

东南大学 2022 年国际暑期学校项目介绍

Introduction of SEU International Summer School Program

项目主题 分析、代数与计算国际暑期课程

Theme International Summer Courses on Analysis, Algebra and Computation

项目概述

Overview

本暑期课程是从分析、代数和计算三个学科前沿方向选取适当的模型案例作为载体，介绍相关领域的最新研究成果及其在工程实际中的应用，提升学生对知识的理解，强化学生对知识的运用。

This program selects appropriate model cases from the frontier directions of analysis, algebra and calculation, and introduces the latest research results in relevant fields and their application in engineering, in order to improve the students' understanding of knowledge and strengthens students' ability of application.

日程安排 (暂定)

Schedule (Draft)

课程 1 “现代数学选讲”

学时/学分: 24 学时/1 学分

上课时间: 周二 11-13 节, 周四 11-13 节 (在线)

主讲教师: Professor Alastair Rucklidge, 英国利兹大学数学系,

课程目标: 通过此课程, 学生将学习如何表述和分析变分问题, 并能够将变分法应用于物理学和力学中的一系列最小化问题。

课程 2 “高等代数学”

学时/学分: 32 学时/1.5 学分

上课时间: 周一 6-8 节, 周三 11-13 节, 周五 6-8 节 (在线, 第四周只上周一、周三的课)

主讲教师: Dragana S. Cvetković-Ilić, 塞尔维亚 Nis 大学数学系教授

课程目标: 通过此课程, 学生将熟悉广义逆理论的基本知识及其可能的应用, 并能够关注该领域的一些更高级的主题。

课程 3 科学计算前沿选讲

学时/学分: 24 学时/1 学分

上课时间: 周一 3-5 节, 周三 3-5 节 (在线)

主讲教师: Maxim A. Shishlenin, 俄罗斯科学院新西伯利亚分院计算数学和数学地球物理研究所研究员

课程目标: 通过课程学习, 学生能了解不适定问题和反问题基本概念, 掌握反问题的正则化方法, 了解不适定问题和反问题的应用。

Course 1: Selected Topics in Modern Mathematics

- Hours/Credits: 24 hours/ 1 credit
- Time: Tues. 18:30-20:55, Thu. 18:30-20:55 (online)
- Lecturer: Professor Alastair Rucklidge (Leeds University)
- Objectives: After this course, students should learn how to formulate and analyze variational Problems and be able to apply the Calculus of Variations to a range of minimization problems in physics and mechanics.

Course 2: Selected Topics in Advanced Algebra

- Hours/Credits: 32 hours/ 1.5 credit
- Time: Mon. 14:00-16:35, Wed. 18:30-20:55, Fri.14:00-16:35 (online & Mon. 14:00-16:35, Wed. 18:30-20:05 for last week)
- Lecturer: Prof. Dragana S. Cvetković-Ilić (University of Niš)
- Objectives: After the course, students will be familiar with the basic knowledge of the theory of generalized inverses and its possible applications, and be able to follow certain more advanced topics from this field.

Course 3: Selected Topics in Frontier of Scientific Computation

- Hours/Credits: 24 hours/ 1 credit
- Time: Mon. 9:50 – 12:15, Wed. 9:50 – 12:15 (online)
- Lecturer: Prof. Maxim A. Shishlenin (Institute of Computational Mathematics and Mathematical Geophysics, RAS)
- Objectives: After this course, students should be able to understand the concept of ill-posed and inverse problems, master the regularization methods for inverse problems and understand the applications of ill-posed and inverse problems.

计划招生人数 250 位东南大学本科生、50 位国际本科生

Number of Participants

250 SEU students, 50 international students

申请要求 要求申请人为理学或工学相关专业的二年级以上的本科生

Application Requirements

Mainly for college sophomore or above with major in science and engineering

申请截止时间 2022 年 6 月 30 日

Application Deadline

June 30, 2022

主办/承办单位 东南大学/数学学院

Host & Organizer

Southeast University / School of Mathematics

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