

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	光纤传感器设计 Fiber sensor design
2.	授课院系 Originating Department	电子与电气工程系 Department of Electrical and Electronic Engineering
3.	课程编号 Course Code	EES204
4.	课程学分 Credit Value	1
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	中文 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)	徐琳琳 电子与电气工程系第一教学楼 131 室 电话: 0755-88018762/15338737651 邮箱: xull@sustc.edu.cn Linlin Xu Department of Electrical and Electronic, Engineering Teaching building 1, Room 131 Tel: 0755-88018762/15338737651 Email: xull@sustc.edu.cn
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	习题/辅导/讨论	实验/实习	其它(请具体注明)	总学时
	Lectures	Tutorials	Lab/Practical	Other (Please specify)	Total
学时数 Credit Hours			32		32

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	光纤通信原理与技术 (EE308) Fiber Communication Principles and Techniques (EE308)
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

本课程介绍光纤传感器的基本工作原理和应用，指导学生搭建完整的光纤传感系统并进行实验测量。

To introduce the basic work principles and applications of fiber sensors, and direct students to construct the whole fiber sensing systems and perform the measurements.

16. 预达学习成果 Learning Outcomes

通过该课程的学习，学生将具备以下能力：

1. 掌握光纤传感器的分类和相应的工作原理及应用；
2. 具备自己搭建完整反射式和透射式光纤位移传感系统的能力，并具备分析所搭建的光纤传感系统性能的能力。

After completing this course, students will have the following abilities:

1. Master the classification, working principle and applications of optical fiber sensors;
2. Have the ability to construct a complete reflective and transmissive optical fiber displacement sensing system, and have the ability to analyze the performance of the fiber optic sensing system.

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.)

第一周：介绍光纤传感器的基本工作原理及应用，指导学生确定实验项目；

第二周：指导学生搭建所设计的光纤传感模型；

第三周：指导学生完成光纤传感模型的搭建工作；

第四周：指导学生完成数据测量和传感性能分析，学生完成总结报告。

Week 1: Introduce the basic principle and application of optical fiber sensor, guide students to determine the experimental project;

Week2: Instruct students to build the designed optical fiber sensing model;

Week 3: Instruct students to complete the construction of optical fiber sensing model;

Week 4: Instruct students to complete data measurement and transmission performance analysis, guide students to complete the summary report.

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

Reference books:

李川, 李英娜..., 《光纤传感器技术》, 科学出版社, 2012;

方祖捷, 《光纤传感器基础》, 科学出版社, 2014;

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		100		
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)

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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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