

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 Course Title	基础有机化学 General Organic Chemistry				
2.	授课院系 Originating Department	材料科学与工程系 Department of Materials and Engineering				
3.	课程编号 Course Code	MSE210				
4.	课程学分 Credit Value	3				
5.	课程类别 Course Type	专业核心课 Major Core Courses				
6.	授课学期 Semester	春季 Spring				
7.	授课语言 Teaching Language	英文 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） Instructor(s), Affiliation & Contact (For team teaching, please list all instructors)	郭旭岗 教授 Prof. Xugang Guo 材料科学与工程系 Department of Materials and Engineering guoxg@sustc.edu.cn				
9.	实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact	待公布 To be announced				
10.	选课人数限额(可不填) Maximum Enrolment (Optional)					
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	48				48

12. 先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	CH101A 化学原理 A General Chemistry A
13. 后续课程、其它学习规划 Courses for which this course is a pre-requisite	
14. 其它要求修读本课程的学系 Cross-listing Dept.	

教学大纲及教学日历 SYLLABUS

15. **教学目标 Course Objectives**

After the course study, it is expected that the students know the following aspects:

- (1) Structural theory, Lewis structures, isomers, basic resonance theory
- (2) Atomic, molecular, and hybrid orbitals, covalent bonding, shapes of molecules
- (3) Polarity of molecules and bonds
- (4) Physical properties and intermolecular forces
- (5) Functional groups and families of organic compounds
- (6) Acid and base properties, equilibria, and relative acid/base strengths
- (7) Potential energy diagrams of reactions, activation energies of reactions
- (8) Common organic reactions

Identify the chemical structures of simple organic compounds

16. **预达学习成果 Learning Outcomes**

After the course study, the students can have solid organic chemistry knowledge, which lays good foundations for the future study in advanced organic chemistry and polymer chemistry.

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.)

Chapter 1. Introduction and Review (3 credit hours)

Chapter 2. Structure and Properties of Organic Molecules (4 credit hours)

Chapter 3. Structure and Stereochemistry of Alkanes (3 credit hours)

Chapter 4. The Study of Chemical Reactions (4 credit hours)

Chapter 5. Stereochemistry (3 credit hours)

Chapter 6. Alkyl Halides: Nucleophilic Substitution and Elimination (4 credit hours)

Chapter 7. Structure and Synthesis of Alkenes (3 credit hours)

Chapter 8. Reaction of Alkenes (3 credit hours)

Chapter 9. Alkynes (3 credit hours)

Chapter 10. Structure and Synthesis of Alcohols (3 credit hours)

Chapter 11. Reaction of Alcohols (3 credit hours)

Chapter 12. Infrared Spectroscopy and Mass Spectroscopy (4 credit hours)

Chapter 13. Nuclear Magnetic Resonance Spectroscopy (4 credit hours)

Chapter 15. Conjugated Systems, Orbital Symmetry, and Ultraviolet Spectroscopy (4 credit hours)

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

- (1). Organic Chemistry, International Edition, 8th Ed., L. G. Wade, Jr. Pearson (required)
- (2). Organic Chemistry, International Edition, 8th Ed., 2012, John E. McMurry, Brooks/Cole, Cengage Learning (recommended)
- (3). 基础有机化学, 邢其毅 裴伟伟, 第3版, 高度教育出版社 (recommended)

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		5		
课堂表现 Class Performance		5		
小测验 Quiz		5		
课程项目 Projects				
平时作业 Assignments		20		
期中考试 Mid-Term Test		30		
期末考试 Final Exam		35		
期末报告 Final				

Presentation

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

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