MONASH University

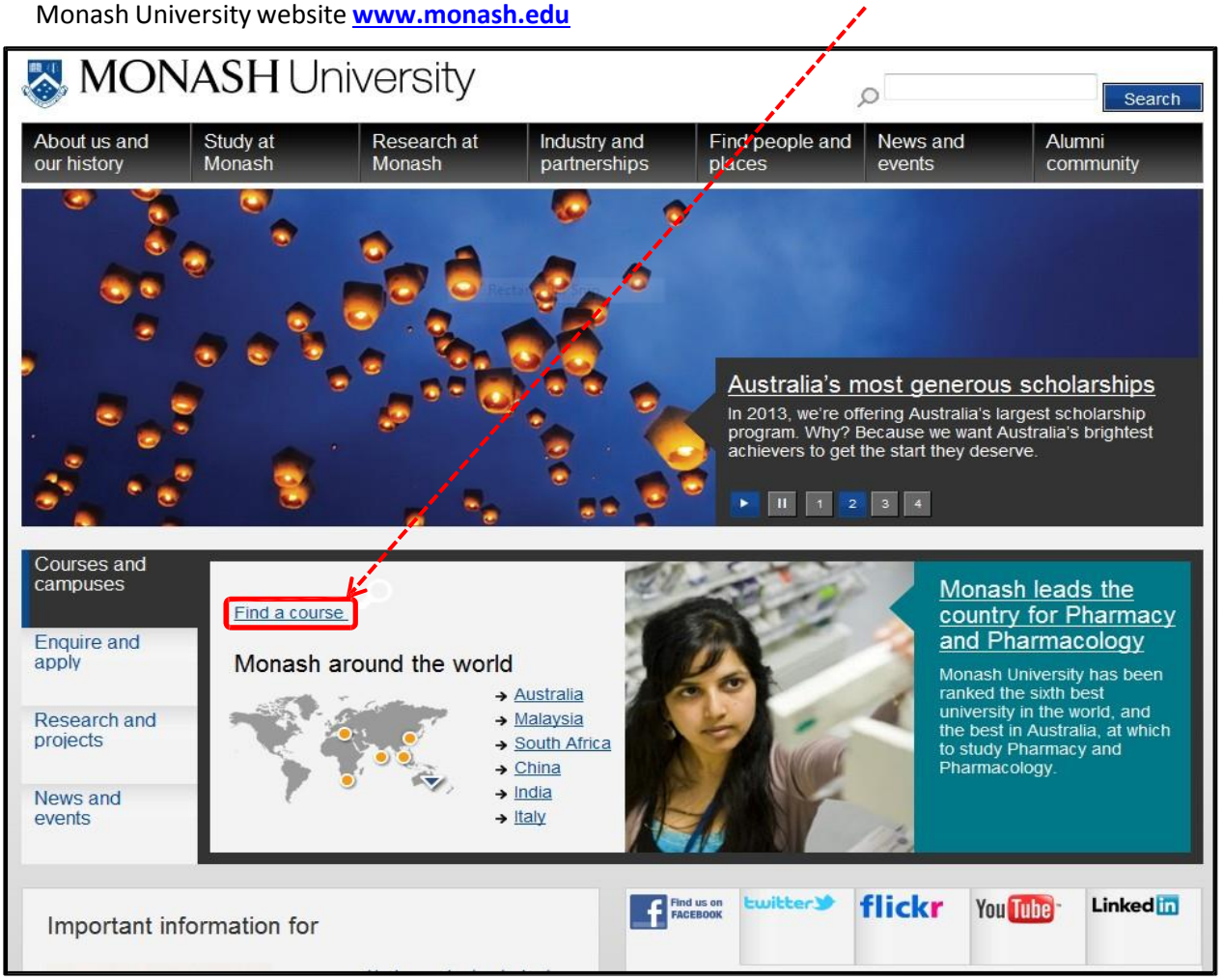
HOW TO FIND UNITS AT MONASH UNIVERSITY
'STUDY ABROAD'

In order to assist with completing the Study Plan in the Monash University, Study Abroad application please find below a step by step process. The contents are similar to the Study Abroad Fact sheet but more visual and there is more detail on how to find courses/units

Section 4: Study plan – Proposed Units students wish to study at Monash

✓ Before completing this section please follow these steps:

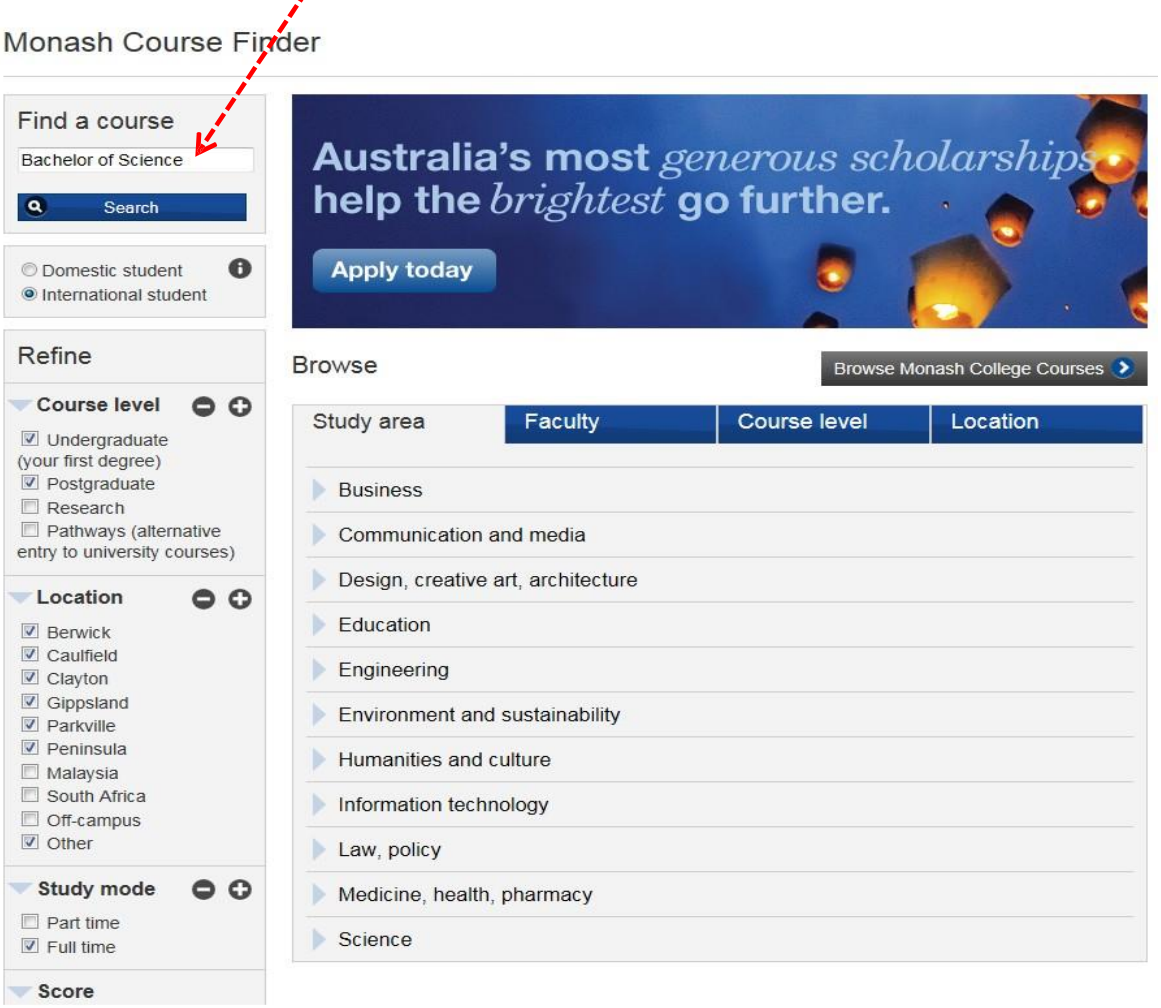
a. Select the **UNITS** the student wants to study at Monash by using the **FIND A COURSE** tool in the Monash University website www.monash.edu



