

## 课程详述

### COURSE SPECIFICATION

以下课程信息可能根据实际授课需要或在课程检讨之后产生变动。如对课程有任何疑问，请联系授课教师。

The course information as follows may be subject to change, either during the session because of unforeseen circumstances, or following review of the course at the end of the session. Queries about the course should be directed to the course instructor.

1.	课程名称 <b>Course Title</b>	木构建筑：从远古到未来 Timber Architecture: From Prehistory to the Future				
2.	授课院系 <b>Originating Department</b>	社会科学中心 Center for Social Sciences				
3.	课程编号 <b>Course Code</b>	SS044				
4.	课程学分 <b>Credit Value</b>	2				
5.	课程类别 <b>Course Type</b>	通识选修课程 General Education (GE) Elective Courses				
6.	授课学期 <b>Semester</b>	春季 Spring				
7.	授课语言 <b>Teaching Language</b>	中英双语 Chinese & English				
8.	授课教师、所属学系、联系方式 (如属团队授课, 请列明其他授课教师) <b>Instructor(s), Affiliation &amp; Contact</b> (For team teaching, please list all instructors)	刘妍 Yan LIU, 人文社科荣誉学会 Society of Fellows in Liberal Arts 联系方式 Contact: <a href="mailto:liy34@mail.sustech.edu.cn">liy34@mail.sustech.edu.cn</a>				
9.	实验员/助教、所属学系、联系方式 <b>Tutor/TA(s), Contact</b>	无 NA				
10.	选课人数限额(可不填) <b>Maximum Enrolment (Optional)</b>					
11.	授课方式 <b>Delivery Method</b>	讲授 <b>Lectures</b>	习题/辅导/讨论 <b>Tutorials</b>	实验/实习 <b>Lab/Practical</b>	其它(请具体注明) <b>Other (Please specify)</b>	总学时 <b>Total</b>
	学时数 <b>Credit Hours</b>	32				32

12. 先修课程、其它学习要求 <b>Pre-requisites or Other Academic Requirements</b>	无 N/A
13. 后续课程、其它学习规划 <b>Courses for which this course is a pre-requisite</b>	无 N/A
14. 其它要求修读本课程的学系 <b>Cross-listing Dept.</b>	无 N/A

**教学大纲及教学日历 SYLLABUS**

15. **教学目标 Course Objectives**

通过木构建筑的历史发展与未来前景的讲述，令学生建立对建筑文明的发展史的总体的认识，并理解在人类文明发展史中，技术与生产活动与自然地理条件以及文明特征之间的关系。学生将学习建筑技术发展各个阶段（手工业时期、工业化时期与新材料等未来发展前景）的总体特征，以及对应的文化史与艺术特征。学生将学习到一些作为“非物质文化遗产”的传统营造技术，并对木材这种可持续型的未来型建筑、工业材料建立了解。借助木构建筑这一对象为例，学生将对人类生产活动中，生态-材料-技术-文化之间的关系形成知识框架。

This course, framed as a history of timber architecture, scoped from the pre-historical times to the future, is aimed to establish a general graph of the human architectural culture, and the understanding of the relationship between the nature conditions, the manufacture and the culture of the mankind. The students will learn the main features of each phase of technology developments -the handicraft period, the industrial period, and the times of new material period, and the corresponding cultural history and artistic features. They will get in touch with the historical construction technique - the intangible heritage of the human cultures, and the new material of the wooden industry, a field with a future of sustainable development. Through the industry of timber architecture, students will establish an understanding of the relationship between ecology, material, technique, and culture.

16. **预达学习成果 Learning Outcomes**

本课程预期让学生掌握以下知识、技能：

- 理解人类生产活动中，生态-材料-技术-文化之间的关系
- 构架初级的建筑文化发展史观
- 理解文化的意义与建筑文化的多样性
- 认识特定的“非物质文化遗产”历史技术
- 认识作为未来型环保技术的木材与新型建筑工业

Upon successful completion, students will be able to:

- Understand the relationship between ecology, material, technique, and culture in human production activities.
- Establish a basic concept of architecture history.
- Understand the multi-aspects of architectural cultures.
- Get a knowledge of some specific “intangible heritage” - historical technology

Get a knowledge of the new timber material, as a field with a future of sustainable development.

