



Australian
National
University

Mathematics & Careers

Canberra Grammar 2015

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What is Mathematics?

- The study of **universal patterns and structures**
- Not just advanced algebra and calculus
- The quantitative language of, method of understanding, the World

Jobs Requiring Mathematics

Almost Everything in STEM

Science (both physical and biological)

Technology (including IT, computational science)

Engineering

Mathematics

Mathematics also increasingly underpins: biological and medical sciences, economics, finance, environmental science, sociology and psychology.

Nature March 2015

**Historical, Language and Geographic Differences
in Regions of Britain**

Both

1) Recent times
and historical

2) Viking and Roman settlements

3) Last Ice Age (10,500 BCE)

Stephen Leslie (group leader)

ANU 2004 Hons1 Maths, Oxford PhD Stats, now
Melbourne



How Much Mathematics Should You Do?

- Ross Gittins, economics editor, Sydney Morning Herald, *“By 2020 ... up to 70 per cent of all job categories are likely to change, 35 per cent will disappear and be replaced by jobs that do not currently exist. Employers are more likely to hire someone with a good background in mathematics.”*
- The more you do the greater your options, in terms of University courses and later careers.
- Students frequently regret their lack of maths; those with more maths have a big advantage in future careers.

[CareerCast.com](https://www.careercast.com) (USA)

Ranks 200 Jobs for Overall Job Satisfaction

Criteria

- *income*
- *work environment*
- *long term outlook*
- *stress*

Mathematics based jobs top the list every year

<http://www.careercast.com/sites/default/files/best-jobs-infograph.jpg>

CareerCast

JOBS RATED REPORT

THE BEST JOBS OF 2015

MATH MATTERS

1. ACTUARY
3. MATHEMATICIAN
4. STATISTICIAN
6. DATA SCIENTIST



2015 Rankings of 200 Careers

- 1. Actuary**
- 2. Audiologist**
- 3. Mathematician**
- 4. Statistician**
- 5. Biomedical Engineer**
- 6. Data Scientist**
- 7. Dental Hygienist**
- 8. Software Engineer**
- 9. Occupational Therapist**
- 10. Computer System Analyst**
- 98. Surgeon**
- 125. Attorney (Lawyer/Solicitor)**
- 136. Corporate Executive**
- 169. Airline Pilot**
- 177. General (Armed Forces)**
- 200. Newspaper Reporter**

ANU Secondary College

secondarycollege.anu.edu.au

Biology, Chemistry, Japanese, **Mathematics**, Physics
Year 11 & 12 Students

Mathematics Syllabus

- Number Theory and Cryptography
- Infinity
- Geometry & Topology
- Chaos and Fractals

Maths in First Year ANU

- MATH1003 - Algebra & Calculus Methods (*HSC Mathematics*)
MATH1005 - Discrete Mathematical Models (*HSC Mathematics*)
MATH1013 - Mathematics & Applications 1 (*HSC Math Ext 1*)
followed by MATH1014 - Mathematics & Applications 2
MATH1115 - Mathematics & Applications 1(Hons)(*Math Ext 2*)
followed by MATH1116 - Mathematics & Applications 2(Hons)
Also, with permission, may do later year courses

NOTES: *Engineering* requires MATH1013+1014 or 1115+1116.
So you will need to do a bridging course if not qualified.
Actuarial Science requires *at least* Math Ext 1 for admission.

Faculty of Science

BSc: 3 years, 4th honours year if results good, *ATAR* ≥ 80

BSc (Advanced)(Honours) *ATAR* ≥ 95

Honours Pathway Options activities

Bachelor of Philosophy(Honours) *ATAR* ≥ 99 + *quota*

Individually tailored program, with mentor, special courses

Maths students can

- major in (48units): *Mathematics, Statistics, Math Economics, Math Finance, Math Modelling, Theor Physics*
- specialise in (24 units): *Advanced Maths, Astrophysics, math Physics; Quantitative Biology and Bioinformatics*

ANU Bonus ATAR Points

anu.edu.au/study/apply/academic-bonus-points

Bonus points only apply to

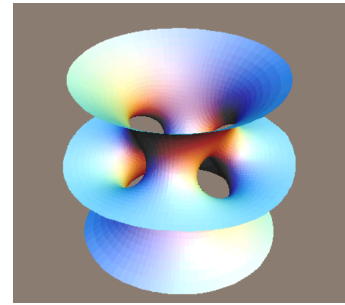
- programs with entry requirement ≤ 97
- students with ATAR ≥ 70

Maximum of 5 bonus points

5 points for Maths Ext 1 or Ext 2 at Mark E3

(5 points for English, 2 for Physics, 2 for Chemistry, 5 for Foreign Language; with Marks 5)

More Info?



<http://maths.anu.edu.au/education>

CareerCast.com

anu.edu.au/study/apply/academic-bonus-points



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