evolution in world's major countries and regions, landscape gardening practical experience, the heritage garden theories.

Recommended Textbooks/References:

1. ZHOU Weiquan. History of Chinese Classical Garden (Second Edition). Tsinghua University Press.1999
2. CHEN Zhi. Notes of Gardening. China Architecture Industry Press. 1981
3. LIU Dunzhen. The Classical Gardens Of Suzhou. China Architecture Industry Press. 1979
4. TONG Jun. Gardening History. China Building Industry Press .1983

Course Number: 0007519

Course Title: Site Design

Credit: 2.5 Total Credit Hours: 40

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Preliminary Architectural Design I-1, I-2, Architectural Design II-1, II-2

Evaluation Method: Test

Course Description:

Site design is a comprehensive basic engineering technical course founded on a multi-disciplinary and multi-disciplinary basis. The purpose of this course is to broaden students' understanding of relevant knowledge, develop their comprehensive analysis, problem-solving skills, and provide the basic knowledge for site design and train the basic skills for general site design. The major content of this course includes: 1. site design conditions: analysis of natural conditions, construction conditions and requirements of urban planning; 2. general site layout: the mutual spatial relationship among buildings, structures and other engineering facilities within the site; 3, traffic organizations: rational organization of the venue traffic flow line, to avoid the interference between different flows of people and traffic, and, depending on the location of the built structures, adjust the overall plan of building layout.

Recommended Textbooks/References:

1. ZHAO Xiaoguang. Site Design of Civil Architecture. China Building Industry Press. 2006
2. YAN Han. Site Design of Architecture. China Building Industry Press. 2010.

Course Number: 0007520

Course Title: Building Codes -2

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Principles of Public Building Design -1, -2, Preliminary Architectural Design I-1, I-2, Architectural Design II-1 ,II-2, Introduction to Architectural Design, Introduction to Building Technology

Evaluation Method: Test

Course Description:

This course focuses on teaching architecture-related codes, namely, the laws for architecture and building codes by the State. In class teaching, the codes for architectural design will be emphasized. Through the study of this course, students are expected to have a comprehensive understanding of architectural design and lay a solid foundation for their future architectural trainings. The class teaching will attach special importance to the association with the courses of public building design as well as the combination of theory with practice.

Recommended Textbooks/References:

1. Code for Design of Civil Buildings. JGJ37-87 revised
2. Code for Fire Protection Design of Buildings. GBJ16-87
3. Design Code for Garage. JGJ100-98

Course Number: 0007521

Course Title: The Principle of Residential Building Design

Credit: 1.5 Total Credit Hours: 24

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Architecture Design Courses Group, Introduction to Building Technology

Evaluation Method: Test

Course Description:

The Principle of Residential Building Design is a professional course of a strong theoretical basis. This course takes the contemporary scientific theories of human environment as the core, and emphasizes on the teaching of the basic principles of residential building design. And through the analysis of excellent engineering examples at home and abroad, the course inspires and teach students research methods that are deeply related to life and social practice. The content of teaching focus on residential buildings in towns and cities, and intend to fully summarize the basic design elements of modern residential buildings. So that students have the ability to design urban residential buildings adapting to the development of our country at this stage.

Recommended Textbooks/References:

1. ZHU Changlian. Principles For Residential Building Design. China Architecture & Building Press. 1999
2. Code for Residential Design. GB 50096-1999,2003.

Course Number: 0007522

Course Title: Indoor Environmental Design and Its Principles

Credit: 2.5 Total Credit Hours: 40

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Architecture Foundation Course

Evaluation Method: Test

Course Description:

As a specialized course on technology for students majoring in architecture, indoor environmental design provides them with an opportunity to further their study in architectural design. Focusing on both the teaching of the basic theories and the practice of indoor environmental design, this course aims at helping students understand certain concepts, development, styles and genres of indoor environmental design, and master the methods of space design, decoration design and furnishing design in this area. Moreover, through the tutoring of students' designs over the entire process (from design conception to construction drawing), this course is also intended to improve their artistic cultivation, creativity and rendering level so that the overall quality of students can also be improved.

Recommended Textbooks/References:

1. ZHANG Qiman. Data Set of Interior Design. China Building Industry Press.1994

Course Number: 0007523

Course Title: The Vocational Education of Architects-1

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Building Technology Courses, Architectural Design Courses, Basic Theory and Design Principle of Architecture

Evaluation Method: Assignments and Open-book Exam

Course Description:

This course requires students to fully understand architect occupation system, construction procedure, the protection of intellectual property rights and the laws, regulations and mechanisms of building management; so that students can know the scope, operation mode and rules of architects' business; cultivate students' occupation cognition, team spirit, so that they can shoulder the responsibility, establish occupation ideal. This course will introduce each stage and the process and related management mechanism during construction process in our country and foreign countries. It will emphasize on architects' practice system, including our registered architect system, the rights and obligations of registered architects, and the ethics and legal liability of survey and design industry. The course is aimed at students' behavior standard, morals, ideal education before they enter architectural practice. The difficulty lies in the existence of a certain distance for students to understand real operation.

Recommended Textbooks/References:

1. James R Franklin (USA), translated by SONG Xiujuan. A Practical Handbook for Architectural Occupation. Beijing: Mechanical Industry Press. 2002
2. Bock Ralph (USA), translated by YUE Changnian, CAO Huiyu. Engineering Contracts and Legal Environment: for engineers and architects. Water Conservancy and Hydropower Press. 2006
3. JIANG Yong. Functional System of Architects and Construction Practice. Beijing: Tsinghua University Press. 2005

Course Number: 0007524

Course Title: The Vocational Education of Architects-2

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 5)

Prerequisites: Building Technology Courses, Architectural Design Courses, Basic Theory and Design Principle of Architecture, Architects Practice, The Vocational Education of Architects-1

Evaluation Method: Training Assignments

Course Description:

In respect of the specific requirements for architect occupation and registration examination, this intends to strengthen the teaching and training in each section. It will conduct teaching and training on architecture fast design skill, site design skills building economy, materials, and architectural construction. This course will invite chief engineers or senior engineers who work in state-owned large and medium-sized architectural design institute and have signed for the cooperation in practical teaching to provide lectures on key issues. Mainly includes the following topics: Architecture fast design, site design, and architectural construction, building structure,

building materials, and building economy. Topic training is the major form of teaching while lecture as a supplement. Each section must have more than two training assignments.

Recommended Textbooks/References:

1. First Class Registered Architect Exam Guide Series of Reference Books, China Building Industry Press.
2. JIANG Yong. Functional System of Architects and Construction Practice. Beijing: Tsinghua University Press. 2005.

Course Number: 0007534

Course Title: Introduction to Urban Planning

Credit: 1 Total Credit Hours: 16

Students: The first year undergraduate students (urban planning)

Prerequisites: None

Evaluation Method: General Assessment

Course Description:

This course is a school of urban and rural planning professional disciplines basic course is one of the urban planning students to learn important basic courses. For the lower grades, the entry of students into the field of professional learning courses, a correct understanding of professional guiding students to develop personal development plans of great significance. Through the course of the study, a preliminary understanding of the formation of cities, the development process; learn the basic concepts of urban planning to understand the background knowledge of professionals in urban planning; to understand the composition and content of the urban planning discipline system; understand the characteristics of the disciplines of urban planning and the areas covered, and to understand the city of urban problems, familiar with the urban development, background knowledge, and establish the concept of urban planning; to understand the relationship between urban planning and its related disciplines, familiar with the composition of the urban planning discipline system; the ability of students to observe the problem.

Recommended Textbooks/References:

None

Course Number: 0007672

Course Title: Planning and Design-1

Credit:6 Total Credit Hours: 96

Students: The third year undergraduate students (urban planning)

Prerequisites: Urban Planning

Evaluation Method: General Assessment

Course Description:

This course is a three-year planning and design courses, Basic and required students to design methods and the thinking stage of development course. The main task is to guide students into the planning and design of the door. While learning the basic theory of design to further strengthen the basic training, the students begin to understand and gradually formed its own right learning

method, working methods and ways of thinking. Through a series of design training, so that students initially have the capacity of the Planning and design, planning design of laying the foundation for the fourth grade. The above requirements would prevail in the following specific teaching.

Recommended Textbooks/References:

1.Li Dehua, “Urban Planning”, China Architectural Industry Press Publishing

Course Number: 0007535

Course Title: Principle of Urban Planning-1

Credit: 3 Total Credit Hours: 48

Students: The third year undergraduate students (urban planning)

Prerequisites: None

Evaluation Method: Exam

Course Description:

This course is on the basic principles of urban planning, which is the key and core course covering the theoretical and professional aspects of urban planning level, and acts as a connecting link between courses in the entire curriculum system.

Through study on urbans and urbanization, urban planning concept and development, urban planning system, values in urban planning, planning determinations and analysis, types of planning and preparation of plans, land classification and its suitability analysis, regional policy planning, urban master planning, transport and road network system, the students can understand the specific work in urban master plan, the basic principles of planning theory. Knowledge can be obtained including the basic methods and techniques on the comprehensive analysis and investigation, forecasting, ability analysis and the planning. These are the basis and preparation for the subsequent planning and design courses especially the overall planning and design course.

Recommended Textbooks/References:

1 .WU Zhiqiang, LI Dehua. editor in chief. Principles of Urban Planning(4th Edition). China architecture &building press, 2010

Course Number: 0007530

Course Title: History of Urban Development in and out of China

Credit: 3 Total Credit Hours: 48

Students: The third year undergraduate students (urban planning), The fourth year undergraduate students (architecture)

Prerequisites: None

Evaluation Method: Exam (urban planning), General Assessment(architecture)

Course Description:

The theories on urban development and urban planning history in China and the world cities are introduced in this course. The students are expected to understand the history of China and the world cities development, the features and inherent law of cities development through the lectures and practices. Moreover, they need correctly understand and handling the relationship between

cities' cultural heritages and urban development. Our objective is to enhance students' professional quality. Our learning contents include history of city planning of the western countries and China. We will introduce city origin, backgrounds of times, features, supporting theories of them in each period. And comparative analysis will be carry out about city types, road system, commercial space, residential area and so on. Through comparative analysis of urban planning in some typical counties such as France, Italy, America, Japan, useful elements are refined to urban planning now for students.

Recommended Textbooks/References:

1. DONG Jianhong. History of China urban planning (third Edition). China building Industry Press, 2007
2. SHEN Yulin. History of foreign urban planning. China building Industry Press, 2007
3. Lewis Mumford. The City in History, China building Industry Press, 2005

Course Number: 0007538

Course Title: Urban Landscape Design- 1

Credit: 3 Total Credit Hours: 48

Students: The third year undergraduate students (urban planning)

Prerequisites: Theory and History of Landscape Architecture

Evaluation Method: General Assessment

Course Description:

This course is a professional course of city planning. In this course, students are to know the basic theory of city landscape design, to grasp the method of designing city landscape of different scale and use, and to practice common method of communication and expression of design.

Recommended Textbooks/References:

1. Liu Binyi, Modern Landscape Planning & Design, Southeast China University Press, 2005.
2. Clare Cooper Marcus, Carolyn Francis, People Places, Design Guidelines for Urban Open Space, China Architecture & Industry Press, 2001.

Course Number: 0007539

Course Title: Planning and Design -2

Credit: 6 Total Credit Hours:96

Students: The third year undergraduate students (urban planning)

Prerequisites: Principles of urban planning

Evaluation Method: General Assessment

Course Description:

This course is the planning and design of the third grade class, Basic and required course, students design methods and ideas of an important stage of development courses. The main task is to guide students into the planning and design of the door. While learning the basic design theory, and further strengthen the basic training, the students begin to understand the gradual formation of the correct method of learning, working methods and ways of thinking. Training through a series of design, so that students initially have the ability to design planning program, laying the foundation

for the fourth grade planning design. The above requirements will run through into the following specific teaching.

Recommended Textbooks/References:

1. Liu Binyi, Modern Landscape Planning & Design, Southeast China University Press, 2005.
2. Clare Cooper Marcus, Carolyn Francis, People Places, Design Guidelines for Urban Open Space, China Architecture & Industry Press, 2001.

Course Number: 0007536

Course Title: Principle of Urban Planning-2

Credit: 2 Total Credit Hours: 32

Students: The third year undergraduate students (urban planning), The fourth year undergraduate students (architecture)

Prerequisites: Principle of Urban Planning-1

Evaluation Method: Exam

Course Description:

This course is on the basic principles of urban planning, which is the key and core course covering the theoretical and professional aspects of urban planning level, and acts as a connecting link between courses in the entire curriculum system.

Through study on regulatory plan, residential area and urban design etc., understand the basic knowledge of urban planning, grasp the principle and method of regulatory plan, residential communities and urban design etc. And have some knowledge and understanding to transportation and road network system, ecological and environmental system, infrastructure system etc., can master the ability of using urban planning theory knowledge and the comprehensive analysis, and master the basic method and technology of planning, to preparation for the follow-up course of planning and design, especially regulatory plan and residential communities plan and design.

Recommended Textbooks/References:

1. WU Zhiqiang, LI Dehua, editor in chief. Principles of Urban Planning(4th Edition). Beijing: China Architecture & Building Press, 2010
2. TAN Zongbo, Principles of Urban Planning, Beijing: Tsinghua University Press, 2007
3. Tongji UNIVERSITY etc. Regulatory Plan, Beijing: China Architecture & Building Press, 2011

Course Number:0007543

Course Title: Residential Area Planning

Credit: 4 Total Credit Hours: 64

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Principle of Urban Planning etc.

Evaluation Method: General Assessment

Course Description:

This course belongs to the basic and obligatory course, is the main course in urban planning & design profession, for training student groups to obtain urban planning design skills.

Through the learning of this course, students should be able to establish the concept of group design, and master the basic content of the residential area planning, to learn the basic techniques to residential area planning. Through the planning to 10 hectares or so the size of the residential communities, understand the Residential Area planning design theory, policies, laws and regulations, improve the independent working ability and comprehensive application ability, able to conduct residential Area planning and design.

Recommended Textbooks/References:

1. Residential Area Planning and Design, ZHUJIAJIN, Beijing: China architecture & building press, 2011
2. Urban residential planning principle, Zhoujian, Shanghai: Tongji University Press, 1999

Course Number: 0007537

Course Title: Residential building Design

Credit: 3 Total Credit Hours: 48

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Public architecture design

Evaluation Method: General Assessment

Course Description:

This course is a compulsory course arranged after the public building design which was learned at the second grade. It's also a main course of the urban planning major.

The course enables students to understand the planning features and its architectural design method of the aggregative houses. Students will have the ability to design an aggregative house which fit with the urban continuous development. And that will lay a good foundation for their future practice.

The course aims primarily to improve the students' abilities in design and solving problems. And enable students to master the basic knowledge and design method of the aggregative houses through learning and practice.

Recommended Textbooks/References:

1. ZHAO Xiaolong. Residential building Design Metallurgy Press. (first Edition), 2011

Course Number: 0004503

Course Title: Urban Geographic Information Systems

Credit: 2 Total Credit Hours: 32

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Computer Aided Design (CAD)

Evaluation Method: Exam

Course Description:

A GIS provides functionality to capture, store, query, analyze, display and output geographic information. GIS technology has broad applications in the natural and social sciences, humanities, environmental studies, engineering, and management. It is gaining popularity in the recent years in the field of the built environment including rural and urban planning. The aim of this module is to

teach students the basic concepts and components of a GIS. It also introduces the essential skills of spatial data management, editing, analysis, and visualization through the use of the ESRI ArcGIS software package. Upon completion of this course, students should be able to conduct basic operations of a GIS such as data collection, editing, conversion, and mapping, as well as spatial analysis, 3D analysis, dereferencing, geocoding and a number of other GIS modeling techniques. This course also introduces a few well selected cases of GIS application in urban planning decision-making. The strength of this course lies on the combination of the theoretical lecturing and self-practice.

Recommended Textbooks/References:

1. CHI Jian, Mastering ArcGIS Geographic Information Systems, Tsinghuan University Press, 2011
2. TANG Guoan and YANG Xin, Spatial Analysis Guidelines for Geographic Urban Systems, Science Press, 2010
3. Maribeth Price, Mastering ArcGIS, Fourth Edition, Publishing House of Electronics Industry, 2009
4. WU Jing, LI Haitao and HE Bi, ArcGIS 9.3 Desktop Geographic Information Systems Application, Tsinghuan University Press, 2011

Course Number: 0007540

Course Title: Planning of Civil Engineering

Credit: 2 Total Credit Hours: 32

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Principle of Urban Planning

Evaluation Method: General Assessment

Course Description:

Our objective is not only to teach students to understand basic knowledge, working principle, position in the urban planning about planning of civil engineering in this course. The students are expected to grasp design capacity of planning of civil engineering and comprehensive coordination ability in each special planning of urban planning. Combining actual situation and demand in urban planning, we will teach students to understand the urban water supply and drainage system, power engineering system, heat supply engineering system, gas supply engineering system, disaster prevention and safety planning, environmental health planning, urban engineering pipeline comprehensive planning integrated and comprehensively. And the students are taught to understand the principles, methods and relationship in the site selection, arrangement and management of pipeline comprehensive system.

Recommended Textbooks/References:

1. DaiShenzhi. Planning of Civil Engineering (second Edition). China building Industry Press, 2008

Course Number: 0004466

Course Title: Introduction to Urban Design

Credit: 1 Total Credit Hours: 16

Students: The fourth year undergraduate students (urban planning), The first year undergraduate

Students (architecture)

Prerequisites: Design, attendance, at ordinary times, and other comprehensive become performance

Evaluation Method: Exam (urban planning), General Assessment (architecture)

Course Description:

This course of the urban planning profession in important course, demand the students master the basic concept of urban design, urban image five elements; Understanding of the urban design three theory: the graph theory, the relationship between contact theory and place theory, master of urban design method of different places. Students should know the basic concept of urban design, theory, design methods and case analysis; Urban design case of preliminary analysis and evaluation.

Recommended Textbooks/References:

1. The E.D bacon, HuangFu compartments, ZhuQi compiled, "urban design" (revised edition), Beijing: China architecture & building press, 2003
2. (the United States) S, grant the Nebuchadnezzar, Zhang Zhe translation, the design of city
3. Environment ethics, Shenyang, Liaoning, People's Publishing House, 1995 3. Xu Sishu Zhou Wenhua, Urban Design: an Introduction, Beijing: China architecture & building press, 1991
4. The ZouDeCi, Urban Design Introduction: Concept, Thinking, Methods Practice. Beijing: China architecture & building press 2003
5. FengJiang (Urban Design of Latitude , Nanjing, Jiangsu Science and Technology Publishing House, 2005

Course Number: 0007542

Course Title: Urban Ecological and Environmental Conservation (Chinese/English)

Credit: 1 Total Credit Hours: 16

Students: The fourth year undergraduate students (urban planning, architecture)

Prerequisites: Design, attendance, at ordinary times, and other comprehensive become performance

Evaluation Method: Exam (urban planning), General Assessment (architecture)

Course Description:

This course is designed to introduce students systematically an integral form of urban ecology and urban environment, the basic concepts, theories and urban residents, and the ecology in urban planning and architectural design. This course tasks require students to take on the city's ecological environment system's way of thinking, holistic and integrated view by learning to master the basic theory and application of the principles of ecology and ecological design; exercise students problem; students from the connotation of sustainable urban development, urban planning, construction and management to establish awareness into each of the socio-economic development and ecological environment construction coordination, urban ecology theory as a guide for urban planning and design, to realize the purpose of the urban ecosystem homeostasis. Teaching to take the combination of theory and case studies, focusing on the composition of the urban ecosystem, influencing factors, the mechanisms that regulate the planning and design as well as the sustainable development of the urban population, urban disaster prevention, green building, urban area and urban ecological to learn the principles of social applications integrated

explain.

Recommended Textbooks/References:

1. Yang Xiaobo, Wu Shu, urban ecology, Science Press, September 2006
2. Zou Dongsheng, Zhao Yunlin, Urban Ecology, Science Press, August 2005
3. Kevin Gaston, Urban Ecology, Cambridge University Press, 2010
4. John Marzluff et al, Urban Ecology: An International Perspective on the Interaction between Humans and Nature, Springer 2008
5. Yang Xiaobo editor, urban ecology classic case and experimental guidance, Science Press, May 2008

Course Number: 0007544

Course Title: Regulatory Detailed Plan

Credit: 3 Total Credit Hours: 48

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Principals of Urban Planning, Urban Design, Residential Architecture Design, Residential Area Planning

Evaluation Method: General Assessment

Course Description:

1. Course Objectives

This main course is one of basic and compulsory courses in the field of urban planning which arranged after the course of urban planning system engineering and Residential Area Planning

2. Content & Teaching Approach

This course focuses on students of spatial design concept and the ability to solve problems comprehensively. Lectures and practice of regulatory planning will help student grasp the basic knowledge, features and design methods regulatory planning which make them realize that the rigidity and reality in the process of making it.