17. **课程内容及教学日历**（如授课语言以英文为主，则课程内容介绍可以用英文；如团队教学或模块教学，教学日历须注明主讲人）

**Course Contents (in Parts/Chapters/Sections/Weeks. Please notify name of instructor for course section(s), if this is a team teaching or module course.)**

本课程共 16 讲，每讲 2 学时

### 第一讲 初识木构建筑

- ◆ 木构建筑之于人类文明
- ◆ 木构之美
- ◆ 木构建筑欣赏  
历史木构建筑  
现代木构建筑

### Lecture 1 Getting a Touch on the Timber Architecture (2-credit hours)

- ◆ The role of wooden architecture in human civilization
- ◆ Aesthetics of wooden architecture
- ◆ Enjoying the wooden Architecture  
Historical examples  
Modern examples

### 第二讲 作为建筑材料的木材

- ◆ 木材的种类与特征
- ◆ 生态地理、材料与结构  
地理分区与建筑特征  
气候与材性  
案例：杉木之于中国、橡木之于欧洲、桧木之于日本
- ◆ 建筑、装修与家具  
材料差异、工艺差异、职业分工

### Lecture 2 Timber as Construction Material (2-credit hours)

- ◆ Wood species and features.
- ◆ Ecogeography, material and structure  
Geographical areas and architectural features  
Climate and timber material  
Case studies:  
“China-fir” in China, oak in Europe, cypress in Japan
- ◆ Timber in building and furnishing  
Divisions in material, craftsmanship and occupation

### 第三讲 传统木作工具

- ◆ 手工业时代的木作工具总体特征
- ◆ 种类与用法
- ◆ 工具发展史
- ◆ 文化差异与工具差异  
中国与欧洲木作工具的异同  
中国与日本木作工具的异同

### Lecture 3 Traditional Wood Working Tools (2-credit hours)

- ◆ General features of the wood working tools in the handicraft times.
- ◆ Types and use
- ◆ General history of wood working tools
- ◆ Cultures and tools  
Similarity and difference between China and Europe  
Similarity and difference between China and Japan

### 第四讲 结点技术

- ◆ 木构结点：榫卯
- ◆ 榫卯的种类与功能
- ◆ 建筑榫卯与家具榫卯
- ◆ 东西方榫卯异同
- ◆ 金属结点  
铁质节点的历史  
金属结点与现代木构工业

### Lecture 4 Technique of Joints (2-credit hours)

- ◆ Wooden joints and its role in wooden architecture
- ◆ Types of function of wooden joints
- ◆ Wooden joints in building and in furniture

- ◆ Similarity and difference between the East and the West
- ◆ Metal joints in wooden construction
- History of Iron joints
- Metal joints in modern industry of timber architecture

#### 第五讲 中国传统木构建筑技术

- ◆ 中国南北方木构建筑差异  
“抬梁”与“穿斗”
- ◆ 北方官式建筑发展历程  
从土木结合到木构构架  
斗棋的建构逻辑
- ◆ 民间建筑技术  
地区差异  
形式差异

#### Lecture 5 Historical Wooden Technology - China (2-credit hours)

- ◆ Wooden construction between the southern and northern China  
“Tailiang” vs “chuandou”
- ◆ The development of the official construction in the North  
From earth-timber construction to timber frame construction  
The structural logic of dougong
- ◆ Construction of the vernacular architecture  
Features in different areas  
Features in different forms.