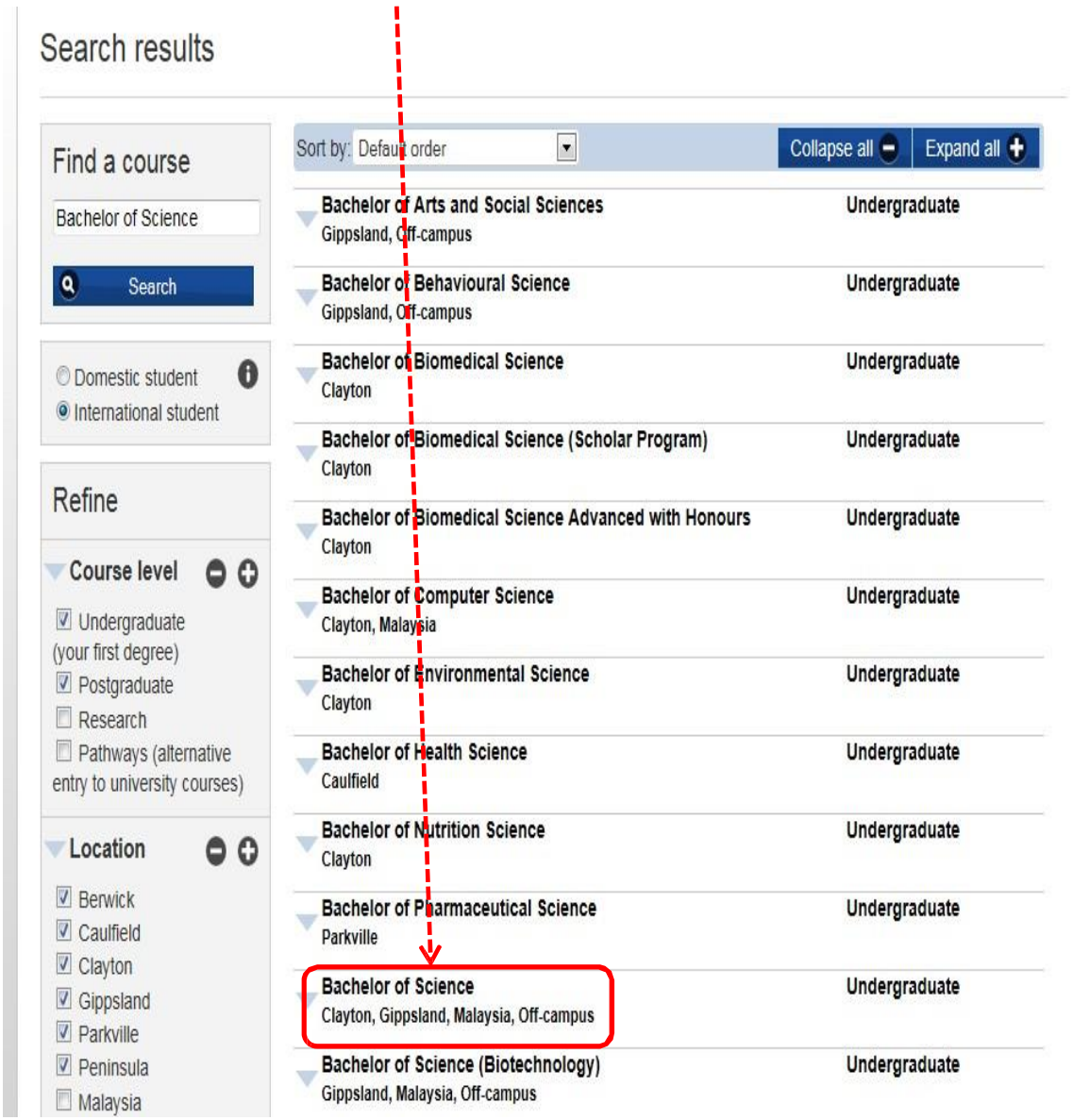
b. **Type the Bachelor or Area of interest** and then click **'SEARCH'** to have access to the Bachelor or Area of interest **'Handbook details'.** (e.g. Chemical engineering, Aerospace engineering, Sciences, Geology, Biotechnology, Information Technology, Networking, etc).
Make sure you tick International; Undergraduate and Postgraduate; and Full time.

Remember that some Bachelor degrees like **Arts, Engineering, Information Technology, Sciences and Business** offer **Specialised Areas or Areas of Study**, for instance:

