

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	无机化学实验 Inorganic Chemistry Laboratory
2.	授课院系 Originating Department	化学系 Department of Chemistry
3.	课程编号 Course Code	CH204
4.	课程学分 Credit Value	2
5.	课程类别 Course Type	专业基础课 Major Foundational Courses
6.	授课学期 Semester	春季 Spring
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)	王春燕, 工程师, 化学系 荔园 1 栋 408 室, wangcy@sustech.edu.cn 0755-8801-8740 WANG ChunYan, Laboratory Engineer, Chemistry Rm.408, No.1 LYCHEE BLK. wangcy@sustech.edu.cn 0755-8801-8740 刘华伟, 实验师, 化学系 荔园 1 栋 408 室, liuhw@sustech.edu.cn 0755-8801-8378 LIU, HuaWei, Laboratory Engineer, Chemistry Rm.408, No.1 LYCHEE BLK. liuhw@sustech.edu.cn 0755-8801-8378
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)					
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	4	0	60	无 None	64
12. 先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	化学原理实验 A (CH102-17) 无机化学导论 (CH213)				
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**

1. 深入理解《无机化学导论》理论课中的概念、理论，并能灵活运用所学理论知识指导实验；
 2. 学生能够正确掌握无机化学实验相关的基本操作，方法及相关仪器；
 3. 培养学生具有良好的实验室习惯和安全意识
1. Training students to have a deeper understanding about the concepts and the theories of Inorganic Chemistry, and use the knowledge they have learnt to do the experiments.
 2. Training students to master the basic methods, necessary skills, and instrument operation of inorganic chemistry.
 3. Training students to have excellent habit about chemistry experiments and strong safety awareness in laboratory.

16. 预达学习成果 **Learning Outcomes**

1. 了解无机化学实验的基本原理，掌握基本操作，熟悉常见仪器，增强实验安全意识；
 2. 对观察到的实验现象，得到的实验结果能理论联系实际，用所学过的理论知识加以解释。
1. After completing this course, students should master the basic methods, necessary skills, and instrument operation related to inorganic chemistry experiments. They should be also familiar with laboratory safety rules.
 2. Students should have a conceptual and practical understanding of a range of chemical principles, and give a explanation, based on the inorganic chemistry, to the phenomena and the results they have got.

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.)

绪论 (4 学时)

INTRODUCTION Laboratory Safety, Experiment Contents and Scoring Criteria.(4 Credit Hours)

实验 1 硅氧化合物及硅氧聚合物的合成 (6 学时)

EXPERIMENT 1 Silicon Oxygen Compounds and Silicone Polymers.(6 Credit Hours)

实验 2 铬 (III) 化合物晶体场分裂能的测定 (5 学时)

EXPERIMENT 2 The Determination of Crystal Field Splitting Energy(Δ_o) of Cr(III) Compounds. (5 Credit Hours)

实验 3 [1,3,5-C₆H₃(CH₃)₃]Mo(CO)₃ 的合成 (5 学时)

EXPERIMENT 3 Preparation of [1,3,5-C₆H₃(CH₃)₃]Mo(CO)₃ . (5 Credit Hours)

实验 4-5 镍过渡金属催化剂的合成及其在烯烃异构化中的应用 (8 学时)

EXPERIMENT 4-5 Synthesis and application of a Transition Metal Hydride Catalyst in Alkene Isomerization. (8 Credit Hours)

实验 6 席夫碱为配体的镍配合物的合成及结构表征 (4 学时)

EXPERIMENT 6 Nickel (II) Complex of Some Schiff Base Ligand (4 Credit Hours)

实验 7-9 Re(CO)₃(bipy)Br 和 [Re(CO)₃(bipy)(NH₂Tol-p)]OTf 的合成及其光学性质的研究 (12 学时)

EXPERIMENT 7-9 Synthesis and photophysical studies of Re(CO)₃(bipy)Br and [Re(CO)₃(bipy)(NH₂Tol-p)]OTf (12 Credit Hours)

实验 10-11 聚苯乙烯的悬浮聚合 (8 学时)

EXPERIMENT 10-11 Suspension Polymerization of Styrene. (8 Credit Hours)

实验 12 -13 乙酰基二茂铁的合成及还原 (8 学时)

EXPERIMENT 12-13 Preparation and reduction of Acetylferrocene. (8 Credit Hours)

测试 (4 学时)

Practicum (4 Credit Hours)

Students will be assigned to carry out particular experimental procedures/skills at the end of all experimental sections. This section will be used as a basis to assess their abilities in carrying out experiment without the close guidance of the demonstrators.

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

The Journal of Chemical Education

Inorganic Experiments by Derek Woollins

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		50		
小测验 Quiz		10		
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				
其它（可根据需要 改写以上评估方 式） Others (The above may be modified as necessary)		35		15 实验报告 Lab Report 20 操作测试 Practicum (as shown above)

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

化学系教学指导委员会
Teaching committee of the chemistry department