#### 第六讲 少数民族的营造传统——以凉山彝族为例

- ◆ 纪录片电影《寻找凉山彝族建筑传统》（任课教师独立制作的影片）
- ◆ 讨论  
生态-材料-技术-文化之间的关系

#### Lecture 6 Wooden Construction Traditions of the Minority People – Yi people in Liangshan (2-credit hours)

- ◆ Documentary film “Looking for the Building Tradition of Yi People in Liangshan” (independent documentary film by the teacher)
- ◆ Discussion:  
relationship between ecology, material, technique, and culture.

#### 第七讲 “栋梁之材”——结构与文化的碰撞

- ◆ “栋梁之材”的文化意义及其历史  
中国文化的“栋梁崇拜”  
中西方“栋梁”观差异
- ◆ “栋梁之材”的结构演变
- ◆ 中国建筑的形式与“栋梁之材”的关系
- ◆ 建筑人类学研究方法

#### Lecture 7 The Dong-beam – Dialog between Construction and Culture (2-credit hours)

- ◆ The religion of the Dong-beam in the Chinese culture  
The Dong-beam religion in Chinese culture  
The difference in notions on top beam between the West and the East
- ◆ The construction development relating to the Dong-beam
- ◆ The Chinese Architectural History and the Dong-beam
- ◆ Study method of Architectural Anthropology

#### 第八讲 日本木构建筑

- ◆ 日本建筑文明的发展阶段
- ◆ 日本本土的建造传统
- ◆ 中国建筑的影响
- ◆ 日本木构建筑与中国异同
- ◆ 近代革新
- ◆ 日本现代木构建筑

#### Lecture 8 Historical Wooden Technology – Japan (2-credit hours)

- ◆ Periods of Japanese Architectural culture
- ◆ Native traditions of construction in Japan

- ◆ Influence from China
- ◆ Revolution and Innovations in pre-modern times
- ◆ Modern wooden architecture in Japan

#### 第九讲 西方古代木构建筑

- ◆ 古代西方的木构技术  
埃及 / 近东 / 希腊 / 罗马
- ◆ 木构技术在不同领域  
建筑业 / 农业 / 造船业 / 其他制造业
- ◆ 古代西方世界对后世的影响

#### Lecture 9 Historical Wooden Technology in the Western World in the Ancient Times (2-credit hours)

- ◆ Wooden technology in the in the Western World in the Ancient Times  
Egypt / Near East / Greece / Rome
- ◆ Wooden technology in different fields  
Architecture / Agriculture / Shipbuilding / Other manufacturing
- ◆ The heritage of the ancient times

#### 第十讲 中世纪的木构建造

- ◆ 中世纪的社会、城市 与建筑
- ◆ 中世纪的匠人行业与培训
- ◆ 重要木构分区
- ◆ 民居
- ◆ 木构教堂
- ◆ 石构建筑中的木构技术

#### Lecture 10 Timber Construction in the Middle Ages (2-credit hours)

- ◆ Society, Cities and Architecture in the Middle Ages
- ◆ Occupation and Education of craftsmen
- ◆ Areas of wooden construction cultures
- ◆ Dwelling
- ◆ Wooden Church
- ◆ Wooden technology in masonry construction

#### 第十一讲 瑞士建筑大师-格鲁本曼家族

- ◆ 德语区建筑传统
- ◆ 行会与建筑业
- ◆ 格鲁本曼家族简介
- ◆ 格鲁本曼家族建筑作品
- ◆ 分析：传统与创新思维

#### Lecture 11 The Swiss Building Masters – the Grubenmann Family (2-credit hours)

- ◆ Building tradition in the German-speaking area
- ◆ Guild and building industry
- ◆ The Grubenmann family – introduction
- ◆ The Grubenmann family - works
- ◆ Analysis on the Grubenmann family: Tradition vs Innovation

