

2014

First Year Info Session

created and presented by UNSW PHYSOC

Preamble

In case you haven't heard of
PHYSOC...

- Events
- Resources
- etc

<https://www.facebook.com/groups/unsw.physoc/>

<http://ugrad.phys.unsw.edu.au/physoc/>

http://instagram.com/physoc_unsw

Physoc Room

We also have a room where you can chill at!

Old Main Building RM LG35

Amenities include:

- Fridge
- Drinks (\$1 honor system)
- Microwave
- Kettle
- Toaster
- Whiteboard
- Chess board
- Five iMacs
- Physics textbooks
- Past assignments and exams



UNSW PHYSICS STUDENT SOCIETY

[Home](#)[About Us](#)[Social](#)[Events](#)[Photos](#)[PHYSOC History](#)[Resources](#)[Tutoring](#)[Affiliates](#)[Contact Us](#)

Resources for Physics Students

[UNSW Physics](#)[Physics Friend](#)[First Year Physics Website](#)[Information for First Years Enrolling Into Second Year](#)[UNSW Physclips](#)[Physics Course Webpages](#)[Lab Resources](#)[Textbooks](#)[Physics Servers](#)[Software](#)[Forums](#)[Past Exams](#)[LaTeX](#)

UNSW Physics Past Exams Database

Filter by course name or course code...

