

Courses Syllabus for SJTU School of Design

Course Title (Chinese)	Course Title (English)	Credit	Semester	Teaching Language	Teachers	Course Discription
设计专题	Design and Research	4	Spring	English	ZHANG Haiao	<p>In the contemporary era, the development of the Internet makes the whole earth truly become a global village, where all non-material information can reach every corner of the world in a moment. Architectural solutions can be quickly spread around the world in the form of information (such as images and video), opening an era of the best architectural competition. Through the Internet, we can participate in any competition globally. For the architect, it put forward a huge challenge to the profession. Architects are constantly competing their idea in the competition. It is the best time as well as the most challenge time.</p> <p>Project Introduction LAGI 2019 DESIGN GUIDELINES</p> <p>This course design is an international competition. Through the integration of different regions and new energy, participants tried to understand the strategies to integrate different specialties and adapt to local conditions in the era of globalization scenario. LAGI 2019 presents a new kind of challenge from the Land Art Generator initiative. This year' s special edition is in partnership with the 24th World Energy Congress, the largest and most influential global energy event, that has been a forum for innovation and dialogue on energy issues for 95 years. The 24th World Energy Congress will be the venue for the exhibition of 25 shortlisted projects designed for Masdar City. The goal of LAGI 2019 is to bring forward a portfolio of feasible concept designs that push the boundaries of what is possible using today' s renewable energy technologies. To ensure that the proposals are constructible, this will be the first LAGI design competition that will provide a capital cost restriction as a part of the design brief. The cost per watt of installed nameplate capacity is meant to provide guidance and steer proposals towards technologies that are ready for implementation. Since then, the cost of installed solar has fallen more than 85%. Celebrating this achievement that has placed solar at parity with fossil fueled electricity, you are asked to reinvest this cost margin into the artistic elements of your design. You are free to use any renewable energy technology, as long as your estimated cost per watt installed does not exceed \$20 USD.</p> <p>Implementation Students will be divided into 5 groups to participate in the competition activities according to their personal wishes and different majors. Finally, according to the schedule, they will submit the competition proposal on time. In addition to participating in the competition, the students will participate in two reporting feedback, with lectures and guidance from well-known architects.</p>
中外建筑史	Chinese and foreign architectural history	3	Fall	Chinese	LIU Jie	<p>Chinese and foreign architectural history is one course for the postgraduate students in the department of architecture. The course combines the knowledge of architectural culture and history. The course also introduces Chinese and western architectural characteristics in different social evolutions and regions. Based on the analyses of special architectural phenomenon and condition, the students can learn the classical, modern and postmodern architecture.</p>
建筑创作	Architecture Forum	2	Spring	Chinese	ZHANG Jian	<p>It is the common course of one of the latest five main research directions of architectural disciplines published by the Academic Degrees Committee of the State Council, the Ministry of education and the Ministry of housing and urban construction.(1 Architectural design and theory; 2 History and theory of architecture and the protection of historical buildings; 3 Building technology and science; 4 City Design and theory; 5 Interior design and theory) This course is designed to train graduate students' originality to establish correct, scientific, comprehensive building ontology, good creative thinking and academic accomplishment and the architectural practice and lay the foundation for the creation of architectural advanced professional talents.</p> <p>Through the study of the contemporary architectural thought and the analysis of typical cases of the worldwide architectural master from America, Europe, Asia, this course explores the architectural thoughts and creation theory and strengthen the integration of science and art, Polytechnic and the humanities under the contemporary background of internationalization. The course has the following characteristics: 1 Focus on the world architectural development topic and hot Issues. 2 Combined with design practice. 3 Guide students to establish the correct innovative thinking. Graduate students can get to know the latest architectural concept, grasp the correct methods of architectural creation, improve the design and creation ability throughout the study of the course.</p>

城市设计与规划管理	Urban Design and Planning Administration	2	Spring	English	WANG Lin	This course is a compulsory course for graduate students. It aims to help students understand and master how to use urban design methods and means to study, analyze and solve the interrelationship among architecture, space, environment, city in urban planning development and design practice.
