

2022

**Introduction of SEU International Summer School Program**

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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.

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### 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. Cvetkovi -Ili ( )
- 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.

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250 SEU students, 50 international students

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

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June 30, 2022

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Southeast University / School of Mathematics

101012007@seu.edu.cn

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Dr. Zhao Xuan / 101012007@seu.edu.cn

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