Advanced Mechanics, Fields and Chaos PHYS3510

2012 Final Exam

2010 Final Exam

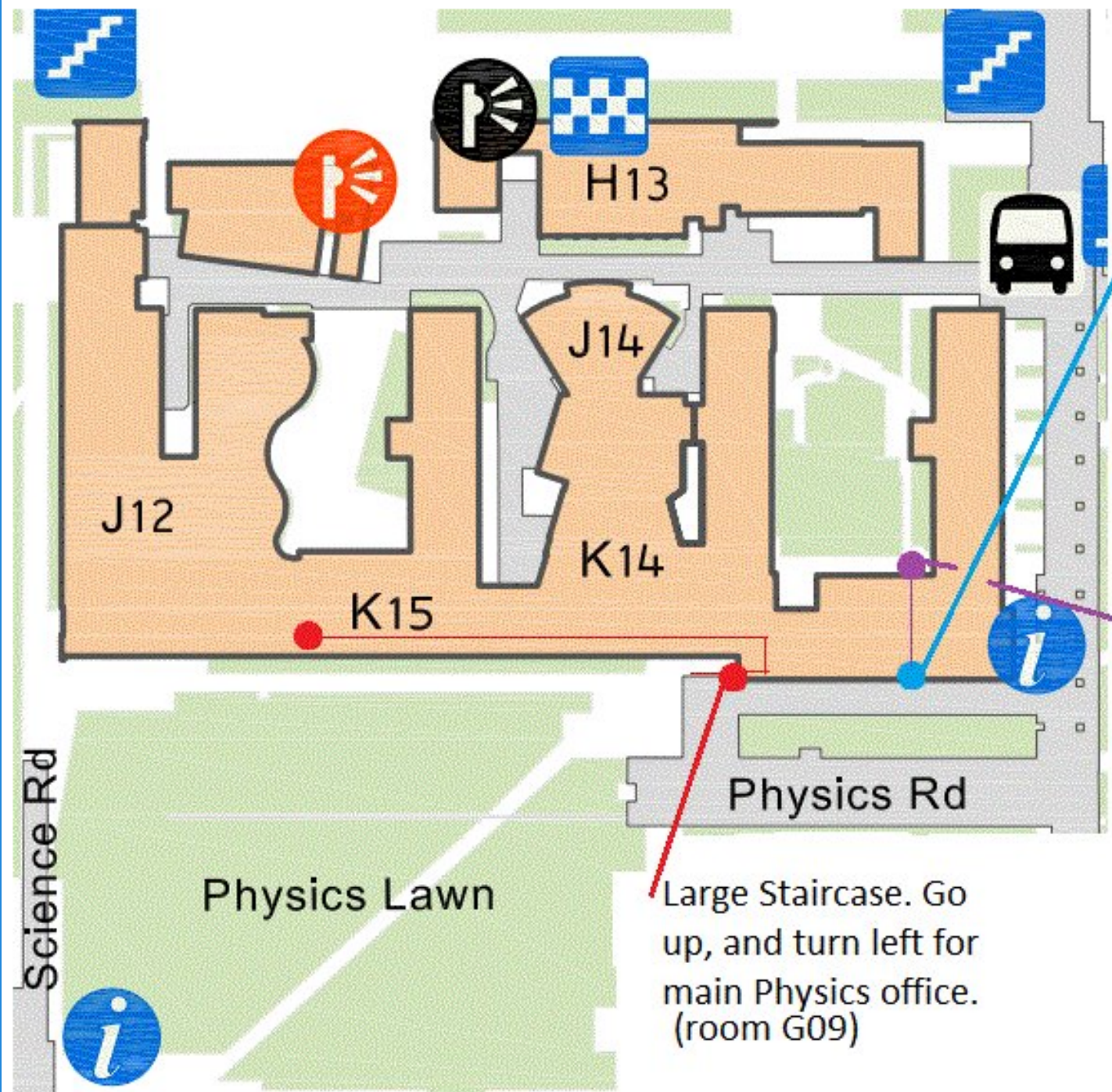
2008 Final Exam

2012 Midsession Solutions

2012 Midsession

2008 Midsession

<http://ugrad.phys.unsw.edu.au/physoc/2014/database/>



Physoc Room.
Go in through door that looks like a fire escape. It is the first door on your left.

(Alternatively, via Naked Lady Lawn, and it will be in front of you, on the right.)

Large Staircase. Go up, and turn left for main Physics office. (room G09)

Course Selection

<https://www.physics.unsw.edu.au/current-students/courses>

The physics website is currently being updated so there are some broken links here and there. Most of syllabi are here.

Most lecturers use this site (or their own) to upload lecture notes, assignments and past papers as opposed to Moodle/Blackboard.

www.phys.unsw.edu.au/phys_current/re_enrolment.html

Re-enrolment info (info on which courses are offered this year).

Using the Handbook

Use handbook from year you started in regards to required subjects



UNSW
AUSTRALIA

Handbook 2014

The screenshot shows the UNSW Handbook 2014 website. At the top, there is a navigation bar with links for MyUNSW, Class Timetable, eLearning, Library, and Contacts. Below this is a large banner for the 'ARCHIVE EDITION Handbook 2014' with the tagline 'your guide to degree programs and courses offered at UNSW'. To the right of the banner are two buttons: 'View Previous Handbook Editions' and 'Current Handbook'. Below the banner is a section titled 'UNSW Study Choices' with two columns: 'Undergraduate Study' (for future UG students) and 'Postgraduate Coursework Study' (for students who have completed a UG degree). To the right of this is a 'SEARCH THE UNSW HANDBOOK' section with a 'Quick Search' box that prompts users to select a study level and enter a word or phrase for Program, Stream, Course, or Specialisation.

MyUNSW	Class Timetable	eLearning	Library	Contacts
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ARCHIVE EDITION
Handbook 2014
your guide to degree programs and courses offered at UNSW

[View Previous Handbook Editions](#)
[Current Handbook](#)

UNSW Study Choices

Undergraduate Study For: • future UG students	Postgraduate Coursework Study For students who: • have completed a UG degree
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SEARCH THE UNSW HANDBOOK

Quick Search
Select a Study Level and enter a word or phrase for the Program, Stream, Course or Specialisation you're looking for.

Using the Handbook

Looking up your program and what courses you need to do to graduate

<http://www.handbook.unsw.edu.au/undergraduate/programs/2014/3970.html>

Change to the year you started in^

Courses offered each year – timetable.unsw.edu.au also works.

Adv. Sci

Science

Stream Structure

A major in Physics in Advanced Science programs is comprised of 90 units of credit of courses as follows:

Stage 1

- PHYS1131 Higher Physics 1A (6 UOC) or PHYS1141 Higher Physics 1A (Special) (6 UOC)
- PHYS1231 Higher Physics 1B (6 UOC) or PHYS1241 Higher Physics 1B (Special) (6 UOC)
- MATH1131 Mathematics 1A (6 UOC) or MATH1141 Higher Mathematics 1A (6 UOC)
- MATH1231 Mathematics 1B (6 UOC) or MATH1241 Higher Mathematics 1B (6 UOC)

Stage 2

- MATH2111 Higher Several Variable Calculus (6 UOC) or MATH2011 Several Variable Calculus (6 UOC)
- MATH2221 Higher Theory and Applications of Differential Equations (6 UOC) or MATH2121 Theory and Applications of Differential Equations (6 UOC)
- PHYS2110 Quantum Physics & Laboratory (6 UOC)
- PHYS2120 Mechanics and Computational (6 UOC)
- PHYS2210 Electromagnetism and Thermal (6 UOC)

Stage 3

- PHYS3011 Quantum & Electrodynamics (6 UOC)
- PHYS3021 Statistical & Solid State (6 UOC)
- PHYS3031 Optics & Nuclear Physics (6 UOC)

PLUS 6 UOC from:

- PHYS3040 Experimental Physics A1 (3 UOC)
- PHYS3070 Experimental Physics A2 (3 UOC)
- PHYS3110 Experimental Physics B1 (3 UOC)
- Level III MATH courses totalling 6 UOC

PLUS 12 UOC of other level III PHYS or MATH courses

Note: Students should take the higher versions of Mathematics courses where possible.

