

## 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.	<b>课程名称 Course Title</b>	智能控制科学创新实践 I Innovative Practice for Intelligent Control Science I
2.	<b>授课院系 Originating Department</b>	系统设计与智能制造学院 School of System Design and Intelligent Manufacturing
3.	<b>课程编号 Course Code</b>	SDM301
4.	<b>课程学分 Credit Value</b>	1
5.	<b>课程类别 Course Type</b>	专业核心课 Major Core Courses
6.	<b>授课学期 Semester</b>	春季 Spring
7.	<b>授课语言 Teaching Language</b>	中英双语 English & Chinese
8.	<b>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) Instructor(s), Affiliation &amp; Contact (For team teaching, please list all instructors)</b>	刘凡 助理教授 系统设计与智能制造学院 <a href="mailto:liuf6@sustech.edu.cn">liuf6@sustech.edu.cn</a> Fan Liu, Assistant Professor School of System Design and Intelligent Manufacturing <a href="mailto:liuf6@sustech.edu.cn">liuf6@sustech.edu.cn</a>
9.	<b>实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact</b>	待公布 To be announced
10.	<b>选课人数限额(可不填) Maximum Enrolment (Optional)</b>	

11. 授课方式 Delivery Method	讲授 Lectures	习题/辅导/讨论 Tutorials	实验/实习 Lab/Practical	其它(请具体注明) Other (Please specify)	总学时 Total
学时数 Credit Hours	0	0	32	0	32
12. 先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	无				
13. 后续课程、其它学习规划 Courses for which this course is a pre-requisite	无				
14. 其它要求修读本课程的学系 Cross-listing Dept.	无				

### 教学大纲及教学日历 SYLLABUS

#### 15. 教学目标 Course Objectives

选修此课程的学生需要选择 1 位我院教授作为导师，并在其指导下从事科研工作。本课程希望通过让学生参与教授的科研工作，培养学生的科学素养，自学能力，以及创新思维。同时，接触世界前沿的科学知识，开展独立科研工作，从而为未来攻读研究生学位或从事研发工作打好基础。

Each student selects a professor as course supervisor from SDIM, joins in the research group of the supervisor, and participates in a research project suggested by the supervisor. Through the training of this course, students are expected to build up motivations and acquire basic knowledge required for scientific research, and to cultivate self-learning and critical thinking skills. At the same time, students are expected to contact with the world's cutting-edge science and technology, so as to lay a solid foundation for future graduate degree studies or R&D work.

#### 16. 预达学习成果 Learning Outcomes

通过这门课程，学生有望具有

1. 查找和阅读科技文献，以及自学能力
2. 运用数学，科学和工程知识进行科学探索的能力
3. 明确，规划，并解决工程问题的能力
4. 设计并实施实验，设计系统，以及/或开发算法能力
5. 使用现代工具和/或软件探索并解决工程问题的能力。
6. 分析和解释数据的能力
7. 与同学老师有效交流沟通的能力
8. 科研项目报告撰写，及项目答辩的能力

By taking this course, students are expected to be able to 1. Search and read literature for a given topic; 2. Apply the knowledge of mathematics, science and engineering to investigate a research problem; 3. Identify, formulate and solve

engineering problems; 4. Design and conduct experiment, and/or design a component or system, and/or develop algorithms 5. Use modern tools and software to investigate and solve engineering problems 6. Analyse and interpret data, 7. Communicate effectively with peer students and professors.

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.)**

第 1 周：学生选择创新实验项目，递交课题简介表。

第 2-3 周：学生进行项目调研，并进行开题汇报，并组织项目导师进行会评打分

第 4-14 周：学生进行创新实验项目。其中第 8 周进行中期汇报，组织项目导师进行会评打分。

第 15-16 周：准备创新实验项目结题报告和书面报告，项目导师审核项目报告。

Week 1: Students choose research projects, and submit project information forms. Week 2-3: Students conduct an overview and prepare an opening presentation, which will be evaluated by the professors. Week 2-14: Students Participant in chosen research projects. Mid-term presentation will be held in the 8th week, which shall be evaluated by the professors.. Week 15-16: Students give final presentations and submit written reports, and professors evaluate project reports.

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

无

**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
出勤 Attendance				

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				
期末考试 Final Exam				
期末报告 Final Presentation		60		口头报告和书面报告 Project oral presentation and written report
其它（可根据需要 改写以上评估方 式） Others (The above may be modified as necessary)		40		项目开题审核：10% 项目期中审核：10% 考核监督人期末考核成绩：20% Opening presentation evaluation: 10% Mid-term project evaluation: 10% Project evaluation by project modulator at final-term: 20%

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