理学院（数学与应用数学专业）课程简介

课程编号：1713001070

课程名称：随机过程

学分/学时：3/48

先修课程：数学分析/高等代数/常微分方程/概率论/统计分析

适用专业：数学类专业

课程性质：限选

教　　材：刘晓东，《随机过程引论》，自编讲义，2016.

主要参考书 ： 随机过程（原书第 2 版），（美），Sheldon M.Ross 著，龚光鲁 译 /2013-07-01 /机械工业出版社。

内容简介：《随机过程》是数学专业本科三年级学生选修的一门应用基础课。随机过程不仅是现代数据分析与处理的核心基础之一，而且还是如理论物理、通讯、金融工程、保险和精算、计算机仿真等现代科学和工程技术的不可或缺的基本知识。本课程内容含括随机过程的基本概念，并重点掌握泊松过程、马尔可夫过程和平稳过程及其应用、更新过程，排队论。

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Course Description

School of Science Faculty

Course Code：1713001070

Course Name：Stochastic Processes

Credit/Hours：3/48

Textbooks：Xiaodong Liu ,《Introduction to Stochastic Processes》. 2016.

Reference Books：Sheldon M.Ross. 《Introduction to Stochastic Processes》. Press of mechanical industry

Course Description：INTRODUTION OF STOCHASTIC PROCESS is a technical foundational and simplified course for the third-year undergraduates with a good background in advanced mathematical analysis, linear algebra and ordinary differential equations whose specialties is applied mathematics and statistics. The course is designed specially for statistic specialties group which involves modern data analysis, aiming to improve the related students understanding to the theory & technology. The course is a prerequisite for lots of courses, such as communication, financial engineering etc.. The course covers a wide range of the basic theories and foundational knowledge including basic stochastic, Poisson process, Markov Process, renewal process and queuing theory which contribute greatly to modern statistic theories and technologies.