Recommended Textbooks/References:

1. The City Planning Material Collections of Teaching Material (the fourth volume), China architecture & building press.
2. The reference books: The Regulatory Detailed Planning, the XiaNaKai, TianBaoJiang, Tongji University Press, 2005.

Course Number: 0007545

Course Title: Urban design

Credit: 5 Total Credit Hours: 80

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Residential Area Planning, Introduction to Urban Design

Evaluation Method: General Assessment

Course Description:

This course requests students can grasp the basic theory, urban design method, the understanding of the urban design three theories: the graph theory, the relationship between contact theory and

place theory, according to different places to the urban design method, understand the present situation of urban design investigation, analysis and design process, through the design practice learning city design scheme.

Recommended Textbooks/References:

1. Wang JianGuo. Urban Design (third edition), nanjing: southeast university press, 2005.06
2. The editor of the Urban Planning Society of China, the China's Contemporary Urban Design High-Quality Goods Set, Beijing: China architecture & building press 2000
3. The editor of the Urban Planning Society of China, Urban Design, Beijing: China architecture building press 2003
4. Jin Guangjun the, The Graphic Urban Design , Hei Longjiang science and technology press 2000
5. Richard Marshall/Shi Yongjie compiled the American urban design case “ , Chinese building press. 2004

Course Number: 0007541

Course Title: Urban Comprehensive Planning

Credit: 3 Total Credit Hours: 48

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Urban Planning principles, Urban Economics

Evaluation Method: General Assessment

Course Description:

The aim of this course is to make students understand and master the theories and methods of regional planning, to draw up regional planning, including the regional development strategy, industrial development organization, and urban system planning,, combined with the regional development conditions and advantages.

Recommended Textbooks/References:

1. LI Dehua. Urban Planning Principles (3ed.) .Beijing:China Architecture & Building Press. 2001.

Course Number: 0007518

Course Title: History of Landscape Architecture

Credit: 1 Total Credit Hours: 16

Students: The second year undergraduate students (urban planning), The third year undergraduate students (architecture)

Prerequisites: None

Evaluation Method: General Assessment

Course Description:

This course is a basic elective course for urban planning majors, 16 hours long with 1 credit. Through the learning of the history of landscape architecture, students are expected to grasp the evolvement of landscape architecture, the characteristics of each stages of evolvement, and the difference and mutual influence between landscape architecture home and abroad. Students will be

known of the distinguished landscape architecture and arts in history both home and abroad, have their horizon expanded and have a solid foundation to design modern architecture by learning from the best of each school of design in the past.

Recommended Textbooks/References:

1. Zhou WeiQuan, classical Chinese landscape history (second edition), Tsinghua university press, 1999
2. Chen Zhi comments, embodied the annotation, the China architecture & building press, 1981
3. Liu DuiZhen, Suzhou classical garden, Beijing: China architecture & building press, 1979
4. Chen CongZhou, Yangzhou garden, Shanghai: Shanghai science and technology publishing house, 1983
5. Gu ZhongJi, Zou HongCan, western gardening history from the garden of Eden, to the nature park, Beijing: China architecture & building press, 1991
6. children's Jun, Fujian, gardening, Beijing: China architecture & building press, 1983
7. Li ZhiRe, Zhu JianNing, western garden, Zhengzhou, Henan science and technology press, 2001

Course Number: 0004499

Course Title: Urban Geography

Credit: 2 Total Credit Hours: 32

Students: The third year undergraduate students (urban planning)

Prerequisites: The principles of city planning, city design, city construction history

Evaluation Method: General Assessment

Course Description:

This course designed to help students to understand the city development and its influence factors, grasp the city of city space structure, basic theory, basic knowledge. Focus on urban and rural division and city of geographical space, urbanization theory and historical development of city, city function and city size distribution, spatial distribution theory and the mode of land use, city social space, and commercial space and traffic space five parts. Training students to use geography method analysis of city problems, from the time, space, elements of the three latitude understanding city man land relationship, for future study of regional planning, urban planning and other courses to lay a solid foundation.

Recommended Textbooks/References:

1. Xu Xueqiang, Monday star, Neko Min, city geography (Second Edition), higher education press, 2011
2. Michael Pacione, Urban Geography: A Global Perspective (Second Edition), Taylor & Francis, 2007

Course Number: 0007557

Course Title: Urban Transportation Planning

Credit: 2 Total Credit Hours: 32

Students: The fourth year undergraduate students (urban planning)

Prerequisites: City Planning, City Planning Theory

Evaluation Method: Exam

Course Description:

This course is a city planning students required specialized courses, designed to help students grasp the city road traffic planning design basic methods and key indicators, improve students in city road planning and design work capacity. Theory links, focus on the city road traffic characteristics, the resident trip characteristics, traffic survey method, road network planning, motor vehicle system planning, slow system planning six parts; practice, combined with the capital traffic hotspot research organizations, according to the different modes of transportation technology, economic characteristics and resident trip characteristics, practical City traffic investigation of the basic method, observation method, such as flow velocity measurement method, travel OD survey method and statistical analysis method, the ultimate students through traffic investigation, analysis to resolve the city transportation problem capacity.

Recommended Textbooks/References:

1. Eric • J miller d, urban traffic planning (original version 2), China architecture & building press, 2007
2. XuXunchu, The roads and traffic planning. Beijing: China architecture & building press, 2005
3. Wang Jianjun, traffic survey and analysis (Second Edition), the people traffic press, 2004

Course Number: 0007558

Course Title: Urban Sociology

Credit: 1 Total Credit Hours: 16

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Marxist Philosophy , Advanced Mathematics D, Urban Planning (a), Urban Planning and Design and principle (b), Urban Planning and Design Practice (2), Introduction to Urban Planning.

Evaluation Method: Exam

Course Description

Urban sociology, urban and rural planning professional disciplines basic course is one of the urban planning students to learn important basic courses. Through the course of learning to understand the basics of urban sociology and social psychology; grasp the basic concepts of the classical theory of urban sociology; understanding urban origins and development, the relationship between urban lifestyles, urban planning, management and urban development; understanding the relationship between urbanization, urban economic, social and cultural structure, and urban social problems, how to apply the theories and methods of urban society to address the urban and social development issues. Master urban planning in relation to the demographic analysis, the scale of forecasting techniques; to understand the technical requirements of the urban population, occupation, education, housing, community and social surveys and related knowledge; grasp the basic concepts of the classical theory of urban sociology, community theory and empirical, urban society organizations, urban social psychology; understanding of modern theories of urban origins and development, urban lifestyles, urban planning and management; understanding of sociological research methods. Professional development to lay a good foundation for the sociological. The course of theoretical lessons, mainly to lectures; has a practice survey link; assessment

methods for the social investigation report; teaching methods as follows: to lectures, supplemented by classroom discussion and the submission of investigation report.

Recommended Textbooks/References:

1. GU Chao Code. Urban Sociology. Southeast University Press, 2002
2. Zhang Zhongru, the. Urban Sociology. Shanghai University Press, 2001
3. Xu Ying ed. Urban Sociology. Qilu Press, 2002
4. 4 Urban Sociology. Wuhan University Press, 2002
5. Tsai Woo editor. Urban sociology - theory and vision. Sun Yat-sen University Press, 2003
6. Yefu book. Urban Sociology. China City Press, 2002
7. Deping editor. Urban Sociology. Higher Education Press, 2000
8. RE Parker, EN Burgess, RD McKenzie. Urban Sociology. Song Junling, China Press.

Course Number: 0007559

Course Title: Urban Economics

Credit: 2 Total Credit Hours: 32

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Urban Planning principles

Evaluation Method: General Assessment

Course Description:

How and why do cities form? How do economic forces shape the city's formation, location, size and function? We begin by looking at the economies and diseconomies of urban scale and the urban hierarchical network, as well as theories of land markets. We move to an economic and policy-centered analysis of the challenges of urban life, such as zoning, housing, transportation, suburbanization and the provision of public services.

The teaching objective and basic requirement of this course are as follows: First, to understand the basic rules of urban spatial process; Second, to understand the relationship between urban industries and urban space.

Recommended Textbooks/References:

1. O'Sullivan, Arthur. Urban economics. Chicago: Irwin, 1996.
2. XIE Wenhui, DENG Wei. Urban Economics. Beijing: Tsinghua University Press. 1996

Course Number: 0007560

Course Title: Urban Greenland System Planning

Credit: 1.5 Total Credit Hours: 24

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Theory of City Planning, Overall Planning, Theory and History of Landscape Architecture

Evaluation Method: General Assessment

Course Description:

This course is a professional course of senior grade of city planning. In this course, students are to know the basic theory of urban greenland system planning, to grasp the method of investigation

and analysis of the site, and to design an appropriate urban greenland system and city landscape by lectures, field trips, and coursework.

Recommended Textbooks/References:

1. Liu Jun, Pu Weiran, Planning and Design of Urban Greenland System, China Architecture & Industry Press.
2. Jia Jianzhong, Planning and Design of Urban Greenland, China Forestry Press.
3. Li Min, Modern Urban Greenland System, China Architecture & Industry Press.

Course Number: 0007561

Course Title: Regional Planning Introduction

Credit: 1 Total Credit Hours: 16

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Urban Planning principles, Urban Economics

Evaluation Method: General Assessment

Course Description:

An introduction to planning for human needs as related to the physical layout and spatial design of communities and regions.

The Urban Comprehensive Planning program is an important design course, which build a bridge between theory and Practice. Based on the course of “Urban planning principles”, “Urban roads and traffic”, “Urban detailed planning” and other professional theoretical and professional skill courses, this course want to cultivate the student’s abilities to understand, analyze and research city problems, to make students grasp the coordinated and integrated approach to deal with urban problems, and understand the overall urban planning process of physical planning,

Recommended Textbooks/References:

1. PENG Zhengwei. Regional Study and Regional Planning. Shanghai:Tongji University Press, 1998.

Course Number: 0007562

Course Title: Science of Urban Disaster

Credit: 1 Total Credit Hours: 16

Students: The fourth year undergraduate students (urban planning)

Prerequisites: None

Evaluation Method: General Assessment

Course Description:

This course is the professional elective course, through the course of study, cultivate undergraduate students in the urban planning and design process of safety design concept of disaster reduction, through understanding the main types of urban disasters and the basic countermeasures of disaster reduction at home and abroad, master basic urban disaster prevention design method, can the city park the retrofit design of the disaster.

Recommended Textbooks/References:

1. Shugang Li compile, science of disaster, Coal industry press, 2008

2. Baosheng Chen compile , Building disaster prevention design, Tongji University Press, 1990
3. Donghui Ma. Xiaodong Guo. Zhitao Wang compile, Urban earthquake disaster prevention plan standards implementing guide, China construction industry press, 2007
4. Yu Zhou. Wuping Li. Shi Huan. compile, Disaster prevention and mitigation engineering, China construction industry press, 2007

Course Number: 0004774

Course Title: Structural Sketch

Credit: 3 Total Credit Hours: 48

Students: Undergraduate student major in industrial design

Prerequisites: none

Evaluation Method: Sketch submission

Course Description:

This is the compulsory course the students major in industrial design. Structural sketch is an important part in design education as it's the basis course to cultivate the design form and thinking capability. The feature of the course lies in focusing on the structural character of the object. The expression way is line, without light and shadow.

The training topic is main the product structural sketch. The students will be taught by right observation method, principle, expression method to understand the object from simple to complex one, to display the 3D structure in 2D space. The students will be required to know how to observe and analyze the object, make sense of the perspective concept, master the complex shape's structure, and recognize the relationship between dictation and sketch.

Recommended Textbooks/References:

1. Yin Zhengzhou, Product Design Sketch, Jiangsu art Press, 2007
2. He songfei, Du baonan, Industrial Design II, Innovation, experience and Thought, China Youth Press, 2007
3. Zhang xianfeng, Zhou gang, Design Structural Sketch, China Architecture Industry Press, 2009

Course Number: 0002460

Course Title: Introduction to Industrial Design

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in industrial design

Prerequisites: None

Evaluation Method: Research Essay

Course Description:

Students are required to understand the basic meaning, principle, designer's responsibility and disciplinary definition of design and industrial design. It focuses on the explanation of the concept, content, features, type, purpose, history, techniques and skills of design. By studying the abstract theory, objective and features of design, students gain an insight into the basic meaning of design, establishing the value of "human-centered".

The course is aimed to deepen students' understanding of design, so that they can be clear about that industrial design is the mixture of art and science, an interdisciplinary in social science and technological science. It aims at coordinating the contradiction of production, technology and human nature caused by social division of labor. Design is human-centered, not product-centered. This course firmly lays the theory foundation for students' future study.

Recommended Textbooks/References:

1. Beijing University of Technology, The Outline of Industrial Design.
2. Guanzhong Liu, The Introduction of Industrial Design. Heilongjiang Science and Technology Press, 1997
3. Dingbang Yin, The Outline of Design. Hunan Science and Technology Press, 2000
4. Yanzu Li, the Outline of Art and Design. Hubei Fine-art Press, 2002
5. Tao Liu, the Introduction of Industrial Design, Metallurgical Industry Press, 2006
6. Jionghong Zhao, the definition of Art and Design, Changsha: Hunan University Press, 2005

Course Number: 0007578

Course Title: Chromatics

Credit:2 Total Credit Hours:32

Students: Department of industrial design undergraduate

Prerequisites: Sketch practice, professional practice

Evaluation Method: Homework submission

Course Description:

Learning the basic principles of color and the application of knowledge, in the perceptual basis to a rational and the height of theory. Cultivating students' color of the two basic skills: intuitive feelings, judging color ability; to hold the rational color ability for product design, visual image design to lay a good foundation. "Color" is the design of professional disciplines of basic compulsory course.

Recommended Textbooks/References:

1. ZHANG Dalin, Color sketching, Shandong friendship press, 1999
2. Danner, The philosophy of art, People's fine arts publishing house, 1998

Course Number: 0002457

Course Title: Introduction to Computer-Aided Industrial Design

Credit: 2 Total Credit Hours: 32

Students: Undergraduate major in Industrial Design

Prerequisites: Engineering Graphics, Introduction to Industrial Design

Evaluation Method: Classwork submission

Course Description:

The purpose of the course is to learn the computer graphics software and master the engineering drawing and design capability. The computer-aided design skill applied to industrial design lie in product appearance design, mechanical design and various related digital product design expression ways. It is a basic compulsory course.

The students are expected to grasp the application of software for product design in the engineering and technical description method on the foundation of computer software and engineering graphics. To know the features of most popular software used in industrial design, to build the 3D digital model accurately and then to communicate the concept as appropriate way are all the requests for the students. By training the computer skill, the students are expected to accomplish medium complexity product design and communication by means of several main soft wares independently and can display it as three-dimensional dynamic way.

Recommended Textbooks/References:

1. Tang Xiaoshan, Luo Jun, weitingting, Computer-aided Product Design, Tsinghua University Press, 2007
2. Storm Technique innovation, Solid works from Introduction to Mastering, People Post and Telecommunication Press, 2010

Course Number: 0007581

Course Title: Originality Design and Expression

Credit: 4 Total Credit Hours: 64

Students: Undergraduate students major in Industrial Design

Prerequisites: Structure Sketching, Industrial Design Introduction, Fundamentals of Design Morphology

Evaluation Method: Design projects

Course Description:

Real projects and design competition concerning creative product design are chosen to apply to the course. The students are expected to undergoing the whole design process in groups. In this way, not only could students familiarize themselves with how a project is done and think like designers, they will be able to learn to communicate and cooperate with others. Furthermore, they'll come to understand the relationship between product expression and form in different stages. The course contains four main parts: in-class lectures, field research, user feedback, and practical design projects.

In-class lectures: apply theory and practice to exercise design skills.

Field research: learn how a design is carried out.

User feedback: receive feedback from direct communication with users, consumers, and companies and acquire useful information to perfect the design.

Practical design projects: compete a real design project from a company or a design contest using creative thinking skill and the design theories and methodology related. Understand how thinking and expressing is transmitted into design. Ten sketches and one final design required.

Recommended Textbooks/References:

1. Wang Juntao, New Product Development Design, China Water Power Press
2. Wang Tianjian, Zhao Bo, Product Creative Expression, China Posts&Telecom Press

Course Number: 0003540

Course Title: The Phylogeny of Design

Credit: 3 Total Credit Hours: 48

Students: Undergraduate students major in industrial design

Prerequisites: Introduction to Industrial Design,

Evaluation Method: Term Essay and Optional subject report

Course Description:

The course is about the development of world industrial design, including its foundation, clues, overview, main branches, organization, representatives and works in each period. From the history, experience and lessons are summarized and fundamental questions to be noted in the future of this industry are put forward. Through the study, students are expected to master the basic historical knowledge, and develop research and independent thinking ability by being familiar with a variety of design characteristics, famous designers and their works as well as representatives of the theory and characteristics. By studying this course, students absorb the essence of design culture; learn the intrinsic driving force and source of industrial design for future reference.

Recommended Textbooks/References:

1. Renke He. The history of Industrial design. Beijing Institute of Technology Press, 2006
2. Ming zhu, Lei jing, Design history. Shandong Fine-art Press. 1995
3. Shouzhi Wang. Mordern World Design History. China Youth Prss. 2005
4. Zibing tian. Chinese history of art and craft. Knolwedge Press. 2005
5. Edward Smith, Chun Zhu, World history of art and craft. Zhejiang Fine art Press

Course Number: 0007579

Course Title: Fundamentals of Design Morphology

Credit: 4 Total Credit Hours: 64

Students: Undergraduate students major in Industrial Design

Prerequisites: Engineering Graphics, Basic of Computer-aided Industrial Design

Evaluation Method: Report 100%

Course Description:

This is a compulsory course, and the contents include: (1) Target-element-structure-form system; Students should understand the dialectical relationship between the form and the function. (2) Bionics and bionics design. Students will be required to discover the natural form and construct. The things they found in this course may be used in their future design. (3) Considering human's usability and cognition, design semantics and semiotics make the design both technical and aesthetical. (4) Materials and models, models testing, prototype testing and final model making. The key points and challenge are the transition and ends of a form, taking on biomimetic shapes and structures and tests or experiments of prototype. Finally, students are also expected to learn knowledge of normal materials, crafts and skills. The requirements are as following: students choose a specific material and make one or a series form models, by themselves or their team. This course is about the general design rules, and the knowledge of the content is abstract and basic, which would have a permanent incentive effect on the students' future design development.

Recommended Textbooks/References:

1. Klaus Lehmann. Design Training. ABK Stuttgart, 1999

2. ZHANG Xi. Design Materials and Processing Technology. Chemical Industry Press, 2004
3. Geyer•Greet•Hanna, LI Leshan. Elements of Design. China Water Power Press, Intellectual Property Publishing House, 2003

Course Number: 0003541

Course Title: Ergonomics

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Prerequisites: Mathematics, the introduction of Industrial design

Evaluation Method: Design Work

Course Description:

Students are required to: understand the basic theory & concept of ergonomics and relevant basic knowledge; master the analysis of relationship between man and machine in typical environment; make comprehensive evaluation of ergonomic system; design new user-friendly product with ergonomics knowledge.

The course is about the basics of human body science including anthropometry, physiology, psychology, functional anatomy etc., the relationship among human, machine and environment. It deals with the inter-adaptation of human and machine in industrial design, so that products can be practical, economic, aesthetic, innovative, and achieving perfect coordination among human, machine and environment. The main content includes: disciplinary nature, content, features, and basic theories and methods, significance of ergonomics in product design; human factor involved in product design, including structural features (human anatomy, human body measurement), functional features (sensing, processing and executing of information), psychological features, environmental adaptation, etc.; ergonomics design of product display and control system, ergonomics design of operation parts; typical ergonomics design such as seat and handle tools.

