Welcome to Murdoch University!

Congratulations on your offer of a place at Murdoch University. The details included in this booklet will assist you with accepting your offer, seeking advice on your options of enrolment, choosing your units and completing your enrolment online. Tick [✓] the steps below as you complete them, to ensure you complete all parts of your enrolment successfully.

If you do not have ready access to computer facilities either at home, work, your local library etc., the University has many computers available on-campus for students. For further details contact the IT Helpdesk on 9360 2000 or http://www.murdoch.edu.au/studentit/labs.html.

External students who are unable to access computer facilities due to extenuating circumstances are able to apply to receive their University correspondence via hardcopy. A copy of the Application letter is included in your External Enrolment Pack. For further information please contact the External Studies Office on 9360 2710.

**STEP 1 Accept your offer and activate your Murdoch account via the Offer Response System**

Go to the Murdoch Home page (http://www.murdoch.edu.au/) and follow the link to the New Students website. You will need your Offer Letter (Domestic students) or Confirmation of Enrolment- eCOE (International students) handy as this contains your Student Number. From here you can;

- Choose to Accept, Defer or Reject your offer (domestic students only)
- Set your Murdoch Password (all students)
- Set and confirm your email address (all students)
- Select your course as offered (domestic students only)

Now that you have accepted your place as a Murdoch student you are ready to select your units and complete your enrolment! Continue from Step 2 over the page.

**Important Point Email Account**

The University’s primary form of correspondence to all students is via email.

If you have not set an existing email address in Step 1, the University automatically provides you with an email address, of the format yourstudentnumber@student.murdoch.edu.au. You can access your Murdoch email account with webmail (available on any browser) at: https://wwwstudent.murdoch.edu.au/mail using your Murdoch User name (Student Number) and Murdoch Password (same as MyInfo).

It is essential that the University has your updated email preference so that you receive important communications from your lecturers and University Administrators.

External students that are unable to access computer facilities due to extenuating circumstances are able to apply to receive their University correspondence via hardcopy. A copy of this application letter is included in your Enrolment Pack. For further information please contact the External Studies office on 9360 2710.
STEP 2 Research your Course, Unit Sets (majors, minors) and Units

Review your Course Description (Appendix A).
From here you can see any recommended Double Majors or Minors and the list of units that you will be required to complete in order to graduate in your chosen course and qualification.

Review the Course Checklist and Unit Prerequisites (Appendix B)

Review the Sample Enrolments for your course (Appendix C).
Some courses provide you with a choice of units within the requirements, so you may wish to plan your own enrolment version and therefore not need to follow the sample enrolment that we have provided.

1st Year units
Generally new full-time students will enrol in 4 units in each semester at Part I level (units beginning with a ‘1’). Students do not have to take a full-time load and can enrol part-time, however this does not mean that the units are taken “after hours”. Part-time refers to a load of less than 9 credit points in the Semester. Please note that in order to qualify for AUSTUDY usually you need to enrol in at least 9 points per semester. This may vary. If in doubt you should check with Centrelink to confirm your entitlements.

2nd (and subsequent) Year units
Students who have completed studies at another tertiary institution before starting at Murdoch and who have been given credit of at least 18 points may take 2nd year (Part II units) provided they have also completed the individual unit’s prerequisites.

Review the unit listing in the Handbook for a description of each of your Units.
http://handbook.murdoch.edu.au/units/

Review your Lecture Timetable.
Once you have decided which units you will take in Semester 2 2007 but before you enrol, you are encouraged to check that the units you have chosen are not timetabled to run at the same time. Generally you should find that the lectures for the units you are required to take will not clash, however some elective units may not fit into your timetable. The quickest method of checking is to refer to the online teaching timetable’s nominated units website at: http://www.murdoch.edu.au/admin/timetables/teaching/enquiry.html Here you can type in your 3 or 4 units for the semester and see the timetabled lecture times.

You may also need to consider whether you can attend campus for all units (internal option) or whether it would be better if you could take one or two units in the External option. The learning objectives of any unit are identical irrespective of whether you are studying the unit internally or externally. The External option is not available in all units however you may have a choice within your course. Please note: Under visa requirements International students are not permitted to take external units.

Record your Personal Study Plan (Appendix E)
**STEP 3 Unit Enrolment Online**

The University’s student self enrolment and management system is known as MyInfo ([http://myinfo.murdoch.edu.au/](http://myinfo.murdoch.edu.au/)). Within MyInfo you can manage your enrolment in your course including unit selection, unit set (majors, minors) enrolment and tutorial signup. You can also update your personal details (home and postal addresses, email address).

**Log into MyInfo**

Log into MyInfo at [http://myinfo.murdoch.edu.au/](http://myinfo.murdoch.edu.au/) by using your Murdoch User Name (Student Number) and Murdoch Password (as per Step 1).

**Check Personal Details**

Click on the Personal Details menu item and then Change Address(es). You should check that this information is up to date and make any changes as necessary.

**Enrol in Units for 2007**

Click on the **Change Enrolment Details** menu item and then Self Enrolment Steps. Read all of the information on this page and then scroll down to the Self Enrolment Steps heading.

Starting with the Disclaimer work your way through each of the steps. Each step has an explanation to the process so please read each one carefully.

☐ Disclaimer – Statement concerning your use of MyInfo and adherence to the University’s legislation.

☐ Services – Your opportunity to join the Student Guild as a financial member and access their many services and facilities. You can also validate your Transperth SmartRider for a tertiary concession if you are studying fulltime.

☐ Course Completion Date – Keeping the university informed when you are likely to graduate.

☐ Unit Sets – Your method of adding or amending unit sets (Majors and Minors). You will need to have at least one Unit set recorded as your Primary one.

☐ Units – This is where you add your new units. Use the Search function to find the unit you want. You can also just type in the first 3 alpha characters to list all of the units with that prefix. It is essential that you **Save Changes** when you have selected the unit(s) that you want added.

☐ Commonwealth Assistance Form (Domestic Students only) – This is a Commonwealth Government requirement. To complete this you will need your TAX FILE NUMBER (TFN). If you do not have TFN handy you can come back to this step later, however this step must be completed by the Census date (31st August) to avoid having your course cancelled as per Commonwealth Government regulations.

Once you have returned to the Self Enrolment Steps main page all items that you have successfully completed will be flagged with either a ‘Green Tick’, which means that you do not have to come back to these, or a ‘Circular Arrow’ which means that you have successfully completed this item but can come back and make changes at a later date as well.

