

CSCA Mathematics Examination Syllabus

(2025 Edition)

I. Examination Purpose

This examination aims to assess international students' mastery of mathematical knowledge, with a particular focus on their fundamental mathematical skills, logical thinking ability, and problem-solving competence.

It ensures that students possess the academic foundation required for undergraduate studies at Chinese universities and lays a solid groundwork for further learning in mathematics and related science and engineering disciplines.

II. Examination Format and Structure

1. Duration: 60 minutes
2. Total Score: 100 points
3. Language: Chinese or English
4. Question Type: Multiple Choice (Single Answer)
5. Number of Questions: 48
6. Content Modules:
 - Sets and Inequalities
 - Functions
 - Geometry and Algebra
 - Probability and Statistics

III. Examination Content and Scope

1. Sets and Inequalities
 - Definition, operations, and representation of sets
 - Basic properties and solution methods of inequalities (e.g., quadratic and rational inequalities)
2. Functions

- Concepts and properties of functions (domain, range, monotonicity, parity, etc.)
- Basic elementary functions (power, exponential, logarithmic, and trigonometric functions)
- Sequences (general term formula and summation of arithmetic and geometric sequences)
- Basics of derivatives and calculus (definition, geometric meaning, and simple applications)

3. Geometry and Algebra

- Plane analytic geometry (equations and properties of lines, circles, ellipses, hyperbolas, and parabolas)
- Vectors and complex numbers (vector operations, basic operations of complex numbers)
- Solid geometry (rectangular coordinate system in space and properties of simple solids)

4. Probability and Statistics

- Classical probability model and probability calculation
- Numerical characteristics of data (mean, variance, etc.)
- Basic concepts of normal distribution