现代建筑技术	Modern Technology on Building	2	Spring	English	LV Aimin	Sustainability became a prominent part of modern building technology and drives innovation and development. Today's building technology trends consider more and more the harmonious development between human dwellings and nature, characterized by green buildings and the more prominent use of information technologies in building management. This course will focus on the latest techniques in modern buildings. The students, through the course's curriculum, will be introduced to notions such as ecological building technology, environment control technology, new energy technology, new materials technology, daylighting and natural ventilation analysis. Students will discover the basics of green building design and acquire a sound foundation in theory and practical knowledge.
学术报告会	Symposium	1	Spring/Fall	English	CAO Yongkang	
人与建筑环境	Man and building environment	2	Spring	English	LIAN Zhiwei	Introduction to the indoor and outdoor environment, indoor thermal and humid environment, indoor air quality, indoor acoustic and light environment and indoor air movement. Meanwhile, based on human physiological and psychological studies, the course analyses the relationship between human health/comfort demand and indoor/outdoor environment, thus gives students insight to the influence of nature and man-made environment on modern social life, enforces "people-oriented" design concept and also practices students' research skills.
参数化设计与数字建造	Parametric Design and Digital Fabrication	2	Spring	English	LIU Shixing	Digital technologies are becoming more important in deciding the final effects of buildings, and have shifted the designing and building processes of architecture directly. Differed from traditional top-down thinking and controlling methods in architectural design, new technologies not only continue providing more sensitive representation as usual, but produce generative design by means of their enhanced computing ability—designers can change and choose their outputs by virtue of adjusting parameters, which aims to describing the tendency, not the result itself. This brings new possibilities to morphologies and materialization. In parametric design, we may start from structural orders or principles in nature, generate complicated elements, components, rules or their combinations, in order to control the part or the whole of building. In this course, we are about to discuss these new possibilities in architectural design.
中国当代本土建筑设计实践研究	Study on Chinese contemporary architectural design practice	2	Fall	English	FAN Wenbing	Through in-class lectures, seminars, lectures of invited practicing architects and theorists, site tours, etc., this course discusses the Chinese contemporary architectural design practice(CCADP) (1950-2010) based on a clear understanding of the current international architecture world. Course Goals To explore the pattern of CCADP, to analysis the current problems and solutions, to find the future direction of CCADP.

建筑物理环境 模拟技术	Simulation Technology on Built Environment	2	Spring	English	ZHANG Huibo	<p>Through the way of in-class lectures, seminars and discussions, this course will introduce different scale building physical environment simulation method. Firstly, the requirements of green building assessment tools for building performance simulation are introduced. Then, three mainly simulation area will be introduced as followings:</p> <ol style="list-style-type: none"> 1. The input and output parameters of building energy consumption simulation, common software, calculation principles and calculation cases are introduced. 2. Heat and moisture transport theory in building envelope, and common software, calculation principles and calculation cases are introduced. 3. Using the CFD technique, analyze the phenomenon of heat and pollutant diffusion in building, street and city. Environment design of human, building and city will be introduced by CFD coupling analytical method. <p>Course Goals To understand the physical meaning of building simulation commercial software from mechanism, through the analysis of the physical environment simulation technology in today's architecture. To optimize architectural design with numerical simulation technology.</p>
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空间叙事与体验	Spatial Narrative and Experience	2	Spring	Chinese	LU Shaoming	<p>The spirit of place is normally attached to events and objects in life-experience, which offers architecture valid and significant meanings. In this sense, architectural experience is defined by these scenarios, episodes and plots of everyday life, which attends the development of a life plot like one watching a film or reading a novel. On the other hand, a story requires a space or urban stage wherein to develop and time in which to untie. Particularly in Chinese traditional culture, spaces have never been separated from associated events, instead used to be regard as a unity with the daily activities in the way of experience, expression and narration. However, internationalization has weakened or destroyed the connection between architecture and genius loci, as John Dewey (1934) mentions in his book of Art as Experience, contemporary architecture, isolated from common experience, acts as insignia of fashion and certificate of special culture or politics. The course attempts to reconfigure the relationship between architectural space and ordinary life, and also to promote the transformation of agenda in architectural education in China from the material adoration of formalism to the spiritual decipherment of active-living.