Recommended Textbooks/References:

1. HE Renke, Ergonomics, Beijing Institute Technology Press, 2001

Course Number: 0007580

Course Title: Design Procedure and Method

Credit: 4 Total Credit Hours: 64

Students: Undergraduate students major in Industrial Design

Prerequisites: Fundamentals of Design Morphology, Introduction to Industrial Design, Design Communication

Evaluation Method: Report 100%

Course Description:

This is a compulsory course, which covers the application of industrial design method in the product design process, and the focus is: (1) The program feasibility research, which contains preliminary design, feasibility studies, in-depth design and engineering design procedure, (2) The procedure research with the interactively advanced method and program. Through the design process, it aims to establish a repeatable, structured scientific method and effective work

procedures. It can cultivate students' comprehensive design ability, e.g., analysis, creative and executive capability. The research requires students to recognize and understand the important role of the design procedures and methods in the product design process. In terms of acquiring knowledge, through analyze of various domestic and overseas examples, the students could absorb advanced design methods and techniques so as to master basic design process and design methods and form their integrated design knowledge systems. The students will be required to handle with an actual problem, after problem research – opportunity definition – concept design – design evaluation, and then students have to make a design report to present the whole process and method.

Recommended Textbooks/References:

1. LIU Chuankai. Carl Liu Design Book. China Youth Press, 2005
2. HE Songfei, ZHANG Juan. Industrial Design Connotation Thought Originality. China Youth Press, 2007

Course Number: 0007576

Course Title: Material in Design

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Prerequisites: Structure Sketching, Introduction to Industrial Design, Fundamentals of Design Morphology

Evaluation Method: Design Works

Course Description:

Material is a public compulsory course. Students are required to get familiar with the character of metal material, non-metal inorganic substances, organic polymer material, composite material etc. Moreover, students need to learn how to use those materials when designing. Besides, students are expected to get with the new information about material and get to know the method how materials are processed. During the class, students are capable to correctly choose materials and processing methods. The ability of using all kinds of materials with design is needed to express in the final works in the end.

After studying in this course, students are expected to be:

- Realizing the great importance of how materials act on designing and have influence on products.
- Better-informed with character and function of all kinds of materials.
- More skillful with designing products with various materials.

Recommended Textbooks/References:

1. Wang Yulin. Product Modeling Material and Process. Tianjin University Press.
2. Cheng Nenglin. Product Modeling Material and Process. Beijing Institute of Technology Press.
3. Material of Industrial Design. Guanzhou Academy of Fine Arts Press

Course Number: 0007577

Course Title: Introduction to Design for Sustainability (Chinese/English)

Credit: 1.5 Total Credit Hours: 24

Students: Undergraduate students major in industrial design

Prerequisites: Design Procedure and Process,

Evaluation Method: exam and report

Course Description:

This is the subject compulsory course for industrial design major. The sustainable theory is the global common concerned issue. This course aims to provide the students for a comprehensive framework about basic theory knowledge about sustainability and design for that. And then by means of the case studies, the students can have the sense of integrating the product development, environmental demands, design methodology and tools and enterprise strategy. The students can experience the sustainable design principles and strategies applied to practical design subject. It can establish the consciousness of sustainability as the design criterion for the future product designer through experiencing the affect what kind of the impact the product could have on the environment.

Recommended Textbooks/References:

1. Nathan Shedroff, Manzini, translated by Liu xin, Yang hongjun, Tanjingyan, Environmental Sustainable Design, National Defense Industry Press, 2010
2. Nathan Shedroff, translated by Liu xin, Tan jingyan, Sustainability strategy and practice, Tsinghua University Press, 2011
3. Salah El-haggar, translated by Duan fengkui, Industry Design for Sustainability and Waste Management, Machinery Industry Press, 2007
4. Carlo, V. System Design for Sustainability. Milano: Maggioli Editore, 2007

Course Number: 0007575

Course Title: Design for Sustainability

Credit: 3 Total Credit Hours: 48

Students: Undergraduate major in Industrial Design

Prerequisites: Introduction to design for sustainability, design procedure and method, Phylogeny of Design

Evaluation Method: Report

Course Description:

This is the subject compulsory course for industrial design major. The sustainable theory is the global common concerned issue. This course aims to provide the students for a comprehensive framework about basic theory knowledge about sustainability and design for that. And then by means of the link with the real projects, the students can have the sense of integrating the product development, environmental demands, design methodology and tools (such as product life cycle design, material consumption minimization, biological compatibility, renewable energy and material), and enterprise strategy. The students can experience the sustainable design principles and strategies applied to practical design subject. It can establish the consciousness of sustainability as the design criterion for the future product designer through experiencing the affect what kind of the impact the product could have on the environment.

Recommended Textbooks/References:

1. Benny Liang, Manzini, Design for Sustainable Living Mode, Lingnan Art Press, 2006
2. Nathan Shedroff, Manzini, translated by Liu xin, Yang hongjun, Tanjingyan, Environmental Sustainable Design, National Defense Industry Press, 2010
3. Nathan Shedroff, translated by Liu xin, Tan jingyan, Sustainability strategy and practice, Tsinghua University Press, 2011
4. Salah El-haggar, translated by Duan fengkui, Industry Design for Sustainability and Waste Management, Machinery Industry Press, 2007
5. Carlo, V. System Design for Sustainability. Milano: Maggioli Edited, 2007

Course Number: 0005142

Course Title: Design Psychology

Credit: 2 **Total Credit Hours: 32**

Students: Undergraduate students major in Industrial Design

Prerequisites: Model Making, Structure sketching, Functional Structure and Materials, Introduction to Industrial Design, Fundamentals of Design Morphology, Chromatology, Design Procedure and method, Theme Design

Evaluation Method: Design works

Course Description:

Design Psychology is a public basic required course. Students are expected to learn to do some psychological researches from all aspects, including form, material, texture and symbol, which aim at the behavior of the users when they are using the products. Also, students are about to study on psychology on consumer and designer themselves. Design Psychology is one of the basic courses in the field of Industrial Design. Students are expected to acknowledge some of the basic theories of psychology and learn the skills of designing gradually when studying on Design Psychology. Not only theories but practical experiences act as an important role during the classes which make the students able to analyze the demand of consumers and take consideration of all the potential problems and finally solve those.

After studying in this course, students are expected to be:

- Realizing the contribution of consumers, users and designers and recognizing the great importance of design Psychology that indicates that design serves the purpose of people.
- Well-informed of the basic psychology and able to design with related information.
- More skillful on designing and make a product completely and independently.

Recommended Textbooks/References:

1. Donald Norman. Design of Everyday Things (first Edition). Zhong Xin Press, 2003
2. Donald Norman. Emotional Design (first Edition). Beijing Electronic Industry Press, 2006
3. S Aruiti. Creativity: the Magic Synthesis (first Edition), Liaoning Renmin Press, 1987
4. Liu sha. Design Art Psychology (first Edition), TsingHua University Press. 2006

Course Number: 0007836

Course Title: System Design (Chinese/English)

Credit: 3 Total Credit Hours: 48

Students: Undergraduate Major in Industrial Design

Prerequisites: Design Procedure and methods, Design for Sustainability, Product Research & Analysis

Evaluation Method: exam and report

Course Description:

This is the compulsory course for the industrial design major. In accordance with the system principle application for design discipline, the lecture part contents are the system design for product design general procedure and case study. From the rhetorical exploration, concept development to product design in detail, the students are expected to get progress the capabilities lie in: firstly, the concept developing process helping the students to promote innovative concept for sustainability within the actual limit conditions; secondly, the ability to issue the systematic solution and develop whole product service planning, to define the product concept from the view of lifestyle, to set up the target system and accomplish the task in given schedule.

Recommended Textbooks/References:

1. Carlo, V. System Design for Sustainability. Milano: Maggioli Editore, 2007
2. Wang mingzhi, Product Design, China fine art Academy Press, 2001
3. Tang lintao, Methodology for Industrial Design, China Architecture Industry Press, 2002
4. Liu guanzhong, Introduction to Industrial Design, Heilongjiang Science and Technology Press, 1997

Course Number: 0006052

Course Title: Design Management

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in industrial design

Prerequisites: Introduction to Industrial Design, Design procedure and method, the Principle of CI-VIS

Evaluation Method: Essay

Course Description:

Appropriate design strategy result in successful design, whose accomplishment needs well-behaved design environment and management. Design management combines design, technology with strategy, making innovation possible. Students get a comprehensive understanding of the design strategy, environment organization, management and innovation in business framework by studying the importance and necessity of design management. The course offers a fresh understanding of product, product innovation and the concept of product design operation from the perspective of academic development and business operation. Students learn to analyze and evaluate questions with product and design integrated into the operation mechanism of enterprise, industry and society. In the future, they can improve product quality, reduce cost, and increase added value and competency.

Recommended Textbooks/References:

1. Guoyu Liu. Design Management. Shanghai Jiaoda Press 2007
2. Cathrine Bast. Senior Design Management in the United States, Shanhai people's Fine-art

Press. 2008

3. Herbert Simon. Management behavior. China Machine Press 2008
4. Jonathan Cagan. Craig M. Vogel, Creating Breakthrough Product. China Machine Press, 2007
5. Yanzu Li, Mingzhi Wang, Ruifen Liu. Design management and procedure. Tsinghua University Press. 2006

Course Number: 0003551

Course Title: Design Sketch

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Prerequisites: Structure design, the introduction of Industrial design, design color, public facilities design, ergonomics, CAID, design method and procedure, design psychology, design

Evaluation Method: Hand-in Design Work

Course Description:

Design sketch belongs to the obligatory courses of industrial design, which is the basic training of students, and also a technique that industrial students must command. With the maturity of China's industrial design, industrial design teaching also has been developed vigorously. There are three aspects of important part of industrial design teaching, including theory of industrial design, design creativity and design expression (including modeling). The most associate with Design creativity in design expression is design sketches. Design sketches are the fundamental knowledge and skill of the industrial design field. In the initial stage of creative design, the designer's thinking is immature, the ideas may alternately appear. So it is inconvenient and unrealistic for students to use computer in the earlier visualization. By learning this course, students learn drawing skills, the representation of perspective, light and shade, form and material, the skills of Marker rendering and making special effect. This course puts theory into practical application so that students can deep their mind of how to visualize their own design ideas.

The objective of this course is to recognize the importance of design sketch, grasp the method of design sketch, and improve the ability of design representation.

Recommended Textbooks/References:

1. ZHANG Chengzhong, Design Sketch, Beijing Institute Technology Press, 2004
2. LIU Carl, Carl Liu Design Book, China Youth Press, 2005

Course Number: 0005443

Course Title: History of Western Art

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Prerequisites: Design sketch, design color

Evaluation Method: Term essay, Final examination

Course Description:

By understanding the western art development, students can explore the relationship among socio-economic, cultural understanding and its own development. It is not only to improve

students' understanding of art, but also lay a solid design foundation for students in the future. In terms of knowledge, students should first understand Western art history, major events, important figures and their masterpiece; Secondly, they should know art, socio-economic and cultural relationship; then they learn to analyze the work of different periods and artist's style. The requirements are: firstly, they should be familiar with the phenomenon of foreign art history, and classification so that they can apply to the design practice. Secondly, they should be able to address the mutual influence of different arts and culture, understand the phenomenon of coexistence of art. Thirdly, they should be able to use the art history knowledge. They can draw their research conclusions from a comparative analysis of the different periods of art phenomenon.

Recommended Textbooks/References:

1. Gongbulixi jingzhong fan, Design history. Tianjin people's fine art press. 1988
2. Dajian shao, jingzhi xi. History of European fine art, Shanghai people's fine art press. 2009
3. Xun jiang, Art history for everyone. Hunan Fine art press, 2011

Course Number: 0003543

Course Title: Visual Communication Design 1

Credit: 3 Total Credit Hours: 48

Students: Undergraduates of Industrial Design

Prerequisites: Design Creativity and Communication, History of Design, Design Morphology, Introduction to CAID, Introduction to Industrial Design, Immediate Design Project

Evaluation Method: Quiz

Course Description:

Basic elements of visual expression design: visual semantic design, graph and word creativity (including advertisements and posters), layout design, basic laws of visual expression and basic methods of visual communication, visual expression –oriented content of courses, reach the object of having a systematic understanding of design objects, samples and layout design and having the ability of design thinking and design methods.

Focuses: graphic creativity and graphic expression, font design and layout design in the poster design.

Lesson one understand font, graph, methods of advertising poster design and three elements: font, graph, layout, creativity and expression.

Lesson Two understand the function of poster (integration of plastic art and words, design of visual expression, composition)

Recommended Textbooks/References:

1. Wang Shouzhi, World Modern History of Graphic Design. New Century Press House, 1998
2. Zou Jiamian, Poster Hundred Year. Hunan Arts Press House, 2003
3. Zhu Guoqin, Ni Wei, Wang Wenxia, Layout Design. Shanghai People's Arts Press House, 2001
4. Xiao Yong, International Poster Design. Shan Dong Arts Press House, 2001

Course Number: 0005194

Course Title: Design Expression

Credits: 3 Total Credit Hours: 48

Students: Undergraduate students major in industrial design

Prerequisites: Design Idea and Expression

Evaluation Method: four exams in the classroom

Course Description:

This course will involve the design performance of general form of design expression has various forms. Students have the basic knowledge of modeling and color. Learn watercolor, gouache, and other comprehensive representation. Requiring two-point perspective and more perspective illustration, and on the basis of the development of new according to need to visual image, through the design expression according to different objects of course can choose the right forms to maximize performance design content, master the color and the shape dealing with the relation between the capacity, with active exploration, research new performance techniques motive and innovative consciousness.

Key points and difficulties: design of the technical performance and operation difficulty reflected in thinking clear direction, making rendering proficiency, to develop the design performance of the cognitive and feeling.

Recommended Textbooks/References:

1. Zhang Xuchen, Zhang Lei, the design expression, Heilongjiang science and technology publishing house, 1996

Course Number: 0003556

Course Title: Introduction to Culture Anthropology

Credit: 3 Total Credit Hours: 48

Students: Undergraduate students major in industrial design

Prerequisites: Introduction to Industrial Design

Evaluation Method: Term Examination, Independent Research Subject

Course Description:

From the perspective of cultural anthropology, students gain the dynamic time and space perspective from past to future. Through the understanding of the basic theory of cultural anthropology, they learn the livelihood patterns of human culture, economic systems, marriage and family, social organization and social control, religion, language and art. It is focused on the in-depth study and research of the problem of “culture” in contemporary society and contemporary design. It equips students with the basic cultural anthropological theories and perspectives of human production and way of life from the perspective of human culture. They need to learn the achievements of human culture, expanded in-depth modern design study. Students are able to describe the cultural phenomenon and its development process from the theoretical level. They grasp the methods of cultural anthropology research and serve for product design in its social aspect.

Recommended Textbooks/References:

1. zhaoyuan Tian. The introduction of Culture Anthropology. East China Normal University Press 2006

2. William A Havilland, Tiepeng Zhai, jueyi Zhang. Culture Anthropology. Shanghai Social science press 2006
3. Huixiang lin, Culture Anthropology, Commercial Press 2000
4. Wei zhou, kejian xu. The Genesis of Culture Anthropology. Xuelin Press,1999

Course Number: 0003560

Course Title: Photography I

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in industrial design

Prerequisites: Plasticism, Chromatics, History of Western Art

Evaluation Method: classwork Submission

Course Description:

This is an elective course of industrial design that the purpose is to broaden the professional area needs for the undergraduates. Students can know about the fundamental knowledge of photograph, strengthen the ability on modeling, expressing through lecture and practice. The students can make it a way of quick modeling, and make connection between relative discipline to provide powerful support on technique and art, after improving the comprehensive ability and artistic culture in means of modeling.

The goal to be achieved in the course for the knowledge and the ability as following:

- The prospect of thoughts, grasping the graphic method of photograph from the degree of visual development history.
- The prospect of knowledge, know about the evolvement and current situation of art and technique history. From the prospective of profession knowledge, understand each link of the basic principal in photographing.
- The prospect of ability, evaluate the quality of works on photography after the course, accomplish the work on one`s own.

There is a great connection between this course and other plasticism course; it is not only the expanding and prolongation of other modeling class, such as plasticism, chromatics, but also the supplement and support that relate to other course connected with modeling, such as visual communication and multi-media design.

Recommended Textbooks/References:

1. New media art of the late 20th century, ZhuQi, Renmin University of China Press, 2005.
2. Professional photography, Shao Dalang, Jilin Photographic Press, 2003.
3. New York, USA Photographic Institute Photography textbooks, Sun Jianqiu, China Photo Press, 1986.

Course Number: 0007589

Course Title: Principle of CI-VIS

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Prerequisites: Design Method and Procedure, Traditional Chinese Design Research, Visual

Communication Design, Product Culture and Marketing Research.

Evaluation Method: Written Exam

Course Description:

By learning this course, students get to know about the importance of Corporate Identity System Design in Corporate Identity, Corporate product design, brand promotion, production, sales system management, the existence and importance of Corporate. This makes it ready for students when they join in the corporate, make product design, and be in corporate technology management. The main content of this course is CI System design strategy, the introduction of various periods' development in CI strategy and brand promotion, introducing CI design research and comparison, promoting the method of CI plan and procedure, successful CI system design case, the relationship of CI-VI, VIS standard and application part design and analysis, selecting a topic, VI design plan files, VI visual plot and creative method, the build of VI system design standard, how to take part in VI plot. All of these make it possible for students when they join in VI plot's research, proposal, and plot arrangement in the future. The objective is to understand the method and procedure of CI plan. Students can design the part of or the whole VI by themselves.

Recommended Textbooks/References:

1. WANG Shouzhi. The World History of Modern Graphic Design history. New Age Press, 1998
2. Art and Design Magazine Press, Art and Design Magazine Press, 2006,
3. LI Shaohua, WANG Yi, Beijing Economy Academy Press, 2001
4. XIAO Yong, Logo Image Design. China Youth Press, 2005

Course Number: 0006062

Course Title: Design theory choiceness

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in industrial design

Prerequisites: Comparative Design, The Phylogeny of Design

Evaluation Method: Essay

Course Description:

This course belongs to the self-study courses. Students understand the guidance role of theory in guiding the design, thus they can find the essence of design from previous design theory. This course develops students' interest in learning, forming attitudes and habits with perseverance and scientific approach. They could examine design ideas from ancient to modern, and then summarize to find the law, form an even deeper understanding of different periods of design. In terms of ability, they can seize the key points, summarize the essentials, and lay a solid theoretical foundation to apply theoretical knowledge to future in-depth design study

Recommended Textbooks/References:

1. Zhuanji Xi. The classic collection of Art and Design(second edition) Southeast university press 2005
2. Yanzu li. The classic collection of Foreign art and design(volume I volume II) Tsinghua university press, 2006
3. Wusan Dai illustration of Kaogongji. Shandong Pictorial press, 2003
4. Yu li(qing), The comment of dushu Xian qing ou ji China press , 2007
5. Kuo shen. Meng xi bi tan Qilu Press. 2007

6. Yingxing song, tian gong kai wu(volume I volume II) China social press 2004
7. Le Corbusier(France) zhijia chen. Go to the new architecture. Shanxi normal university press, 2004
8. Venturi(USA), puyi zhou, the complication and contradiction of architecture. China WaterPower Press, 2006

Course Number: 0007564

Course Title: Architectural Rendering Skills and Techniques

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Architecture (Grade 2)

Prerequisites: Architectural Design Preliminary I -1, I -2, Sketch-1, -2, Color Painting-1

Evaluation Method: Test

Course Description:

On the basis that students have already mastered the basic knowledge of drawing, color painting and perspective, this course is set up as a basic skill training course with a focus on the rendering of architectural design. It aims at instructing students to master the correct learning, working and thinking methods, cultivating their hard-working habits and capabilities of drawing the standard rendering pictures, and improving their aesthetic levels, artistic tastes and comprehensive rendering capabilities of their designs. Both the training of students' rendering skills and cultivation of their architectural rendering consciousness will be given special attention in this course. Moreover, through theory teaching, comments on outstanding rendering drawings, demonstration and other class activities, this course is intended to help students master the drawing methods of rendering and meet the requirements of the course.

Recommended Textbooks/References:

1. ZHANG Qiman. Data Set of Interior Design. China Building Industry Press. 1994

Course Number: 0006023

Course Title: Building Mechanics -1

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Architecture (Grade 2)

Prerequisites: Introduction to Building Technology

Evaluation Method: Test

Course Description:

Through the study of this course, students are expected to understand the laws of the formation of structure components, master the computational methods of bar structure's internal force and displacement, and know the mechanical characteristics of common structures. This course aims at helping students master the knowledge of structural mechanics, improve their structural computation capabilities, develop their analytical abilities and strict scientific spirits, and lay a good foundation for their future study of related specialized courses as well as for their future jobs in design, construction or scientific research areas after graduation.