If you need any help with navigating through MyInfo or have a technical issue, check out the Help section first. This can be found on the left hand menu if you are already logged into MyInfo or if you are not logged into MyInfo there is the “Need Help?” section on the right hand side of MyInfo Access page ([http://www.murdoch.edu.au/students/myinfo/](http://www.murdoch.edu.au/students/myinfo/)).
**STEP 4 Current Enrolment Details**

When you have enrolled in all units that you intend to take in 2007 you are encouraged to view your current enrolment from the Current Enrolment Details menu item in MyInfo. Select Course and Unit Details and then click on Units. You will need to check that all the units that you intend to take are included, and show as ENROLLED!

Print out a copy of your Current Enrolment Details

**Important Point Enrolment Deadlines**

You will be expected to enrol in all your units for Semester 2, 2007 as soon as possible. The last date to add an internally offered unit to your enrolment is the end of Week 1 of Semester; and the last date to add an externally offered unit, or to change from an internal offering to an external offering, is earlier to allow time for mail out of materials. You need to enrol in external offerings no later than the end of Orientation week, however please check the Dates and Deadlines page online for exact dates - [http://www.oss.murdoch.edu.au/enrolment/deadlines.html](http://www.oss.murdoch.edu.au/enrolment/deadlines.html).

**STEP 5 Attend your Course Advice session(s)**

If you are unsure about your choice of units or have specific course related questions that you need answered, you should attend the Course Advice Session(s) offered by your School. These are held during Orientation week. At these sessions the Program Chair(s) will be available to advise students on the requirements of the degree and answer any unit selection and enrolment queries that may arise. The Orientation and Course advice session timetable will be available at [http://www.oss.murdoch.edu.au/orientation/](http://www.oss.murdoch.edu.au/orientation/).

If you have read through this booklet AND attended a Course Advice Session but still have a query or concern with your enrolment, your Divisional Student Administrative staff will be able to assist you. You are encouraged to “have a go” by yourself and then either telephone or email your Divisional student administrative staff member (Appendix I) with the specific concern, and they will look after you! However, please be aware that this assistance may be limited during the busy course advice session times, during Orientation Week and also Week 1 of semester.

Don’t panic if you are unsure of your choice of units. Do the best you can, and then seek advice either at your Course Advice Session, from the resources available on the Divisional Student Administration websites:-

Health Sciences = [http://www.healthsciences.murdoch.edu.au/forms.html](http://www.healthsciences.murdoch.edu.au/forms.html) and
STEP 6 Student ID/Library Card and Parking Permit

Get your Murdoch Student ID/Library Card
These are available from the IT Service Desk in the Library (this can be done at any time or during Orientation Week) or, if you are an external student living more than 30 aerial kms from the South Street campus, contact Janice Pell (J.Pell@murdoch.edu.au or telephone 08 9360 2154) to request a Student ID/Library card application form or see URL: http://wwwlib.murdoch.edu.au/for/external/forms/idlibrarycard.doc.

Purchase your Parking Permit.
If you wish to drive to Uni and park your car on campus you will require a Murdoch parking permit or a valid ACROD sticker (for Easy Access bays only). Murdoch campus students will need to purchase a parking permit at either the Student Service Centre, Level 2 Chancellery Building, or by avoiding any queues and applying online at http://www.oss.murdoch.edu.au/parking/. The online facility will be open from mid July 2007.

Parking at the Murdoch campus in the Green zones will be free between 18th June and 3rd August. After this date you will need a parking permit (Students at the Rockingham and Peel campuses will be required to apply for a 2007 permit however there will be no charge for 2007. You can apply via the Rockingham and Peel administration offices.)

STEP 7 Lectures, Tutorials, Labs and Workshop Enrolment - Activities
From 2007 Murdoch, Rockingham and Peel students will be able to enrol in Lectures, Tutorials, Labs and Workshops (activities) online via MyInfo (http://myinfo.murdoch.edu.au/).

Enrol in your activities for 2007
Click on the Change Enrolment Details menu item and then Activity Enrolment. Read all of the information on this page and then scroll down to see your Unit enrolments and the available activities.

You will need to have completed your Unit Enrolment (See Step 3 above) before you can enrol in any associated lecture, tutorial, lab or workshop. If your unit attempt status is INVALID, you will not be able to select activities for that unit. Enrolment in a Lecture activity may not be mandatory for all units, however it is highly recommended in order to avoid clashes on your timetable.

This system works on a first-in-first-served basis so you are advised to enrol in your activities as soon as possible.

Make sure you also note the start week for each activity as they may not all start from week 1.
**STEP 8 Attend Orientation (Week of 30th July)**

The Orientation program has been designed to meet your specific needs as a new student to Murdoch, to introduce you to key Murdoch University staff and the campus and facilities you will require. You can check the full orientation timetable at [http://www.oss.murdoch.edu.au/orientation/](http://www.oss.murdoch.edu.au/orientation/) for activities and Course Advice session details.

All students are strongly encouraged to attend Orientation. We’ve planned a number of activities that will give you lots of opportunity to experience the helpful and friendly atmosphere at Murdoch. During Orientation Week you will be able to;

- Attend Foundation Unit ‘taster’ sessions. These sessions will allow you to get a better understanding of what our Foundation Units are all about and which one is the best for you.
- Meet other students in your same course. Never undervalue the benefits from having friends in your same course.
- Attend a Course Advice Session for information about your enrolment
- Go on Campus and Library tours.
- Attend information sessions about Student Support services. A wide range of services are available through our Teaching and Learning Centre and Equity, Health and Counselling. Make sure that you are aware of these BEFORE you ever need them.
- Have an introduction to the Student Guild and their services.
- Purchase a parking permit.

**Important Point  Start of Lectures**

Semester 2, 2007 begins Monday 6th August and all students enrolled in INTERNAL units are expected to attend classes during this week. Within Activity Enrolment (Step 7 above) you will be able to see which week your individual activities start, as some Tutorials may start in week 1 or 2.