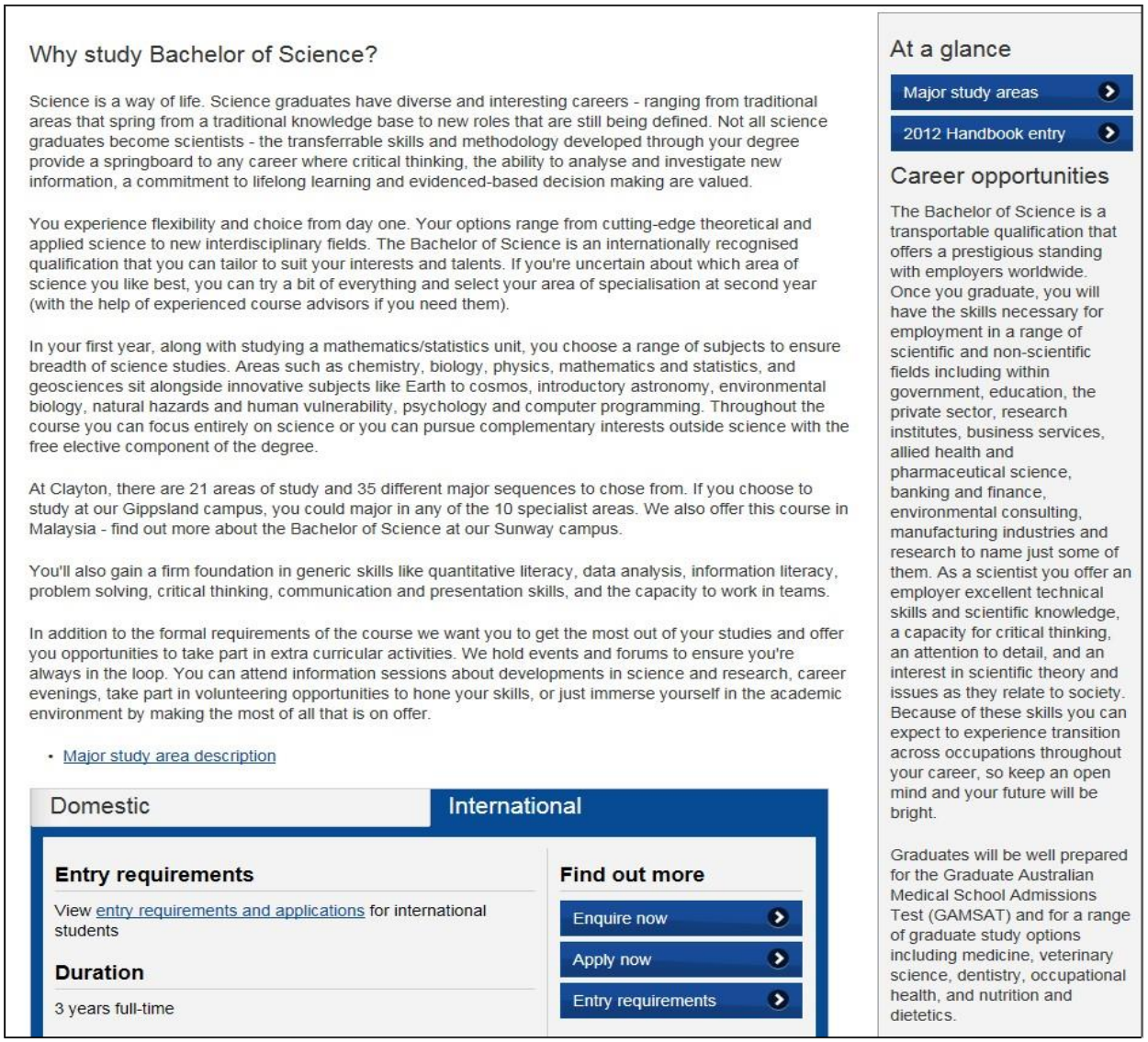
- ***Engineering*** (Civil, chemical, industrial, mechanical, electrical, mechatronics, materials, etc)
- ***Arts*** (Anthropology, environment, sustainability, geography, linguistics, politics, sociology, music, philosophy + other 120 majors)
- ***Science*** (Astronomy, chemistry, biology, microbiology, food science biotechnology, veterinary bioscience, immunology, + other 30 majors



b.1 Choose the 'Major Study Area'



Click on 'View course information'



Why study Bachelor of Science?

Science is a way of life. Science graduates have diverse and interesting careers - ranging from traditional areas that spring from a traditional knowledge base to new roles that are still being defined. Not all science graduates become scientists - the transferrable skills and methodology developed through your degree provide a springboard to any career where critical thinking, the ability to analyse and investigate new information, a commitment to lifelong learning and evidenced-based decision making are valued.

You experience flexibility and choice from day one. Your options range from cutting-edge theoretical and applied science to new interdisciplinary fields. The Bachelor of Science is an internationally recognised qualification that you can tailor to suit your interests and talents. If you're uncertain about which area of science you like best, you can try a bit of everything and select your area of specialisation at second year (with the help of experienced course advisors if you need them).

In your first year, along with studying a mathematics/statistics unit, you choose a range of subjects to ensure breadth of science studies. Areas such as chemistry, biology, physics, mathematics and statistics, and geosciences sit alongside innovative subjects like Earth to cosmos, introductory astronomy, environmental biology, natural hazards and human vulnerability, psychology and computer programming. Throughout the course you can focus entirely on science or you can pursue complementary interests outside science with the free elective component of the degree.

At Clayton, there are 21 areas of study and 35 different major sequences to chose from. If you choose to study at our Gippsland campus, you could major in any of the 10 specialist areas. We also offer this course in Malaysia - find out more about the Bachelor of Science at our Sunway campus.

You'll also gain a firm foundation in generic skills like quantitative literacy, data analysis, information literacy, problem solving, critical thinking, communication and presentation skills, and the capacity to work in teams.

In addition to the formal requirements of the course we want you to get the most out of your studies and offer you opportunities to take part in extra curricular activities. We hold events and forums to ensure you're always in the loop. You can attend information sessions about developments in science and research, career evenings, take part in volunteering opportunities to hone your skills, or just immerse yourself in the academic environment by making the most of all that is on offer.