Recommended Textbooks/References:

1. LI Jiabao. Building Mechanics. Higher Education Press.1999

Course Number: 0006024

Course Title: Building Mechanics -2

Credit: 3 Total Credit Hours: 48

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Building Mechanics 1- 1

Evaluation Method: Test

Course Description:

Based on the theoretical analysis, this course is intended to cultivate students' abilities of the combination of theory with practice as well as their analytical and handling capabilities of experiments. The theoretical mechanics part in this course will focus on cultivating students' analytical capabilities of particles and the static of rigid bodies, while the material mechanics part will be oriented towards developing students' analytical capabilities of the bars' strength and stiffness as well as their practical handling capabilities.

Recommended Textbooks/References:

1. FAN Qinshan. Engineering Mechanics. Higher Education Press.1999

Course Number: 0007525

Course Title: Computer Aided Design-2

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Computer Aided Design-1

Evaluation Method: Test

Course Description:

This course is a major elective arranged in the first semester of the third year, and provides a foundation for computer aided nonlinear architectural design. Because Rhinoceros software can provide a nonlinear, parametric 3D model, thus provides a convenient visual conditions for complex curve surface design, and facilitates detailed architectural design. This course is taught mainly via lectures, supplemented by demonstration. Due to the limited time, practice is carried with other courses. Through this course, students should be able to use the software independently to complete the design virtualization. Students are required to use the software to complete their design drawings and layout.

Recommended Textbooks/References:

None

Course Number: 0004546

Course Title: Building Structure and Selection -1

Credit: 3 Total Credit Hours: 48

Students: Undergraduate students major in Architecture (Grade 3) , Undergraduate students major in City Planning (Grade 3)

Prerequisites: Building Mechanics 1-1,1-2

Evaluation Method: Test

Course Description:

This course is oriented towards cultivating students' structural consciousness, and instructing them to understand basic concepts, thinking patterns and the order of building structure design so as to lay a solid foundation for the basic knowledge of building structure that they should have mastered as professionals engaged in architectural design as well as for the basic skills to communicate and coordinate with other professional designers. Through the study of this course, students are also expected to understand the significance that a good building structural system can guarantee the reliability, economy, practicality and artistry of a building, recognize the relationship between structures and buildings, know the basic concepts, bearing features and important construction requirements of the common building structures, and be able to estimate the sizes of the main components which are commonly used in a building structural system.

Recommended Textbooks/References:

1. LIN Zongfan. Building Structure Principle And Design. Higher Education Press.2002
2. HE Yibin. Building Structures. China Building Industry Press. 2005

Course Number: 0007526

Course Title: Building Materials

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Building Tectonics I-1, I-2

Evaluation Method: Test

Course Description:

This course will enable students to understand the features, construction methods of building skin and its impact on architectural form. Through material selection and tectonic design, it will stimulate architectural form design. The relevant knowledge also can promote students to quickly integrate into practical work after their graduation. The main content of this course includes the features and basic construction methods of a variety of building skin materials. This course focuses on establishing the basic concepts of skin material and structure and teaching how material selection and tectonic design can stimulate architectural form design.

Recommended Textbooks/References:

1. CHU Zhiyong. Material Language of Architectural Design. China Electric Power Press. 2006
2. Schweicker Haig, Ojeda. Construction Materials Manual. Dalian University of Technology press. 2007
3. Herzog krippner. Facade Construction Manual. Dalian University of Technology Press. 2006

Course Number: 0007527

Course Title: Computer Aided Design-3

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Computer Aided Design-1, Computer Aided Design-2

Evaluation Method: Test

Course Description:

This course is a major elective arranged in the first semester of the third year, and provides a foundation for computer aided architectural design by senior students. Because Revit software can provide an accurate, parametric 3D model, thus provides a convenient conditions for sustainable architectural design and detailed architectural design. In combination with Ecotect, the comprehensive analytical ability of students might be improved. The content of this course is two-fold: Revit Architecture and ECOTECT.

Recommended Textbooks/References:

1. Revit Architecture Tutorial. 2006

Course Number: 0004550

Course Title: Building Structure Design

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Building Tectonics-1,-2, Introduction to Building Technology, Building Mechanics-1,-2, Public Architecture Design-1,-2

Evaluation Method: Test

Course Description:

In this course, through design practices which are closely connected with the design courses that they have learnt, students are expected to further understand the basic relationship between architectural space and architectural structure, construct their structural consciousness of architectural space, and enlighten their professional coordination capability which is a basic requirement for students majoring in architecture.

Recommended Textbooks/References:

1. LIN Zongfan. Building Structure Principle And Design. Higher Education Press. 2002

Course Number: 0004466

Course Title: Introduction to Urban Design

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: History of Chinese Architecture, History of World Architecture (Chinese/English)

Evaluation Method: Text

Course Description:

This course of the urban planning profession in important course, demand the students master the basic concept of urban design, urban image five elements; Understanding of the urban design three

theory: the graph theory, the relationship between contact theory and place theory, master of urban design method of different places. Students should know the basic concept of urban design, theory, design methods and case analysis; Urban design case of preliminary analysis and evaluation.

Recommended Textbooks/References:

1. The E.D bacon, HuangFu compartments, ZhuQi compiled, "urban design" (revised edition), Beijing: China architecture &building press, 2003
2. (the United States) S, grant the Nebuchadnezzar, Zhang Zhe translation, The Design of City Environment Ethics, Shenyang, Liaoning, People's Publishing House, 1995 3.
3. Xu Sishu , ZhouWenHua, Urban Design: An Introduction, Beijing: China architecture &building press, 1991
4. The ZouDeCi, Urban Design Introduction: Concept, Thinking, Methods, Practice. Beijing: China Architecture &Building Press, 2003
5. Feng Jiang, Urban Design of Latitude , Nanjing, Jiangsu Science and Technology Publishing House, 2005

Course Number: 0007528

Course Title: Contemporary Architectural Thought (Self-Learning)

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: History of Chinese Architecture, History of World Architecture (Chinese/English)

Evaluation Method: Test

Course Description:

This course is a systematic understanding of the contemporary western architectural thought, the design ideas of masters, the design theory and techniques of famous contemporary architects. To comprehend the personal style and artistic innovation as the basic premise, this course closely linked to the analysis of the famous masterpieces, in order to raise the understanding of architecture design up to the methodological level. By understanding of the connection of the contemporary western architectural thought and the modern architecture, this course aims to explore the inheritance on the basis of historical development of different thought and genre on architecture, in order to get rid of the chain of the general sense of style and genre. This course requires students to have an integrated perspective view of contemporary western architectural thought, to have a very deep thinking on the direction of contemporary architecture, architectural design conscious on the basis of the construction itself, and to learn the architectural design techniques as well as the complex genre theory and the excellent works from the masters of architecture.

Recommended Textbooks/References:

1. LIU Xianjue editor in chief. Theory of Modern Architecture (2nd Edition). China Building Industry Press. 2008
2. WU Huanjia. Twenty lessons of Foreign Modern Architecture. China Building Industry Press. 2007

Course Number: 0004547

Course Title: Building Structure and Selection -2

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Building Structure and Selection -1

Evaluation Method: Test

Course Description:

Through the study of this course, students are expected to master the main characteristics of various structural systems (such as bearing feature and economical span) and its interrelationship with architectural modeling, and prepare necessary knowledge of structure and selection for their future architectural design. Moreover, based on their mastery of the basic concepts and knowledge, students are also expected to have certain analytical capabilities and the capability of using structure for modeling, and be able to understand relatively complicated and most advanced structural systems and apply them reasonably into their architectural design.

Recommended Textbooks/References:

1. CHEN Yanyun. Selection of Building Structure. South China University of Technology press. 2003
2. FAN Qinshan. Engineering Mechanics. Higher Education Press.

Course Number: 0007835

Course Title: Building Tectonics -2

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Building Tectonics -1

Evaluation Method: Test

Course Description:

This course lays a theoretical foundation for students' future building construction design. It will help them understand the common technology design problems and construction methods in the architectural design of industrial buildings, high-rise buildings and long-span buildings as well as instructing them to know the construction of some special decoration and the functions and specifications of some typical architectural decorative materials. The main content of this course includes: construction of industrial buildings; construction of large-sized public buildings; market research of home decorating materials.

Recommended Textbooks/References:

1. YANG Weiju et al . Building Structure Design. China Architecture Industry Press.2005
2. Edited by LIU Zhaoru. Building Construction Design Basis. Science Press.2000

Course Number: 0007536

Course Title: Principles of Urban Planning -2

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: None

Evaluation Method: Test

Course Description:

Based on a brief introduction to theories and actual working contents of urban planning and design, this course aims at helping students set up basic concepts of urban planning, and instructing them to understand the production, development, and land use of a city as well as the planning principles of various systems such as city's industry, transportation, municipal engineering, housing and so on. Main content of the course includes : the theory of city planning, the working content and method of city planning, residential district and residential area planning theory and method, and the appreciation of excellent domestic designs.

Recommended Textbooks/References:

1. Tongji University. Urban Planning Principles. China Building Industry Press.

Course Number: 0007529

Course Title: The Reading of City and Architecture (self-learning)

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Primary Architectural Design-1, I -2, Architectural Design III-1, III-2

Evaluation Method: Test

Course Description:

This course requires students to read the theoretical literature of urban design, on this basis, to visit and research on the large and medium-sized public buildings in Beijing which were built in recent years, and even have a major impact in the context of urban space. By teaching which combines theory and practice, so that the students will well understand the history and current status of the Beijing city, it's construction development, in order to help them establish a correct view of city and architecture. Through the literature review and the field research, let students of architecture getting to know and interpret architecture from a macro perspective of urban planning.

Recommended Textbooks/References:

1. Kevin Lynch(Author), FANG Yiping (Translator). The Image of the City. Huaxia Publishing House. 2001
2. Bacon (Author), HUANG Fuxiang/ZHU Qi (Translator). Urban Design. China Building Industry Press. 2003
3. Aldo Rossi. Urban Architecture. China Building Industry Press. 2006
4. Roger Trancik. Searching for the lost Space: Theory on Urban Design. China Building Industry Press. 2008

Course Number: 0007569

Course Title: Photography

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 3) , Undergraduate students major in City Planning (Grade 3)

Prerequisites: None

Evaluation Method: Test

Course Description:

This course in architectural aesthetics culture plays a basic role. The contents of the course include photography techniques, photography, appreciation and live action rule. Firstly, it will teach photography skills knowledge, and focuses on architectural photography in order to improve students' shooting ability, so that students can use camera to take pictures of a quality which can be used as architecture data. And then it will teach photographic light, photographic composition, and the master of photography appreciation of classical works, and cultivate students' aesthetic consciousness. Finally, combining the profession of students, it will focus on guiding students to ancient and modern architecture, the natural environment and the humanities landscape photography training, emphasize the expression of space shape, color space, space and human relations, so as to improve the students' ability to appreciate beauty and create beauty, and cultivate students' art quality.

Recommended Textbooks/References:

1. LIU Kuanxin, Professional Digital Video Tutorial. The people post and Telecommunications Press. 2008
2. HE Weizeng ,Photography Art. China Building Industry Press. 2008
3. .Donne Terrace, New York Photographic Materials. China Photography Publishing House. 1985
4. Ben Clements. Composition of Photography. The Great Wall Press.1982

Course Number: 0007530

Course Title: History of City Planning

Credit: 3 **Total Credit Hours:** 48

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: None

Evaluation Method: Written Exam

Course Description:

The theories on urban development and urban planning history in China and the world cities are introduced in this course. The students are expected to understand the history of China and the world cities development, the features and inherent law of cities development through the lectures and practices. Moreover, they need correctly understand and handling the relationship between cities' cultural heritages and urban development. Our objective is to enhance students' professional quality. Our learning contents include history of city planning of the western countries and China. We will introduce city origin, backgrounds of times, features, supporting theories of them in each period. And comparative analysis will be carry out about city types, road system, commercial space, residential area and so on. Through comparative analysis of urban planning in some typical counties such as France, Italy, America, Japan, useful elements are refined to urban planning now for students.

Recommended Textbooks/References:

1. DONG Jianhong. History of China urban planning (third Edition). China building Industry Press ,2007

2. SHEN Yulin. History of foreign urban planning. China building Industry Press, 2007
3. Lewis Mumford. The City in History, China building Industry Press, 2005

Course Number: 0007567

Course Title: Urban Landscape Design-2

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: None

Evaluation Method: Test

Course Description:

This course is intended to help students master the theories of urban landscape and the common principles and methods of urban planning and design so as to broaden their scopes of knowledge and obtain the basic knowledge and skills of urban landscape design. The main content of this course includes: a short history of urban landscape design; basic principles and methods of urban landscape design; the methods of site planning design; and the practice of urban landscape design.

Recommended Textbooks/References:

- 1.YU Kongjian et al. Landscape Design – Site Planning and Design manual. China Building Industry Press. 2000

Course Number: 0005543

Course Title: Building Construction

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Building Tectonics -1, Building Tectonics -2

Evaluation Method: Test

Course Description:

This course is an architecture professional elective course. It is designed to broaden the students' knowledge, to cultivate students' innovation consciousness and consciousness of engineering, social practice ability and engineering ability. Through theoretical teaching, it will enable students to understand the study object, task and study method of this course, to master the basic theory and methods of construction technology and organization, to understand the construction development and related standards and rules, so as to lay a foundation for participating in the national examination for registered architects. To tie in with classroom teaching and to enable students to better grasp the basic theory and method of construction, some questions and calculation exercises are put forward.

Recommended Textbooks/References:

- 1.Chongqing University et al. Building Construction. China Building Industry Press. 1997

Course Number: 0007532

Course Title: Chinese Classical Garden Design

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 4) , Undergraduate students major in City Planning (Grade 4)

Prerequisites: None

Evaluation Method: Test

Course Description:

This course is an elective course for students majored in urban planning and architecture, 16 hours long with 1 credit. The aim of the course is to enhance students' creativity within landscape space, their degree of Chinese culture, and their comprehensive design abilities. Students are required to grasp the feature and usage of such elements as rocks, water, buildings and plants. They are also expected to apply the principles of design of traditional gardens to design their own traditional gardens.

Recommended Textbooks/References:

None

Course Number: 0007542

Course Title: Urban Ecological and Environmental Conservation

Credit: 1.0 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: None

Evaluation Method: Essay and Oral Presentation

Course Description:

Urban ecology is the study of ecosystems that include humans living in cities and urbanizing landscapes. It is an emerging, interdisciplinary field that aims to understand how human and ecological process can coexist in human-dominated systems and help societies with their efforts to become more sustainable. Because of its interdisciplinary nature and unique focus on humans and natural systems, urban ecology provides useful knowledge that help urban planners to better understand the intrinsic mechanism of the built environment and how to make it better through planning and design. The aim of this module is threefold. First it introduces students of urban ecology to its roots, concepts, basic theories and applications particularly in the field related to urban planning and management. Secondly it teaches students to solve urban problems with a systematic point of view that combines social, environmental, economic and institutional factors and the urban development targets. Thirdly it aims to improve the awareness of students the significance of urban sustainability and the balance between development and conservation. The main subject of this course includes.

Recommended Textbooks/References:

1. YANG Xiaobo and EU Qingshu, Urban Ecology, Science Press, 2006
2. ZHAO Yunlin and ZOU Dongsheng, Urban Ecology, Science Press, 2005
3. Kevin Gaston, Urban Ecology, Cambridge University Press, 2010
4. John Marzluff et al, Urban Ecology: An International Perspective on the Interaction Between Humans and Nature, Springer 2008

5. YANG Xiaobo(ed.), Classical Case Studies and Practice Guide for Urban Ecology, Science Press, 2008

Course Number: 0007533

Course Title: Furniture Design and Construction

Credit:1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Building Tectonics -1, Building Tectonics -2, Building Materials, Introduction to Building Technology

Evaluation Method: Design and Making

Course Description:

Through the professional studies and researches of furniture design and manufacturing, horizon of design can be promoted and the deepness of design can be improved, crossing the disciplines of urban planning, interior design, furniture design, industrial design, 2-D design, costume design. In the meantime, the course will assist students to expand design dimension, complete the logic conversion procedure of realizing concept design, and understand the relationship between design, raw materials and technical processing. The framework of the course is closely consisted of the practice of furniture fabrication. Course educational method is called project research by which purpose-oriented course activities are the foundation during the course education. Course objective is to cultivate and enhance the student capability of independent research, resolving issues in real cases, and fabrication of product with market value.

Recommended Textbooks/References:

1. LIU Wenjin. Research of Modern Furniture Design. China Forestry Publishing House. 2007
2. TAO Tao. Furniture Manufacturing Process. Chemical Industry Press. 2011

Course Number: 0007571

Course Title: Architecture and Urban Conservation and Renewal

Credit: 1 Total Credit Hours: 16

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Principles of Urban Planning, Introduction to Ecological and Sustainable Architecture

Evaluation Method: Test

Course Description:

This course is a disciplinary elective course. By using the changes of economic structure, social structure and spatial structure of the development of architecture and city as the clue, it will systematically introduce the theory and practice of architecture and urban renewal at home and abroad and the resolving of the related architecture and urban problems. Through studying this course, students can not only establish a theoretical foundation for the formation of historical ideas of city planning and architectural design, but also can use the knowledge learned into the practice of urban planning and architectural design based on the clarification of its stage characteristic. This course mainly teaches three parts: the development history of architecture and city, measures

of protection, and renewal practice. The emphasis of the course is on later two parts. The teaching focus is to make students master the concept, principle, influencing factors, and constitution characteristics which are related to the renewal of architecture and city.

Recommended Textbooks/References:

1. ZHANG Song. Introduction to Historical City Protection. Shanghai Science and Technology Press. 2001
2. SHEN Yulin. Foreign City Construction History. China Building Industry Press. 1989
3. HAO Juan. Western City Planning Theory And Practice. Tianjin University Press. 1997
4. FANG Ke. Contemporary Renovation of the Old City In Beijing. China Building Industry Press. 2000

Course Number: 0003492

Course Title: Architectural Rendering Skills and Techniques-1

Credit: 1 Total Credit Hours: 30

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Architectural design preliminary -1, -2 sketch -1, -2, color -1

Evaluation Method: General Assessment

Course Description:

This course is a basic grasp of the student on the basis of the basic knowledge of drawing, color, perspective, and to express the basic training courses for architectural design conceived for the purpose of performance techniques. Its main task is to guide students to master the right to study, work and way of thinking; train students wash their ability to pen to paper and draw a formal effect diagram; raise the level of students' aesthetic, artistic and design skills. This lesson focus on the performance of the cultivation of basic skills training and awareness of architectural expression. By certain theoretical teaching, the excellent effect Figure commenting demonstration link students to master the method of rendering effects of basic and certain teaching requirements.

Recommended Textbooks/References:

1. Zhang Qi-man. Interior design datasets China Building Industry Press 1994

Course Number: 0003517

Course Title: Surveying

Credit: 2 Total Credit Hours: 32

Students: The second year undergraduate students (urban planning)

Prerequisites: Higher mathematics, surveying practice together constitute the measurement courses

Evaluation Method: General Assessment

Course Description:

Surveying the purpose of teaching is to enable students to get the actual measurement of the preliminary work experience and basic skills. Course is to train students to analyze problems, problem-solving and the ability to work independently, and operation of the measuring instrument proficiency skills, improve computing and graphics capabilities, large-scale topographic maps of

Surveying and Mapping small area, construction measurements to obtain a comprehensive and systematic understanding of the whole process; ability to develop students' teamwork, training, and enhanced hard-working spirit. The end of the internship, require students to achieve:

1. Than proficiency in the use of the theodolite, level and test methods; the master angle, distance and elevation Determination and survey and design method.
2. Initially grasp the order and methods of large-scale topographic mapping.

Master the basic method of construction stakeout, initially has the ability to participate in the small and medium-sized engineering survey work.

