

## Honours in the School of Mathematics and Statistics

### General Information

Students may take honours in Applied Mathematics, Pure Mathematics or Mathematical Statistics. In all cases, assessment is by a combination of coursework (~60%) and a project (~40%). While the three divisions offer courses separately, the honours program is flexible and students are encouraged to consult their program coordinator if they are interested in taking a course from another division.

Lists of the lecture courses offered by [Applied Mathematics](#), [Pure Mathematics](#) and [Mathematical Statistics](#) appear below.

More detailed information is available from the program coordinators and the various handbooks.

*Students should be aware of the University's [plagiarism policy](#).  
Students have the right to appeal any academic decision made by the School or Faculty.*

### Applying for Honours

When applying for honours you will be asked to upload a "proof of contact" / "expression of interest" document. For this purpose, please fill out the School's [Expression of Interest form](#) which can be found at the end of this document.

Please keep in mind [application deadlines](#).

The university offers some scholarships, see the [scholarship information for honours students](#) for details.

In particular potential students from other states should be aware of the Honours Relocation Scholarship. This scholarship valued at \$6000 is to facilitate students from interstate enrolling in an Honours degree in the Faculty of Science at the University of Sydney by assisting to defray costs incurred in moving interstate in order to enrol in the Honours year. The student must have a minimum SCIAM of 80 and with the current terms must be moving from outside of NSW; see [the terms of condition](#).

### Handbooks

The handbooks contain detailed information including assessment details, important dates, course outlines, an outline of the project requirement including a list of possible projects and supervisors. Students should ensure they have a copy of the relevant handbook.

### Resources

#### University of Sydney Honours Scholarships

These [\\$6,000 Honours Scholarships](#) are awarded annually on the basis of academic merit and personal attributes such as leadership and creativity.

## Writing proficiency

The honours essay is also assessed based on the quality of the writing. This does not mean we look for the next Shakespeare however you should make sure you express your ideas in an organized manner using a clear and grammatically correct English. The university offers several resources that can help you achieve this goal.

The [Learning Centre offers workshops](#) for students that need help with extended written work, and a trove of online resources for improving your writing skills is also [available](#). Make sure you make use of these resources as early as possible as writing skills develop slowly over time and with much practice.

## Honours Lecture Courses

Following is a list of honours courses offered by the divisions of Applied Mathematics, Pure Mathematics and Mathematical Statistics. Students in Mathematics may also take *advanced* third year units.

Consult your program coordinator if you are interested in taking a course from another division.

## Applied Mathematics

### First Semester

- [AMH1] [Computational Projects in Applied Mathematics](#)(Georg Gottwald)
- [AMH4] [Mathematical Biology](#)(Mary Myerscough)
- [AMH6] [Asymptotic methods and perturbation theory](#)(Sharon Stephen)
- [AMH9] [Random Graphs versus Complex Networks](#)(Eduardo Altmann)

### Second Semester

- [AMH2] [Integrable Systems](#)(Nalini Joshi and Milena Radnovic)
- [AMH5] [Introduction to Optimal Control](#)(Ben Goldys)
- [AMH7] [Spectral and Dynamical Stability of Nonlinear Waves](#)(Robert Marangell)

## Pure Mathematics

### First Semester

- [PMH1] [Algebraic Topology](#)(Kevin Coulembier)
- [PMH2] [Commutative Algebra](#)(Michael Ehrig)
- [PMH3] [Functional Analysis](#)(Alexander Fish)
- [PMH5] [Representation Theory](#)(Anthony Henderson)

### Second Semester

- [PMH8] [Inverse Problems for Boundary Value Problems](#)(Leo Tzou)
- [PMH7] [Riemannian Geometry with Applications to Ricci Flow](#)(Zhou Zhang)
- [PMH4] [Algebraic Number Theory](#)(Gus Lehrer)