If you enrolled in a unit in the external option before the end of Orientation Week, your unit materials will be mailed to your home address before the end of Week 1.
Dictionary of ‘Uni-speak’

Outlined below is a general summary of Murdoch enrolment information to help you with some of the more common terms that you will come across as you plan your studies. A full list of Murdoch terminology and relevant regulation requirements can be found in the Murdoch Glossary (http://handbook.murdoch.edu.au/geninfo/vocabulary.html).

| **Booklists** | Booklists are available online at https://www.murdoch.edu.au/ofm/services/bookshop/booklist_edo and books can either be ordered online or direct from the Bookshop located on Bush Court at the Murdoch Campus and on the ground floor of the Arts and Commerce building at the Rockingham campus. |
| **Core Units** | You will need to ensure that you take the Core units at Part I and Part II for the major(s) that you have decided to complete. Core units are essential units in your major(s). In your first year, your enrolment will include the Part I core units, and in your second and subsequent years you will take the Part II core units. |
| **Course description, Course checklist and Course structure** | At the end of this booklet (appendices) you will find specific information to help you plan your enrolment, find which units you need to take, which pre-requisites are required and the common double majors and minors. For full details of other majors refer to the 2007 Murdoch Handbook (http://handbook.murdoch.edu.au/), your Divisional Student Administrative office or the New Student website (http://www.murdoch.edu.au/students/new/). Hard copies of the Handbook are also available in your local library, in the Murdoch University library or can be purchased from the Bookshop. |
| **Course or Degree** | Murdoch uses course and degree to identify the qualification that you will be studying towards, for example the Bachelor of Science (or Bachelor of Arts) degree is your course of study. |
| **Credit – Advanced Standing – Accreditation** | If you have studied at a University or TAFE before coming to Murdoch University you may be eligible for credit. Credit will mean that the amount of time and units that you need to study at Murdoch could be reduced. The University has two Accreditation Officers, one for domestic students and one for International students. The Accreditation Officers will need to see your past results to assess how much credit you can have. http://www.choose.murdoch.edu.au/advst.html |
| **Exemptions** | If the study that you completed before coming to Murdoch University was the same or similar to Murdoch’s requirements for your course/degree, you may be granted both credit (points) and exemption for some units. This will mean that you do not have to take those units again. The Accreditation Officer will assess your previous study record for Exemptions and advise you in writing as to the outcome. |
| **Foundation Unit** | The main purpose of the foundation unit is to help new students to develop learning skills and attitudes to assist them with their studies at Murdoch. For this reason all Murdoch students are required to complete one Foundation Unit unless they have been awarded advanced standing for it. The full description of the 2007 Foundation units is available in the appendix. You will need to choose one of these. |
| **Full time study/Part time study** | Full time study at Murdoch is considered to be at least 12 points per semester. The minimum time to complete a 72 point Bachelor Degree is therefore 3 years (12 points per semester for 6 semesters). International students are required to be enrolled in a full time load every semester as per visa requirements. Part time study refers to the points load, of less than 12 points each semester, and does not mean that you can take units “After Hours”. The minimum study that you must take to retain your place at Murdoch University is a single unit in the academic year. |
### General Electives

Most undergraduate degree structures leave room for students to take other units outside of their first major. These are your General Elective units, or free choice units, however most students plan to take these units as the requirements of their second major or towards a minor within the 72 points required for most degrees. Use the Murdoch Handbook online ([http://handbook.murdoch.edu.au/](http://handbook.murdoch.edu.au/)) to search for general electives, minors or second majors and for individual unit prerequisites. A list of all Part I units can also be found at the above Handbook address and this is a handy list to use if you cannot decide which general electives to take.

### Intermission

If you require a break in studies of one year or more due to serious illness or other exceptional personal circumstances which might prohibit you from continuing your enrolment you can apply for an INTERMISSION of study ([http://www.dse.murdoch.edu.au/admin/student/forms/Intermission.html](http://www.dse.murdoch.edu.au/admin/student/forms/Intermission.html)). This may include but is not limited to, personal/family reasons, employment, sporting, cultural, legal or military duties. (Bach Deg Reg 38B). International Students MUST obtain permission from Murdoch International before applying for intermission of enrolment, as the Department of Immigration does not allow international students to intermit their studies except in exceptional circumstances. Intermission of Enrolment may result in cancellation of the student visa. International students should consult Murdoch International or the DIAC help line (131881) for information and advice.

### Internal and External

Murdoch offers most units as Internal (D) where students are expected to attend lectures and tutorials on campus. Some units are offered as External (X), where students would be mailed out the unit materials and would be expected to study at home, and submit all assignments through email or mail. The main challenge of external study will be your ability to commit yourself to a regular timetable of study over the semester. This will require a fair degree of self discipline and in some cases an understanding and supportive network of family and friends. For further information about studying in the external mode see [http://external.murdoch.edu.au/offcampus.html](http://external.murdoch.edu.au/offcampus.html).

The closing date for enrolment in external units is earlier than the deadline for enrolment in internal units, to allow time for the materials to reach you before the end of Week 1 of Semester. International students are only permitted to take internal offerings of units, as per visa requirements.

### Lecture, Workshops, Tutorials

The teaching method for most internal units is by Lecture where all students attend, as well as smaller tutorial groups of approximately 15 or workshop groups of approximately 30. Some units may have a single Lecture per week however many units have 2 or 3 lectures per week. A guide as to how many hours you will be required to attend on campus can be found in the Handbook entry for each unit. The online Teaching Timetable shows the Lecture, Laboratory and Workshop times. You will be required to signup for your tutorials as part of your online enrolment. Many tutorials commence in Week 2, and this information is provided at the first lecture. The Foundation units are the exception as they commence Lectures AND tutorials in Week 1.