#### 第十二讲 北欧建筑传统

- ◆ 北欧诸国历史与文化
- ◆ 北欧建筑文化与特征
- ◆ 北欧木构教堂
- ◆ 北欧历史造船技术
- ◆ 北欧现代木构的兴起

#### Lecture 12 Traditional Timber Technology in Northern Europe (2-credit hours)

- ◆ Culture and history of the people in Northern Europe
- ◆ Architectural culture in Northern Europe
- ◆ Wooden churches in Northern Europe
- ◆ Shipbuilding technology in Northern Europe
- ◆ Modern timber construction in Northern Europe

#### 第十三讲 现代木构 – 胶合木简介

- ◆ 什么是胶合木
- ◆ 胶合木的应用历史与现状
- ◆ 胶合木的材料特征
- ◆ 胶合木工业流程
- ◆ 胶合木的艺术特征

**Lecture 13 Modern Timber Architecture - Laminated Wood Construction (2-credit hours)**

- ◆ What is laminated wood
- ◆ History and current situation of laminated wood
- ◆ Material features of laminated wood
- ◆ Industry processes of laminated wood construction
- ◆ Artistic characters of laminated wood

**第十四讲 现代木构建筑及其未来**

- ◆ 当今重要建筑师与作品
- ◆ 欧洲与北美的现代木构工业
- ◆ 木构建筑的优势
- ◆ 木构建筑的发展前景

**Lecture 14 Modern Timber Architecture – Introduction and Analysis (2-credit hours)**

- ◆ Architects and their works of today
- ◆ Timber building industry in Europe and America
- ◆ The advantages of timber architecture
- ◆ Future of timber architecture

**第十五讲 竹材与建筑**

- ◆ 竹构建筑的历史
- ◆ 竹材的特征
- ◆ 竹材的构造
- ◆ 现代竹构建筑赏析
- ◆ 竹材的未来

**Lecture 15 Bamboo and Building (2-credit hours)**

- ◆ History of Bamboo in Architecture
- ◆ Bamboo as building material
- ◆ Bamboo construction details
- ◆ Modern Bamboo buildings
- ◆ Future of bamboo structure

**第十六讲 期末报告点评**

**Lecture 16 Review of Student Reports (2-credit hours)**

**18. 教材及其它参考资料 Textbook and Supplementary Readings**

威尔·普赖斯. 木构建筑的历史. 浙江人民美术出版社. 2016  
 陈启仁. 认识现代木建筑. 天津大学出版社. 2005  
 赵广超. 不只中国木建筑. 生活·读书·新知三联书店. 2006  
 赵广超等. 一章木椅. 生活·读书·新知三联书店. 2008  
 Klaus Zwerger. Wood and Wood Joints - Building Traditions in Europe, Japan and China. Birkhäuser: Basel, Berlin, Boston, 2012  
 Otto Kapfinger, Atelier Reinhard Gassner. Hermann Kaufmann WOOD WORKS. Springer Wien NY. 2008  
 Oliver, Paul. Dwellings : The Vernacular House Worldwide. Phaidon Inc Ltd. 2007  
 谭刚毅, 杨柳. 竹材的建构. 东南大学出版社. 2014  
 太田博太郎. 日本建筑史序说. 同济大学出版社. 2016

**课程评估 ASSESSMENT**

19. 评估形式 Type of Assessment	评估时间 Time	占考试总成绩百分比 % of final score	违纪处罚 Penalty	备注 Notes
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出勤 Attendance	15%		
课堂表现 Class Performance			
小测验 Quiz			
课程项目 Projects			
平时作业 Assignments			
期中考试 Mid-Term Test	20%		
期末考试 Final Exam			
期末报告 Final Presentation	65%		
其它（可根据需要 改写以上评估方式） Others (The above may be modified as necessary)			

20. 记分方式 GRADING SYSTEM

A. 十三级等级制 Letter Grading  
 B. 二级记分制（通过/不通过） Pass/Fail Grading

课程审批 REVIEW AND APPROVAL

21. 本课程设置已经过以下责任人/委员会审议通过  
 This Course has been approved by the following person or committee of authority

所列英文文献无敏感信息，同意开课。

