理学院（数学与应用数学专业）课程简介

课程名称：理学院（数学与应用数学专业）课程简介

课程编号：1713001130

课程名称：实变函数

学分/学时：3/48

先修课程：数学分析

适用专业：数学类专业

课程性质：必修

教　　　材：《实变函数》（第三版），周性伟、孙文昌编，科学出版社，2014.

主要参考书 ：《实变函数》（第三版），周民强编，北京大学出版社，2016.

内容简介：《实变函数》是高等学校数学与应用数学专业本科三年级的一门专业基础课，其先修课程为《数学分析》。本课程在教学内容上将区域的长度、面积、体积推广到一般集合的测度，从区域上的黎曼积分推广到可测函数的勒贝格积分。在研究方法上也有很大的飞跃，它运用点集分析方法才能揭露许多函数的深刻性质。同时也是数学分析课程中微积分理论的进一步深入,也为进一步学习分析数学中一些专门理论,如函数论、泛函分析、概率论、微分方程、调和分析等提供必要的工具和积分论基础。

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Course Description

School of Science Faculty

Course Code：1713001130

Course Name：Functions of a Real Variable

Credit/Hours：3/48

Textbooks：Zhou Xingwei, Sun Wenchang. 《Functions of Variable》(Third Version) , Science Press, 2014.

Reference Books：Zhou Mingqiang. 《Functions of Variable》(Third Version), Peking University Press, 2016.

Course Description： Functions of a Real Variable is a subject basic course of sophomore for applications mathematics subjects. Before the course is offered, students need to study Mathematical Analysis. The course content is as follows: length, area and volume of region generalize to measure of general set, from the profundity characteristic of Riemann integral on kingdom generalize to Lebesgue integral of measure function. There is also great leap on research method, applying point set analysis method could disclose the profundity characteristic of many function. At the same time, it more embed calculous theory in MATHEMATICAL ANALYSIS, it provide necessary tools and integral theory base for study some specialism theory of analysis mathematics, for example, function theory, functional analysis, probability, differential equation, harmonic analysis and so on.

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