- Major study area description

Domestic | International

Entry requirements

View entry requirements and applications for international students

Duration

3 years full-time

Find out more

Enquire now

Apply now

Entry requirements

At a glance

Major study areas

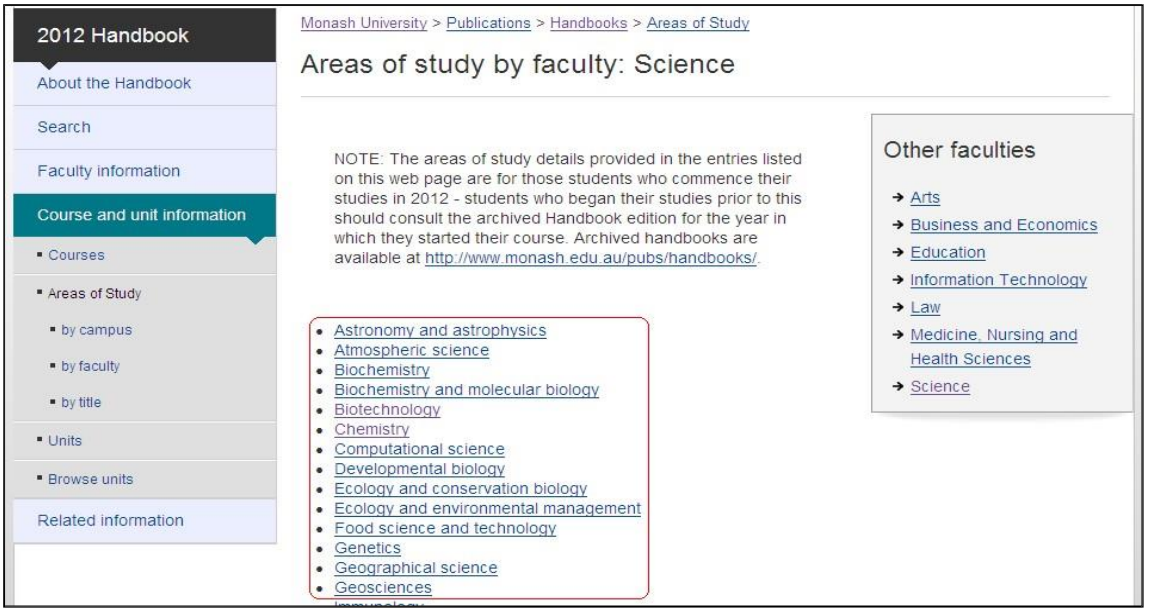
2012 Handbook entry

Career opportunities

The Bachelor of Science is a transportable qualification that offers a prestigious standing with employers worldwide. Once you graduate, you will have the skills necessary for employment in a range of scientific and non-scientific fields including within government, education, the private sector, research institutes, business services, allied health and pharmaceutical science, banking and finance, environmental consulting, manufacturing industries and research to name just some of them. As a scientist you offer an employer excellent technical skills and scientific knowledge, a capacity for critical thinking, an attention to detail, and an interest in scientific theory and issues as they relate to society. Because of these skills you can expect to experience transition across occupations throughout your career, so keep an open mind and your future will be bright.

Graduates will be well prepared for the Graduate Australian Medical School Admissions Test (GAMSAT) and for a range of graduate study options including medicine, veterinary science, dentistry, occupational health, and nutrition and dietetics.

b.2 Click on the 'Major Study Area' which takes you to 'Undergraduate Handbook webpage' click on this to find the Units available for the major



2012 Handbook

About the Handbook

Search

Faculty information

Course and unit information

- Courses
- Areas of Study
  - by campus
  - by faculty
  - by title
- Units
- Browse units

Related information

Monash University > Publications > Handbooks > Areas of Study

Areas of study by faculty: Science

NOTE: The areas of study details provided in the entries listed on this web page are for those students who commence their studies in 2012 - students who began their studies prior to this should consult the archived Handbook edition for the year in which they started their course. Archived handbooks are available at http://www.monash.edu.au/pubs/handbooks/.

- Astronomy and astrophysics
- Atmospheric science
- Biochemistry
- Biochemistry and molecular biology
- Biotechnology
- Chemistry
- Computational science
- Developmental biology
- Ecology and conservation biology
- Ecology and environmental management
- Food science and technology
- Genetics
- Geographical science
- Geosciences

Other faculties

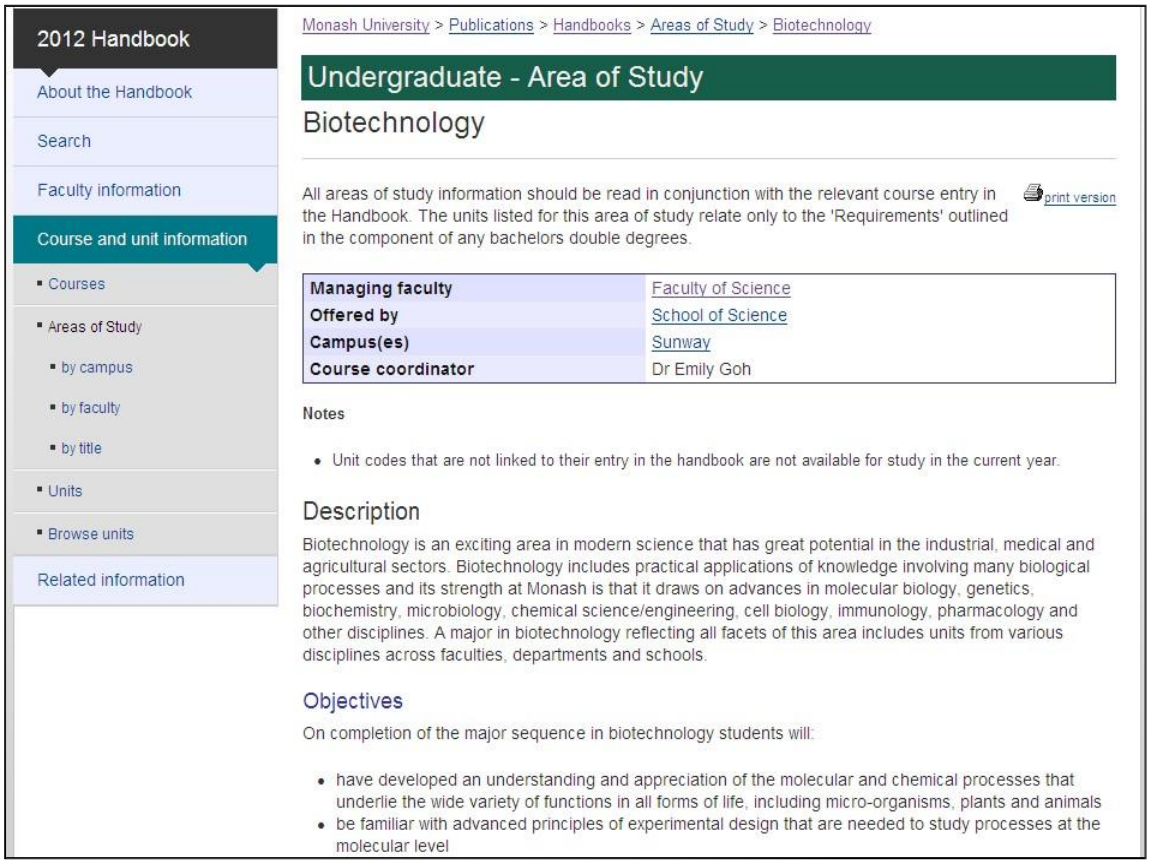
- Arts
- Business and Economics
- Education
- Information Technology
- Law
- Medicine, Nursing and Health Sciences
- Science

