

## **BA Honours in Mathematics**

The School of Undergraduate Studies (SUS) aims to offer its students a unique liberal arts education that acquaints them with diverse approaches to knowledge. The undergraduate programmes at AUD encourage students to think critically and creatively, to analyse and reason, to communicate effectively, and to draw evidence-based conclusions. It aims to achieve a balance between the range and depth of the subjects studied.

The unique aspect of Undergraduate programmes at AUD is that there are common modules for foundational skills comprising language, writing skills, communication skills, analytical reasoning and a core module in social sciences. This is done through a blend of common foundational courses, languages, core discipline courses and a wide range of elective courses. Students experience the flexibility of choosing courses from more than one disciplinary area in order to develop a broader perspective on social sciences and humanities. They also have the opportunity to seek transfer from one programme to another, provided they meet certain criteria.

The teaching method in AUD is interactive and learner centric. The pedagogy comprises lectures, tutorials, lab classes, field work, workshops and seminars.

The School of Undergraduate Studies follows a mandatory attendance policy. Students are expected to attend all learning situations. The penalties for low attendance are applied in the form of 'grade cuts' based on a sliding scale of attendance shortfall.

Assessment is continuous, with regular feedback. The aim of continuous assessment is to ensure that the work done during the semester carries more weight than a single end-semester examination.

The medium of instruction at AUD is English. The university provides a range of support systems for English language education through its Centre for English Language Education. Mentoring is an important feature of all programmes in AUD.

**An Honours programme in Mathematics** at the Undergraduate level is one of the most versatile degrees in terms of skills, knowledge-base and career options. The BA Honours in Mathematics at AUD will provide the opportunity to develop all the above abilities and at the same time greatly enhance computational skills. The flexible framework of the credit-based semester system at AUD provides a perfect opportunity to build a strong foundation in modern Mathematics as well as ability to explore other disciplines. The core courses in Mathematics will cover abstract algebra, real analysis, numerical analysis, probability and statistics, differential equations, linear optimization, number theory and cryptography.

A wide variety of elective courses in Mathematics will cover topics like mathematical finance, actuarial mathematics, mathematics for computer sciences, discrete mathematics, advanced algebra, advanced analysis and mathematical modelling.

Computational skills and programming skills will be taught through extensive practical classes. Tutorials, lab sessions, workshops and seminars are some of the pedagogical hallmarks of the programme.

The Mathematics programme at AUD does not have a compulsory internship. However, students are encouraged to apply for internships that require a training in Mathematics in companies or in other reputed institutions. They are also encouraged to participate in summer schools and other programmes of mathematical nature.

A strong project component will seek to augment their understanding of the discipline and its many applications. Some of the Mathematics courses may also have this component.

The programme is delivered through a total number of 96 credits over six semesters. In order to receive a BA (Hons) degree in Mathematics, these credits must be earned in the following manner:

Courses	Minimum Credits
Compulsory Foundation Courses (Languages and Environmental Issues)	12
Foundation Optional Courses	04
Core Economics Courses	48
Others (Electives, Foundation, other discipline courses)	32

**Core Mathematics Courses:**

- Introduction to Mathematical Thinking
- Algebra I, Algebra II, Algebra III
- Analysis I, Analysis II, Analysis III
- Numerical Analysis
- Probability and Statistics
- Ordinary Differential Equations
- Number Theory and Cryptography
- Linear Optimization and Applications

**Electives in Mathematics**

- Discrete mathematics
- Lattices and Boolean Algebra
- Quantitative Methods
- Mathematics for Computer Science

- Mathematical Finance
- Actuarial Mathematics
- Laplace Transforms and Fourier Series
- Advanced Algebra
- Partial Differential Equations
- Mathematical Modeling
- Advanced Analysis

**Total seats:** 35 seats (offered at Kashmere Gate campus)

**Medium of instruction:** English

**Eligibility:** The candidate must have passed the class XII or an equivalent examination from a recognised Board and secured the minimum of 65% in Mathematics.

**Fees:**

Tuition fee of Rs.1,28,640/- (@Rs. 1340/- per credit i.e. Rs. 21,440/- per semester) + Rs.5000/- (one-time, refundable caution deposit) + Rs.500/- per semester for student welfare fund.

If a student opts for extra credits, an additional fee of Rs.1340/- per credit will have to be paid.

Partial/Full fee waiver and scholarships are available. Full fee waiver of tuition fee will be extended to students belonging to SC/ST/PwD categories.

**Selection procedure**

The selection will be based on merit on the basis of the marks obtained in class XII, which will not include any vocational subject.

Reservations norms of Government of NCT of Delhi will apply.