

理学院（数学与应用数学专业）课程简介

课程编号：1713001040

课程名称：复变函数

学分/学时：3/48

先修课程：数学分析/高等代数

适用专业：数学类专业

课程性质：必修

教材：《复变函数》（第二版），卢玉峰 刘西民编，高等教育出版社，2016.

主要参考书：《复变函数论》（第四版），钟玉泉编，高等教育出版社，2013.

内容简介：《复变函数》又称为复分析，是数学专业的一门重要课程。课程的主要研究的函数为解析函数，围绕着此类函数，本课程中主要讲述了函数的导数、解析，各个基本初等函数的解析方面的代数特征、及其几何映射特征；函数的可积性以及其中解析函数，亚纯函数的积分计算问题；解析函数在区域上的可展性，以及可展区域与解析函数所展的幂级数和双边幂级数在几何上的对应关系；留数及其应用，共形映照与解析开拓；以及调和函数及其与解析函数的关系。

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Course Description

School of Science Faculty

Course Name: Complex Variable Function

Credit/Hours: 3/48

Textbooks: Lu Yufeng, Liu Ximin. 《Complex variable function》.(Second Version) Higher Education press, 2016.

Reference Books: Zhong Yuquan. 《Complex variable function》.(Fourth Version) Higher Education

press, 2013.

Course Description: Complex Variable Function which is also called complex analysis, is a major's foundational and important course with a good background in mathematical analysis. Surrounding to the analytic function, the course is providing a series of parts which related to the function. Such as, complex's derivative and analysis and the characters of basic elementary function on both algebra and geometrical; integrability of the complex function and how to calculates the integral of analytic and meromorphic function; evolveability of the function and the relation between the form of series and developable region; residues and it application; conformal mapping and analytical prolongation; and harmonic function and its qualities, and the relation between harmonic and analytic function.