b.3 'Major Area' description – click on Biotechnology - Science

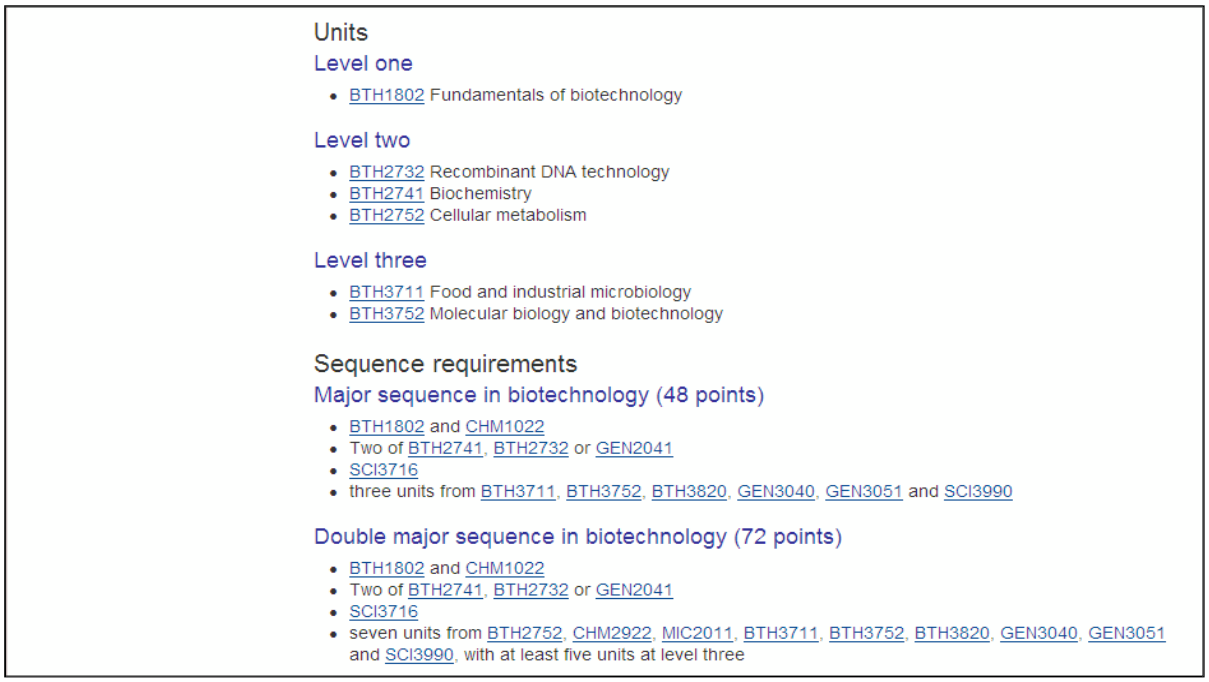
Area of Study: Biotechnology

Undergraduate

- Biotechnology - Medicine, Nursing and Health Sciences
- Biotechnology - Science



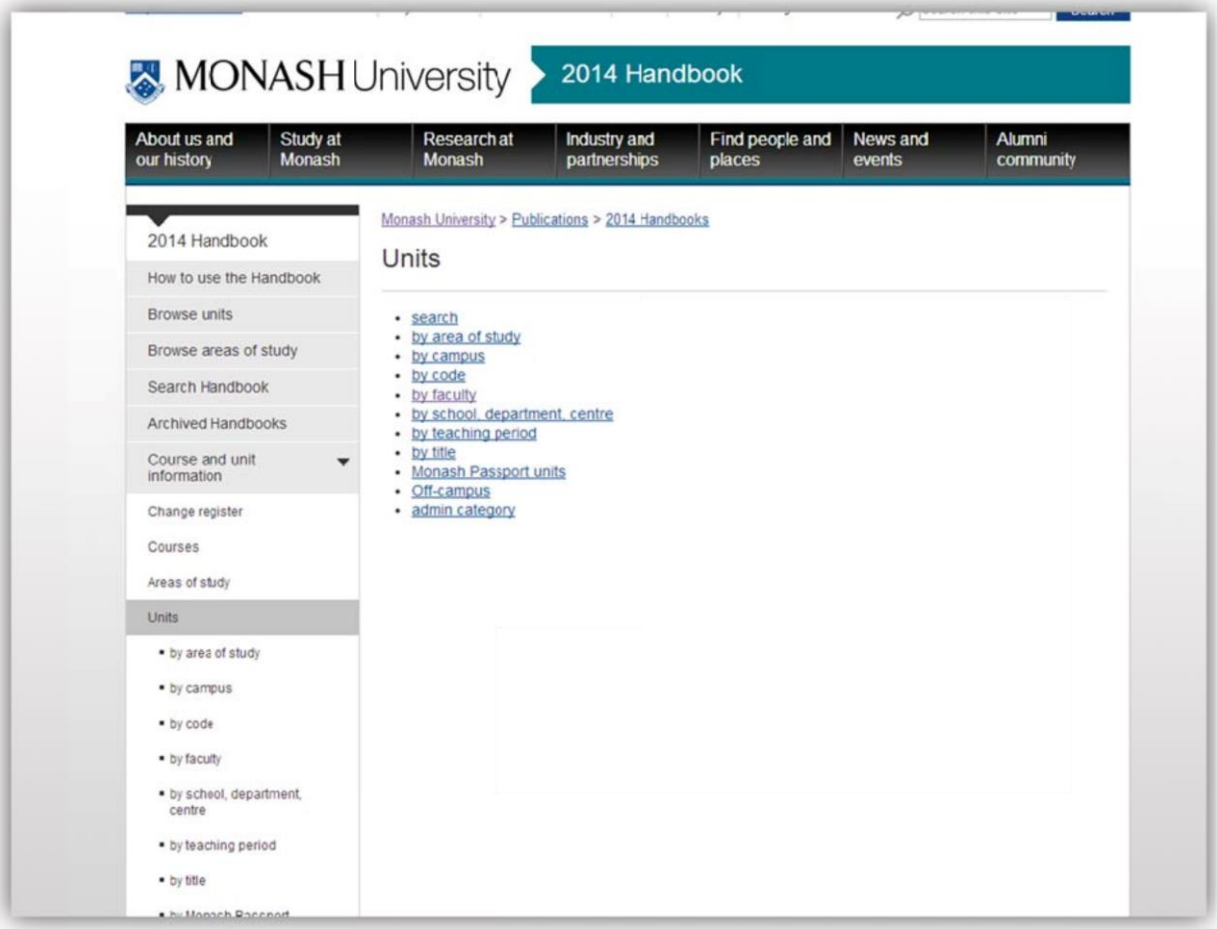
b.4 Select the UNITS from the above page as shown below.



