

BA Honours with a Major in Mathematics

An Honours degree 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 with a Major in Mathematics at AUD will provide the opportunity to develop all the above. The courses in Mathematics are designed to allow students to analyse problems on the basis of logical reasoning. The rigour needed for writing and presenting Mathematics, inculcates the skills of concentration, hard work and discipline. To be able to question, reason, analyse, infer, and communicate are essential abilities for a student to possess. The courses in Mathematics are very well placed to develop and enhance these in a student.

To be eligible to apply for admission to a BA Honours in Mathematics, the student must have studied Mathematics as a subject at the 10 + 2 level. The student should have obtained a minimum of 60% in Mathematics. Further, the marks obtained in Mathematics in the XII Board Examination must be included in the calculation of the aggregate of the 'Best Four Subjects' of the XII Board Examination.

Of the 96 credits required to earn a BA Honours degree at AUD, a student will have to earn a minimum of 48 credits in Mathematics (equivalent to 12 courses) in order to major in Mathematics. These 12 courses will comprise both compulsory (core) courses and optional courses. It is also possible for a student to take more courses in Mathematics than the necessary minimum of 12 and earn an additional 16 credits (equivalent to 4 courses) in Mathematics.

The core courses in Mathematics will cover Abstract Algebra, Linear Algebra, Calculus, Analysis, Differential Equations, Probability and Statistics. A wide variety of optional courses in Mathematics will cover topics like Numerical Analysis, Computer Programming, Discrete Mathematics, Number Theory and Cryptography, Linear Programming and so on.

The method of teaching will be interactive and learner-centric. Learning processes will be enhanced through visualisation of Mathematics wherever possible. Computational skills and programming skills will be built in via practicals. Through movies, talks, presentations and books, students will also be exposed to the history of Mathematics and the interaction of Mathematics with society and nature. One to one mentorship, field trips and summer programmes will help to offer a multifaceted view of Mathematics.

Assessment will take place through components of varying weightage. These may be from continuous evaluation, Mid-Semester and End-Semester examinations, lab-work, book and movie reviews, projects and presentations.

The flexible framework of the credit based semester system at AUD provides the perfect opportunity to develop a good foundation in modern Mathematics and to combine this with a broad base by taking courses in a variety of disciplines like Economics, English and Hindi literature, Psychology, History and Sociology, among others. The structure also allows students to study subjects from disciplines other than the Major discipline. For example, students of Mathematics Honours could take most of the minor courses from Economics if they so wished, or could study both English and Psychology in the minor courses. There is also the possibility of spending an extra year and earning a Dual Honours degree, for example, in Mathematics and Economics.

Graduates of Mathematics Honours from AUD would have the opportunity to develop a sound base in mathematics, a good understanding of the society we live in, computational and communication skills. They will be in a position to choose an academic career in Mathematics or an allied discipline. They can also pursue careers in finance or management, banking or insurance, software development or consultancy, Government, the non-governmental sector or corporate sector, media and publishing, among many others. Further information about Mathematics Honours at AUD can be sought by writing to Dr Geetha Venkataraman (geetha@aud.ac.in).