

Introduction:

Mathematics and Mathematical Studies incorporate Mathematics, Statistics and their applications. Mathematics is the language for the logical study of the structure of our world. It has developed from counting, calculating and measuring, through the use of abstraction and analogy, by recognizing the fundamental role that comparisons play in the mental process of 'understanding'. It is an area of great beauty based on highly evolved concepts and language. It provides a continuous link through the intellectual, cultural and technological development of humanity over the last 5,000 years. Graduates find employment in a wide range of areas, including the financial sector, the IT and software industry, the MET service, the civil service and the teaching profession. Opportunities for further study and research in Mathematics and its applications also exist.

Mathematics or Mathematical Studies?

The subject Mathematical Studies is broadly based and offers opportunities for study across a wide range of topics in Mathematics and its applications, whereas the subject Mathematics involves a particular emphasis on theoretical and abstract aspects of mathematical activity. In both you will acquire the ability to think rationally, process complex data reliably, and construct and use mathematical models. Here are more details:

BA Mathematical Studies (80 ECTS):

- It has been designed specifically for BA Arts (Honours) students.
- Second and third year modules are typically assessed via: end of semester exam (50%); continuous assessment (30%); communication skills (20%).
- It meets the Teaching Council subject requirements for Mathematics, and is often taken in conjunction with a core teaching subject like English, Irish or a modern language
- It is a good complement to numerically based subjects like Economics, Geography, Psychology Studies.
- It emphasizes: modern applications of mathematics; the cultural context of Mathematics; methodology.
- 35 ECTS of modules are closely based on just three textbooks: Stewart's calculus book (27.5 ECTS), Lay's linear algebra book (10 ECTS), Lawson's algebra book (7.5 ECTS). Most other modules are closely based on a textbook.
- Graduates with Mathematical Studies as one BA subject are versatile and employable.

BA Mathematics (80 ECTS):

- It consists of the core of the first three years of the 4-year BSc Mathematics degree aimed at Science students.
- It places less emphasis on cultural context, applications and methodology.
- It places more emphasis on proving theorems.
- It meets the Teaching Council subject requirements for Mathematics.
- Graduates with Mathematics as one BA subject are versatile and employable.

Course Structure;

If you decide to study Mathematical Studies you must register for the modules MA133 (semester I), MA135 (semester II), MA131 (semesters I&II), and MA208 (semester II).

If you decide to study Mathematics you must register for the modules MA 185 (semester I), MA186 (semester II), MA187 (semesters I&II) and MA208 (semester II).

The first year course will mostly deal with Calculus and Algebra. Whereas some of the Calculus will be familiar to students from Leaving Cert (functions, their graphs, rates of change, max and min applications), the Algebra (Number Theory and Linear Algebra) will be new, having applications to everyday life, such as the safe encryption and online transmission of private data.

Online Learning and Teaching (Semester I):

- MA133/MA185 students will be able to participate in live online sessions at 1pm Mon, 10am Tue, 10am Wed, 10am Thurs. They will also be able to view recordings related to these sessions subsequently.
- MA131/MA187 students will be invited to participate in a 1-hour on campus workshop each week. The module MA131/MA187 is a continuous assessment module and will consist of 6 online homework sheets aligned with the lecture material.
- MA133/MA185 students will sit two 1-hour quizzes at the end of the semester.
- IMPORTANT LINKS (General information and Timetables)
- <http://www.maths.nuigalway.ie/~mstudies/>
- <https://www.nuigalway.ie/science/school-of-maths/student-information/>