Alternative way to search for units

Go to http://www.monash.edu.au/pubs/2014handbooks/courseandunitinfo.html

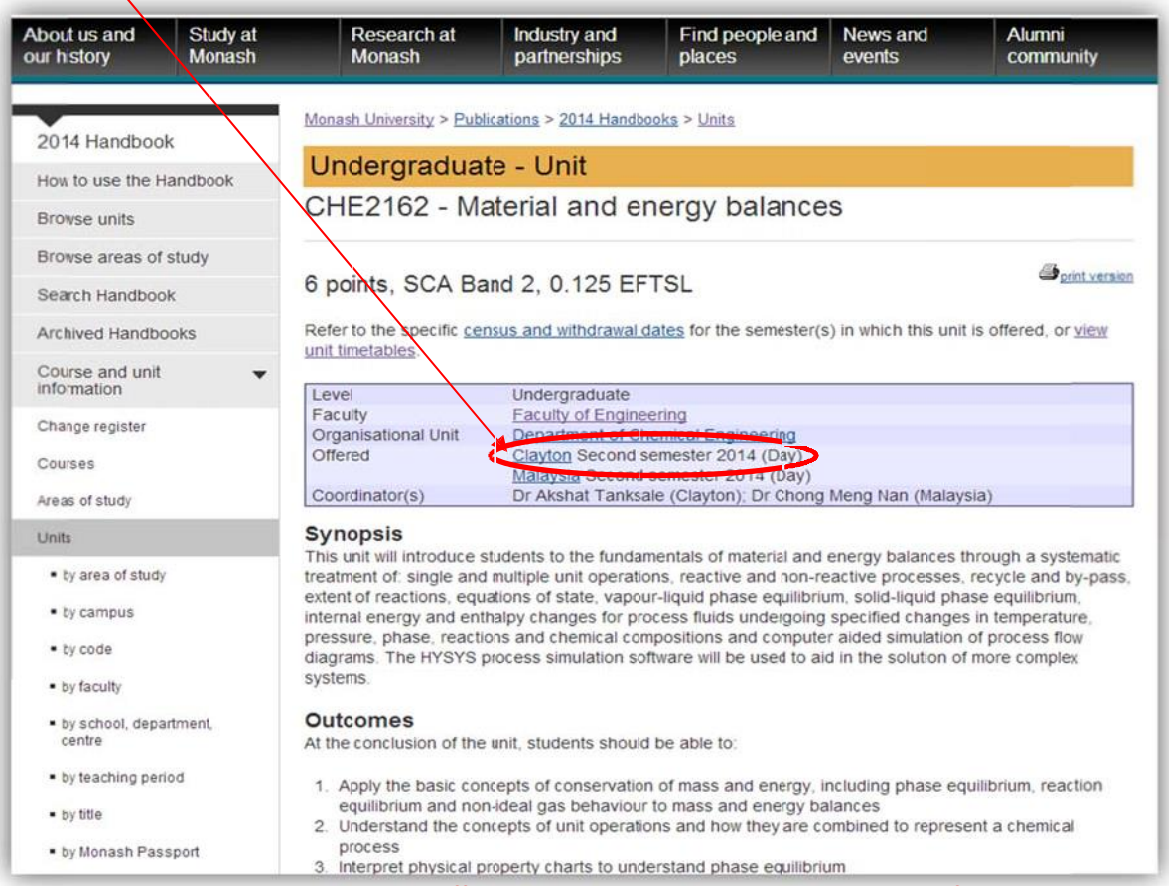
Select for study in 2014. The following screen will appear and you can search by code, faculty, title etc.



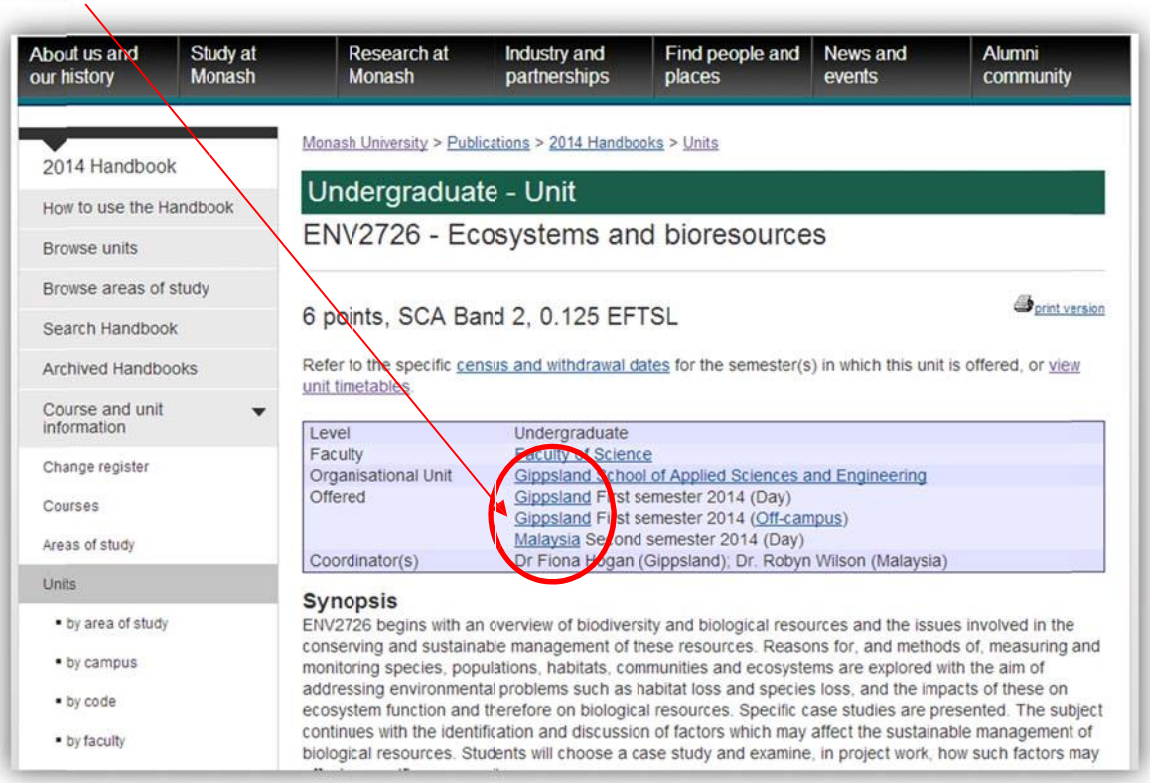
Please Note:

- ✓ Level 1 units refer to Year 1 (Australian qualification)
- ✓ Level 2 units refer to Year 2 (Australian qualification)
- ✓ Level 3 units refer to Year 3 (Australian qualification)
- ✓ Level 4 units refer to Year 4 (Australian qualification) **– Engineering and some Pharmacy and Sciences degrees**
- ✓ Most Monash units are 6 credit points with select few being 12 credit points.
- ✓ When selecting units please ensure they are offered in the semester the student will be studying at Monash; are not at mixed campuses other than Caulfield and Clayton; and are offered on-campus not Off-campus. See Example 1 correct for semester 2, 2014 and Example 2, incorrect campuses.

Example 1 – Correct – Unit offered in semester 2, 2014 at Clayton Campus



Example 2 – Cannot select this unit as not offered in semester 1, 2013 or t Clayton, Caulfield, Berwick, Peninsula or Parkville campuses (this unit is only offered at Gippsland and Malaysia therefore students cannot study this)



MONASH University

PRE-REQUISITE EXAMPLE
Unit Outline – material references
Maria da Silva Brito - 34558899

Monash University units that you wish to enrol in	Monash prerequisite(s)	Brazilian University units that meet prereqs
MEC3451 Fluid Mechanics II Semester 1/2014	ENG2091 Maths and MEC2404 Fluid Mechanics 1	SMA0304 Algebra Linear Linear Algebra SET0184 - Mecânica dos Sólidos II Solid Mechanics II
ENG1050 semester 1/2014	NONE	NOT REQUIRED
MEC2404 semester 2/2014	NONE	NOT REQUIRED

Universidade de São Paulo

SMA0304 – Algebra Linear

Linear Algebra

https://uspdigital.usp.br/jupiterweb/jupDisciplina?sgldis=SMA0304&codcur=18050&codhab=0

Lecture Credits : 4
Work Credits : 0
Type : Semester

Objectives
Take students to the use of algebraic tools , targeting other disciplines .