</p> <p>On reviewing these theories (e.g. Event City, Narrative Space, Genius Loci, Architectural Experience), studying a series of masterpieces with interdisciplinary research of Playwright in Cinematic Literature, Relativity in Physics, Cubism in Fine Arts, Geometry in Mathematics and Philosophy (e.g. Le Corbusier' s Chapel in Ronchamp, Bernard Tschumi' s Science Park in Paris, Richard Mayer's Museum of Art and Craft at Frankfurt, Daniel Libeskind' s Jewish Museum in Berlin, Tadao Ando's Church of the Water at Osaka, Wiel Arets' s Library at Utrecht University), and demonstrating several Classical Chinese Gardens and urban spaces by means of spatial experience (e.g. Tuisi Yuan, Yu Yuan, Fangta Yuan), rational analysis and narrative rhetoric, the author examines the logic relationship between the spatial structure and life-experience, analyzes the interaction between environments and ordinary activities in the social dimension and natural one, and sets up the concept of 'Spatial Narrative' , which reunifies the space and life as a whole. As Aristotle points out in the Poetics that a plot is the soul of the tragic art and there are two main factors: complex structure and deep feeling, constructing a finest tragedy, Spatial Narrative introduced in this course comprises two levels of meanings: one is the theme (or topic) of the spaces (i.e. the matter 'for'), which refers to the content, activities and feeling in/betwixt spaces; the other one is the physical structure of spaces (i.e. the matter 'in'), which refers to the order and approaches of the spatial arrangement. Accordingly, the main ideas are addressed in this course as follows. Firstly, the elements of the Spatial Narrative contain: meaningful elaborate concepts, multi-vocal thematic props, complicated scenes, editable orders, an unpredictable clue with inspiring exposition and narrative material details, and all these elements can be editable. Secondly, architects can adopt a series of choreographic strategies to make space and its stories, such as flashback of spatial episodes, montage of sound/ light/ waters discourse, transformation of the spatial characteristics, reorganization of the clue and climax etc. These strategies aim to let thematic elements and associated life inhabit the place, eventually to improve the spatial quality, to refine the spirit of the place and to create an active experience. Furthermore, the formulation of space narratives can be served as an internal linkage between series of landscape spaces and an engine of active-living at urban scales as it contributes significantly to elevating the feeling of space and to coloring the artistry of space in the dimensions of cognition, imagination and creation. Finally, during the process of spatial story-making, the important role of subjective initiatives draws the attention of designers from objects' taste to users' action, not only bodily activities but also mental participation.</p>
建筑遗产保护基本理论	The Theory of Conservation of Architectural Heritage	2	Fall	English	CAO Yongkang, DU Qian	<p>The basic theory of architectural heritage conservation is a course which focuses on the way to inherit and continue the architecture history and culture of human. Nowadays, we are paying more attention on it with the development of our society. The main teaching objects are postgraduate students majoring in architecture history, architecture design and theory and urban planning. Students are required to grasp knowledge such as philosophy and history of architecture heritage, type and value composition of architecture heritage, the development, rules, and laws of architectural heritage conservation, intervention regulations and key technology about architecture heritage.</p>

大空间公共建筑设计	Design of the Big Space Public Architecture	2	Fall	Chinese	CAI Jun	Design of the big space public architecture is the basic course for the graduate students in department of architecture. In this course we will tell the particularity of environment design、 overall plan、 structure selecting、 space organize、 plastic arts and technique economy to the big space public architecture mainly, to summarize、 sum up and analyze to them, and provide a lot of typical examples in whole world to the students, to increase this course' s imaginative and interesting.
城市区域规划理论	Urban Design and Planning Administration	2	Spring	Chinese	YOU Lie	It focuses on the relationship between the debut of theoretical planning system and practice of typical planning cases in certain social and historical background. Every student will master the theory of city and regional planning and practical ability by introducing planning cases.
城市建筑开发与策划	City and Architectural Programming	2	Fall	Chinese	MA Wenjuun	This course points out China' s urbanization progress has been accelerating and large-scale urban public development is in the ascendant. Major efforts have been made to analyze and study the basic theory and method of large-scale urban strategic planning, covering such areas as the historic inevitability of China' s large-scale urban construction, theories and methods of large-scale programming, the process of large-scale construction and the operational features thereof. In addition, a general learning on the theoretical methods is made concerning urban development programming, such as market survey and forecast, project feasibility research, project evaluation, public-private coalition system, market promotion and public participation, extending and enriching the professional content of urban planning.