## Mathematical Statistics

### First Semester

- [MSH2] [Probability Theory](#)(Uri Keich)
- [MSH4] [Fundamentals of Statistical Consulting](#)(Jennifer Chan and Ellis Patrick)
- [MSH7] [Introduction to Stochastic Calculus with Applications](#)(Ray Kawai)

### Second Semester

- [MSH1] [Generalized Linear Models](#)(Jennifer Chan)
- [MSH5] [Advanced Time Series Analysis and Forecasting Methods AND Advanced Bayesian Inference](#)(Shelton Peiris and Lamiae Azizi)
- [MSH6] [Asymptotics](#)(Qiyong Wang)

Subject to the approval of the relevant coordinator, honours students may take courses offered by another division within the School of Mathematics and Statistics, or another School, or even another university. Students are advised to check the courses offered in January at the [AMSI Summer School](#) and also courses available via the [Advanced Collaborative Environment \(ACE\)](#).

### Timetable

#### Tentative timetable

	Monday	Tuesday	Wednesday	Thursday	Friday
9am		<a href="#">MSH5</a> : Lecture AGR <a href="#">L.Azizi</a> (Wks 8-13) <a href="#">MS.Peiris</a> (Wks 1-7)		<a href="#">AMH7</a> : Lecture 830 <a href="#">R.Marangell</a>	
10am		<a href="#">MSH5</a> : Lecture AGR <a href="#">L.Azizi</a> (Wks 7-13) <a href="#">MS.Peiris</a> (Wks 1-6)		<a href="#">AMH7</a> : Lecture 830 <a href="#">R.Marangell</a>	
11am	<a href="#">PMH7</a> : Lecture 830 <a href="#">Z.Zhang</a>	<a href="#">PMH4</a> : Lecture 830 <a href="#">Gl.Lehrer</a>		<a href="#">PMH4</a> : Lecture 830 <a href="#">Gl.Lehrer</a>	
noon	<a href="#">AMH2</a> : Lecture AGR <a href="#">N.Joshi</a> (Wks 1-7) <a href="#">M.Radnovic</a> (Wks 8-13)	<a href="#">PMH7</a> : Lecture 830 <a href="#">Z.Zhang</a>	<a href="#">AMH2</a> : Lecture AGR <a href="#">N.Joshi</a> (Wks 1-7) <a href="#">M.Radnovic</a> (Wks 8-13)	<a href="#">MSH6</a> : Lecture AGR <a href="#">Q.Wang</a>	
1pm		<a href="#">PMH8</a> : Lecture 830 <a href="#">L.Tzou</a>		<a href="#">MSH6</a> : Lecture AGR <a href="#">Q.Wang</a>	
2pm		<a href="#">AMH5</a> : Lecture 830 <a href="#">B.Goldys</a>		<a href="#">AMH5</a> : Lecture 830 <a href="#">B.Goldys</a>	
3pm		<a href="#">MSH3</a> : Lecture AGR <a href="#">JS.Chan</a>		<a href="#">PMH8</a> : Lecture 830 <a href="#">L.Tzou</a>	
4pm		<a href="#">MSH3</a> : Lecture AGR <a href="#">JS.Chan</a>			

# School of Mathematics and Statistics



## Expression of Interest form for Honours in the School

If you are enrolled in a degree administered by the Faculty of Science, you need to complete and upload this form in your online application to the Faculty.

Note that to complete this form you need the signature of the Honours coordinator in each of the disciplines of the school of Mathematics and Statistics that you consider applying to.

Student name \_\_\_\_\_

SID: \_\_\_\_\_

Degree: \_\_\_\_\_

### Administering Faculty for degree:

Faculty of Science

Faculty of Arts & Social Sciences

Other

\_\_\_\_\_

### Discipline for proposed Honours:

Applied Mathematics

Pure Mathematics

Statistics

### Signature of the honours coordinator

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Student declaration:

- I have spoken about my Honours candidature with a member of the academic staff in the School of Mathematics and Statistics, who has given *tentative* approval to supervise my topic.
- The name of my proposed supervisor is: \_\_\_\_\_

Student signature: \_\_\_\_\_