Recommended Textbooks/References:

1. Huaxi Sheng Tian Ya. Surveying, Hohai University Press, 2nd edition, March 2003
2. Wuhan University of Science and Technology of Surveying and Mapping Surveying, Surveying and Mapping Press, 3 June 1991

Course Number: 0003493

Course Title: Architectural Rendering Skills and Techniques-2

Credit: 2 Total Credit Hours: 32

Students: The third year undergraduate students (urban planning)

Prerequisites: Architectural design preliminary -1, -2 sketch -1, -2, color -1

Evaluation Method: General Assessment

Course Description:

This course is a basic grasp of the student on the basis of the basic knowledge of drawing, color, perspective, and to express the basic training course planning design concept for the purpose of performance techniques. Its main task is to guide students to master the right to study, work and way of thinking; train students wash their ability to pen to paper and draw a formal effect diagram; raise the level of students' aesthetic, artistic and design skills. This lesson focuses on the performance of the cultivation of basic skills training and awareness of architectural expression. By certain theoretical teaching, the excellent effect Figure commenting demonstration link students to master the method of rendering effects of basic and certain teaching requirements.

Recommended Textbooks/References:

1. Zhang Qi-man. Interior design datasets China Building Industry Press 1994

Course Number: 0007837

Course Title: Computer Aided Design-3

Credit: 1 Total Credit Hours: 16

Students: The third year undergraduate students (urban planning)

Prerequisites: Computer Aided Design-1, Computer Aided Design-2

Evaluation Method: General Assessment

Course Description:

This course is designed to lay the foundation for the use of computer graphics to urban planning professional high grade planning. Revit can provide a precise, three-dimensional parametric model for the introduction of sustainable planning and design. And combined ECOTECT to improve the

comprehensive analysis of the ability of the students on the program. The course is divided into two parts: Revit Architecture ECOTECT.

Recommended Textbooks/References:

1. Revit Architecture tutorial, 2006

Course Number: 0004549

Course Title: Planting Design

Credit: 2 Total Credit Hours: 32

Students: The third year undergraduate students (urban planning)

Prerequisites: Principle of Urban Planning

Evaluation Method: General Assessment

Course Description:

This course is an architecture, urban planning and related professional elective courses of introduced garden plant morphology, habits, and its application. The purpose of this course is to enable students to master the basic knowledge of landscape plants, and planting design, and lay the foundation for the indoor and outdoor environmental design. Recognize and identify common garden plant in the Beijing area, and understanding of the identification methods and points of garden plants, the classification of garden plants, garden plants, ecological habits, the function of landscape plants and garden plants landscaping relevant theory.

Recommended Textbooks/References:

1. Zhou Daoying plant planting design, Beijing: China Forestry Publishing House, 2009
2. Zhang Tianlin. Garden Trees 1600 kinds, Beijing: China Architecture Industry Press, 2010
3. Dong Li Garden and Flower application design, Beijing: China Forestry Publishing House, 2003

Course Number: 0005997

Course Title: Chinese and Foreign Architectural History

Credit: 3 Total Credit Hours: 48

Students: The third year undergraduate students (urban planning)

Prerequisites: Architectural design preliminary I -1, I -2, Architectural Design II-1 II-2

Evaluation Method: General Assessment

Course Description:

Learning through the curriculum, students will be able to look at the Chinese and foreign architectural evolution in a historical perspective, but also to clear the stage of historical research and the limitations of the various types of conclusions, while learning the ancient building classification, constitute, decoration and technology use of knowledge to contemporary architectural design, master a variety of natural conditions, ecological environment, cultural patterns, social, technical and economic factors on the impact of building development, to master the law of development of domestic and foreign construction and trends, understand modern architecture schools evolution and influence. Topics include: the ancient Chinese architectural history, modern architectural history, the history of modern architecture, the foreign architectural

history ancient part of the history of modern architecture, contemporary architectural thought. Courses for students from concept to design, from the views of the analysis, from theory to improve the overall quality and knowledge to draw from the historical examples, to be used to study and examine buildings for architectural design.

Recommended Textbooks/References:

1. Pan Valley West China Architectural History of China Building Industry Press, 2009
2. Feelings. Ancient Chinese architectural history of China Building Industry Press, 1984
3. Sicheng to create a French note China Building Industry Press 1983
4. Chen Zihua. Foreign architectural history China Building Industry Press.
5. Foreign architectural history textbook writing team. Foreign recent history of modern architecture in China Architecture and Building Press.

Course Number: 0007565

Course Title: Site Design

Credit: 1.5 Total Credit Hours: 24

Students: The third year undergraduate students (urban planning)

Prerequisites: None

Evaluation Method: General Assessment

Course Description:

This is an exclusive course for architecture design majors, 24 hours long with 1.5 credits. Through the studies of both theory and practice, students will be able to complete outdoor vertical design, to solve problems including Elevation and Quantities processing during construction, and to implement the design in Detailed stage to construction. Students are required to grasp the basic concepts, tasks, principles, steps, depth and requirements for results of vertical design. They are also expected to be conversant with the vertical positioning of the ground, architecture and roads and the requirements for the drainage system. Moreover, students should be adept at calculating Earthwork in sites.

Recommended Textbooks/References:

1. Zhang Ling rises, Meng Hao, Place Design (second edition), China Architecture & Building Press, 2011.8
2. Yanhan, Architecture Field Design (version 2), Building Industry Press, 2010,
3. Ren NaiXin editor, 2012-Place Design-Simulation Topic-Drawing a registered architect examinations (fifth edition), Dalian University Press, 2011,01

Course Number: 0007566

Course Title: Urban Social Investigation

Credit: 2 Total Credit Hours: 32

Students: The third year undergraduate students (urban planning)

Prerequisites: Principals of Urban Planning/ Introduction of Urban Design/ History of Urban Construction

Evaluation Method: General Assessment

Course Description:

This course aimed at cultivates the ability of knowing the society, integration into society and understanding society of students. They are able to apply social investigation theories, principles and methods to explain the social situation, analysis of social problems, grasp the laws of social development, and strengthen the spirit of teamwork. This course to guide students to recognize the importance of research in urban planning, to help students acquire a certain amount of survey methods and statistical analysis methods such as questionnaires, interviews, observation, experimental method and etc. This course combined with the problems of capital urban planning, social hot issues to carry out various forms of social survey activities. This course requires students to independent (cooperation) to complete the survey of the urban construction and social psychological aspects of the site-specific (region). Subjective understanding, drawings, photographs and public interviews and other forms of evaluation of the status of specific areas (lots) of urban construction, and put forward their views and suggestions to complete the team research report.

Recommended Textbooks/References:

1. ZHANG Youde, Urban Sociology Case Tutorial, Shanghai University Press, 2003

Course Number: 0007567**Course Title: Urban Landscape Design-2**

Credit: 2 Total Credit Hours: 32

Students: The third year undergraduate students (urban planning, architecture)

Prerequisites: Theory and History of Landscape Architecture, Urban Landscape Design 1

Evaluation Method: General Assessment

Course Description:

This course is a professional course of city planning. In this course, students are to know the basic theory of Landscape Architecture, to use skillfully the basic landscape elements of road, water, terrain, planting, etc., to grasp the method of designing landscape of different scale and use, and to practise common method of communication and expression of design.

Recommended Textbooks/References:

1. Tang Xueshan, etc. Landscape Design, China Forestry Press.
2. Clare Cooper Marcus, Carolyn Francis, People Places, Design Guidelines for Urban Open Space, China Architecture & Industry Press, 2001.

Course Number: 0007783**Course Title: Introducing Beijing Urban Development**

Credit: 2 Total Credit Hours: 32

Students: The third year undergraduate students (urban planning)

Prerequisites: None

Evaluation Method: General Assessment

Course Description:

This course belongs to Professional Optional, focusing on introducing the ancient capital Beijing's

construction history, and the developing process. Through this course; students can learn the construction history of Beijing, the basic knowledge of Beijing's cultural historical protection, and applying to the capital city planning and architecture design. This course can cultivate students' concept of cultural texture, and provide the foundation for the formation of historical theory of urban planning and design.

Recommended Textbooks/References:

1. The ancient capital Beijing fifty years evolution record of the DongGuangQi southeast university press, 2006
2. A satire SDX joint publishing company royal army made up, 2003
3. 2005 ~ 2020 edition of the city's overall planning "and related new town planning

Course Number: 0007568

Course Title: Computer Aided Design-1

Credit: 1 Total Credit Hours: 16

Students: The third year undergraduate students (urban planning)

Prerequisites: Architectural Drawing and expression

Evaluation Method: General Assessment

Course Description:

Introduce computer-aided design and application of the basic concepts and the status quo. Enable students to understand the basic idea of the software and its mode of operation; through the introduction of CAD, SKETCHUP, PHOTOSHOP software, hardware requirements and software requirements; basic commands and use; using computer graphics methods and ideas; architectural space analysis the basic method; interactive use of the associated software. So that students can use-aided design software for program analysis and comparison, and to lay the foundation for the next step in the use of computer graphics in the design.

Recommended Textbooks/References:

1. Wei Shiu Ji, ancient China, Tong Zirain. A CAD Architectural Design (2). China Building Industry Press; 2010.3
2. Ma Liang Han Gaofeng SketchUp architectural drawing tutorial, People's Posts and Telecommunications Publishing House, 2012.3

Course Number: 0007570

Course Title: Computer Aided Design-2

Credit: 1 Total Credit Hours: 16

Students: The third year undergraduate students (urban planning)

Prerequisites: Computer Aided Design-1

Evaluation Method: General Assessment

Course Description:

This course is arranged in the third grade, to architecture, urban planning professional design and

use of computer and lays a foundation for nonlinear design. Due to the rhino can provide a non-linear, the parameters of the three-dimensional model, which for complex curved architectural design and convenient visual conditions, to refine architectural design provides convenience. The courses are taught mainly demonstrates supplemented its practice partly due to the limited time available, should be combined with other courses. Students through this program, the software can be used by school independently design virtualization. Students to complete the design work to learn software graphics and typesetting job as the lesson of the course.

Recommended Textbooks/References:

None

Course Number: 0007571

Course Title: Urban Renewal and Building Renovation

Credit: 1 Total Credit Hours: 16

Students: The fourth year undergraduate students (urban planning, architecture)

Prerequisites: Introduction of Urban Planning, Theory of Urban Planning

Evaluation Method: General Assessment

Course Description:

As an integral part of modern urban planning, urban renewal is one of the most debatable issues in contemporary urban study. The course of “Urban Renewal and Building Renovation” will focus on the introduction of basic knowledge on urban renewal, based on the case studies. The content of lectures will comprise the origin and concept of modern urban renewal, the evolution, approaches and cases of urban renewal in Western countries, and the theoretical and practical evolution of urban renewal in China (exemplified by Beijing) and its current challenges. Apart from the lectures, there will be an excursion and a simulation game, in the latter of which the students will play the roles of potential stakeholders who will involve in an urban renewal project. As a result, students are expected to preliminarily understand the concept, approaches and effective strategies of modern urban renewal, especially the strategies of urban rehabilitation and building renovation. The course will be given in English. In addition to the professional knowledge, students’ English language will be exercised and improved.

Recommended Textbooks/References:

1. Dong, Guangqi, (Beijing Old City’s Transformation within Fifty Years), Nanjing: Southeast University Press, 2006.
2. Klemek, Christopher, The Transatlantic Collapse of Urban Renewal: Postwar Urbanism from New York to Berlin, Chicago and London: The University of Chicago Press, 2011.
3. Shuichi Matsumura, Housing Rehabilitation – The Rebirth of Housing Blocks in Europe and America, trans. by Fang Yue and Liu Tongtong, Beijing: China Machine Press, 2008.

Course Number: 0007572

Course Title: Urban Comprehensive Planning

Credit: 1 Total Credit Hours: 16

Students: The fourth year undergraduate students (urban planning)

Prerequisites: None

Evaluation Method: General Assessment

Course Description:

This course belongs to Professional Optional, focusing on introducing the ancient capital Beijing's construction history, and the developing process. Through this course, students can learn the construction history of Beijing, the basic knowledge of Beijing's cultural historical protection, and applying to the capital city planning and architecture design. This course can cultivate students' concept of cultural texture, and provide the foundation for the formation of historical theory of urban planning and design.

Recommended Textbooks/References:

1. The Camp Countries Means: the Ancient Capital Potter Planning and Construction and Its Culture Origin , zhong ZhuZuXi editor
2. The Ancient Capital Beijing Fifty Years Evolution Record of the Dong GuangQi Southeast University Press, 2006
3. A Satire Sdx Joint Publishing Company Royal Army Made Up, 2003
4. 2005 ~ 2020 edition of the City'S Overall Planning and Related New Town Planning

Course Number:0007573

Course Title: Urban Planning Administration & Legislation

Credit: 1 **Total Credit Hours:** 16

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Principle of Urban Planning etc.

Evaluation Method: General Assessment

Course Description:

This course is to belong to basic and obligatory course, is important professional foundation course in urban planning.

Through the study of this course, the students can understand the theoretical basis of the urban planning management knowledge; The planning and implementation of the process; And the modern urban planning system theory frame; Master urban planning management system (regulations system and method system and implementing method), contents and procedure, to understand and master the basic urban planning and management of the laws and regulations and related laws and regulations, term explanation, etc, and master the basic theory of urban planning and management knowledge.

Recommended Textbooks/References:

1. Urban Planning Administration & Legislation, Wang GuoEn. Beijing: China architecture building press, 2003
2. Urban Planning Administration & Legislation, QiuYue etc editor, Beijing: China architecture building press, 2006

Course Number: 0007532

Course Title: Theory and Practice of Traditional Chinese Gardens

Credit: 1 Total Credit Hours: 16

Students: The fourth year undergraduate students (urban planning, architecture)

Prerequisites: None

Evaluation Method: General Assessment

Course Description:

This course is an elective course for urban planning majors and architecture majors, 16 hours long with 1 credit. The aim of the course is to enhance students' creativity within landscape space, their degree of Chinese culture, and their comprehensive design abilities. Students are required to grasp the feature and usage of such elements as terrain, water body, architecture and plants. They are also expected to apply the principles of design of traditional gardens to design their own traditional gardens.

Recommended Textbooks/References:

1. Tang XueShan waiting. Garden design. China's forestry press.
2. Human nature place-urban open space design specification. Beijing: China architecture building press. 2001

Course Number:0007574

Course Title: Selective Readings on Urban Planning Documents

Credit: 1 Total Credit Hours:16

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Principle of Urban Planning Introduction to urban planning

Evaluation Method: General Assessment

Course Description:

Selective Readings on Urban Planning Documents as a professional course (self-study course), is a professional curriculum system of urban planning in the basis of professional course.

Through the reading to the literatures that have important influences to the urban planning development and relevant UK and American urban planning literatures, the students can understand and master the relevant theory and knowledge in urban planning and open their minds.

This can lay the foundation for students to prepare the graduate thesis and design project. This course shall be mainly in self-study, and supported with the lectures, and class discussions, and the assessment will be in the form of reading report.

Recommended Textbooks/References:

1. Patrick Gedde. Cities in Evolution. New York: Howard Fertig, 1968 (orig.1915)
2. Lewis Mumford. The City in History. New York: Harcourt Brace & World, 1961
3. Peter Hall. Cities in civilization. New York: Pantheon Books, 1998.
4. Barry Cullingworth and Vincent Nadin. Town and country planning in the UK (13th ed) . New York : Routledge, 2001
5. Barry Cullingworth. British planning:50 years of urban and regional policy. London; New Brunswick, NJ: Athlone Press, 1999
6. Yvonne Rydin. Urban and environmental planning in the UK. Basingstoke: Macmillan, 1998.

Course number: 0003554

Course Title: The design of media cartoon

Credit: 2 Total Credit Hours: 32

Students: Industrial Design undergraduate

Prerequisites: Animation Design

Evaluation Method: Usual result (40%) , job (40%) , attendance (20%)

Course Description:

The main content of the course: Flash is the design and production of a Macromedia company for producing and editing a basic animation software. Flash design for this course is to introduce methods and ideas in General.

Focus: Flash animation of the concept applied to the difference between the various frame (key blank key frame, white frame, frames, tags, frames, frames, etc.), four models of the Eraser tool, pen tool, pencil tool use; components to create, change, copy, and edit; path animation, masking animation master.

Difficulty: differences between dot matrix and vector graphics; four models of the brush tools; a button symbol editing; path animation, masking animation master.

Recommended Textbooks:

1. WangTaichong, and LiWei, WangMashuyan, The Flash8 entry and improve, Tsinghua University Press, 2007

Course Number: 0006369

Course Title: Interactive Design

Credit: 2.0 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Evaluation Method: Written Exam

Prerequisites: Structural drawings, introduction to industrial design, design form, design chromatics, public facility design, ergonomics, computer-aided design, design procedures and methods, design psychology, creative design and performance, design project, system design of product

Evaluation Method: Submission

Course Description:

Interactive design belongs to the basis of elective course. Users will at a loss of complex operation, interactive design is to address this issue. This procedure of design put forward to industrial design system. Based on this, the course analysis product design process based on interactive design thinking, designers and producers could use this system to explore better product and creative better user experience. With the growing development of scientific and technology, the technical and manufacturing level of products continue to increase. High-tech brings more comprehensive features to products, but complicate functions and operating procedures cause the confusion. Most digital products are developed from the engineering point of view, producers and user are totally different. The process of user experience reflects the higher demand of material civilization and enjoyment of spirit, interactive design id to meet this goal. User experience and interaction between users and products is closely related, interactive behavior exists everywhere. Understanding and application of interaction design, interactive design is an effective way to solve

the “cognitive friction”. Interactive design is not only upgrading the industrial design, but also new focus of product design research.

Recommended Textbooks/References:

1. Douglas K. Van Duyne, James A. Landay. The design of sites: Patterns for Creating Winning Web Sites, Electronics Industry Press
2. Steven Heim, The Resonant Interface – HCI Foundations for Interactive Design, Electronics industry press, 2008
3. Li Shiguo, Experience and challenges of product interactive design, Jiangsu fine arts press, 2008

Course Number: 0002473

Course Title: Public Facilities Design

Credit: 2 Total Credit Hours: 33

Students: Undergraduate students major in Industrial Design

Prerequisites: Model Making, Engineering Graphics V, Introduction to Computer-aided Industrial Design

Evaluation Method: report 100%

Course Description:

This course is aimed to let students understand the significant meaning of the facilities design in public environment, understand the classification of public facilities and their related design features before applying them to the design practice program. Public facilities design is accompanied by urban development arising from the financial industry product and environmental design. As the architectures, the public facilities are generated by the development of the human being and followed the requirements of urban development and changing environment. The existence and evolution of the public facilities reflects the level of civilization level of the city. At the same time, the characteristics of the public facilities are consistent with the urban environmental characteristic, cultural diversity, and specific design features. Public facilities existing like the city's furniture, is an indispensable element of urban space, and the details of the design of the city, with its shape, the changing volume and multiple features enriching urban space.

Recommended Textbooks/References:

1. Jan Gehl, Life Between Buildings, China Architecture and Building Press, 1992

Course Number: 0007590

Course Title: Webpage design

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Prerequisites: Visual communication design, Animation design, Multimedia animation design

Evaluation Method: Classwork

Course Description:

The aim of the course is to cultivate the students' design application ability of webpage design through the lecture and practice of webpage design. The contents are style trend, webpage design

method and the general principles. The students are expected to understand the concepts, theories, methods, and techniques of webpage design. The main topics include: Webpage design process, the concepts of webpage design, development process and its current style trend, webpage design planning and layout, the organization structure of webpage, webpage design style analysis, the practical application of color, color application in advertising poster, the application of color in product design, enterprise standard color, target consumer and audience characteristics analysis, the basic elements of webpage design, color collocation in the webpage, webpage design planning, the unity of content and form. The students will be required to master the basic operation skill of software Dreamweaver, Photoshop and animation software application in webpage.

Recommended Textbooks/References:

1. Liu Fengling, Web design. Tsinghua University Press, 2011
2. Wu Zhixiang, Webpage design and practice. Science Press, 2011

Course Number: 0006370

Course Title: Product Research & Analysis

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Prerequisites: Introduction to Industrial Design, Fundamentals of Design Morphology, Color Design, Ergonomics, Computer-aided design, Design procedure and method, Design Psychology, Design Creativity and Performance, Product system design.

Evaluation Method: Submitted a research report

Course Description:

Product Research & Analysis is Professional limited elective. It incorporated both the early stage of product research and analysis to the Product Design.

The Students must do the design research systematically, including the product's features, the aesthetic of the product modeling, the materials of products, the technology of products, the economics of products, the creativity of the products and the use value of the products.

