Honours Programs in the School of Mathematics and Statistics

An Overview (updated 16/9/24)

1 Introduction

This document provides some introductory information about the honours year in the School of Mathematics and Statistics. An electronic version of this document with live links as well other important information (e.g. scholarships) is available at the School's honours webpage. Detailed information, including courses offered and potential project topics and supervisors, is available in the handbooks for each of the four honours programs offered by the School: Applied Mathematics, Financial Mathematics & Statistics, Pure Mathematics, and Statistics.

The program coordinators for the four areas are currently:

- **Applied Mathematics**: Marek.Rutkowski@sydney.edu.au
- **Financial Mathematics & Statistics**: Marek.Rutkowski@sydney.edu.au
- **Pure Mathematics**: Laurentiu.Paunescu@sydney.edu.au
- **Statistics**: Uri.Keich@sydney.edu.au

Detailed information for the Honours program in Data Science, administered by our School, is available in the Data Science handbook and the program coordinator is

- **Data Science**: Clara.Grazian@sydney.edu.au

2 Pathways to Honours

The Faculty of Science offers two main Honours pathways:

- Currently enrolled **Bachelor of Advanced Studies** students seeking to study honours have the **option** to apply for an appended disciplinary honours degree (e.g., Bachelor of Science (Honours)). Notice that this option requires two majors and is only available if you commenced a combined Bachelor of Advanced Studies degree after 2018 and before 1 July 2024. See also **Information for Bachelor of Advanced Studies students**.
- Appended **Bachelor of Science (Honours)** is a standalone Honours requiring an additional year of study. This option requires only one major and it is open for all students who satisfy the criteria below.

3 Entry requirements

Preliminary entrance into the honours program is through the Faculty of Science application portal for standalone Bachelor of Science (Honours) or, if you are enrolled into combined BSc/BAS program, then you can apply for Advanced Studies honours (look under Bachelor of Science/Bachelor of Advanced Studies) through Sydney Student in your final semester of BSc (go to Course details and apply for Advanced Studies honours). The Faculty admission requirements include that you must:

- have qualified for or be a graduate with a Bachelor of Science degree or equivalent from the University of Sydney or equivalent qualification from another tertiary institution;
- have completed a relevant major (i.e. minimum of 24 credit points of 3000-level units of study) relating to the intended Honours discipline;
- have achieved a Weighted Average Mark (WAM) of at least 65.00 or have a credit average (65.00) in 48 credit points of relevant 2000-level and 3000-level units of study (as nominated by the school); and
- **secure the agreement of a supervisor** after consulting the relevant handbook and attach the doubly signed Expression of Interest form to your application.

In addition, for the Honours programs in Applied Mathematics, Financial Mathematics & Statistics, Pure Mathematics, and Statistics (but not for the program in Data Science), the School of Mathematics and Statistics requires that the student has a total of at least 18CP or 24CP (depending on their major requirement) of relevant 3XXX unit of studies in which

- the average mark of Advanced level courses is at least 65;
- the average mark of Mainstream level courses is at least 75.

If you have a mix of advanced and mainstream courses, where some are above and some below the thresholds, if you are not sure which of your courses are relevant, or if your average is just on the wrong side of the threshold you can seek further advice from the relevant program's honours coordinator.

3.1 It's important to note that:

- All acceptances into Honours (including in cases where the School's requirements are not met) are ultimately at the discretion of the School. However, a student meeting all of the above criteria (or the equivalent from another institution) should be confident of acceptance.
- The Faculty of Science Honours **standard closing dates** for Honours commencement in Semester 1, 2025 is 15 January 2026, and for Semester 2, 2025 it is 25 June 2025.

4 Structure of Honours

An honours year in Mathematics and Statistics involves four 6CP courses (worth 50% of the final mark) and a project (worth 50%).

4.1 The honours project (50%)

The honours project centres around an essay/thesis consisting of 50-60 pages[1] written on a particular topic from your chosen area. It need not contain original research (although it might) but it should clearly demonstrate that you have understood and mastered the material. The assessment of the honours thesis is based on the mathematical / statistical / scientific content and its exposition, including the written English.
As part of the project you will make a short (20-25 minutes) presentation on your project to staff members and fellow students.

4.2 Course work (50%)

With the exception of pure math all our honours programs have 1-2 core units which the enrolled students must take. In addition, all our honours programs have a list of available courses divided into categories with some restriction about how many courses can/must be taken from each category. Please refer to the relevant handbooks for details.

5 AMSI courses

Students are welcomed to check the courses offered in January at the AMSI Summer School and also courses available via the Advanced Collaborative Environment (ACE). These courses can possibly be taken for credit (by enrolling in the unit AMSI4001), but this can only be done in consultation the student's supervisor and with the approvals of the specific honours coordinator as well as the School's Honours coordinator, Prof. Laurentiu Paunescu.

6 Prizes and Awards

University Medal: Awarded to honours students who perform outstandingly. The award is subject to Faculty rules, which requires an honours mark over 90 and a SCIWAM of 80 or higher. More than one medal may be awarded in any year in a particular area.

Joye Prize in Mathematics: Value: **$6000, with medal and shield**
Awarded to the most outstanding student completing Honours in one of the four programs offered by the School of Mathematics and Statistics.

There is a range of additional prizes awarded to honours students for proficiency, an outstanding thesis or the best seminar presentation in Applied Mathematics, Financial Mathematics & Statistics, Pure Mathematics, Statistics, and Data Science. See the Handbooks for details of the various prizes.
You are also invited to look at the faculty-level scholarships and potential students from other states should be particularly aware of the Honours Relocation Scholarship.

[1] This range is only indicative and should not be construed as binding.