室内环境测试技术	Testing Technology for Indoor Environment	2	Fall	English	LIAN Zhiwei	Based on the testing technology of basic physical parameters, as temperature, pressure and flow rate, this course systematically introduces the measurement methods and instruments for main indoor parameters, including temperature, humidity, noise level, lighting and air pollutants as formaldehyde, as well as physiological parameters. Furthermore, the methods of experimental design and data analysis are introduced. At this stage, students are expected to learn how to use the prevalent software for data analysis and to acquire the knowledge of indoor environment assessment. This course aims to introduce the basic research methodology of interdiscipline to students and help them get prepared for advanced study on indoor environment assessment and improvement.
风景园林历史与理论	History&Theory of Landscape Architecture	2	Fall	Chinese	LI Yuhong、 YU Bingqin	This course is a teaching and core curriculum for master of landscape architecture, the core of teaching is in order to study the history and theory of landscape architecture and the purpose are below:□ (1) From this curriculum, the students will have a preliminary understanding and grasp the history and characteristics of world landscape architecture development to a certain extent, understand the main theory, landscape of each historical stage of the world's major regional and state the main design thought, main works and main designer.□ (2) Also will open up horizons of students, in the landscape design ideas and methods of various schools, consciously absorb the excellent part, improve their theoretical level and planning ability.□ (3) To promote the students understand the macro on the development of landscape architecture in the world, culture analysis and criticism of landscape work ability, but also lay the foundation for further landscape architecture history and theory study.

城市研究	Urban Studies	3	Fall	English	MA Wenjun	This course integrates theories and methods from urban sociology, economics, geography, and put into the research practices of urbanism. And it is the characteristic way of interaction of inhabitants of towns and cities (urban areas) with the built environment or – in other words – the character of urban life, organization, problems, etc., as well as the study of that character (way), or of the physical needs of urban societies, or city planning. Urbanism is also movement of the population to the urban areas (urbanization) or its concentration in them (degree of urbanization).
中国古典园林分析	The Classical Chinese Garden Analysis	2	Fall	English	CHEN Dan	This class introduces the basic concepts, classification, representative gardens and people of various historical periods, features, spatial structure and layout, achievements, and its significant meanings. The main class contents include: introduction, generation period of Chinese garden (Yin, Zhou, Qin and Han Dynasties), transitional period of Chinese garden (Wei, Jin, the Northern and Southern Dynasties), golden period of Chinese garden (Sui and Tang Dynasties), maturation period of Chinese garden (Song, Yuan, Ming Dynasties and early Qing Dynasty), and post-maturation period of Chinese garden (middle and late Qing Dynasty), plus a one-day field trip for Chinese private gardens in Suzhou.
建筑思潮与评论	Architectural theory and criticism	2	Spring	Chinese	Zhang Jiong	Architectural theory and criticism is one course for the postgraduate students in the department of architecture. The course introduces newest achievement in the field of architectural creation and idea. The students can learn more knowledge, which related to western architecture. Based on the analyses of the modern architecture and postmodern architecture, the course advocates young architects research Chinese architectural creation.
环境行为学	Environmental Behavior Theory	2	Spring	Chinese	QIN Danni	Environment and behavior focus on researching the relationship between human being and environment. It is a cross disciplinary field of physiology, psychology, sociology, cultural anthropology, human geography and other disciplines, and is very closely related to city planning, landscape, architecture and interior design. Through studying this course, students learn the basic theory of environmental perception and the theory of environmental and behavior. Students will study characteristics, meaning and evaluation for space and place, and understand environmental problems in cities and find out the methods to improve by using their knowledge. This course will make a good foundation for their future work of city planning and architectural design from the perspective of environmental and behavioral theoretical basis which meet the real psychological needs of people.
