理学院（数学与应用数学专业）课程简介

课程编号：1713001290

课程名称：模糊数学

学分/学时：2/32

先修课程：数学分析/高等代数/数学软件与实验

适用专业：数学与应用数学专业

课程性质：限选

教　　　材：谢季坚、刘承平编著．《模糊数学方法及其应用》.华中科大出版社,2015 年.

主要参考书:张小红、代建华著．《模糊数学与 Rough 集理论》．清华大学出版社, 2013 年.

李士勇编.《工程模糊数学及应用》.哈尔滨工业大学出版社，2015 年.

内容简介：《模糊数学》是数学与应用数学专业本科四年级的一门专业选修课，其先修课程为《数学分析》、《高等代数》和《数学软件与实验》。模糊数学是一门崭新的数学学科。它克服了经典数学的局限性,可以对复杂系统作出合乎实际的描述和处理.通过本课程的学习，使学生掌握模糊集理论基础、模糊模式识别、模糊关系与模糊聚类分析、模糊综合评判、模糊推理与模糊预测方法。通过学习该课程可以培养学生抽象思维、逻辑推理和科学计算的能力，尤其是运用数学知识解决来自实际中问题的能力。

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Course Description

School of Science Faculty

Course Code：1713001290

Course Name：Fuzzy Mathematics

Credit/Hours：2/32

Textbooks：Xie Jijian, Liu Chenping. 《Method of Fuzzy Mathematics and its Application》. Press of the Huazhong University of Science and Technology, 2015.

Reference Books：Zhang Xiaohong, Daijianhua. 《Fuzzy Mathematics and Rough Sets》. Press of Tsinghua University, 2013.

Li Shiyong. 《Engineering Fuzzy Mathematics with Application》. Press of Harbin Institute of Technology, 2015.

Course Description：FUZZY MATHEMATICS is a simplified elective course for the forth-year undergraduates with a good background in advanced Mathematical Analysis, Advanced Algebra, Mathematical Software and Lab whose specialties is mathematics and applied mathematics. As a new mathematics subject, Fuzzy Mathematics can overcome the limitations of classical mathematics and make a realistic description of complex systems. The course is designed specially for making students grasp fuzzy set theory, fuzzy pattern recognition, fuzzy relation and fuzzy clustering analysis, fuzzy comprehensive evaluation, fuzzy reason and fuzzy forecast method, aim to cultivate their abilities of abstract thinking, logic reasoning and scientific computation, especially the problem-solving ability of applying mathematical knowledge.