

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.

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| 1. | 课程名称 Course Title | 海外认知实践 Overseas Practice |
| 2. | 授课院系 Originating Department | 力学与航空航天工程系 Department of Mechanics and Aerospace Engineering |
| 3. | 课程编号 Course Code | MAE211 |
| 4. | 课程学分 Credit Value | 2 |
| 5. | 课程类别 Course Type | 专业选修课 Major Elective Courses |
| 6. | 授课学期 Semester | 夏季 Summer |
| 7. | 授课语言 Teaching Language | 中英双语 English & Chinese |
| 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） Instructor(s), Affiliation & Contact (For team teaching, please list all instructors) | Yu Peng Department of Mechanics and Aerospace Engineering 余鹏， 力学与航空航天工程系， yup6@sustech.edu.cn 88018911 |
| 9. | 实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact | 无 NA |
| 10. | 选课人数限额(可不填) Maximum Enrolment (Optional) | 20 |

| 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 | | 8 | 56 | | 64 |

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

教学大纲及教学日历 SYLLABUS

15. 教学目标 Course Objectives

提升学生对力学与航空航天工程这两个专业的理解，培养学生的实践能力及创新思维能力

Enhance the cognitive development for the students in the areas of mechanics and aerospace engineering; Promote the students' abilities of practice and creative thinking skills.

16. 预达学习成果 Learning Outcomes

1. 加深学生对力学与航空航天工程这两个专业的理解，激发学生学习兴趣。
2. 了解国外一流大学及研究所的在力学与航空航天工程专业前沿研究领域，提高学生创新思维能力。
3. 增强学生的实践能力及信心，拓展学生国际化视野。

1. Deepen the students' understanding in mechanics and aerospace engineering, and stimulate their learning interest.
2. Students can understand the frontier research areas of mechanics and aerospace engineering at leading universities and research institutes abroad, which thus improves their creative thinking ability.
3. Students can enhance their practical ability and self-confidence, and expand their international vision.

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.)

第一天：新加坡国立大学(NUS)机械工程系(ME)简介及研究生招生情况简介；参观 NUS 图书馆，大学城。（8 小时）

第二天：参观 NUS 淡马锡实验室，其中包括天线室，控制小组，空气动力学小组；参与风洞演示实验。（8 小时）

第三天：旁听 NUS ME 相关课程，包括流体力学(ME2134)，环境热力学(ME4223)，功能材料与设备(ME4256)。（6 小时）

第四天：参观 NUS 计算机中心，参观 NUS ME 控制实验室，3D 打印实验室。（6 小时）

第五天：参观 NUS ME 应用力学实验室，流体实验室，先进制造实验室，设计实验室。（8 小时）

第六天：参观南洋理工大学（NTU）机械与航空航天学院，其中包括航空管理与控制实验室，创新实验室，创客空间等；参观 NTU 图书馆。（8 小时）

第七天：参观新加坡 ASTAR 高性能计算研究所，国家计量局。（8 小时）

第八天：参观新加坡制造技术研究所。（6 小时）

第九天：认知实习总结讨论，学生报告。（6 小时）

Day 1: Introduction to Department of Mechanical Engineering (ME), NUS; Introduction to NUS ME postgraduate Programmes ; Visit NUS Libraries; Visit NUS University Town (8 hours)

Day 2: Visit T-Lab @ NUS, which includes Antenna chamber, control group, and Aero-group, participate in wind-tunnel demo experiment. (8 hours)

Day 3: Attend NUS ME courses, which include Fluid Mechanics (ME2134), Thermal Environmental Engineering (ME4223), Functional Materials and Devices (ME4256). (6 hours)

Day 4: Visit NUS Computer Center; Visit ME Control Lab, 3D Printing Lab (6 hours)

Day 5: Visit NUS ME Applied Mechanics Lab, Fluid Lab, Advance Manufacturing Lab, Design Lab. (8 Hours)

Day 6: Visit School of Mechanical and Aerospace Engineering (MAE) @ NTU, which includes ATMRI Lab, Innovation Lab, Maker Space; Visit NTU Libraries. (8 hours)

Day 7: Visit Institute of High Performance Computing, and National Metrology Center, ASTAR, Singapore. (8 hours)

Day 8: Visit Singapore Institute of Manufacturing Technology (SIMTech). (6 Hours)

Day 9: Discussion, presentation and summary. (6 hours)

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

无 NA

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 | | 20 | | |
| 课堂表现 Class Performance | | 20 | | |
| 小测验 Quiz | | | | |
| 课程项目 Projects | | 30 | | |
| 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

力学与航空航天工程系教学指导委员会
 The commission of teaching instruction in department of mechanics and aerospace engineering