### Major

A major is a group of units that identifies a specialisation in an area of study. Students taking the Bachelor of Arts, for example, will be expected to complete at least one major (e.g. History) plus general elective units. Many students take their general elective units from a second major or a minor. As part of the enrolment process you will be asked to nominate your major(s) and minor(s). The course description for your major includes the Program Chair’s recommendations for other majors and minors that can be completed with your major (see Attachment A in this booklet).
<table>
<thead>
<tr>
<th><strong>Minor</strong></th>
<th>A minor is a smaller package of units (unit set) similar to a major, however there are less core units in a Minor. Students are encouraged to take a second major or a minor when they are choosing their General Elective units for their first major. The full list of Minors can be found in the Handbook.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part I units</strong></td>
<td>Part I is the name that Murdoch gives to the units that students generally take in their first year. Most of Murdoch’s undergraduate degrees require students to normally complete 24 points of Part I units. As most of the Part I units are worth 3 points of credit each this will mean that you will be taking 8 units in your first year, being 4 units each semester. These units have 100 level unit codes (e.g. MAS161).</td>
</tr>
<tr>
<td><strong>Part II units</strong></td>
<td>Part II is the name that Murdoch gives to the units that students generally take when they are in their second or third year of study. Most the Part II units are worth 4 points of credit each, and this will mean that you will be taking 6 Part II units in each of the 2nd and 3rd years, being 3 units each semester. These units have 200 or 300 unit codes (e.g. PEC235).</td>
</tr>
<tr>
<td><strong>Points</strong></td>
<td>There are 72 points required as the minimum to complete most Bachelor degrees with at least one major. Depending on the choice of majors students can also complete a double major within these 72 points. This would normally take 3 years to complete if you studied full time and successfully passed all units (12 points) each semester.</td>
</tr>
<tr>
<td><strong>Primary Unit Set</strong></td>
<td>You have accepted your offer into a course of study, and this course will include the particular first major that you wish to complete. To enable you to enrol in individual units in that course and major you will need to have at least one major recorded as your Primary Unit Set on MyInfo, and the major must relate to the course that you have been offered. For example, if you were offered a single Bachelor of Science in Chemistry your first major would be Chemistry, and therefore you should record Chemistry as your Primary Unit Set. MyInfo will not permit you to enrol in units if you select a Primary Unit set that does not match with your course.</td>
</tr>
<tr>
<td><strong>Preclusion</strong></td>
<td>A student may be granted exemptions on the basis of equivalent studies taken before coming to Murdoch, which are not eligible for credit or, in the case of language units, on the basis of language or other relevant proficiency. Such exemptions without credit are called PRECLUSIONS. Where a Preclusion has been awarded the student would not need to complete the precluded unit, however they WILL be required to replace the number of points of preclusion with other general elective Murdoch points.</td>
</tr>
<tr>
<td><strong>Prerequisite Unit(s)</strong></td>
<td>This is a requirement which a student must have met in order to be allowed to enrol in a unit. Some units assume a level of understanding before you start the unit. For example, in the Finance major it is expected that you will have an understanding of EXM130 Geological Processes before taking the higher level unit EXM256 Process Mineralogy in Part II (2nd year). Therefore EXM130 is the PREREQUISITE unit to EXM256.</td>
</tr>
<tr>
<td><strong>Program Chair</strong></td>
<td>This is the academic staff member who looks after you while you are studying for your first major. The names and contact details of some Program Chairs are listed at the back of this booklet or the full list can be found online at <a href="http://www.murdoch.edu.au/contacts/academic/">http://www.murdoch.edu.au/contacts/academic/</a></td>
</tr>
<tr>
<td>Specified Electives</td>
<td>Some majors may give you a choice of units from a defined list, and these are called Specified Electives. Please note that you do not need to take all of the Specified Electives, only sufficient to meet the requirements of the major.</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Teaching Timetable</td>
<td>Before enrolling you should check that the units you have chosen are not timetabled to run at the same time. You can find Murdoch’s online timetable at <a href="http://www.murdoch.edu.au/admin/timetables/teaching/enquiry.html">http://www.murdoch.edu.au/admin/timetables/teaching/enquiry.html</a>. On this timetable you will find your lectures, workshop and tutorial times. Please note that there is an R (Repeat) against certain lectures/workshops/laboratories in the timetable. This is a repeat and you should attend at the time that fits best into your timetable. If there is no R against the time then you are expected to attend every session indicated.</td>
</tr>
<tr>
<td>Unit Co-ordinator and Tutor</td>
<td>An academic staff member is usually the main lecturer of each unit, and is called the Unit Co-ordinator. When you attend the smaller tutorial group you may also be assigned a Tutor. The tutor or the Unit Co-ordinator are the people who you can go to if you have any queries about the individual unit. The names of the Unit co-ordinators are available on each Unit Welcome Page on the Murdoch website (<a href="http://www.murdoch.edu.au/index/units">http://www.murdoch.edu.au/index/units</a>).</td>
</tr>
<tr>
<td>Units</td>
<td>This is the name given to each individual package of study, for example MAS182 Applied Mathematics is a unit.</td>
</tr>
<tr>
<td>Unit Set</td>
<td>Murdoch’s online enrolment system refers to Unit Sets as being the name of the Majors and minors, or specializations that you are intending to complete during your course. See also “Major” and “minor”.</td>
</tr>
</tbody>
</table>
FAQs – Frequently Asked Questions

1. General Electives - What are they and where can I find them?
   A General Elective is a unit that is not a required unit (Core Unit or Specified Elective) for your Major or Course. It can be selected from outside your primary area of study and may form part of a second Major or Minor. See ‘Uni-speak’ in this booklet for a longer explanation of General Electives along with Majors and Minors. There is no single ‘list’ of General Electives. You can select General Electives by taking the units that make up a second Major or Minor or by looking at the online Handbook list of units http://handbook.murdoch.edu.au/units/.

2. Units - Which units do I need to do and how do I know that I have enrolled in the right units?
   The Checklist of Units and Prerequisites (Appendix B) and Sample Enrolments (Appendix C) in this booklet show you your required units and units you should enrol into. Enrolment Information for New Students booklets for other Majors are available from the New Student website http://www.murdoch.edu.au/students/new/.

3. Invalid Units - Why is my unit enrolment INVALID?
   Click on the ‘Why is this Invalid?’ button in MyInfo. To find this button, go to ‘Change Enrolment Details’, ‘Self Enrolment Steps’, and then ‘Units’. Beside the invalid unit, you will find this grey button. When you click, a pop-up window will display the reason that the unit is invalid. If you still require help, print off or copy down this information before contacting your Student Administrative Officer (http://www.murdoch.edu.au/dirs/adminassist.html).

4. Activities (Tutorials/Workshops/Labs) & Unit Coordinators - How do I sign up for my Activities and what do I do if they are full?
   Activity sign can be found in MyInfo by going to ‘Change Enrolment Details’, ‘Activity Sign Up’ and then click on the ‘Add or Change Activities’ button. Choose your Activities from the selection available. If your chosen Activity is full there are three options available: review your whole timetable to check if you can make changes to any other units, consider doing a unit externally (if available), or contact the Unit Coordinator, if your circumstances are extenuating. Unit Coordinator contact details can be found via the Unit Welcome Page http://www.murdoch.edu.au/index/units.

5. Unit Sets - What are Unit Sets?
   This is the name given to Majors and Minors by MyInfo, and often referred to as a Course. You must have at least one primary unit set on MyInfo which matches to your course (eg. Bachelor of Arts in History, with primary unit set of History). See also “Unit sets” in the “Uni-speak” in this booklet.