Preliminary research in Product Design is an important part of the whole design process, without it, the Design will be lack of purpose, and can't be continued.

Research & Analysis could strengthen students' understanding of the product market and the exchange and communication of analysis between the design elements and product users, consolidate students' grasp on the framework of knowledge and understanding of the theory course, enhancing creative ability of students culturing the abilities of independent thinking, finding problems and solving problems.

This course will raise the importance of product research and analysis for students, making the students understand the role which research played in the design. During the course, students will master the basic process research and analysis methods, enhancing the ability of students to culture the abilities of independent thinking, finding problems and solving problems.

Recommended Textbooks/References:

1. Psychology of Industrial Design, [M], Beijing, Higher Education Press, 2004
2. Introduction to Design, [M], Changsha, Hunan Science and Technology Press, 2003
3. Product Design, [M], Beijing, Electronics Industry Press, 2006

Course Number: 0007591

Course Title: Exhibition Design

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Prerequisites: Ergonomics, Model Making, Engineering Graphics V, Introduction to Computer-aided Industrial Design

Evaluation Method: Curriculum design

Course Description:

The exhibition design need the complex capability of art and design disciplines. Within a given time and spatial scales, the students will be required to create plane and space to explain the intent of the exhibits theme correctly by meaning of art and design language. Through this course, students can get a comprehensive understanding of the exhibition design theories, can complete the exhibition design project independently, and improve design and practical skills. Students can learn to master the method of exhibition design, have command of the basic overall design principles, layout, presentation environment, equipment and devices, lighting settings, and other relevant contents relating to all aspects of the design of the structure, size and scale, technology, materials and processing technology, etc.

Recommended Textbooks/References:

1. GE Hongyan, Exhibition Design, Higher Education Press, 2007

Course Number: 0003546

Course Title: Transportation Design

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Prerequisites: Design Morphology, Ergonomics, Introduction to Computer-aided Industrial Design, Model Making

Evaluation Method: Report 100%

Course Description:

This is the professional selective course, which covers the principle and the method of system design. The students will be required to do the researches and analyses with the existing vehicles and transportation modes, then to identify and analyze problems for the purpose of improving and enhancing traffic efficiency. Finally appropriate design methods will be selected to tackle the problem. The Focus will be on: the creative thinking and design method, the integration of technology and design. The study contents are: The basic concepts of vehicles, the introduction of transportation history, design methods and procedure of vehicles, the vehicle production and platform strategy, the human-machine-environment system relationship, design and concurrent engineering collaborative environment.

Transportation design involves the knowledge of multi-disciplines. Therefore the students are expected to absorb many kinds information continuously in order for a comprehensive knowledge structure. Skilled in foreign language capabilities are also required, so as to accommodate concurrent engineering, collaborative work environment and adapt to the international design teamwork in the future.

Recommended Textbooks/References:

1. Klaus Lehmann, Design Training. ABK Stuttgart, 1999
2. YAN Yang, Introduction to Automobile Design, Tsinghua University Press, 2005

Course Number: 0007592**Course Title: User Experience Design****Credit: 2 Total Credit Hours: 32****Students:** Undergraduate student major in Industrial Design**Prerequisites:** Design Procedure and Method, Interaction Design, Product Research and Analysis**Evaluation Method:** Exam and report**Course Description:**

User experience design focuses on the application in the field of user experience and usability interaction design. The contents are the concept of user experience, the concept of usability and interaction usability design. By teaching and practice, the students are expected to understand the general design methods and process, to be trained to improve the interaction design practice ability applied the user experience and design usability special theory and skills.

Recommended Textbooks/References:

1. Garrett, J.J, The Elements of User Experience: User-centered Web Design, Machinery Industry Press, 2008
2. Russ Unger, Carolyn Chandler, translated by Sun liang, User-centered Webpage Design, People Post and Telecommunication Press, 2010
3. Sketching User Experiences—Getting the Design Right and Right Design, Electronics Industry, 2009

Course Number: 0007593**Course Title: Marketing Investigation of Designing****Credit: 2 Total Credit Hours: 32****Students:** Undergraduate student major in Industrial Design**Prerequisites:** Corporate Identity System of Principle, Corporate Identity System design**Evaluation Method:** Quiz**Course Description:**

Methods of Marketing Investigation: (how to start marketing research, how to carry out marketing research, how to ensure real information of products) understanding the information of same products, related products; understanding regional differences; understanding the differences of economy, culture, geographical environment, climate and nationality; understanding information collection, information classification and means of information exchange; understanding visual location, visual elements; understanding the plans for marketing, product comparisons, design situations, product perceptual and rational environments, advantages of product design, quality and confidence; understanding marketing positioning, individual requirements, development needs and competitive environment of similar products.

Recommended Textbooks/References:

1. Wang Shouzhi. "World Modern History of Graphic Design", New Century Press House, 2006
2. Zou Jiamian. "Product Strategy" Hunan Art Press House, 2003
3. Zhu Guoqin, Ni Wei, Wang Wenxia. "Mental Training of Art" Shanghai People's Fine Arts Publishing House, 2008

Course Number: 0006320

Course Title: Fundamentals of Cartoon Design

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students of Industrial Design Department

Prerequisites: Introduction to CAID, Plasticism III, Chromatology, Design sketch

Evaluation Method: Assignment Fulfilling Quality

Course Description:

The concept of animation, origin and development process, the animation of the audio-visual language, classification, one by one analysis animation lens, composition and lighting and seat will be taught in the class. In contrast to the development of animation history of Japan, China and other countries, will be taught as basic animation knowledge. The ability of operating computer, especially students' software self-education will be enhanced. Knowing the animation design principle and fabrication technology of animation unarmed, animation appreciation and evaluation, animation design innovation and tradition inheritance, the future animation market forecast and animation products are the skill requirement for students fulfilling the course.

Recommended Textbooks/References:

1. Chen Mai, Stop-motion animation techniques, Renmin University of China Press, 2005.
2. Wang Ying, The original design, Shanghai people's Fine Arts Press, 2004.
3. Sun LiJun, Animation art dictionary, Chinese International Broadcasting Press, 2003.
4. Su Mu, Honor - Beijing Film Academy film analysis textbook, China Film Press, 2007.

Course Number: 0006054

Course Title: Color Design

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Prerequisites: Chromatology, Chromatology Practice

Evaluation Method: Classwork

Course Description:

The course is to cultivate the students' design application ability of color. The lecture part of the course includes the color composition principle, color matching rules. The students are expected to learn the basic concepts, theories, methods, and techniques of color design. The main topics include: the concepts of color and its scientific principle, three elements of color, color identification method, color-mixing method (including the addition and subtraction) and Color brightness contrast, color purity contrast, color hue contrast, cool tone and warm color tone, color area contrast, color harmony, unity and contrast of color harmony, color psychological analysis

and symbolic meanings of colors, color emotion expression, different symbolic meanings of color, the practical application of color, color application in advertising poster, the application of color in product design, enterprise standard color.

Recommended Textbooks/References:

1. Linda Hotz. Shu, Introduction to design color. Shanghai people's fine arts press, 2006
2. Gavin. Ambrose. Color. China Youth Press, 2007

Course Number: 0006371

Course Title: Chinese Traditional Design Research

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students of Industrial Design Department

Prerequisites: Introduction to industrial design, The Phylogeny of Design, History of Western Art

Evaluation Method: Quiz and research paper occupied 40% and 60% separately

Course Description:

Through our traditional products carding and traditional Chinese culture design evolution process, specific designs of traditional design, design method, design way of thinking, as well as the design follows, evolution process, with comparisons between western design and cultural background in the same age, the students will be required to make more theoretical understanding of the design guidance, make sense of find the fundamental design development from Chinese traditional theory too. The students will learn design thought in many countries, especially the traditional Chinese cultural classics one, to grasp the connotation of the concept according to the certain structural system of knowledge, to have a more profound understanding about the design of different times. The aim of the course is to cultivate students' good attitude and method studying the traditional culture.

Recommended Textbooks/References:

1. Cultural Anthropology, written by William A Haviland, translated by Qu TiePeng, Zhang YuYi, Shanghai Social Sciences Academy Press, 2006
2. Human culture revelation, written by Zhou Wei, Xu Keqian, XueLin Press, 1999
3. Classic Readings in art design (second Edition). Written by Xi Chuanji, Dong Nan University Press, 2005
4. Classic Readings in foreign art design, Written by Li YanZu, Qinghua University Press, 2006.
5. The artificers' record., Written by Dai Wu San Bian, Shandong Pictorial Press, 2003

Course Number: 0007792

Course Title: The Basis of Decoration

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Prerequisites: Plasticism, Chromotology, Design morphology

Evaluation Method: Practice

Course Description:

This course belongs to the professional elective courses in industrial design. Decorative artistic design is an indispensable and important component of art. Its visual optimization is the main content of the research of plastic arts. Observation is the route one must take. Decoration is finding the idea of beautiful form and characteristics and taking them as the source of creation.

The goal to be achieved in the course for the knowledge and the ability as following:

- **Thought:** Students can form a widespread and profound understanding on the morphology of the arising and the decorative style in china and abroad based on the origin and development of decorative learning. And they will grasp the basic direction of human design in this way.
- **Knowledge:** through the decoration based learning, students can understand the concept of decoration, characteristics and laws of modeling, along with related design, manufacturing knowledge: Through the guidance of basic theories, students can understand the knowledge of the objective image and abstract image conversion between techniques and creative basic form. Students can not only apply but also innovate and develop these in their modern design.
- **Ability:** through the learning of decorative modeling method, students can understand the program and production of painting from nature to decorative creative design. They will from the ability of developing a decorative product and moreover they can apply the decoration to design.

Recommended Textbooks/References:

1. “LeiGuiyuan’s theory of art design” edited by Yang Chengyin etc. , China, Zhejiang Academy of Fine Arts,press,1992September
2. “Decorative pattern of creation and expression” edited by Liu Shiyan, China Textile Press, 2007September
3. “Pattern of creative design” edited by Mao Xi Jin Feng, the Shanghai people’s fine arts press, 2004September.

Course Number: 0002459

Course Title: Comparative Design

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Prerequisites: Introduction to Industrial Design, the Introduction of Culture Anthropology, the Phylogeny of Design

Evaluation Method: Term Essay and Optional subject report

Course Description:

Through this course, students will be taught to compare design of different nationalities, countries and civilizations with comparison method, understanding the regular characteristics of the world design and development. Students can distinguish similarity and difference of the world’s major design type. In terms of ideology, students can establish the general theory of abstraction from phenomena to essence, and then go back to reality, putting theoretical to the practical application. In terms of knowledge, they can understand the dialectical relationship between design features, social, economic, political, science and technology, constructing their own philosophical design perspectives. In terms of ability, they are able to use the comparative method on design phenomena with basic abstract abilities. As for requirements, students need to gain the ability of text descriptions, digital competencies, schematic thinking and comprehensive description of the

variety of capabilities. They should have a clear description and evidence-conclusion.

Recommended Textbooks/References:

1. Jianlin Ni, The Comparison Between Chinese and Western Arts and Design. Chongqing University Press, 2007
2. Tianhua Liu, Solidification of the Melody-The Comparison between Chinese and Western Architecture. Shanghai Ancient Books Press, 2005
3. Weilin Shi, Zhengyu Qiu, The Comparison Between Chinese and Western Architecture Culture. Yunnan University Press, 2007
4. Zhengkun Gu, The Comparison Between Chinese and Western Culture. Peking University Press, 2007

Course Number: 0007596

Course Title: CI-VIS System Design

Credit: 3 Total Credit Hours: 48

Students: Undergraduate students major in Industrial Design

Prerequisites: Prerequisite Course: Design Procedures and Methods, Chinese Traditional Design Research, Visual Communication Design, Market Research of Product Culture, Design Principles of CIS-VIS

Evaluation Method: Quiz

Course Description:

Understanding the importance of corporate image design to the corporate identity, corporate product design, corporate brand promotion, manufacturing, sales system management, corporate existence and development; organizing students to carry out CI market research, collect related information, take notes with words and pictures and to discuss with each other; the basic concepts and theories include: the formation of plan and design concepts, elements presentation, paying attention to students' design consciousness, design thinking, systematic training of designing design techniques. Design Analysis of VIS standard part, design analysis of application part. The specific topic includes VI design copies, VI visual plan and creative methods, project of VI system design standards, plan and design of application system.

Recommended Textbooks/References:

1. Wang Shouzhi, "World Modern History of Graphic Design" New Century Press 1988
2. Wang Shouzhi, "Art and Design" Art and Design Magazine 2006
3. Li Shaohua, Wang Yi, "CIS Strategy Identity" Beijing Economics Institute Press 2001
4. Xiao Yong, "Logo Design" China Youth Press 2005

Course Number: 0007594

Course Title: Design for Theme of Space

Credit: 3 Total Credit Hours: 48

Students: Undergraduate students major in Industrial Design

Prerequisites: Model Making, Engineering Graphics V, Introduction to Computer-aided Industrial Design, Exhibition Design

Evaluation Method: Curriculum design

Course Description:

This course aim to train students to use emotional thinking as their dominant design method, with combining diverse thinking method to get the design concept, and then to get the final optimal design result. Understanding the meaning of the theme of space as the spirit of space, the students will be helped to explore the appropriate emotional language of space, include thought, act, value view, spatial form, color combinations, spatial layout, materials and decorate. The course is arranged with two main parts: Firstly, the method and the principle of Design of the Theme of Space teaching, emphasis on the regional planning and environment of inner and outer space needing to be the prerequisites before come up with the appropriate design. Second, after understanding the design method and the principle of environment of inner and outer space, students need to have good command of the design method of business space, exhibition space and the entertainment Space. Tips: Focusing on the features of the design objectives; paying attention to the real problems in project practice; to be strict with the feasibility of design options.

Recommended Textbooks/References:

1. WANG Fuyun. Space Design. Chemical Industrial Press, 2010

Course Number: 0007595

Course Title: Art Exhibition Planning

Credit: 2 **Total Credit Hours:** 32

Students: Undergraduate Students Major In Industrial Design

Prerequisites: Exhibition Design, Public Facilities Design, Theme Space Design

Evaluation Method: Written Examination

Course Description:

Through curriculum theory, method, actual practice, the case analysis, discussion and interactive teaching, the art exhibition planning course can cultivate students' professional knowledge and skills of establishing independent plan and the innovation spirit of art exhibition planning. In order to obtain the exhibition operation skills comprehensively, the students need to grasp the selection points of planning targets, have the planning ability of exhibition independently, draw up the countermeasures of conventions' emergencies ,master using the principle of scheme to plan the exhibition and backup force, get hold of multiple types of planning method. The students also need to realize the expression ability of art exhibition planning scheme, independent plan ability and perform complete writing of plan book. At last, adapting to the need of basic job of Beijing art exhibition in advance, the students should finish each homework and a real project planning independently under the guidance of the teachers in order to master the composite operational methods of art exhibition planning.

Recommended Textbooks/References:

1. WEI Yuncheng. Rethinking after China Avant-Garde Exhibition. Beijing, Culture art press, 2011
2. CAO Yiqiang. Overviews of Art management. Hangzhou. China Academy of Art Press, 2006
3. SHI Changkui. Exhibition economy: operation model management (1rd Edition). Beijing, China economy Press, 2006

Course Number: 0002484

Course Title: Abstract Art and Intuitive Painting

Credit: 2.0 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Prerequisites: Modeling, Chromatics, Foreign art history

Evaluation Method: submission classwork

Course Description:

This course is elective course of foundation. As students who are major in design, they must know the diverse aesthetic orientation of today's world and this course helps students to locate design well. By learning the history of abstract art, students will be able to know the history of source and development of abstract modeling, distinguish and evaluate the feature and quality of abstract art work. By practicing abstract modeling, students will be able to create abstract visual image so that they will be able to apply the skill appropriately in the future design and diverse aesthetic orientation can be added to their design products, so that their work will contain wide range of inclusive and acceptance.

Intuitive painting is an act of artistic creation of depending on no experience or any thought or idea, and only depends on instant emotion and reaction. Contents of course training--unconscious painting, it's a way of thinking, students will be able to relax thoroughly, always keep open minds, constantly dig creative potential and new art forms by devoting themselves to the action of artistic creation.

Trained by intuitive painting, students will be able to know ways of digging design potential maximizing their design inspiration and apply it directly to design.

Recommended Textbooks/References:

1. Jonathan. Feinberg(U.S). Art Since 1940 Strategies of Being, 2006. Renmin University of China Press, ISBN7-300-07528-2
2. Edward. Lucy.Smith(Britain). Visual Arts in the 20th Century, 2007.4. Renmin University of China. ISBN978-7-300-07912-7
3. Xu Demin. Chinese Abstract Art, 2009. Fudan University Press. ISBN978-7-309-06459-9

Course Number: 0001239

Course Title: Cognitive Practice

Credit: 1 Total Credit Hours: 30

Students: Undergraduate students major in Architecture (Grade 1) , Undergraduate students major in City Planning (Grade 2)

Prerequisites: None

Evaluation Method: Test

Course Description:

Through cognition fieldwork, students will visit the famous public and civil architecture built in recent years. It's helpful to make the students understand the developing progress of Beijing's architecture, to strengthen students' understanding of architecture and build up the right concept of architecture. Through the experience in person on the architecture's function , spatial organization and form, students can have the idea of what kind of architecture is good architecture.

Recommended Textbooks/References:

None

Course Number: 0007501

Course Title: Building Physics Lab-1

Credit: 1 Total Credit Hours: 24

Students: Undergraduate students major in Architecture (Grade 2) , Undergraduate students major in City Planning (Grade 2)

Prerequisites: Building Tectonics -1 (Heat)

Evaluation Method: Test

Course Description:

Building Physics Lab-1 is an experimental theory course for students majoring in Architecture. It will cultivate students to master the principles of building experimental design, to understand the basic knowledge of building thermal performance, and to provide a theoretical foundation and practical knowledge for building design that not only conforms to function requirements, but also offers comfortable built environment. This course aims to strength students' experimental ability., and to train the students to have the ability to carry out building thermal design.

Recommended Textbooks/References:

None

Course Number: 0007504

Course Title: Computer Aided Design-1

Credit: 1 Total Credit Hours: 30

Students: Undergraduate students major in Architecture and urban planning

Prerequisites: Architectural Drawing and Expression

Evaluation Method: Test

Course Description:

This course will introduce basic concepts and the status quo of computer aided design and its application software. Through the introduction of CAD, SKETCHUP, PHOTOSHOP, so that students can understand the basic thought and operating mode of related software, hardware and software requirements, basic command composition and use, basic method and thought of computer drawing, basic methods of doing architectural space analysis, and interactive use of relevant software. It is aimed to make students able to aided design software to do design analysis and comparison, and to lay the foundation for using computer in design drawing.

Recommended Textbooks/References:

1. WEI Zhaoyi, GU Guohua, TONG Ziyu. The Application Of Cad In Architectural Design (second edition). China Architecture & Building press. 2010.3
2. MA Liang, HAN Gaofeng. SketchUp Architectural Drawing Course. People's Post And Press. 2012.3

Course Number: 0007782

Course Title: Ancient Building Survey

Credit: 1.5 Total Credit Hours: 45

Students: Undergraduate students major in Architecture

Prerequisites: Chinese architectural history

Evaluation Method: Survey mapping drawing and structure description

Course Description:

Content and requirements: thoroughly observe certain ancient architecture with historical or cultural value, and then draw its plan, elevation, profile as well as detail. The course focuses on the thorough experience and analysis of ancient architecture, and the method of expressing three-dimensional entity in two-dimensional drawings. Its difficulty lies in the cultivation of students' capabilities of field work and team collaboration, as well as their understanding of traditional craftsmen's handling of technology and art.

Arrangements: teach the methods of observation, measurement and drawing of ancient architecture, enable students to use the theoretical knowledge of composition to the analysis, summary, and drawing of certain buildings based on its correct comprehension; understand the knowledge and scale of typical ancient buildings; know about the evolution and research methods of traditional architecture.