Stream Structure

A major in Physical Science is comprised of 78 units of credit of courses as follows:

Stage 1

- PHYS1121 Physics 1A (6 UOC) or PHYS1131 Higher Physics 1A (6 UOC) or PHYS1141 Higher Physics 1A (Special) (6 UOC)
- PHYS1221 Physics 1B (6 UOC) or PHYS1231 Higher Physics 1B (6 UOC) or PHYS1241 Higher Physics 1B (Special) (6 UOC)
- MATH1131 Mathematics 1A (6 UOC) or MATH1141 Higher Mathematics 1A (6 UOC)
- MATH1231 Mathematics 1B (6 UOC) or MATH1241 Higher Mathematics 1B (6 UOC)

Stage 2

- PHYS2110 Quantum Physics & Laboratory (6 UOC)
- PHYS2210 Electromagnetism and Thermal (6 UOC)
- MATH2011 Several Variable Calculus (6 UOC) or MATH2111 Higher Several Variable Calculus (6 UOC)
- MATH2121 Theory and Applications of Differential Equations (6 UOC) or MATH2221 Higher Theory and Applications of Differential Equations (6 UOC)
- 12 UOC level II or III PHYS course

Stage 3

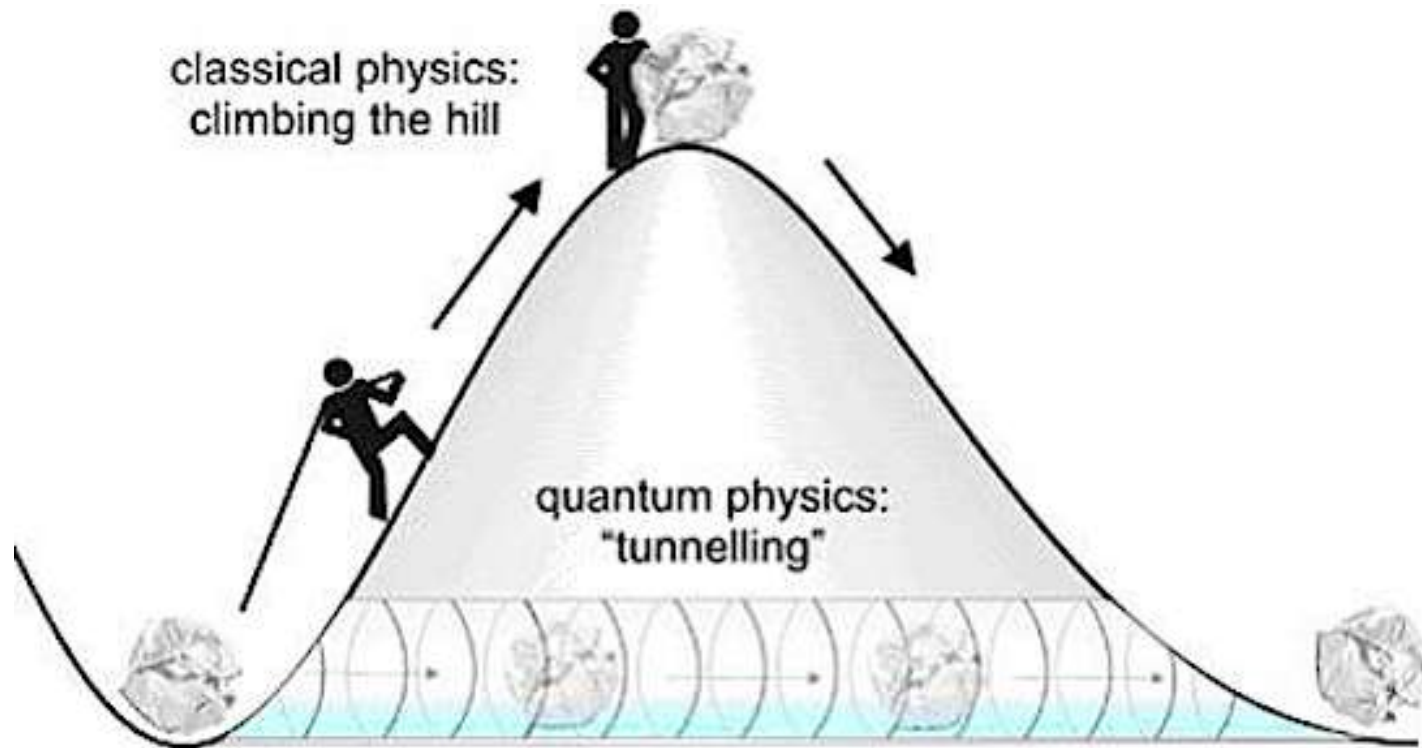
- 18 UOC of level III PHYS courses

Note: Students who wish to take honours in Physics should take 24 UOC of level III PHYS courses which include:

- PHYS3011 Quantum & Electrodynamics (6 UOC)
- PHYS3021 Statistical & Solid State (6 UOC)
- PHYS3031 Optics & Nuclear Physics (6 UOC)

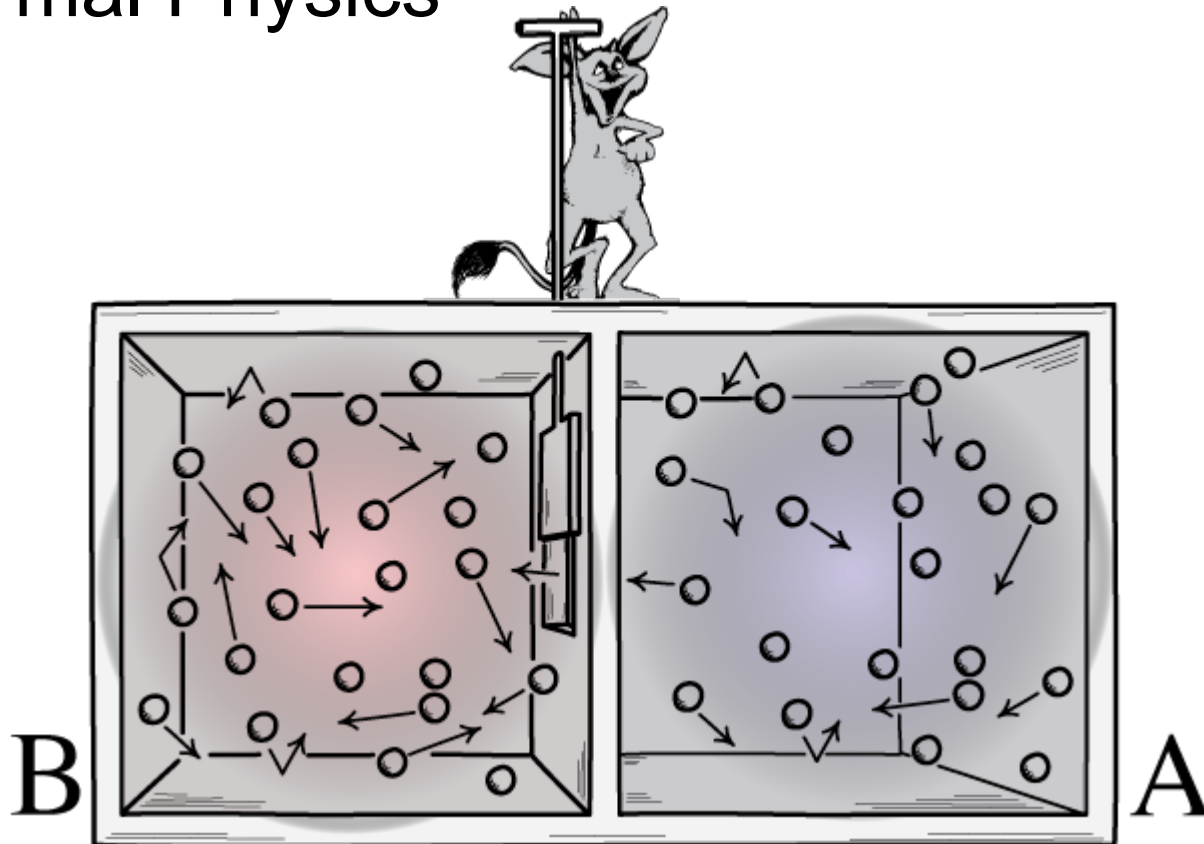
Course Selection - PHYS2XXX Core

PHYS2110 (Sem1) Quantum Mechanics and Lab



Course Selection - PHYS2XXX Core

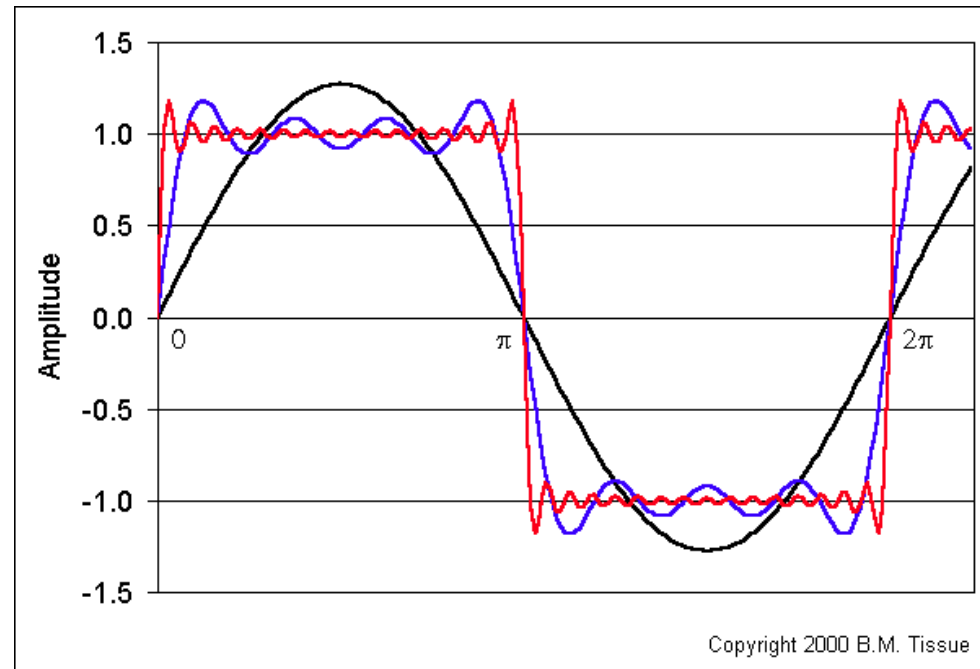
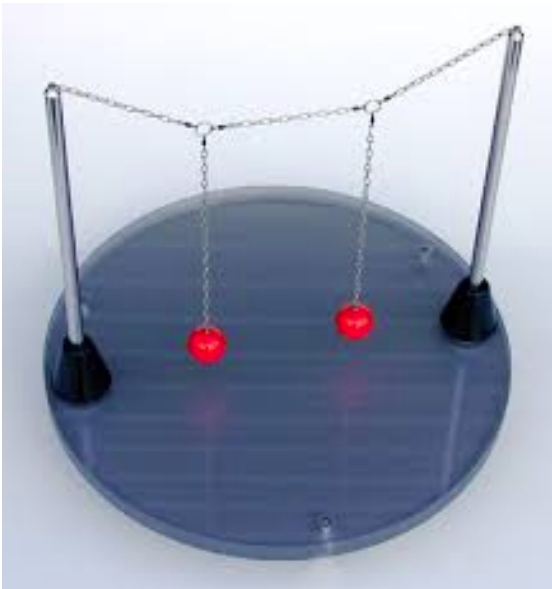
PHYS2210 (Sem2) Electromagnetism and Thermal Physics