Program Summary
Vector Spaces and subspaces.
Linear transformations.
Eigenvalues and eigenvectors.
Jordan canonical form.
Inner product spaces.

Program
Real and complex vector spaces . Linear dependence . Base. Dimension. Subspaces . Direct sum . Linear transformations . Core and image . Isomorphism . Matrix of a linear transformation . Eigenvalues and eigenvectors . Invariant subspaces . Diagonalization of operators . Jordan canonical form . Inner product spaces . Orthogonality . Isometries . Self-adjoint operators .

Evaluation Method
Exhibition in classes and securing through exercises with the guidance of Professor.

Criterion
Evaluation through written tests , assignments and seminars .

Standard Recovery
Number of tests: at least one (01) and maximum two (02) tests .
Approval criteria : the final grade (MF) student who performed tests of recovery will depend on the average of the semester (MS) and the average recovery of evidence (MR) , as follows:
MF = 5 if 5 < = MR < = 10 - MS ;
MF = (MS + MR) / 2 if MR > 10 - MS
MF = MS if MR < 5 .

Bibliography
Textbooks:
. CALLIOLI , a.i ; H. H. DOMINGUES And R.C.F. COSTA Linear Algebra and Applications , 6th ed , Sydney : Current , 2007.
. ZANI , SL Linear Algebra , Lecture Note , ICMC - USP .

SET0184 - Mecânica dos Sólidos II
Solid Mechanics II

https://uspdigital.usp.br/jupiterweb/obterDisciplina?sgldis=SET0184&codcur=18062&codhab=100

Classroom Credits: 4
Work Credits: 0
Total Hours: 60 h
Type: Semester
Activation: 01/01/2008

Objectives
Provide basic knowledge of solid mechanics, emphasizing the application to Mechanical Engineering.

Program Summary
Stress state in one point;
Deformation state at a point;
Strength criteria (or failure);
Three-dimensional structures;
Pressure vessels;
Calculation of displacements in isostatic structures;
Study the stability of prismatic parts.

Program
Stress state at a point: stress components. plane stress, principal planes and principal stresses, maximum shear stress, Mohr's circle. Deformation state in point: United plans, components of deformation, principal strain, maximum distortion. Hooke's Law. Strength criteria (or failure): criterion of maximum normal stress, the maximum shear stress criterion, criterion of maximum distortion energy. Dimensional structures: composite applications, overlay effects, and general oblique bending, shear center for thin-walled open sections and symmetrical loading excêntrico.Vasos pressure: equilibrium equations, applications. Calculation of displacements in isostatic structures: elastic line, beams, shafts, statically indeterminate structures, understanding of the process efforts. Study the stability of prismatic parts: the problem of Euler buckling, determination of critical load, differential equation, eccentric loading and stability, drying formula.

Evaluation Method
Lectures, practical exercises and examples solved by the student in class.
STUDENTS ACTIVITIES: Participation in lectures and example. Solving exercises recommended by the teacher.
Criterion
Weighted average of the test scores or tests conducted during the semester or greater than 5.0 (five). At the end of the semester will be a test, dealing with any given content, which may replace the lower grade from the assessments during the semester.
Standard Recovery
Single test with a score greater than or equal to 5.0.

Bibliography

HIGDON, Ohlsen, STILES, Weese, RILEY. - Mec. Materials, Guanabara Two.
Popov EP - Introduction to Solid Mechanics. São Paulo, Edgard Blücher, 1978.

FEODOSIEV, V. I. - Strength of Materials. Portugal, Ed Lopes da Silva, 1977.
BEER & JOHNSTON. - Strength of Materials. McGraw-Hill, 1982.

MONASH University

TIPS ON SELECTING UNITS AT MONASH UNIVERSITY, MELBOURNE, AUSTRALIA

2015

Thank you for choosing to study at Monash University; Australia's largest university and member of the prestigious Group of Eight. We are delighted that you are looking to join us and we look forward to welcoming you to our vibrant campus community in 2015.

We know that you want to receive an offer from Monash University as soon as possible. By following the tips below you will help us (Monash) process your application more efficiently so you receive an offer letter more quickly.

TIP 1 - Choosing units

There are hundreds of units to choose from across the different faculties of Monash University and this can seem overwhelming. The attached document, "How to find units at Monash University", gives you a step-by-step guide to choosing units to include in your Study Plan. Remember to pick 6-8 units per semester (with the exception of Pharmacy; only need 4).

It is not guaranteed that you will have all the units you select approved. Approval is based on availability, pre requisites, your academic results, and in some instances capacity in each unit.

Year level - You can work out what year level the unit is taught based on the unit code. For example, ENG**1**000 is a first year unit, ENG**2**000 is a second year unit, ENG**3**000 is a third year unit and ENG**4**000 is a fourth year unit. When you search the units using the Monash Handbook each unit will state if it is undergraduate. You must only select undergraduate units.

Please note: We recommend you do not select all your units at a high year level even if you are eligible for the unit. Don't forget, you are coming to a new academic system that will teach in a very different style to your home university. You are also studying in English, so don't make things too hard for yourself by taking all 4th year units, see how you settle in, in your first semester.

TIP 2 – Brazilian Government Requirements

The Brazilian Government requires you to study 4 units in total per semester from within your study field.

You cannot take units such as Language, Faculty of Business or any general interest units from the Faculty of Arts.

If you are studying Production Engineering you are permitted to do 2 x units in your area of study plus 2 x units in Business.

Please note: CNPq and CAPES require that you study a full time load for each semester at Monash e.g. 4 units or 24 credit points. Monash University cannot give you permission to withdraw from a unit during your studies you will need to get permission from CNPq or CAPES.

MONASH University

TIP 3 – Important campus information

You must only choose units that are offered on the Clayton and Caulfield campuses and you can choose a combination of both these campuses. There are two exceptions to this rule:

- All pharmacy units are taught at the Parkville campus, located in inner-city Melbourne. Please note that there is no on-campus accommodation available at Parkville, so you will need to find your own accommodation.

- Some units from the Faculty of Medicine, Nursing and Health Sciences are taught on the Peninsula campus, such as Nursing. There is limited on-campus accommodation available at Peninsula - http://www.monash.edu.au/campuses/peninsula/

Students can travel between Clayton and Caulfield campuses but not between Peninsula, Berwick, Clayton etc.

Do not select units from the Gippsland campus, this campus is no longer owned by Monash University.

TIP 4 – Undergraduate or Post Graduate

Currently, you are only allowed to study undergraduate units at Monash University under the Brazilian Science Mobility Program. Therefore, you must select units from the undergraduate degrees only. As an example ENG1000 is a first year unit, ENG2000 is a second year unit, ENG3000 is a third year unit and ENG4000 is a fourth year unit. Any unit such as ENG5000 or ENG6000 and upwards are Post graduate units and you cannot choose these.