6. Majors and Minors - How do I add or change a major or a minor?
   Second Majors and Minors can be added or changed under ‘Unit Sets’ in the Self Enrolment Steps on MyInfo. To change your course entirely will require a course transfer which can only be applied for near the end of each semester. The relevant Amend Course Details form can be found online at http://www.oss.murdoch.edu.au/forms/.

7. Part time study or Intermission – How do I study part time? How do I take a semester off?
   You only need to enrol in the number of units you wish to complete each semester. Less than 9 credit points in a semester will mean that the University considers you part time. Students can change between full time and part time study per semester, as their circumstances change. See ‘Part time/Full time’ in Uni-speak in this booklet. If you would like to take a semester or more off from studying, you should apply for an ‘Intermission of Enrolment’. The appropriate form can be found online at http://www.dse.murdoch.edu.au/admin/student/.
## Appendix A – Full Course Description

<table>
<thead>
<tr>
<th><strong>Title</strong></th>
<th><strong>Chemistry (BSc)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Division</strong></td>
<td>Science and Engineering</td>
</tr>
<tr>
<td><strong>School/Responsible Organisational Unit</strong></td>
<td>School of Chemical and Mathematical Sciences</td>
</tr>
<tr>
<td><strong>Qualifications</strong></td>
<td>Bachelor of Science (BSc) in Chemistry</td>
</tr>
<tr>
<td><strong>Credit Points for Course</strong></td>
<td>72</td>
</tr>
<tr>
<td><strong>Course Codes</strong></td>
<td>B1035</td>
</tr>
</tbody>
</table>
| **Availability** | Murdoch campus (internal)  
Some units may also be available in the following locations and attendance modes:  
Murdoch campus (external) (all but one unit) |
| **Duration** | 3 years full-time or part-time equivalent |
| **Description** | Chemistry is the science of materials, their properties and transformations. It is important as a science in its own right, and in its applications to biological, environmental, energy conservation and industrial processes.  
The degree is designed to:  
a) provide a broad and diversified base in first year, which includes the principles of mathematics, physics and chemistry;  
b) provide a sound foundation of chemical knowledge in second year; and  
c) allow students to develop specialised skills in third year.  
The structure of the Chemistry major also allows students to study specialised areas of interest as ‘minors’. These ‘minors’ can be completed in three years and will appear on your academic transcript.  
Students intending to undertake any of the listed minors should be aware that Part I prerequisites may apply. |
<p>| <strong>Special Requirements</strong> | Students enrolling in units that have a practical component must make allowance for on-campus attendance to complete the practical work. The on-campus sessions for external students are conducted during the non-teaching weeks during the semester and the dates are published in each unit guide. |
| <strong>Employment Prospects</strong> | The employment situation for graduates in the foreseeable future is good and will especially favour those who combine a broad general education in chemistry with specialised skills, or who study chemistry in combination with other disciplines. Murdoch Chemistry graduates are suited to a variety of careers in industry (industrial research, mineral and analytical chemistry), in the public service (resources, environmental matters, energy and consumer affairs), in science education or in university-level research. |
| <strong>Recommended Double Majors</strong> | Biotechnology (BSc); Computer Science (BSc); Environmental Science (BEnvSc, BSc); Extractive Metallurgy (BExtMet, BSc); Mathematics and Statistics (BSc); Molecular Biology (BSc); Physics (BSc) |
| <strong>Excluded Minors</strong> | Chemistry; Analytical Chemistry; Biomolecular Chemistry; Energy Physics; Forensic Analysis |
| <strong>Professional Recognition</strong> | Eligible for membership of the professional organisation for chemists, the Royal Australian Chemical Institute (RACI). |</p>
<table>
<thead>
<tr>
<th>Title</th>
<th>Extractive Metallurgy (BExtMet, BSc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division</td>
<td>Science and Engineering</td>
</tr>
<tr>
<td>School/Responsible Organisational Unit</td>
<td>School of Chemical and Mathematical Sciences</td>
</tr>
</tbody>
</table>
| Qualifications        | Bachelor of Extractive Metallurgy (BExtMet)  
                              Bachelor of Science (BSc) in Mineral Science |
| Credit Points for Course | 96                                    |
| Course Codes          | B1185 B1044                           |
| Availability          | Murdoch campus (internal)            
                              Some units may also be available in the following locations and attendance modes: Murdoch campus (external) |
| Duration              | 4 years full-time or part-time equivalent |
| Description           | Extractive metallurgists are expected to understand the fundamental science of mineral extraction processes, yet operate in an engineering environment, working with engineers in the design, commissioning and operation of metallurgical plants. The Bachelor of Extractive Metallurgy degree provides training in the core areas of extractive metallurgy -- mineral processing, pyrometallurgy, hydrometallurgy and process mineralogy. Units in process control and instrumentation, modelling and simulation, financial management and process economics, and environmental and operational management, bridge the science and engineering disciplines.  
                              As an alternative, students may elect to graduate with the three-year Bachelor of Science degree in Mineral Science after completing 72 points of study including eight specified Part II units from the second and third years of the Bachelor of Extractive Metallurgy. This option allows for students with interests in extractive metallurgy who wish to meet requirements of double major degrees with Chemistry, Environmental Science or other disciplines. |
| Special Requirements  | Bachelor of Extractive Metallurgy students must complete 400 hours of approved work experience and professional exposure as a requirement of the degree. Students normally meet this requirement by undertaking paid vacation employment in the mining industry. A program of site visits to mining/metallurgical operations is offered to students.  
                              Students studying externally are required to attend on-campus laboratory sessions for the laboratory-based units and these usually take the form of three- to five-day intensive sessions in non-teaching breaks. |
<p>| Employment Prospects  | Graduates can expect to find employment in mineral processing and metal extraction plants throughout Australia and overseas as plant and project metallurgists, mill superintendents, operations managers, consultants and researchers. |
| Recommended Double Majors | Double majors with Mineral Science (BSc): Chemistry (BSc); Environmental Science (BEnvSc, BSc); Law (Four-Year Degree) (LLB). |
| Excluded Minors       | Hydrometallurgy; Mineral Processing; Mineral Resources |
| Professional Recognition | Graduates (BExtMet or BSc (Mineral Science)) are eligible for professional membership of the Australasian Institute of Mining and Metallurgy. The University has been granted formal recognition by the Australasian Institute of Mining and Metallurgy of the Bachelor of Extractive Metallurgy degree. |</p>
<table>
<thead>
<tr>
<th><strong>Title</strong></th>
<th>Extractive Metallurgy (BExtMet) + Chemistry (BSc)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Division</strong></td>
<td>Science and Engineering</td>
</tr>
<tr>
<td><strong>School/Responsible Organisational Unit</strong></td>
<td>School of Chemical and Mathematical Sciences</td>
</tr>
<tr>
<td><strong>Qualifications</strong></td>
<td>Bachelor of Extractive Metallurgy (BExtMet) + Bachelor of Science (BSc) in Chemistry</td>
</tr>
<tr>
<td><strong>Credit Points for Course</strong></td>
<td>120</td>
</tr>
<tr>
<td><strong>Course Codes</strong></td>
<td>B1211</td>
</tr>
</tbody>
</table>
| **Availability** | Murdoch campus (internal)  
Some units may also be available in the following locations and attendance modes:  
Murdoch campus (external) |
| **Duration** | 5 years full-time or part-time equivalent |
| **Description** | This joint degree provides training in the core areas of chemistry and extractive metallurgy. It prepares graduates with a sound knowledge of chemistry, fundamentals of mineral extraction processes and process engineering necessary for working in an engineering environment including plant design, commissioning and operation of metallurgical plants in the mineral industry. |
| **Special Requirements** | Internet access and on-campus attendance.  
Students must complete 400 hours of approved work experience and professional exposure as a requirement of the joint degree. Students normally meet this requirement by undertaking paid vacation employment in the mining industry.  
Students studying externally are required to attend on-campus laboratory sessions for the laboratory-based units: these usually take the form of three- to five-day intensive sessions in non-teaching breaks. |
<p>| <strong>Employment Prospects</strong> | Graduates can expect to find employment in mineral processing and metal extraction plants throughout Australia and overseas as plant and project metallurgists, mill superintendents, operations managers, consultants and researchers. |
| <strong>Professional Recognition</strong> | Graduates are eligible for professional membership of the Australasian Institute of Mining and Metallurgy and the Royal Australian Chemical Institute (RACI). |
| <strong>Main Research Areas</strong> | Extractive Metallurgy and Chemistry. |</p>
<table>
<thead>
<tr>
<th>Title</th>
<th><strong>Mathematics and Statistics (BSc)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Division</td>
<td>Science and Engineering</td>
</tr>
<tr>
<td>School/Responsible Organisational Unit</td>
<td>School of Chemical and Mathematical Sciences</td>
</tr>
<tr>
<td>Qualifications</td>
<td>Bachelor of Science (BSc) in Mathematics and Statistics</td>
</tr>
<tr>
<td>Credit Points for Course</td>
<td>72</td>
</tr>
<tr>
<td>Course Codes</td>
<td>B1043</td>
</tr>
<tr>
<td>Availability</td>
<td>Murdoch campus (internal) Murdoch campus (external)</td>
</tr>
<tr>
<td>Duration</td>
<td>3 years full-time or part-time equivalent</td>
</tr>
<tr>
<td>Description</td>
<td>The focus of the Mathematics and Statistics major is on mathematical and statistical training for future employment in business, industry or government. Students may concentrate on mathematical modelling, with special emphasis given to methods and applications in the life and environmental sciences and engineering, or on applied statistics, with emphasis on methods and applications in the life and health sciences (biostatistics), the environment, commerce and industry, or students may wish to combine units from both areas. The major is designed to produce practical mathematicians and statisticians with a flexible outlook, a mix of technical skills, and an awareness of the modern uses of mathematics and statistics.</td>
</tr>
<tr>
<td>Special Requirements</td>
<td>Students completing the major externally should note that access to a suitable computer and software packages is required for some of the units.</td>
</tr>
<tr>
<td>Employment Prospects</td>
<td>This major trains students for future employment in banking, insurance, research and development, industry and government, in the computing, industrial mathematics, statistics and biostatistics areas. It provides an excellent preparation for careers in law, the health sciences, teaching and engineering when combined with studies in those areas. A shortage of numerate graduates makes mathematics and statistics graduates highly employable.</td>
</tr>
<tr>
<td>Recommended Double Majors</td>
<td>Biological Sciences (BSc); Biomedical Science (BSc); Chemistry (BSc); Computer Science (BSc); Economics (BEcon); Education (BEd) [Primary Teaching, Secondary Teaching] (4 years); Engineering (BE); Environmental Science (BEnvSc, BSc); Law (Four-Year Degree) (LLB); Physics (BSc); Psychology (BPsych, BA)</td>
</tr>
<tr>
<td>Excluded Minors</td>
<td>Applied Statistics [unless appropriate units are selected]; Mathematical Modelling [unless appropriate units are selected]; Computing Mathematics [unless appropriate units are selected]</td>
</tr>
<tr>
<td>Professional Recognition</td>
<td></td>
</tr>
<tr>
<td>Main Research Areas</td>
<td>Biostatistics, experimental design, fluid mechanics, harmonic analysis, industrial modelling, numerical analysis, robust statistics, signal processing.</td>
</tr>
</tbody>
</table>
Appendix B – Checklist of Units and Prerequisites