Recommended Textbooks/References:

1. LIANG Sicheng. Qinggongbu Gongcheng Zuofa Illustrated. Tsinghua University Press. 2006
2. MA Bingjian. Wood Work Technology of Chinese Ancient Architecture. Science Press. 2003
3. LIU Dake, Tile and Stone Work Technology of Chinese Ancient Architecture. China Building Industry Press. 1993
4. JIANG Guangquan. Chinese Official Painted Surface Technology in Qing Dynasty. China Building Industry Press. 2005

Course Number: 0007734

Course Title: Art Fieldwork

Credit: 3 Total Credit Hours: 90

Students: Undergraduate students major in Architecture (Grade 2), Undergraduate students major in City Planning (Grade 2)

Prerequisites: Sketch-1, -2, Color Painting-1, -2

Evaluation Method: Test

Course Description:

Art fieldwork is the summary of two years class teaching, and is one of the important practical teaching course. For the students majoring in architecture and planning, the on-site experience of building objects and environmental features is particularly important and is a very good practice opportunity for opening up the second classroom. It aims to test and consolidate what the students learned during the sketch, color painting class and to let them fully perceive and find the aesthetic scenery in a realistic environment. Students are required to complete sketch and creative work by using the means of paintings.

Recommended Textbooks/References:

None

Course Number: 0007705

Course Title: Tectonic Design -1

Credit: 1 Total Credit Hours: 30

Students: Undergraduate students major in Architecture

Prerequisites: Architectural construction-1

Evaluation Method: Test

Course Description:

This course is a follow-up practical course of architectural construction-1, and it laid the theoretical foundation for the study of building construction. In accordance with the requirements of architectural design curriculum, students need to complete detailed structure design, understand the basic content and depth of architectural design, and the program of architect's work. Through the study of this course, students can apply the general knowledge of tectonic design, according to specific conditions, design the structure of civil architecture, and grasp the basic ideas and methods of building construction design and understand the basic requirements of architectural detail design. This focus of this course is to enable students to master the general principles of the large number of civil construction structural design.

Recommended Textbooks/References:

1. YANG Weiju et al. Building Construction Design. China Building Industry Press. 2005.7
2. Edited by LIU Zhaoru. Building Construction Design Basis. Science Press. 2000.9
3. Building Structure Design Data Set. China Building Industry Press. 1990.6.
4. Architectural Design Information Set. China Building Industry Press. 1990.6
5. J.G Reenland, XIA Yuan. Building Science Basis. Science and Technology Press.

Course Number: 0007506

Course Title: Architecture Design III-1 Professional Design Week

Credit: 1 Total Credit Hours: 30

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Architecture Design III-1

Evaluation Method: Test

Course Description:

In respect to Architectural Design III -1 curriculum design task, to improve the design in terms of functional layout, physical design, environmental design, architectural style, and representation. To draw the analysis chart, complete the model, and finish the design drawings.

Recommended Textbooks/References:

None

Course Number::0007502

Course Title:Building Physics Lab-2

Credits: 1 Total Credit Hours: 24

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisite: Building Construction, Civil Architectural design, Building Materials, Building

Physics-1, Building Physics-2

Evaluation Method: Experiment report

Course Description:

This course is an important practice course for students majoring in architecture. Through the study of this course, students are expected to improve their capabilities of mastering architecture-related light experiments and actual tests. Moreover, the course provides students with instructions on light environment design. The main content of this course includes: conduct a possible renewal program by a survey of indoor light environment and building status, and propose a building light environment design by testing results from analyzing, calculating, collating and assessing proposed solutions, and finally the calculated results would be represented by drawing in the form of computer graphics.

Recommended Textbooks/References:

None

Course Number: 0007507

Course Title: Architecture Design III-2 Professional Design Week

Credit: 1 Total Credit Hours: 30

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: Architecture Design III-2

Evaluation Method: Test

Course Description:

In respect to Architectural Design III -2 curriculum design task, to improve the design in terms of functional layout, physical design, environmental design, architectural style, and representation. To draw the analysis chart, complete the model, and finish the design drawings.

Recommended Textbooks/References:

None

Course Number: 0007508

Course Title: Cognition Fieldwork of Classical Gardens and Cities

Credit: 1.5 Total Credit Hours: 45

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: All courses of Architecture from Grade 1~3

Evaluation Method: Test

Course Description:

By the way of field trip, the course makes the undergraduate students majoring in architecture to broaden their horizon, acquire more knowledge, enrich their design methods, enhance their artistic accomplishment, and increase their professional attainments. The main places of fieldwork are in southern China, including some typical cities such as Hangzhou, Shanghai, Suzhou, and the nearby areas. Students will have the field trip and study aiming at urban planning, landscape design, architecture design (historic buildings and modern buildings) and classical gardens.

The main route of fieldwork is from Hangzhou, Suzhou, Shanghai to Beijing. The works of

fieldwork include sketch, surveying and mapping, essay, and photography. The achievement will be judged according to the works and the usual behavior comprehensively.

Recommended Textbooks/References:

None

Course Number: 0007509

Course Title: Architectural Business Trainee

Credit: 1 Total Credit Hours: 30

Students: Undergraduate students major in Architecture (Grade 3)

Prerequisites: None

Evaluation Method: Test

Course Description:

This course is the first design institute practice for architecture students after their completion of foundation stage learning. The practice has a close relationship nexus with high-grade design institute practice, and not only has a good role in promoting on later professional learning, but also laid an important foundation for students to have senior engineering practice, participate in Institute (or business) technological innovation and engineering development, and to enter the “excellence” training system. Its main task is to understand the working environment, working procedures and the collaboration of different types of works, and to understand as an architect should learn to master the basic theory and basic skills, but also pay attention to learning the working attitude of excellent architects, be proactive as a good assistant.

Recommended Textbooks/References:

None

Course Number:0007503

Course Title:Building Physics Lab -3

Credits: 0.5 Total Credit Hours: 12

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisite: Building Construction, Civil Architectural design, Building Materials, Building Physics-1, Building Physics-2, Building Physics-3

Evaluation Method: Experiment report

Course Description:

This course is an important practice course for students majoring in architecture. Through the study of this course, students are expected to improve their capabilities of mastering architecture-related acoustic experiments and actual tests. Moreover, the course provides students with instructions on acoustic environment design. The main content of this course includes: methods of acoustic design of multifunctional halls, operation of testing instruments, site measurement and analysis, design solutions; measurement methods of environmental noises, operation of measurement instruments, data processing, and evaluation methods of noises.

Recommended Textbooks/References:

None

Course Number::0007510

Course Title:Urban Design Professional Week

Credits: 1 Total Credit Hours: 30

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisite: Urban Design

Evaluation Method: Test

Course Description:

In respect of the design task of urban design course, students are required to carry out thematic design elaboration and representations.

Recommended Textbooks/References: None

Course Number: 0007511

Course Title: Architecture Design IV-2 Professional Design Week

Credit: 1 Total Credit Hours: 30

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Architecture Design IV-2

Evaluation Method: Test

Course Description:

In respect to Architectural Design IV -2 curriculum design task, to improve the design in terms of functional layout, physical design, environmental design, architectural style, and representation. To draw the analysis chart, complete the model, and finish the design drawings.

Recommended Textbooks/References:

None

Course Number: 0006043

Course Title: Architectural Fast Design Training Week

Credit: 1 Total Credit Hours: 30

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Architecture Design

Evaluation Method: Test

Course Description:

This course is a design course for four-year students majoring in architecture. It is important for cultivating students' expertise and capabilities in fast architectural design. The main task is to provide a guidance for students to carry out fast design. It is mainly include the basic theory of fast design skills to prepare and the introduction to fast design method. Through a series of training, students initially have the ability of fast building design in order to adapt to future jobs in design Institute and the registered architect examination.

Recommended Textbooks/References:

None

Course Number: 0007512

Course Title: Building Disaster Mitigation and Prevention Topic

Credit: 1 Total Credit Hours: 30

Students: Undergraduate students major in Architecture (Grade 4)

Prerequisites: Building construction, Building structure

Evaluation Method: Test

Course Description:

This is a focused and experiential internship, the purpose is to learn through personal experience, and to engrave the basic knowledge about building earthquake, construction and building fire disaster prevention and mitigation on the consciousness of architectural design, and to provide a platform for students' architectural design standing in the safety of users point of view.

- (1) understanding the impact of earthquakes on buildings and earthquake resistance measures;
- (2) in-depth understanding of fire safety measures in fire to persons, damage to buildings and buildings;
- (3) understanding the plague spread, electromagnetic radiation, atomic radiation, the common sense of building materials pollution.

Recommended Textbooks/References:

None

Course Number: 0007513

Course Title: Architect Business Practice (including construction site practice)

Credit: 1 Total Credit Hours: 30

Students: Undergraduate students major in Architecture (Grade 5)

Prerequisites: Building construction, Building structure

Evaluation Method: Test

Course Description:

This course is one of the most important practical courses for Architecture students must complete before graduation design. Its main task consists of two parts, First, to participate in the architectural design of actual projects; second, construction site practice. The purpose of design Institute practice is to familiarize students with the design institute working procedures and multiple types of works with the master drawing of the building construction plans, specifications and essentials. Meanwhile, combined with the actual situation of the Design Institute, students are encouraged to participate in urban planning, urban design, landscape design to a varied degrees.

Through construction site practice, students will understand the full set of drawing files of architectural engineering design terminal style; understand the relationship and gaps between design drawings and actual building design drawings; and use the perceptual knowledge of transforming drawings into actual building to support the rationality of architectural design, innovative , and integrity.

Recommended Textbooks/References:

None

Course Number: 0006907

Course Title: Senior Project

Credit: 16 Total Credit Hours: 480

Students: Undergraduate students major in Architecture (Grade 5)

Prerequisites: Architecture design

Evaluation Method: Test

Course Description:

Contents: Master the design requirements, technical specifications, and advanced scientific and technological knowledge of different building types. During the practice, understand and realize the responsibilities of architects, such as the professional co-ordination in design process; the requirements and process of project approval, and the relationship of Party A and Party B, etc. The topics require real buildings above medium-sized (building area larger than 8000 m²). Building types: large or medium-sized public buildings, residential buildings (including high-rise residential complex and high-rise hotels), planning, etc. Exact content and requirement are explained in design brief.

Requirements: Participate in academic seminars organized by the university, complete researches arranged by supervisor; consult and translation relevant reference books and materials. Each supervisor can direct up to four students, and each student must completed an project independently.

Recommended Textbooks/References:

1. Ministry of Construction of China. Code for design of civil buildings. China Building Industry Press. 2005
2. Ministry of Public Security of China. Code of Design on Building Fire Protection and Prevention. China Planning Press, 2006
3. Beijing Institute of Civil Engineering and Architecture. Design Code for Garage. China Building Industry Press. 1998
4. Architectural Scientific Research Institute of China. Codes for Design on Accessibility of Urban Roads and Buildings. China Building Industry Press. 2001

Course Number: 0001200

Course Title: Survey Internship

Credit: 1 Total Credit Hours: 30

Students: The second year undergraduate students (urban planning)

Prerequisites: Surveying

Evaluation Method: General Assessment

Course Description:

“Surveying practice” is “surveying” the follow-up supporting courses, students must complete a “surveying” is a practical course in Civil Engineering compulsory. Its main task through practice, to cultivate the students’ hands-on and operating, mastery classroom learning content, enhance the ability of students in the engineering practice, and lay a good foundation for the future to solve practical engineering problems.

The purpose of surveying teaching internship is to enable students to integrate theory with practice, access to the actual measurement of work experience and basic skills. Internship focus on training

students to analyze problems, solve problems and ability to work independently to master the skills of measuring instruments, for computing and graphics capabilities, comprehensive and systematic understanding of the whole process of surveying and mapping regional-scale topographic map, construction survey; to cultivate students' teamwork, training, and enhance the hard-working spirit. End of the internship, require students to achieve:

1. Compared with proficiency in the use of the theodolite, level and test methods; grasp the point of view, the determination of the distance and elevation and survey and design method.
2. The initial grasp of the order and methods of large-scale topographic mapping.
3. To master the basic construction of the loft, initially has the ability to participate in small and medium-sized engineering survey work.

Recommended Textbooks/References:

None

Course Number: 0001239

Course Title: Cognitive Practice

Credit: 1 Total Credit Hours:30

Students: The second year undergraduate students (urban planning)

Prerequisites: None

Evaluation Method: General Assessment

Course Description:

This course of urban planning professional foundation courses, students learn the course, the city has an initial perceptual learning lay the foundation for future urban planning discipline to understand the basic city knowledge and cognitive theory, in the city's image concrete concepts, understanding the relationship of spatial and functional organization of the city, the layout of the city's environmental planning laws and methods.

Tianjin city overview and city development process, and understand the old city of Tianjin, the concession and the international construction and understanding of Tianjin history and culture and related buildings, to understand the new city of Tianjin, the public activities of the central area of public green space system, road transport system, urban life, residential areas the city. Understanding of the Tianjin Urban Planning (overall urban planning, regulatory control and the special plan) the impact of the course of the development and planning of urban construction.

Recommended Textbooks/References:

None

Course Number: 0007547

Course Title: Planning and Design -1 of professional Design Week

Credit: 1 Total Credit Hours: 30

Students: The third year undergraduate students (urban planning)

Prerequisites: Urban Planning, Urban Design

Evaluation Method: General Assessment

Course Description:

This course is a three-year planning and design courses, Basic and required students to design methods and the thinking stage of development course. The main task is to guide students into the planning and design of the door. While learning the basic theory of design to further strengthen the basic training, the students begin to understand and gradually formed its own right learning method, working methods and ways of thinking. Through a series of design training, so that students initially have the capacity of the Planning and design, planning design of laying the foundation for the fourth grade. The above requirements would prevail in the following specific teaching.

Recommended Textbooks/References:

1. . Principles of Urban Planning (Fourth Edition), Wu Zhiqiang, chief editor Li Dehua, Beijing:China Building Industry Press, 2010;
2. Urban Planning, Tan longitudinal wave, Beijing: Tsinghua University Press, 2005;
3. ED bacon, yellow and rich hand, Zhu Qi compiler, "Urban Design" (revised edition), Beijing: China Architecture Industry Press, 2003
4. Xusi Shu Zhou Wenhua, "Introduction to Urban Design", Beijing: China Architecture Industry Press, 1991
5. Zou Deci, "Introduction to Urban Design" concept. • Thinking • method • Practice, Beijing: China Building Industry Press, 2003

Course Number: 0007548

Course Title: Planning and Design -2 of professional Design Week

Credit: 1 Total Credit Hours: 30

Students: The third year undergraduate students (urban planning)

Prerequisites: Urban Planning, Urban Design

Evaluation Method: General Assessment

Course Description:

This course is a three-year planning and design courses, Basic and required students to design methods and the thinking stage of development course. The main task is to guide students into the planning and design of the door. While learning the basic theory of design to further strengthen the basic training, the students begin to understand and gradually formed its own right learning method, working methods and ways of thinking. Through a series of design training, so that students initially have the capacity of the Planning and design, planning design of laying the foundation for the fourth grade. The above requirements would prevail in the following specific teaching.

Recommended Textbooks/References:

1. Principles of Urban Planning (Fourth Edition), Wu Zhiqiang, chief editor Li Dehua, Beijing: China Building Industry Press, 2010;
2. Urban Planning, Tan longitudinal wave, Beijing: Tsinghua University Press, 2005;
3. ED bacon, yellow and rich hand, Zhu Qi compiler, "Urban Design" (revised edition), Beijing: China Architecture Industry Press, 2003

4. Xusi Shu Zhou Wenhua, "Introduction to Urban Design", Beijing: China Architecture Industry Press, 1991
5. Zou Deci, "Introduction to Urban Design" concept. • Thinking • method • Practice, Beijing: China Building Industry Press, 2003

Course Number: 0007549

Course Title: Town Planner Business Trainee

Credit:1 Total Credit Hours:30

Students: The third year undergraduate students (urban planning)

Prerequisites: Urban Planning

Evaluation Method: General Assessment

Course Description:

This course is the professional practice of urban planning undergraduate courses. Students have been completing the first four years of the undergraduate training program provided for on the basis of the course, to the Urban Planning and Design (company) to participate in urban planning and design stages of the design practice, you can test and consolidate knowledge and understanding of the actual design work content, job requirements and working methods, to understand the focus of the work of the different planning stages and their relationship to understand the working methods of coordination and cooperation between different professional planning and design process, and master the ability of the preliminary comprehensive coordination.

Recommended Textbooks/References:

1. Li Dehua editor. "Urban planning principles." Third edition, Beijing: China Building Industry Press, 2001

Course Number: 0007550

Course Title: Traditional Garden and Urban Investigation Practice

Credit: 2 Total Credit Hours: 60

Students: The third year undergraduate students (urban planning)

Prerequisites: Landscape history

Evaluation Method: General Assessment

Course Description:

Southern residential areas has a long history and rich cultural connotations, unique form of high artistic achievement, but also an important part of China's traditional architectural significance, study and research of traditional architecture. Over the water network in Jiangsu and Zhejiang provinces, humid climate, the region's urban construction and urban planning embodied the characteristics, is an important example of the study of different types of cities and urban development. Shanghai as China's economic center, due to its unique historical factors and the current of modern urban development requirements of its traditional and modern urban landscape has a prominent feature of research and study of urban development and changes of great significance. The classical gardens of Suzhou, the representatives of the private gardens in the

traditional Chinese garden, the essence of Chinese classical garden art, has been included in the World Cultural Heritage of live specimens to study Chinese traditional gardening technique.

The purpose of the internship is to make urban planning professional students through study tours to the above four areas of knowledge to understand, through first-hand experience in the practice, intuitive understanding, broaden the horizons of urban planners, rich in architecture, landscape, planning creative approach, artistic, and professional quality.

Recommended Textbooks/References:

1. Tang Xueshan, Waiting for Landscape Design. China Forestry Publishing House.
2. Yu K J. Human Place—Urban Open Space Design Guidelines. Beijing: China Building Industry Press, 2001

Course Number: 0007551

Course Title: Landscape Planning and Design -1

Credit: 1 Total Credit Hours: 30

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Principles of urban planning, urban design, controlled detailed planning, residential design

Evaluation Method: General Assessment

Course Description:

1. Nature of the course and location:

This course is a professional elective for professionals in urban planning. The main objective of the course is to train professionals in urban planning students to quickly deal with the capacity of urban regional planning designed to enable students to courses of study, the initial grasp the rapid design of urban landscape planning.

2. Knowledge requirements:

- (1) Recognize the importance of environment on architecture, urban;
- (2) Initial grasp of the basic theory of the external space design;
- (3) Understand and preliminary grasp of the terrain, water, construction, plant characteristics of the various factors and in environmental design;
- (4) The urban landscape is the organic integration of technology and art.

3. Capacity requirements:

- (1) Initial grasp of the base survey and analysis methods, able to apply scientific methods to collect, collate and analyze data;
- (2) To correctly handle the construction and the environment, the relationship between man and nature, according to the subject called for the speedy design to meet the use needs, with the characteristics of the landscape and environment.

Recommended Textbooks/References:

1. Principles of Urban Planning (Fourth Edition), Wu Zhiqiang, chief editor Li Dehua, Beijing: China Building Industry Press, 2010;
2. Urban Planning, Tan longitudinal wave, Beijing: Tsinghua University Press, 2005

Course Number: 0007552

Course Title: Residential Area Planning Professional Week

Credit: 1 Total Credit Hours: 30

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Residential Area Planning

Evaluation Method: General Assessment

Course Description:

1. Through the urban design aspects of the method, content, and results of expression of the teaching so that students master the principle of urban design, methods, content, results and working procedures.
2. Through the planning basis for planning block the physical environment surveys, cultural and environmental investigation, the investigation of the natural environment, social environment survey and municipal facilities survey data collection to enable students to establish a cognitive planning land. And comprehensive analysis of information on planning within the land status quo, to explore the characteristics of the land, to explore the possible direction of development of land.
3. Master of urban design through planning and design of the core content.

Recommended Textbooks/References:

None

Course Number: 0007546

Course Title: Planning techniques test

Credit: 1 Total Credit Hours: 30

Students: The fourth year undergraduate students (urban planning)

Prerequisites: None

Evaluation Method: General Assessment

Course Description:

This course belongs to Practice elective. The courses focus on training students to master and apply the common auxiliary planning techniques, and analysis through the selection of a reasonable technical means to solve the capacity of urban planning and design issues.

This course covers planning techniques is a common-aided design and decision-making software, the software include: of AutoCAD, Photoshop, Sketch Up, ArcGIS, and environmental analysis software. Most of the software students in previous courses of study or contact. This course requires to be done on the use and operation of the software by setting the exercise content mastery, proficiency with the integrated use of and able to understand and explain the results obtained using software to do lay a technical foundation for future planning practice.