TIP 5 - Observe special Faculty requirements

Some Faculties have special requirements that should be submitted with your application, this will speed up the processing of your application:

Art, Design and Architecture:

If you are applying for units from the Faculty of Art, Design and Architecture you must provide an electronic copy of your portfolio highlighting relevant work. For example, if applying for studio units in Architecture, your portfolio must include examples of Architecture work.

You must complete OHS1000 which is a compulsory 0 credit bearing unit. You will complete OHS1000 plus 4 units (or 24 credit points) worth of units at Monash University Faculty of Art, Design & Architecture.

A sample folio is attached.

Engineering:

If a unit has a pre-requisite and/or co-requisite you will be required to provide unit outlines from your home institution showing units that you have completed that cover the unit content of the Monash University unit's pre-requisites or co-requisite.

Check the Prerequisites and co-requisites required for each unit. For example, go to the following website: http://www.monash.edu.au/pubs/2015handbooks/units/MNE3010.html you will see Unit MNE3010 – Rock Mechanics, go to the bottom of the page where it will state 'Prerequisite' which means the Faculty require that you have studied the content of the named unit, in this case both CIV2242 and CIV2206 prior to commencing MNE3010 . Next, make sure you have covered the content of CIV2242 and CIV2206 at your home university before you select MNE3010 and provide the unit outline to prove this (find the requirements below).

Co-requisites either need to be studied prior to commencing your selected unit or studied at the same time as your selected unit. If you haven't covered the co-requisite but the co-requisite is available in the same semester and year you can potentially study both at the same time.

The following is required from you if a unit requires a prerequisite and a co-requisite (listed in the 2015 Monash Handbook):

- Unit outlines required for each pre-requisite & co-requisite unit listed
- Details explaining which of your home university units cover which Monash University.
- 4th year limitations – must satisfy 100% of the pre-requisites and units are **subject to approval** by the Faculty of Engineering.
- 3rd year project limitations – pre-requisites must satisfy 100% of the pre-requisites and units are **subject to approval** by the Faculty of Engineering.

All unit outlines need to be translated to English but this does not need to be by an official translator, you can use Google translate. In addition please provide the original link in Portuguese.

An example unit outline is attached to this document.

Science:

If selecting units from the Faculty of Science that are above 1st year you will need to provide unit outlines for each unit studied at your home university within the area of the unit you have selected; for example: BIO3052 is a 3rd year biology unit; students selecting this unit would need to provide unit outlines from each unit of biology studied at your home institution.

An additional requirement for Chemistry unit selections is to provide details of any laboratory experience you have had in order to gain approval for 3rd year Chemistry units.

BIO3820 – Tropical Terrestrial Biology is not available to any Study Abroad students, so please do not select this unit.

All Research Projects – units coded 3990 - You will need to contact the unit coordinator to organise a supervisor and project before you arrive in Australia, please contact swb@monsh.edu for more clarification.

BIO3021 and ESC3180 field trip units - You must ensure you are available to attend the field trip during the specified dates. You can check the dates of the field trip in the online undergraduate handbook. Please note that BIO3021 has a quota.

MONASH University

Information Technology:

Please attach to your application a word document in English that outlines the content of each unit you have studied or are currently studying in the area of IT (i.e. a synopsis). For example:

"*FIT1002 Computer programming*
This unit will provide students with an overview of programming and its role in problem-solving and strategies for meeting user requirements and for designing solutions to programming problems. The fundamental programming concepts of the memory model, data types, declarations, expressions and statements, control structures, block structure, modules,
parameters and input and output will be applied within the context of objects, attributes, methods, re-use, information-hiding, encapsulation and message-passing. Software engineering topics include maintainability, readability, testing, documentation and modularisation."

Medicine:

Several areas of study are offered by the Faculty of Medicine, Nursing and Health Sciences however, not all areas are available to Study Abroad students as only full degree students can do these. For example, you **cannot** choose any units of study that form part of the Bachelor of Medicine / Bachelor of Surgery (MBBS) degree. Units with the following codes are **not available** to Study Abroad students:

- MED
- GMA
- GMB
- GMC
- GMD

If you choose any subjects with the unit codes listed above your offer will be delayed as you will be asked to select replacement units.

To help with your unit choices we have attached a document summarising the key study areas in the Faculty of Medicine, Nursing & Health Sciences. Please note, these are only suggestions, there is no guarantee you will be approved for them.

Nursing is run from the Peninsula campus with limited units are offered at Clayton Campus so if you choose to do Nursing units you will most likely based at Peninsula, you cannot select units at Peninsula and Clayton or Caulfield as it is too far to travel. Please see this website for details on location http://www.monash.edu.au/campuses/peninsula/

Pharmacy:

Pharmacy is offered at Monash University's Parkville campus. Pharmacy units start with the letters PAC or PSC.

If you are studying with the Faculty of Pharmacy, you must provide a course outline for each of the pharmacy related subjects that you have studied and are currently studying at your home university. The Faculty of Pharmacy requires very detailed and specific information and they will not consider your Monash unit choices unless you provide this information. A sample unit outline, from the University of WA, that is considered suitable by the Faculty of Pharmacy is attached.

You will be asked to select a study stream rather than specific units, you will select from either:
Pharmacy - http://www.monash.edu.au/pubs/handbooks/courses/2628.html
or
Pharmaceutical Science - http://www.monash.edu.au/pubs/handbooks/courses/2894.html

The Faculty will then offer you a group of units from a particular year of their study streams.

The Faculty of Pharmacy does not allow studying over two years for example PSC1000, PSC2000; you cannot select units from across different faculties for example 1 unit from Faculty of Medicine and 3 Pharmacy units, and you cannot select units across the multiple streams.

Once you have approval for your units, they cannot be changed, unlike other Faculties and you can only study Pharmacy units. An alternative to this is Pharmacology (see below)

Pharmacology if you are a Pharmacy student but do not wish to at Parkville you may look at Pharmacology offered in the Faculty of Medicine at Clayton, as an alternative. Please see their website: http://www.med.monash.edu.au/pharmacology/teaching/index.html . With Pharmacology you are permitted to other units in Medicine or Science as an example but not PAC or PSC units in Pharmacology.

TIP 6 – Degrees not offered at Monash University

Although the following degrees are not taught at Monash University, students may find units in other areas at Monash as set out below:

Production engineering – can take units in Environmental engineering; Physics and Chemical engineering, plus two Business units. Production Engineering students usually find plenty of units at Monash to suit their home degree.

Dentistry – can take units in Biology or any area in Health

Physiology - Pharmacology and Microbiology

Physical education – can take units in Physiology and Nutrition and dietrics

Physiotherapy – can take units in Emergency health; Occupational therapy, Health science; Physiology and Sport and outdoor recreation

Speech pathology – can take units in Biomedical science; Pharmacology and Health science

Food engineering – can take units in Chemical engineering

Veterinary science/Animal science – can take units in Zoology (units at Gippsland not offered)

Architecture and urbanism – can take units in Architectural design and Interior Architecture

Thank you for helping us to process your application quickly. We look forward to seeing you in Melbourne at Monash University.