Chemistry (BSc)

School of Chemical and Mathematical Sciences
Bachelor of Science (BSc) in Chemistry

Course Structure — 72 points

Part I — 24 points

□ A Foundation Unit — 3 points

Core Units — 12 points

□ PEC143 Chemical Laboratory Techniques — 3 pts
  Murdoch: S1-internal, S2-internal
□ PEC152 Principles of Physics — 3 pts
  Murdoch: S1-internal, S1-external, S2-internal, S2-external
□ MAS182 Applied Mathematics — 3 pts
  Murdoch: S1-internal, S1-external, S2-internal, S2-external

OR

□ MAS161 Calculus and Matrix Algebra — 3 pts
  Murdoch: S2-internal, S2-external
□ PEC116 Chemistry for Physical Sciences — 3 pts
  Murdoch: S1-internal, S1-external, S2-internal, S2-external

Students who do not have a satisfactory level of Chemistry, as determined by the Program Chair, are required to enrol in PEC140 Introduction to Chemistry — 3 pts as a prerequisite for PEC116 Chemistry for Physical Sciences — 3 pts.

PEC114 Chemistry for Biological Sciences — 3 pts and PEC115 Chemistry for Environmental Science — 3 pts are acceptable alternatives to PEC116 Chemistry for Physical Sciences — 3 pts. However, such students will be required to do some additional reading as prescribed by the Chemistry Program Chair.

General Electives — 9 points

Select from any 100-level units offered by the University, subject to individual unit prerequisites. Students are advised to consider using these points to meet the requirements of a second major or minor. Please refer to any recommended Double Majors and Minors listed in the description of this course.

