

# MSc in Mathematics by Coursework (Track 2, 80UNIT)

## Graduation Requirements for students admitted from AY2023/2024 onwards

1. Read and pass **twenty** level 5000 or 4000 or 3000 courses, and obtain a minimum Grade Point Average (GPA) of 3.00 (that is, an average grade of at least B-). Among the twenty courses, at least **eight** must be level 5000 or above; at least **five** are from the list of Basic Elective Courses (see 1.1 below); and at most **two** are from level 3000.

*We recommend students to take level 3000 or 4000 courses in their first year, though taking level 5000 level courses is also allowed. Please refer to [Current Coursework Students - NUS Mathematics](#) for the tips to take courses.*

### 1.1 List of Basic Elective Courses (Students must read and pass five courses selected from the following list):

- MA5202 Number Theory
- MA5203 Graduate Algebra I
- MA5205 Graduate Analysis I
- MA5208 Algebraic Geometry
- MA5210 Differentiable Manifolds
- MA5211 Lie Theory
- MA5219 Logic and Foundation of Mathematics I
- MA5220 Logic and Foundation of Mathematics II
- MA5232 Modeling and Numerical Simulations
- MA5248 Stochastic Analysis in Mathematical Finance
- MA5259 Probability Theory I
- MA5266 Optimization
- MA5269 Optimal Stopping and Stochastic Control in Finance
- MA5270 Game Theory and applications
- MA5271 Introduction to Computational Mathematics

### 1.2 In addition to the Basic Electives Courses, the following General Elective courses can also be taken to fulfil graduation requirement:

- Other MA level 3000, 4000 or 5000 courses (*Internship courses MA5401 and MA5402 require prior permission. Please refer to [Overview of Graduate Internship Courses - NUS Mathematics](#) for internship course guidelines. Project course MA4199/ MA4198\* also requires prior permission and must be taken during year 1.*)
- Up to three QF or DSA level 5000 courses (*These courses are not hosted by MSc in Mathematics by coursework programme. Their enrolments are subject to the final approval from the course hosts. In particular, the core courses for MSc (Quantitative Finance) or MSc (Data Science & Machine Learning) will not be available.*)

- 1.3** Any level 5000 courses offered by other departments subject to department's approval. (*Please see Course Substitution [Current Coursework Students - NUS Mathematics](#) for details.*)

## **2. Continuation Requirement**

A student will be issued a warning for any semester in which his/her GPA falls below 3.00. If in the following semester, the student's GPA again falls below 3.00 but is above 2.50, he/she will be placed on probation.

The candidature of a student may be terminated if he/she obtains the following:

- a. A GPA of less than 2.50 for two consecutive semesters; or
- b. A GPA of less than 3.00 for three consecutive semesters.

GPA for continuation is computed based on all courses read (be it pass or fail).

*Updated on 13 March 2023*