The Honours Year

Advanced Maths Day — 15 September 2017

• Why Honours?
• The Honours Year
• Next steps...
• Panel Discussion
• Choosing your Honours Project
Why Honours?

• Exposure to advanced coursework and research
  • Preparation for postgraduate study
  • Certification of excellence in Mathematics & Statistics
  • A taste of cutting edge research, a glimpse of the edge of knowledge

• Develop valuable skills coveted by employers
  • Research skills
  • Technical writing and oral presentation skills
  • Focus, perseverance, and creativity
Some past honours students

Anthony Morris
Pure Mathematics 2012
Now a software engineer at Google

Anna McGann
Applied Mathematics 2015
Now doing PhD research in biomathematics at UNSW

Tony Vo
Statistics 2014
Now a Business Intelligence Officer at Suncorp Group

See here for more past Honours students: https://www.maths.unsw.edu.au/currentstudents/past-honours-students
Admission requirements

• Average above 70% in **Level III Mathematics courses**
• Average above 70% in **Core Level III Mathematics courses**
  
  – **Pure Mathematics:**
    o MATH3611 Higher Analysis
    o MATH3701 Higher Differential Geometry and Topology
    o MATH3711 Higher Algebra
  
  – **Statistics:**
    o MATH3801/3901 Probability and Stochastic Processes
    o MATH 3811/3911 Statistical Inference
    o MATH 3821 Statistical Modeling and Computing
  
  – **Applied Mathematics:**
    o Three Level III courses depending on your chosen field (consult Applied Coordinator)
The Honours Year

• The Honours year...
  • the final year of the Advanced Science/Advanced Mathematics degree
  • or an additional year at the end of your non-Honours Bachelor degree

• You enrol in MATH4001/4002 (Thesis A or B) plus 5 approved courses
  • Coursework: 30 Units of Credit (5 courses at 6 Units of Credit each)
  • Project/Thesis: 18 Units of Credit

• There is also a weekly honours seminar
## Honours Year Courses S1 2018

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Instructor(s)</th>
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<tbody>
<tr>
<td>MATH5165</td>
<td>Optimization</td>
<td>V Jeyajumar</td>
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<tr>
<td>MATH5295</td>
<td>Special Topic (Applied) - Finite Elements and Quasi-Monte Carlo Methods</td>
<td>J Dick &amp; W McLean</td>
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<tr>
<td>MATH5305</td>
<td>Computational Maths</td>
<td>W McLean</td>
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<tr>
<td>MATH5505</td>
<td>Combinatorics</td>
<td>T Britz</td>
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<tr>
<td>MATH5605</td>
<td>Functional Analysis</td>
<td>G Levitina</td>
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<tr>
<td>MATH5705</td>
<td>Modern Analysis</td>
<td>P Grossman</td>
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<tr>
<td>MATH5706</td>
<td>Modern Algebra</td>
<td>D Harvey</td>
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<tr>
<td>MATH5735</td>
<td>Modules and Representation Theory</td>
<td>J Du</td>
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<tr>
<td>MATH5835</td>
<td>Stochastic Processes (T1B)</td>
<td>P Del Moral</td>
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<tr>
<td>MATH5845</td>
<td>Time Series</td>
<td>W Dunsmuir</td>
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<tr>
<td>MATH5895</td>
<td>Non Parametric Statistics</td>
<td>G Geenens</td>
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<tr>
<td>MATH5916</td>
<td>Survival Analysis</td>
<td>J Olivier</td>
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<tr>
<td>MATH5965</td>
<td>Discrete Time Financial Modelling</td>
<td>L Chan</td>
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<tr>
<td>MATH5975</td>
<td>Introduction to Stochastic Analysis</td>
<td>DM Salopek</td>
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Honours Year Project

- Independent study under the supervision of a member of staff
  - 40-60 page thesis
  - 25-50 minute oral presentation

- Potential honours projects and supervisors are on the Honours webpage, but you are responsible for finding a supervisor and project

- Talk to as many people as you can, as early as you can before choosing. This should be organized before you start your Honours year!

- Your thesis will describe your project work and place your work in context with current research; any original project work is a bonus!
Next steps...

• Consult with the relevant Honours Coordinator to discuss your subjects
  – **Pure**: Pinhas Grossman (p.grossman@unsw.edu.au)
  – **Applied**: Chris Angstmann (c.angstmann@unsw.edu.au)
  – **Statistics**: Feng Chen (feng.chen@unsw.edu.au)

• You should also talk to potential supervisors **as soon as possible**!
• Before Week 13, complete and submit the online **Intention to undertake honours form** to the Science Student Office (link on Honours website).
• If you are in the BSc program or have graduated from another university, you *also* need to apply for the one-year degree Bachelor of Science (Honours) using UNSW’s **Apply Online** system (link on Honours website).
Next steps

- Get familiar with “The Honours Year” section on the School website
Next steps

• Look at courses offered at AMSI summer school: ss.amsi.org.au
Honours Scholarships

- **Honours Relocation Scholarships**
  - $5000 for the cost of relocation of non-UNSW students

- **UNSW Honours Year Scholarships - UGCA1120**
  - Ten 1-year scholarships of $5000 for students who achieve an average Distinction in undergraduate degree
  - Only available to students in a degree program where Honours requires an extra year of full-time study over and above the requirements of the pass degree

- **Paradice Honours Year Scholarship UGCA 1433**
  - Two 1-year scholarship of $5000 for female students undertaking Honours in Maths&Stats

- **H.C. and M.E. Porter Memorial Scholarship UCGA 1035**
  - One 1-year scholarship of $5000

- **The Dean’s Honours Year Scholarship in Science - UGCA1083**
  - One 1-year scholarship of $2500 for outstanding students undertaking Honours in the Faculty of Science.

- **School of Mathematics and Statistics Honours Year Award - UGCA1255**
  - Covers CSP payment for Honours year in the School of Mathematics and Statistics
  - Open to qualified students from all approved universities in Australia and overseas.

- **Scholarships to work on specific projects in Statistics** (see the Stats Honours Handbook)

Panel Discussion

• Honours Coordinators
  – Shane Keating (Director of Honours)
  – Chris Angstmann (Applied Coordinator)

• Current and Former Honours Students
  – Michela Castagnone
  – Fadi Antown
  – Prosha Rahman