Course Selection - PHYS2XXX Core

Compulsory for Advanced Science students but recommended for everyone:

PHYS2120 (Sem1) Mechanics and Computational Physics



Course Selection - PHYS2x Electives

EVERY Year

PHYS2160 Astronomy

PHYS2410 Biophysics

PHYS2630 Electronics

PHYS2801 Atmospheric
Science



Course Selection - PHYS3x Electives

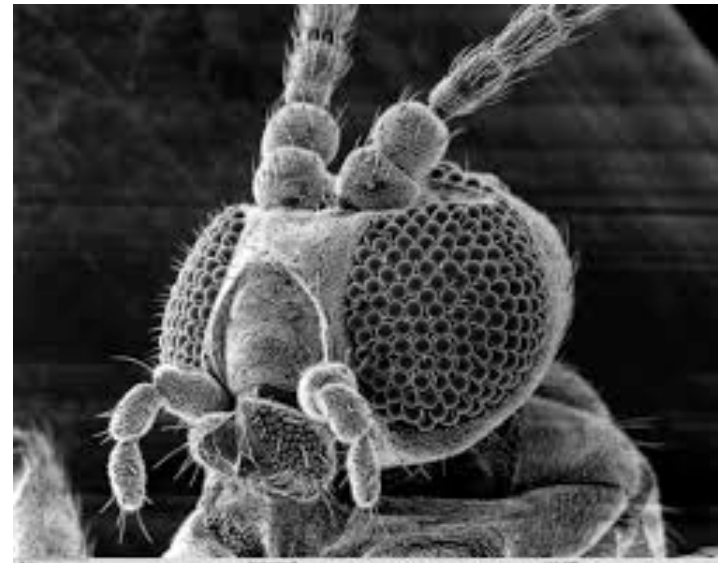
EVERY Year cont.