Part II — 48 points

Core Units — 28 points

□ PEC247 Physical and Inorganic Chemistry — 4 pts
  Murdoch: S1-internal, S1-external
□ PEC238 Biological Chemistry — 4 pts
  Murdoch: S2-internal, S2-external
□ PEC240 Analytical Chemistry — 4 pts
  Murdoch: S1-internal, S1-external
□ PEC201 Thermodynamics — 4 pts
  Murdoch: S2-internal, S2-external
□ PEC340 Instrumental Analysis — 4 pts
  Murdoch: S2-internal, S2-external
□ PEC347 Aquatic Chemistry — 4 pts
  Murdoch: S1-internal, S1-external
□ PEC349 Biomolecular Design — 4 pts
  Murdoch: S2-internal, S2-external

Exemption from one of the third-year Chemistry units may be granted by the Chemistry Program Chair to students who complete a double major in another cognate discipline. Students completing the Chemistry/Biotechnology double major will be exempted from PEC347 Aquatic Chemistry — 4 pts.

General Electives — 20 points

Select from any 200- to 400-level units offered by the University, subject to individual unit prerequisites. Students are advised to consider using these points to meet the requirements of a second major or minor. Please refer to any recommended Double Majors and Minors listed in the description of this course.

PREREQUISITES – CHEMISTRY (BSc)

□ PEC240 Analytical Chemistry
  M114/PEC114 Chemistry for Biological Sciences or M115/PEC115 Chemistry for Environmental Science or M116/PEC116 Chemistry for Physical Sciences.
- MAS182 Applied Mathematics  
M164/MAS164 Fundamentals of Mathematics or at least a pass in the Year 11 course Introduction to Calculus together with at least 55% in TEE Applicable Mathematics.

- PEC347 Aquatic Chemistry  
M247/PEC247 Physical and Inorganic Chemistry or M240/PEC240 Analytical Chemistry.

- PEC238 Biological Chemistry  
M114/PEC114 Chemistry for Biological Sciences or M116/PEC116 Chemistry for Physical Sciences. Students with good grades in M115/PEC115 Chemistry for Environmental Science may be admitted with the permission of the Unit Coordinator.

- PEC349 Biomolecular Design  
M238/PEC238 Biological Chemistry.

- MAS161 Calculus and Matrix Algebra  
M182/MAS182 Applied Mathematics or at least 55% in TEE Calculus or equivalent.

- PEC143 Chemical Laboratory Techniques  
A thorough knowledge of Year 12 secondary-level Chemistry is assumed. Students who did not achieve scores in the top 40 per cent of Year 12 secondary-level Chemistry within the three years immediately preceding enrolment are required to sit a direct entry test in or before Week 1 and on the basis of this may be required to pass M140/PEC140 Introduction to Chemistry before enrolling in this unit.

- PEC114 Chemistry for Biological Sciences  
A thorough knowledge of Year 12 secondary-level Chemistry is assumed. Students who did not achieve scores in the top 40 per cent of Year 12 secondary-level Chemistry within the three years immediately preceding enrolment are required to pass M140/PEC140 Introduction to Chemistry prior to enrolling.

- PEC115 Chemistry for Environmental Science  
A thorough knowledge of Year 12 secondary-level Chemistry is assumed. Students who did not achieve scores in the top 40 per cent of Year 12 secondary-level Chemistry within the three years immediately preceding enrolment are required to pass M140/PEC140 Introduction to Chemistry prior to enrolling.

- PEC116 Chemistry for Physical Sciences  
A thorough knowledge of Year 12 secondary-level Chemistry is assumed. Students who did not achieve scores in the top 40 per cent of Year 12 secondary-level Chemistry within the three years immediately preceding enrolment are required to pass M140/PEC140 Introduction to Chemistry prior to enrolling. Students who achieved marks just below the 40th percentile will be given the opportunity in week 1 to sit a chemistry test for direct entry into this unit.

- PEC340 Instrumental Analysis  
M240/PEC240 Analytical Chemistry.

- PEC140 Introduction to Chemistry  
This unit is for students with a weak background in Chemistry. Students with scores in the top 40 per cent of Year 12 Chemistry within the past three years may be excluded from the unit. A knowledge of simple algebraic techniques will be assumed.

- PEC247 Physical and Inorganic Chemistry  
M114/PEC114 Chemistry for Biological Sciences or M115/PEC115 Chemistry for Environmental Science or M116/PEC116 Chemistry for Physical Sciences; M182/MAS182 Applied Mathematics or M161/MAS161 Calculus and Matrix Algebra. M152/PEC152 Principles of Physics.

- PEC152 Principles of Physics  
TEE Physics or M120/PEC120 General Physics. TEE Applicable mathematics or M164/MAS164 Fundamentals of Mathematics and concurrent enrolment in M182/MAS182 Applied Mathematics.

- PEC201 Thermodynamics  
M161/MAS161 Calculus and Matrix Algebra or M182/MAS182 Applied Mathematics; M120/PEC120 General Physics or a score of at least 61% in TEE Physics within the last 3 years; M116/PEC116 Chemistry for Physical Sciences or PEC152 Principles of Physics, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.
Course Structure — 96 points

Part I — 24 points

□ A Foundation Unit — 3 points

Core Units — 18 points

□ PEC116 Chemistry for Physical Sciences — 3 pts
   Murdoch: S1-internal, S1-external, S2-internal, S2-external. *(Students with a weaker background in chemistry should take PEC140 Introduction to Chemistry — 3 pts [Murdoch: S1-internal, S1-external, S2-internal, S2-external] beforehand).*

□ MAS182 Applied Mathematics — 3 pts
   Murdoch: S1-internal, S1-external, S2-internal, S2-external. *(Students with a weak background in calculus should take MAS164 Fundamentals of Mathematics — 3 pts [Murdoch: S1-internal, S1-external, S2-external] or an approved calculus bridging course beforehand).*

□ MAS161 Calculus and Matrix Algebra — 3 pts
   Murdoch: S2-internal, S2-external

□ EXM130 Geological Processes — 3 pts
   Murdoch: S2-internal, S2-external

□ EXM131 Introduction to Extractive Metallurgy — 3 pts
   Murdoch: S1-internal, S1-external

□ PEC152 Principles of Physics — 3 pts
   Murdoch: S1-internal, S1-external, S2-internal, S2-external. *(Students with a weak background in physics should take PEC120 General Physics — 3 pts [Murdoch: S1-internal, S1-external, S2-external] beforehand).*

General Electives — 3 points

Select from any 100-level units offered by the University, subject to individual unit prerequisites. Students are advised to consider using these points to meet the requirements of a second major or minor. Please refer to any recommended Double Majors and Minors listed in the description of this course.

