

## 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 <b>Course Title</b>	非寿险精算 <b>Nonlife actuarial models</b>				
2.	授课院系 <b>Originating Department</b>	数学系 Mathematics				
3.	课程编号 <b>Course Code</b>	MA228				
4.	课程学分 <b>Credit Value</b>	3				
5.	课程类别 <b>Course Type</b>	专业选修课 Major Elective Courses				
6.	授课学期 <b>Semester</b>	秋季 Fall				
7.	授课语言 <b>Teaching Language</b>	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） <b>Instructor(s), Affiliation &amp; Contact</b> (For team teaching, please list all instructors)	古嘉雯 Gu, Jiawen 数学系 Mathematics gujw@sustc.edu.cn				
9.	实验员/助教、所属学系、联系方式 <b>Tutor/TA(s), Contact</b>	无 NA / 待公布 To be announced / 已确定的实验员/助教联系方式 Please list all Tutor/TA(s) (请保留相应选项 Please only keep the relevant information)				
10.	选课人数限额(可不填) <b>Maximum Enrolment (Optional)</b>					
11.	授课方式 <b>Delivery Method</b>	讲授 <b>Lectures</b>	习题/辅导/讨论 <b>Tutorials</b>	实验/实习 <b>Lab/Practical</b>	其它(请具体注明) <b>Other (Please specify)</b>	总学时 <b>Total</b>
	学时数 <b>Credit Hours</b>	48	0	0	复习考试 (两周)	48

12. 先修课程、其它学习要求 <b>Pre-requisites or Other Academic Requirements</b>	概率论与数理统计或概率论 Probability and Statistics or Probability Theory
13. 后续课程、其它学习规划 <b>Courses for which this course is a pre-requisite</b>	
14. 其它要求修读本课程的学系 <b>Cross-listing Dept.</b>	

**教学大纲及教学日历 SYLLABUS**

15. **教学目标 Course Objectives**

本课程介绍了非寿险精算模型的概念和实际应用，为学生在精算行业和定量金融研究中的进一步发展做准备。

This course introduces the concepts and practical application of nonlife actuarial models and prepares students for further advancement in both actuarial industry and quantitative finance research.

16. **预达学习成果 Learning Outcomes**

参加本课程后，学生应熟悉损失建模，风险/破产理论，以及损失模型的实证实践。

After taking this course, students should be familiar with modelling of losses, risk and ruin theory, and the empirical implementation of loss models.

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.)**

1. 赔付模型 Loss models

损失分布 Claim-severity distribution (8 学时)

索偿次数分布 Claim-frequency distribution(8 学时)

复合风险模型 Aggregate-loss models(8 学时)

2. 风险分析与破产概率 Risk and Ruin

风险测度 Risk measures(8 学时)

破产概率 Ruin theory(8 学时)

3. 信度 Credibility(8 学时)

索偿概率与赔付额估算 Full credibility for claim frequency and severity

理赔模型的估算与保费计算 Full credibility for aggregate loss and Premium

完全信度和部分信度 Full credibility and Partial credibility

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

非寿险精算学， 杨静平， 2006.

Nonlife actuarial models: Theory, Methods and Evaluation, Yiu-Kuen Tse, 2009

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		0		
课堂表现 Class Performance		0		
小测验 Quiz		0		
课程项目 Projects		0		
平时作业 Assignments		15%		
期中考试 Mid-Term Test		35%		
期末考试 Final Exam		50%		
期末报告 Final Presentation		0		

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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