

## 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>	创新设计实践 Innovative Design Practice				
2.	授课院系 <b>Originating Department</b>	机械与能源工程系 Department of Mechanical and Energy Engineering				
3.	课程编号 <b>Course Code</b>	ME305				
4.	课程学分 <b>Credit Value</b>	2				
5.	课程类别 <b>Course Type</b>	专业核心课 Major Core Course				
6.	授课学期 <b>Semester</b>	春季 Spring /秋季 Fall				
7.	授课语言 <b>Teaching Language</b>	中、英双语 Chinese-English bilingual				
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)	张冬 Zhang Dong zhangd6@sustech.edu.cn				
9.	实验员/助教、所属学系、联系方式 <b>Tutor/TA(s), Contact</b>	待公布 To be announced				
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>			64		64

12. 先修课程、其它学习要求 <b>Pre-requisites or Other Academic Requirements</b>	ME303 机械设计基础 Innovative Design Practice
13. 后续课程、其它学习规划 <b>Courses for which this course is a pre-requisite</b>	ME405 创新设计理论与实践 Innovative Design Theory and Practice
14. 其它要求修读本课程的学系 <b>Cross-listing Dept.</b>	

教学大纲及教学日历 SYLLABUS

15. 教学目标 **Course Objectives**

本课程依托机械设计基础，通过设计过程向学生介绍解决工程问题的方法和技术，培养学生创造性思维、建设性的实践以及满足客户化需求的能力。

This course utilizes a design process to introduce students the methods and techniques for solving mechanical engineering problems, to cultivate the students' innovative thinking and practice, and the ability to meet the customizing demand.

16. 预达学习成果 **Learning Outcomes**

让学生掌握机械设计基础的情况下进一步学习机械设计技巧与方法，培养学生创造性思维、建设性的实践以及满足客户化需求的能力，从而提高学生从事机械设计相关工作的兴趣与自信心。

The students can learn mechanical design techniques and methods in the context of mechanical design. This course can help students cultivate their innovative thinking and practice, and develop the ability to meet the customizing demand. It also can improve students' interest and confidence in mechanical design related work.

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.)**



周次 Week	天数 Day	学时 Hour	内容 Topics
1	1	5	课程简介, 班级团队建设。 Introduction, Teaming
	2	5	设计思维, 客户需求, 观察研究。 Design Thinking, customer needs, observation studies
	3	4	选择项目 Project selection
	4	4	产品规格和项目讨论 Product specifications, project discussions
	5	4	讨论 1 Review 1
2	6	5	概念设计和创新、项目讨论 Concept design and innovations; project discussions
	7	4	讨论 2 Review 2
	8	3	方案选择 Concept selection
	9	5	设计的体现——产品架构, 项目讨论 Embodiment design - Product Architecture, project discussions
	10	4	讨论 3 Review 3
3	11	3	设计 X Design for X
	12	4	讨论 4 Review 4
	13	4	经济分析和项目讨论 Economic analysis, Project Discussions
	14	4	整体设计和文化背景 Global Design - Cultural Aspects
	15	6	期末报告 Final presentation
Total	15 days	64 hours	

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

无。 None.
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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	10		
课堂表现 Class Performance	10		
小测验 Quiz			
课程项目 Projects	50		
平时作业 Assignments			
期中考试 Mid-Term Test			
期末考试 Final Exam			
期末报告 Final Presentation	30		
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