Recommended Textbooks/References:

None

Course Number: 0004522

Course Title: Municipal Engineering Practice

Credit: 1 Total Credit Hours:30

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Municipal Engineering

Evaluation Method: General Assessment

Course Description:

This course is an important part of the overall planning level courses, is an important adjunct of urban space and layout planning, practice shows that the ability of other institutions in the city project planning to have a certain lack of, which will restrict the students' future in terms of overall planning ability to work. This course introduces the basic knowledge of the relevant aspects of student systems will enable students to establish the basic concepts of the Comprehensive Planning.

Recommended Textbooks/References:

None

Course Number: 0007554

Course Title: Controlling the detailed planning of professional Design Week

Credit: 2 Total Credit Hours:32

Students: The second year undergraduate students (urban planning)

Prerequisites: None

Evaluation Method: General Assessment

Course Description:

This course is a compulsory course of the disciplinary basis, is the backbone of the urban planning professional class "regulatory detailed planning," one of the co-curricular.

This course focuses on students of regulatory detailed planning related to specific technologies, to better express the planning intention for the purpose. Analysis of the regulatory detailed planning, sorting, charting, enable students to master controlling the preparation of the detailed planning of specific technical and design methods.

Recommended Textbooks/References:

1. Urban Planning Data Set (fourth volumes), China Building Industry Press.
2. "Controlling Detailed Planning", Xia Nankai Tianbao Jiang, Tongji University Press, 2005.

Course Number: 0007555

Course Title: Urban Design Week

Credit: 1 Total Credit Hours: 30

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Urban Design

Evaluation Method: General Assessment

Course Description:

1. Through the urban design aspects of the method, content, and results of expression of the

- teaching so that students master the principle of urban design, methods, content, results and working procedures.
2. Through the planning basis for planning block the physical environment surveys, cultural and environmental investigation, the investigation of the natural environment, social environment survey and municipal facilities survey data collection to enable students to establish a cognitive planning land. And comprehensive analysis of information on planning within the land status quo, to explore the characteristics of the land, to explore the possible direction of development of land.
 3. Master of urban design through planning and design of the core content.

Recommended Textbooks/References:

1. Principles of Urban Planning (Fourth Edition), Wu Zhiqiang, chief editor Li Dehua, Beijing: China Building Industry Press, 2010;
2. Urban Planning, Tan longitudinal wave, Beijing: Tsinghua University Press, 2005;
3. ED bacon, yellow and rich hand, Zhu Qi compiler, "Urban Design" (revised edition), Beijing: China Architecture Industry Press, 2003
4. Xusi Shu Zhou Wenhua, "Introduction to Urban Design", Beijing: China Architecture Industry Press, 1991
5. Zou Deci, "Introduction to Urban Design" concept. • Thinking • method • Practice, Beijing: China Building Industry Press, 2003

Course Number: 0007553

Course Title: Landscape Planning and Design- 2

Credit: 1 Total Credit Hours:30

Students: The fourth year undergraduate students (urban planning)

Prerequisites: Principles of urban planning, urban design, controlled detailed planning, residential design

Evaluation Method: General Assessment

Course Description:

1. Nature of the course and location:
This course is a professional elective for professionals in urban planning. The main objective of the course is to train professionals in urban planning students to quickly deal with the capacity of urban regional planning designed to enable students to courses of study, the initial grasp the rapid design of urban landscape planning.
2. Knowledge requirements:
 - (1) Recognize the importance of environment on architecture, urban;
 - (2) Initial grasp of the basic theory of the external space design;
 - (3) Understand and preliminary grasp of the terrain, water, construction, plant characteristics of the various factors and in environmental design;
 - (4) The urban landscape is the organic integration of technology and art.
3. Capacity requirements:
 - (1) Initial grasp of the base survey and analysis methods, able to apply scientific methods to collect, collate and analyze data;
 - (2) To correctly handle the construction and the environment, the relationship between man

characteristics of the landscape and environment.

Recommended Textbooks/References:

1. Principles of Urban Planning (Fourth Edition), Wu Zhiqiang, chief editor Li Dehua, Beijing: China Building Industry Press, 2010;
2. Urban Planning, Tan longitudinal wave, Beijing: Tsinghua University Press, 2005;

Course Number: 0006018

Course Title: The Overall Urban Planning Internship

Credit: 1 Total Credit Hours: 30

Students: The fourth year undergraduate students (urban planning)

Prerequisites: The principle of urban planning, urban roads and traffic, urban detailed planning theory and professional skills courses

Evaluation Method: General Assessment

Course Description:

The overall urban planning practice is the professional practice of urban planning, but also an important link theory with practice. This internship with the combination of the overall urban planning courses, research and practice through the city, the students understanding, analysis, study of urban problems, and master planning for coordinated and integrated approach to urban problems, and learn the material form of planning the core of the concrete operation of the overall urban planning process for the preparation of the ability to basically have the overall urban planning phase of the survey analysis capabilities, integrated planning capacity, ability to express. This practice sessions is inextricably linked with the overall urban planning curriculum design content.

Recommended Textbooks/References:

1. Principles of Urban Planning (Fourth Edition), Wu Zhiqiang, chief editor Li Dehua, Beijing: China Building Industry Press, 2010;
2. Urban Planning, Tan longitudinal wave, Beijing: Tsinghua University Press, 2005;

Course Number: 0007556

Course Title: Integrated Internship Scheme in Design Institutes

Credit: 16 Total Credit Hours: 480

Students: The fifth year undergraduate students (urban planning)

Prerequisites: The principle of urban planning, urban design, controlled detailed planning, landscape design

Evaluation Method: General Assessment

Course Description:

This course is the professional practice of urban planning undergraduate courses. Students have been completing the first four years of the undergraduate training program provided for on the basis of the course, to the Urban Planning and Design (company) to participate in urban planning and design stages of the design practice, you can test and consolidate knowledge and understanding of the actual design work content, job requirements and working methods, to

understand the focus of the work of the different planning stages and their relationship to understand the working methods of coordination and cooperation between different professional planning and design process, and master the ability of the preliminary comprehensive coordination. This course is divided into five stages, after the end of the internship, students must submit all required internship information, before taking part in the review by the instructor qualifications by the Design Institute internship “respondent. Design Institute of internship results internship identification issued by the Design Institute, students submit ‘internship log’, report of internship and practical results, and the respondent of the student’s performance of the comprehensive assessment.

Recommended Textbooks/References:

1. Principles of Urban Planning (Fourth Edition), Wu Zhiqiang, chief editor Li Dehua, Beijing: China Building Industry Press, 2010;
2. Urban Planning, Tan longitudinal wave, Beijing: Tsinghua University Press, 2005;

Course Number: 0006907

Course Title: Senior Project

Credit: 16 Total Credit Hours: 480

Students: The fifth year undergraduate students (urban planning)

Prerequisites: Principles of urban planning, urban design, controlled detailed planning, landscape design, residential design

Evaluation Method: General Assessment

Course Description:

This course is a required course for Professional Practice. The last Planning and Design class as a graduate, its main objectives is to make students more comprehensive study and master the main points of the urban planning and design, so that students master the complex functional design capabilities of integrated planning to improve the ability to work independently and integrated application of basic knowledge capacity. Through this course, students should be able to master the following skills: (1) in the urban planning process and content. (2) The application of skills to master policies, regulations, technical requirements, advanced planning techniques. (3) Refining the creative planning. (4) To master the method of preparation techniques and design performance of the plan text.

Recommended Textbooks/References:

1. Principles of Urban Planning (Fourth Edition), Wu Zhiqiang, chief editor Li Dehua, Beijing: China Building Industry Press, 2010;
2. Urban Planning, Tan longitudinal wave, Beijing: Tsinghua University Press, 2005;

Course Number: 0001256

Course Title: Sketch Practice

Credit: 2 Total Credit Hours: 60

Students: Undergraduate students major in industrial design

Prerequisites: none

Evaluation Method: examination

Course Description:

This is a compulsory course practical course focusing on the basic shape principles in the Design. Based on observation, discovery, understanding of the meaning of training about shape is to improve students' ability to convert from the concrete to the abstract ones. To form the right observation habit, intuition judgment, aesthetic creation capabilities are all the important tasks of the course. It is also the foundation for the design skill.

Achieving target about the knowledge and ability for the students of the course are: understanding the shape of the original and category by normal and abnormal observation. Learning the basic shape theory from the observation for the natural shape and painting, improving objectivizing and analysis capabilities, mastering the structure of the complex geometry of the line, materials, drawing from, and various sketch tools.

The requirement for the sketch assignments is the composition of the picture, body proportion, and space perspective. The observation method, shape recognition accuracy, relationship between proper light and shade are all important for master the skill.

Course Number: 0007585

Course Title: Cognitive Practice

Credit: 1 Total Credit Hours: 30

Students: the freshman major in Industrial Design

Prerequisites: none

Evaluation Method: report

Course Description:

This course is designed for freshmen. The purpose is to make students know and understand the professional direction, professional content, professional characteristics, as well as future employment space; understanding in design necessary basic literacy, basic knowledge and basic skills as following: design connotation, excellent designers interpretation, design procedure, the latest design developments; training students design quality, multi-perspective observation methods, design thinking, and how to arrange four years study.

Course Number: 0007586

Course Title: Immediate Design Project

Credit:1 Total Credit Hours: 30

Students: Undergraduate students major in Industrial Design

Prerequisites: Structure sketch, Introduction to Industrial Design, Fundamentals of Design Morphology

Evaluation Method: submitted design works

Course Description:

The main purpose of immediate design project is to improve the comprehensive design capacity of students. The course pays more attention to the exploratory, practical and creative part. During the course, the teachers arrange the design theme flexibly. The design theme could be hot topics in the

field of each year, or conceptual research. In short, the course should highlight the Procedural, comprehensive and the exploratory of design, encourage the students to explore new direction and concepts of design.

Starting from the basic theory of product design and combining the characteristics of teaching, the course will expand the thematic design practice and exploration to guide the expansion of the ideas to design innovative thinking and the ideas of the design. Take the comprehensive innovation of design as the main point, integrating the concepts and research methods of product design and the other disciplines related, product design and research topic emphasis on forward-looking and thematic.

The course is an important way for product design to enhance the innovative concept elements. And it's also a summary of the preceded teaching and researching program. Through the course, students will recognize the importance of practical operation ideologically, learn the basic method of creative design and Improve personal comprehensive design capabilities. Besides, the innovative results of the course will also stimulate the enthusiasm of students.

Recommended Textbooks/References:

1. Wang Juntao, New product design and development Water Resources and Hydropower Press.
2. Wang Tianjian, Zhao Bo, Product design and creative expression Posts and Telecom Press.

Course Number: 0007791

Course Title: Chromatics Practice

Credits: 3 Total Credit Hours: 90

Students: Industrial design students

Prerequisites: Subjective experience and Objective rationale of The Color\ Sketch Practice

Evaluation Method: Assessment: The course is a class operation in the form of examination.

Grading: The exam form is to cultivate students 'subjective initiative for the purpose of completion of students' work, go out discipline, learning attitude, and much other comprehensive consideration.

Course Description:

Subjective experience and Objective rationale of The Color, Sketch Practice

This course belongs to the disciplines basic course, is one of the industrial design basic curriculum. The course is mainly to solve the color of the outside light sketching law, design color, the design performance of the basic course to lay the foundation.

The students learn the course in terms of ideas, knowledge and ability to achieve target:

In terms of ideology: Color Lab is the main color of external light change through the real painting, awareness, understanding and mastery of the variation of the light color under different light. Improve awareness and understanding of color science.

Knowledge: this course requires students to understand and grasp the composition of landscape painting, and the grasp of the law and tone of color. The ability to: require students to master the basic material properties of a painting, characteristics and use its ability, through specific sketching exercises to consolidate the theoretical knowledge, to strengthen the ability and the expression of views.

Course Number: 0007582

Course Title: Practice of Material and forms

Credit: 3 Total Credit Hours: 72

Students: Undergraduate students major in Industrial Design

Prerequisites: Design Morphology. Engineering Graphics, Introduction to Computer-aided Industrial Design

Evaluation Method: report 100%

Course Description:

This is an experimental course for the “Design Morphology”. The contents are:

- 1) Material experiment: a) Gypsum slurry or resin, test the ratio of solidification. b) Test metal tensile pressure, bend and extend features. c) Test wood features of fire-retardant, strength, and tactility. d) Test the hot pressing, condensing and bonding characteristics of ABS (PVC)
- 2) Form experiment: complete model technological requirements, based on engineering graphic and assemble graphic.
- 3) Prototype experiment: First, students use Phidgets mainboard and sensor to build a prototype. Then they would learn software MAX to finish the program, and assure the whole system user interface works effectively.
- 4) Model experiment: a) According to the purpose of the model, the student should make physical and chemical experiments, including the test of collision, fall, extended, pressure, moderate and limit test. b) Designing experiment: When the model has a clear morphological and functional target, the students can make validation experiments.

Recommended Textbooks/References:

1. Klaus Lehmann. Design Training. ABK Stuttgart, 1999
2. ZHANG Xi. Design Materials and Processing Technology. Chemical Industry Press, 2004
3. Bill Moggridge. Designing Interaction. Citic Press, 2011
4. Jonathan Anderson. Effective UI. Tsinghua University Press, 2011
5. Jon S.Wilson, LIN Longxin. Sensor Technology Handbook, 2009
6. Jennifer Preece, Yvonne Rogers. INTERACTION DESIGN Beyond Human Computer Interaction. Printed in the United States of America, 2002

Course Number: 0003600

Course Title: Practice of CAID-CAMS Morphology

Credit: 2 Total Credit Hours: 32

Students: Undergraduate students major in Industrial Design

Prerequisites: Basic of Design Morphology

Course Description:

Computer aided design (CAID) and computer aided manufacturing system (CAMS) are two important parts of industrial design and manufacturing system of highly developed industrial society. This course is to train students mastering computer parametric design skill based on the precision, careful, rigorous parametric computer modeling and computer aided manufacture technology, and make the design of products change from 2d parameter form to 3d digital model. The students will be required to control parameters of model, make the virtual, perceptual and artistic model can transform into accurate, rational, parameter control program, finally to get

satisfactory form.

Recommended Textbooks/References:

1. Cui Tianjian, Li Peng. Product Design Morphology. JiangSu: Jiangsu Art Press, 2010
2. Zhao Fu, Gong Yanjue, Zhang Yunjie. SolidWorks from approaches to master. Science Press, 2010

Course Number: 0003603

Course Title: Research and Investigation of Product Market

Credit: 3 Total Credit Hours: 90

Students: Undergraduate for students major in Industrial Design

Prerequisites: Phylogeny of Design, Design Morphology, Design method and procedure

Evaluation Method: Quiz

Course Description:

As the people's living and production tool has a cultural attribute, the students are expected to understand the different life style, mode of production and technology as the environment for the artefacts lie in. The product, design, enterprise, consumption constitute the market environment. By the market investigation and observation, the students are expected to understand the complex external environment factors and establish the system design sense under the guidance of the theory of cognitive methodology. The students divided into teams, and the contents of the course has two parts, one week investigation and one week analysis and synthesis, and another week comprehensive conclusion (include report and defence).

Course Number: 0007584

Course Title: Composite Material Technology

Credit: 2 Total Credit Hours: 60

Students: Undergraduate student major in Industrial Design

Prerequisites: Design Morphology, Ductility test

Evaluation Method: Design work submission

Course Description:

The knowledge about the material is the basic and indispensable professional design skill. To understand the importance of the material and to learn the development of material processing technology will be helpful to the appropriate material application and broadening the innovation possibility. The students will be expected to feel a variety of materials by hands, to be familiar with their characteristics and performance. We will encourage them to do the material experiment beyond the practical category connotation of innovation. Students' initiative and originality often occur during the material research processing.

Recommended Textbooks/References:

1. Chris, Metals, Shanghai People art Press, 2004
2. Chris, Plastics, Shanghai People art Press, 2004
3. Chris, Ceramics, Shanghai People art Press, 2004
4. Chris, Glasses, Shanghai People art Press, 2004

5. Chris, Wood, Shanghai People art Press, 2004

Course Number: 0007583

Course Title: Model Making

Credit: 2 Total Credit Hours: 60

Students: Undergraduate students in Industrial Design

Prerequisites: Engineering Drawing Practice, Plastic material experiment, Design morphology

Evaluation Method: daily works

Course Description:

This course is to train and cultivate the students will plan (three view) is made into a three-dimensional model. Through the understanding of the production model of the basic conditions, tools, equipment, familiar with production models of various materials and models of learning process, students in the practice of a plaster model, wood model, ABS model for production, so that students are familiar with and master the various models of production methods, new technology, new material, new technology and advanced the use of tools, training students for complex product design expression ability. And in the capacity, it enables students to master the same model in the use of different materials and techniques. Master plaster model, wood model, ABS model, and the silicon rubber model of the complex production process and technology. Master the different models of appearance finishing technology.

Recommended Textbooks/References:

1. Zhao YuLiang, Industrial design model of Technology, Higher Education Press, July 2001
2. Zhou LiHui, Three-dimensional design expression of automobile oil sludge model design, Shanghai people's fine arts press, Tsinghua University press, July 2006.
3. Shan Tian Tai Li (Japanese), Clay Modeling: Techniques for Giving Three-dimensional Form to Idea, Tokyo, three honors and study, 1997

Course Number: 0007587

Course Title: Professional Practice

Credit: 4 Total Credit Hours:120

Students: Undergraduate for students major in Industrial Design

Prerequisites: Engineering Graphics, Design Morphology, Ductility test

Evaluation Method: Quiz

Course Description:

By means of cooperation with DRC(Beijing Industrial Design Promotion Center) and well-known Design company in Beijing, the course let the students take part in the real project with the team to progress the professional capabilities and gain the internship experience. Real project (take part in the project in the famous company), real operation (under the guide of design director, experience the whole project process as team work), real environment (the internship) and simulating the professional designer (advance into the prospective employment status) will be the practical teaching mode of this course.

Course Number: 0007588

Course Title: Graduation Practice

Credit: 4 Total Credit Hours: 120

Students: Undergraduate students major in Industrial Design

Prerequisites: Product System design I

Evaluation Method: Daily homework

Course Description:

Industrial design is a new and comprehensive applying discipline, while graduation practice is the compulsory course for industrial design undergraduate to before graduation. It provides basis of preliminary work internship and further in-depth practical skills to solve problems, making them ready for graduation work.

Graduation practice is arranged in the upper half semester of the senior, laying the foundation for the graduation project. Under the instructor's guidance, Students plan and practice content, select the internship, finish the internship tasks. On the one hand, it can further enhance students' hands-on experience. On the other hand, it requires students to practice stage at the company based on the internship subject, so that they could consider the graduate design topics direction and do some preliminary research. In this way, subsequent graduation design can be more accurate positioning. Students could carry out project faster and explore more on design.

Course Number: 0006907

Course Title: Senior Project

Credit: 16 Total Credit Hours: 480

Students: Undergraduate students major in Industrial Design

Prerequisites: Passing all the courses and practical ones

Evaluation Method: Defense examination

Course Description:

Graduation design (paper) evaluates students' fundamental knowledge, ability and innovation competency strictly. Its requirements reflect the entire acknowledgement the students grasp and ability during the school time. Students are qualified for the degree on condition that they pass the competitive examination. It demands students use concepts and terms properly on basis of cognition of science and facts. Besides, students are asked to classify the normal stuffs and depict procedure and tendency to change. Students should be able to state and comment on the views and products designed by themselves or others. In expressing themselves, they can recognize the facts without any difficulties. In principle, graduation design (paper)'s subject, involving the real, mimetic and fictitious ones, should meet the demand of China's economic development, international academic trend and be closely bound up with markets and corporations. Basic requirements are: tutors assist students in choosing subjects; students accomplish the design (paper) independently and the students pass the competitive examinations.

Recommended Textbooks/References:

1. Standard for General Layout Drawings GB/ T 50103-2001
2. ZHONG Jingbing. Engineering project management. Huazhong University of Science & Technology Press, 2009
3. XIE Zhibin. Product System Design. Tsinghua University Press, 2011

4. LIU Lihong. Product design engineering foundation. Shanghai People's Fine Arts Publishing House, 2005
5. Universal applicability design. Intellectual Property Publishing House, China Water Power Press, 2003
6. HU Fei, YANG Rui. Design symbols and product semantics. China Architecture & Building Press, 2003