PHYS3550 General Relativity (Sem1)

PHYS3040/3070/3110 Experimental Physics

PHYS3770 Lasers and Spectroscopy Lab

PHYS3780 Photonics Lab



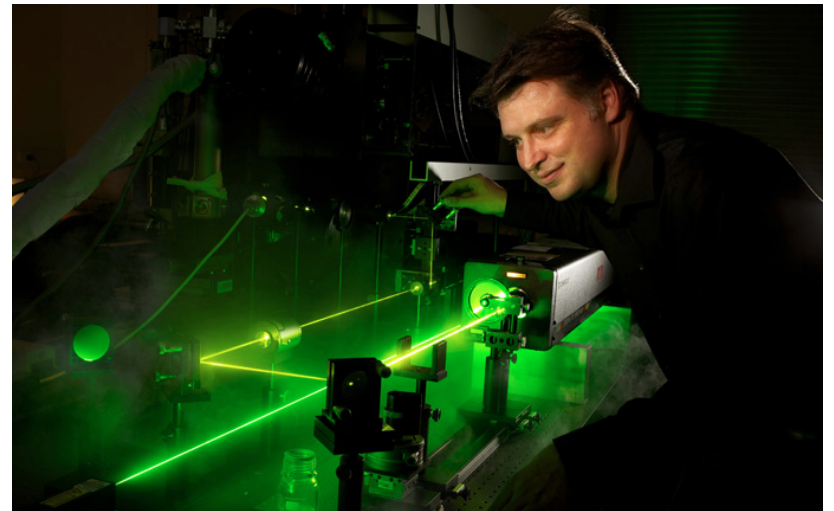
Course Selection - PHYS3 Elective

Odd Years (Next Year)

PHYS3610 Computational Physics

PHYS3170 Cosmology and the Interstellar Medium (Honours Elective)

PHYS3710 Lasers and Applications (Sem1)



Course Selection - PHYS3 Elective

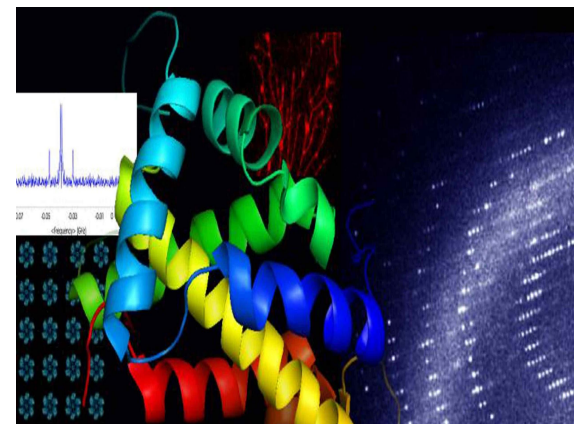
EVEN Years

PHYS3720 Optoelectronics (Sem1)

PHYS3410 Biophysics 2

PHYS3510 Adv. Mechanics, Fields and Chaos

PHYS3160 Astrophysics (Honours Elective)



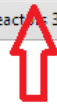
Course Selection - PHYS Electives

← → ↻ http://www.timetable.unsw.edu.au/2014/PHYS3160.html

Critical Systems Co... Big Reactors Turbin... Big Reactors 3.2A - ... FBA



Class Timetable 2014



Change the years to see if it's offered every/even/odd years.

Class Details

Offering information, including the availability of offerings and timetabling information, is subject to change.
At times it may become necessary to cancel advertised offerings.
Data is correct as at Thu, 25-09-2014 01:10:09 EST

PHYS3160 Astrophysics

Faculty Faculty of Science
Campus Sydney
School School of Physics
Career Undergraduate

**AUG =
Semester 2**

This course is scheduled for offering in the following teaching periods for 2014.

Teaching Period	Staff Contact	Census Date
SEMESTER TWO T2	Ms SE Hagon	31-AUG-2014

Course Selection - PHYS Electives

← → ↻ www.timetable.unsw.edu.au/2015/PHYS3160.html

Critical Systems Co... Big Reactors Turbin... Big Reactors 3.2A - ... SSB FBA



Class Timetable 2015

2015 offering information for the selected course was not found.

Data on the Class Timetable site is updated on a nightly basis.
Current UNSW students may also enquire on timetabling data through the Class Search facility in [myUNSW](#) from the relevant timetable release dates.
[myUNSW](#) also contains a range of policy and procedural information, and information about life at University and services for students.