建筑节能原理与技术	Building Energy Efficiency Theory and Technology	2	Fall	English	LAN Li	The course is a module in regard of basic theory of building energy consumption reduction, design and technology application. This module is in close connection with the theory and principles of scientific and rational use of energy. It introduces the systematic integration of design methods and the integrated application of energy efficiency technologies. Based on this, it introduces the advanced energy efficiency technologies of the recent years, the use of new energy technologies, new materials and the latest research results in practical projects and typical cases. The module is designed to help students to acquire a systematic professional knowledge of building energy efficiency, to raise awareness of energy efficiency building integrated design and problems in practical projects, especially thinking of research-based learning methods for the post graduate engineering students.

中国古典建筑与法式制度	The Typical Construction of Chinese Traditional Architecture	2	Spring	Chinese	CAI Jun	The typical construction of Chinese traditional architecture is the basic course of architectural history for the graduate students after they studied the construction of Chinese classical architecture in their undergraduate courses. In this course we will use Ying Zao Fa Shi, Gong Cheng Zuo Fa Ze Li, Ying Zao Fa Yuan, Ying Zao Suan Li, Yuan Yie and Lu Ban Jing as main thread, to explain the developing history of Chinese classical construction, and through comparing between Japanese classical construction, to get a deeper understanding to the distinguishing feature of Chinese classical construction. In this course we emphasis to foster the students' ability to study on their own, to lay a solid foundation for their study deeply.
中国近现代建筑史	History of Modern Chinese Architecture	2	Spring	English	WANG Haoyu, ZHAO Dongmei	The course is offered for postgraduate students major in architecture. It teaches an important part of the history of Chinese architecture, that is, the modern development of buildings and cities in China after 1840. Main themes in architectural history research will be examined, such as, modernization, Westernization, nationalization, urbanization, professionalization, etc. The conflict and compromise between the Chinese culture and the Western culture in architecture will be illuminated, and the patterns and the historical contexts of the modern development of Chinese architecture will be delineated. Ultimately, the course aims at an in-depth understanding of the transformation of Chinese culture in architecture in the modern times.
景观建筑设计理论	Theory of Landscape Architecture Design	2	Fall	English	XUAN Feng	Theory of Landscape Architecture Design is a selected course for all graduates of Design School. Arranged curriculum time is during the 2th semester. It adopts Chinese 65286 English textbooks and papers from SSCI journals as teaching materials. The content include the theories of landscape architecture and different methods of research about them. The first part focuses on the theories and histories of landscape architectures, the second part focuses on select topics, collect documents, review literature, master qualitative and quantative methods, present and discuss the results, and draw appropriate conclusions, help them understand and analyze the macro-structure of research papers, the elements and style of each stage and apply them to paper writing. The course adopts multimedia Internet technology and diverse teaching methods such as teaching, reading, discussion, analysis, cognization on landscape site, and pactical operation. All these content and methods try to improve the ability of research and analysis on landscape architectures.
建筑与城市设计研究调查方法	Research Methods of Architecture and Urban Design	1	Spring	English	ZHANG Ziqi	Aims: The aim of this course is to introduce the knowledge and basic research skills necessary to evaluate the adequacy of methods in tackling different design problems and how they can be applied in their own projects. Main contents: This course introduces students to architectural research as both a professional and scholarly activity, which constitutes systematic inquiry as a means of answering questions related to the creation of the built environment. These techniques include, among others, historical research, qualitative research, correlational research, experimental and quasi-experimental research, simulation research, case studies. The course also provides an overview of a range of techniques on gathering, assessing, interpreting, and comparatively evaluating relevant information for such an inquiry. It provides a basic guide to thinking through how best to find the answers to the questions that arise throughout a design project. Prerequisites: architectural design courses

户外空间设计	Outdoor Space Design	2	Spring	Chinese	TAO Cong	<p>The course of Outdoor Space Design is an elective course for architecture major. The main objective of this course is to enable students to master the basic knowledge and skills of Outdoor Space Design. The main contents of the course include: the general theories of Outdoor Space Design, the basic principles and methods of Outdoor Space Design, the main points of Outdoor Space Design and some practical cases. Based on the teaching idea of "constructivism", the teaching methods of "task-driven" and "heuristic" will be used. And the advanced theory and the methods of Outdoor Space Design will be taught. In this course the ability to identify and solve problems in outdoor space will be trained. And the students' awareness of ecological protection and their comprehensive analytical and creative abilities will also be improved through this course.</p>
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