

## 课程大纲 COURSE SYLLABUS

1.	<b>课程代码/名称 Course Code/Title</b>	MAT7101 广义线性模型 MAT7101 Generalized Linear Models
2.	<b>课程性质 Compulsory/Elective</b>	专业选修课 Major Elective Courses
3.	<b>课程学分/学时 Course Credit/Hours</b>	3/48
4.	<b>授课语言 Teaching Language</b>	英文 English
5.	<b>授课教师 Instructor(s)</b>	陈欣 CHEN Xin
6.	<b>是否面向本科生开放 Open to undergraduates or not</b>	是 Open to undergraduates
7.	<b>先修要求 Pre-requisites</b>	(如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.) 统计线性模型 (MA329) Statistical Linear Models(MA329)
8.	<b>教学目标 Course Objectives</b>	
	<p>本课 3 学分, 3 学时/每周。先修课程: 统计线性模型 (MA329)。广义线性模型是经典线性模型的自然推广。广义线性模型涵盖了作为特例线性回归模型、二项响应变量的 logit 模型和 probit 模型。广义线性模型可应用于多种多样的学科领域。在经典线性模型的假设无效时, 应考虑使用这一类模型。</p> <p>This course introduces generalized linear models which are a natural generalization of classical linear models. They include as special cases linear regression model, logit and probit models for binomial responses, and multinomial response models. Generalized linear models are applicable in a wide variety of subject areas, and should be considered whenever the assumptions of the classical linear model are invalid.</p>	
9.	<b>教学方法 Teaching Methods</b>	
	讲授 Lectures	
10.	<b>教学内容 Course Contents</b>	
	<b>Section 1</b>	GLIM 通论 (9 学时) General Theory of GLIM (9 class hours)
	<b>Section 2</b>	GLIM 用于二进制数据 (9 学时) GLIM for binary data (9 class hours)
	<b>Section 3</b>	GLIM 用于均值与方差成比例的数据 (9 学时) GLIM for data with mean proportional to variance (9 class hours)
	<b>Section 4</b>	GLIM 用于具有恒定变异系数的数据 (9 个课时) GLIM for data with constant coefficient of variation (9 class hours)
	<b>Section 5</b>	多变量数据的 GLIM (9 学时) Multivariate GLIM for polytomous data (9 class hours)
	<b>Section 6</b>	拟似然和估计方程 (3 学时) Quasi-likelihood and Estimating Equations (3 class hours)
	<b>Section 7</b>	

	<b>Section 8</b>	
	<b>Section 9</b>	
	<b>Section 10</b>	
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<b>11.</b>	<b>课程考核 Course Assessment</b>	
	(①考核形式 Form of examination; ②.分数构成 grading policy; ③如面向本科生开放, 请注明区分内容。 If the course is open to undergraduates, please indicate the difference.) 小测验 Quiz 30% 期中考试 Mid-Term Test 30% 期末报告 Final Presentation 40%	
<b>12.</b>	<b>教材及其它参考资料 Textbook and Supplementary Readings</b>	
	Generalized Linear Models, Second Edition by P. McCullagh, John A. Nelder, CRC Press, Aug 1, 1989.	