The selected course is **currently** not recorded as offered in 2015

Information regarding teaching periods and staff contacts for courses to be taught in **2015** will be available from **26 September 2014**.

Class timetables will be published according to the following schedule* :

Summer Term - Timetable available from **26 September 2014**

Semester One - Timetable available from **26 September 2014**

Semester Two - Timetable available from **17 April 2015 (TBC)**

As you can see, it is not offered in odd years.

Course Selection - MATH2XXX Core

- MATH2011/2111 (Sem1, 6UOC, Core)
 - Several Variable Calculus
- MATH2121/2221 in 2014 (Sem2, 6OUC, Core)
 - Mathematical Methods for Differential Equations
- MATH2521/2621 (Sem2, 6UOC, optional)
 - Complex Analysis
 - Optional, but interesting

Course Selection - More options

Other Useful Courses/Subjects?

- MATH2801/2901 (Sem1) Theory of Statistics
- MATH2501/2601 (Sem1) Linear Algebra - used in QM

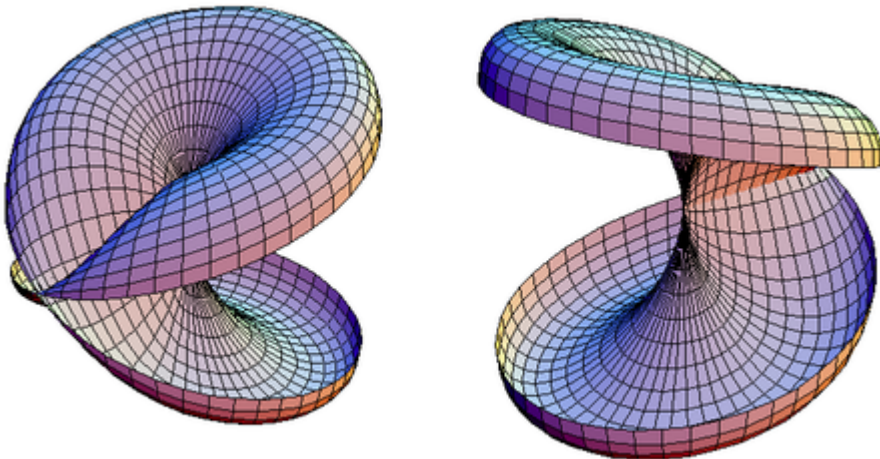
See other maths courses e.g. Discrete, 3rd yr courses at <http://www.maths.unsw.edu.au/currentstudents/course-homepages>

Computing courses useful for astrophysics/theory. <https://wiki.cse.unsw.edu.au/info/COMP1917>

Course Selection - Higher Maths?

Higher maths courses:

- Abstract concepts
- Focus on proofs (opposed to calculations as in lower courses).
- Required for Adv. Sci
- Useful for theoretical physics but not strictly necessary



Administrative Help

Sue Hagon

(“Physics Friend”)

- Timetable clashes
- Confusion with courses (when/which ones)
- Special Consideration
- Anything else - Solves most issues

If she isn't able to help you, she can point you to someone who is.



Timetabling Issues

Clashes:

Fill in 'Clash Approval Form' from the science student office/Sue Hagon.

- Physics courses: talk to Sue Hagon
- Maths courses: student office in red centre
- Other: contact lecturer/school office (This can be done via email)

<https://www.science.unsw.edu.au/files/TimetableClashApproval.pdf>

Research Projects: 2nd year and beyond

Summer Vacation Scholarship: Faculty of Science or School of Physics.

- Apply at the end of second or third year
- Get paid to undertake a 6 week research project

<https://www.physics.unsw.edu.au/current-students/vacation-scholarships>

Other opportunities available:

- in semester such as PHYS4200 (<http://goo.gl/PzplOP>).

Other

- uni's/institutions, companies, govt orgs also offer such positions: eg ANSTO, CSIRO etc.

Textbooks - Suggestions

General/ First-Year:

- Feynman Lectures on Physics
 - Free access now: <http://goo.gl/CFW3Lt>
- Serway & Jewitt, Physics for Scientists and Engineers
- Halliday - older, but useful problems

Quantum and Electromagnetism:

- **Griffiths**,
 - Introduction to Electrodynamics (2nd & 3rd Yr)
 - Introduction to Quantum Mechanics (3rd Yr [+2nd])
- Eisberg & Resnick, Quantum Physics of ... (2nd Yr)

Textbooks - Suggestions cont.

Mechanics:

- Fowles, Analytical Mechanics (2nd Yr)
- Goldstein, Classical Mechanics (3rd Yr)

Thermal Physics/ Statistical Physics:

- Carter, Classical and Statistical Thermodynamics
(Curmi/Gary's reference for both courses)

Textbooks - Where to buy?

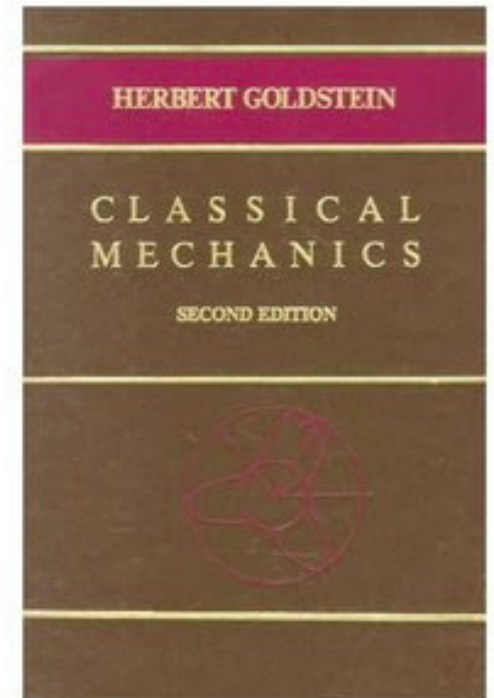
Cheap Textbooks Online:

Abebooks

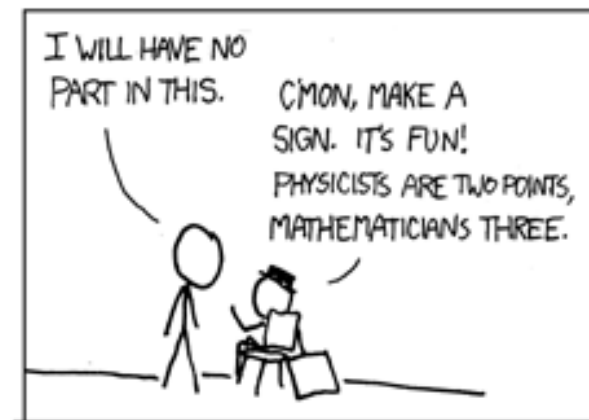
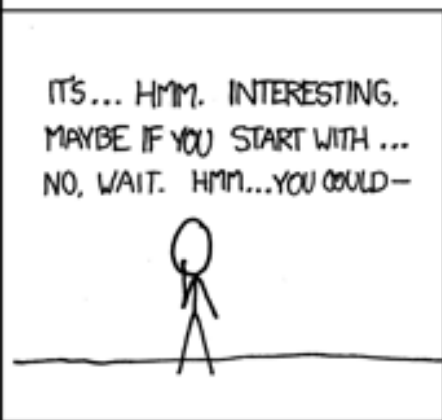
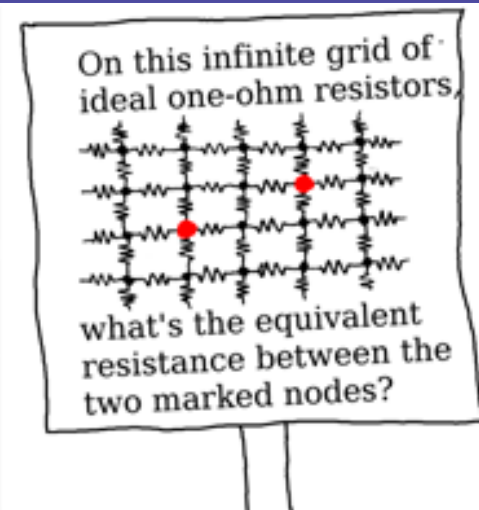
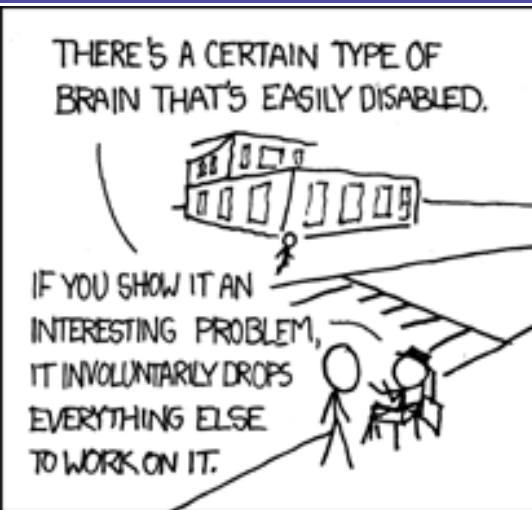
- Lower quality international versions

Other

- Main library (Level 6) has a large collection.
- Free PDFs.



Any Questions?



The End

Good Luck with your studies!