Part II — 72 points (BExtMet) or 48 points (BSc (Mineral Science))

Core Units — 68 points (BExtMet) or 32 points (BSc (Mineral Science))

Students wishing to graduate with the BSc (Mineral Science) are required to complete all units marked with an asterisk (*).

Year 2

□ MAS208 Mathematical Modelling — 4 pts
   Murdoch: S2-internal, S2-external

□ * EXM224 Principles of Unit Operations — 4 pts
   Murdoch: S1-internal, S1-external

□ * PEC247 Physical and Inorganic Chemistry — 4 pts
   Murdoch: S1-internal, S1-external

□ * PEC201 Thermodynamics — 4 pts
   Murdoch: S2-internal, S2-external

□ * EXM256 Process Mineralogy — 4 pts
   Murdoch: S2-internal, S2-external

□ MAS284 Applied Statistics and Process Management — 4 pts
   Murdoch: S1-internal, S1-external

Year 3

□ * EXM301 Mineral Processing I — 4 pts
   Murdoch: S1-internal, S1-external

□ * EXM302 Mineral Processing II — 4 pts
   Murdoch: S2-internal, S2-external

□ * EXM357 Hydrometallurgy — 4 pts
   Murdoch: S2-internal

□ * EXM358 Pyrometallurgy — 4 pts
   Murdoch: S1-internal

□ EXM333 Metallurgical Process Control and Instrumentation — 4 pts
   NA 2007

OR

□ ENG267 Control Systems and Process Dynamics — 4 pts
   Murdoch: S2-internal

□ EXM355 Mineral Resources and Environment — 4 pts
   Murdoch: S1-internal, S1-external
Year 4
- EXM225 Financial Management and Process Economics — 2 pts
  NA 2007
- EXM437 Metallurgical Research Preparation — 2 pts
  Murdoch: S1-internal
- EXM435 Advanced Topics in Extractive Metallurgy — 4 pts
  Murdoch: S1-internal
- EXM436 Process Design Project/Thesis — 12 pts
  Murdoch: S1-internal, S2-internal

General Electives — 4 points (BExtMet) or 16 points (BSc (Mineral Science))
Select from any 200- to 400-level units offered by the University, subject to individual unit prerequisites. Students are advised to consider using these points to meet the requirements of a second major or minor. Please refer to any recommended Double Majors and Minors listed in the description of this course.

PREREQUISITES — EXTRACTIVE METALLURGY (BExtMet, BSc)
- EXM435 Advanced Topics in Extractive Metallurgy
  M301/EXM301 Mineral Processing I,
  M302/EXM302 Mineral Processing II,
  M357/EXM357 Hydrometallurgy,
  M358/EXM358 Pyrometallurgy, or by permission of the Unit Coordinator.
- MAS182 Applied Mathematics
  M164/MAS164 Fundamentals of Mathematics
  or at least a pass in the Year 11 course
  Introduction to Calculus together with at least 55% in TEE Applicable Mathematics.
- MAS284 Applied Statistics and Process Management
  A basic understanding of simple descriptive statistics and elementary probability.
- MAS161 Calculus and Matrix Algebra
  M182/MAS182 Applied Mathematics or at least 55% in TEE Calculus or equivalent.
- PEC116 Chemistry for Physical Sciences
  A thorough knowledge of Year 12 secondary-level Chemistry is assumed. Students who did not achieve scores in the top 40 per cent of Year 12 secondary-level Chemistry within the three years immediately preceding enrolment are required to pass M140/PEC140 Introduction to Chemistry prior to enrolling. Students who achieved marks just below the 40th percentile will be given the opportunity in week 1 to sit a chemistry test for direct entry into this unit.
- ENG267 Control Systems and Process Dynamics
- EXM225 Financial Management and Process Economics
  Nil.
- MAS164 Fundamentals of Mathematics
  Nil.
- PEC120 General Physics
  Nil. TEE Applicable Mathematics or MAS164 Fundamentals of Mathematics are strongly recommended and may be taken concurrently.
- EXM130 Geological Processes
  No prior knowledge of geology is required. Knowledge of physical sciences at senior high school level is assumed.
- EXM357 Hydrometallurgy
  M201/PEC201 Chemical Thermodynamics, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.
- PEC140 Introduction to Chemistry
  This unit is for students with a weak background in Chemistry. Students with scores in the top 40 per cent of Year 12 Chemistry within the past three years may be excluded from the unit. A knowledge of simple algebraic techniques will be assumed.
- EXM131 Introduction to Extractive Metallurgy
  Knowledge of physical sciences at senior high school level is assumed.
- MAS208 Mathematical Modelling
  M182/MAS182 Applied Mathematics or M161/MAS161 Calculus and Matrix Algebra.
- EXM333 Metallurgical Process Control and Instrumentation
  M224/EXM224 Principles of Unit Operations; M161/MAS161 Calculus and Matrix Algebra, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy. This unit will require study at both the Murdoch and Rockingham campuses.

- EXM437 Metallurgical Research Preparation

- EXM301 Mineral Processing I
  M131/EXM131 Introduction to Extractive Metallurgy, M161/MAS161 Calculus and Matrix Algebra or M182/MAS182 Applied Mathematics, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.

- EXM302 Mineral Processing II
  M131/EXM131 Introduction to Extractive Metallurgy, M161/MAS161 Calculus and Matrix Algebra or M182/MAS182 Applied Mathematics, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.

- EXM355 Mineral Resources and Environment
  M130/EXM130 Geological Processes or approval of unit coordinator.

- PEC247 Physical and Inorganic Chemistry
  M114/PEC114 Chemistry for Biological Sciences or M115/PEC115 Chemistry for Environmental Science or M116/PEC116 Chemistry for Physical Sciences; M182/MAS182 Applied Mathematics or M161/MAS161 Calculus and Matrix Algebra. M152/PEC152 Principles of Physics.

- PEC152 Principles of Physics
  TEE Physics or M120/PEC120 General Physics. TEE Applicable mathematics or M164/MAS164 Fundamentals of Mathematics and concurrent enrolment in M182/MAS182 Applied Mathematics.

- EXM224 Principles of Unit Operations
  M182/MAS182 Applied Mathematics or M161/MAS161 Calculus and Matrix Algebra and M152/PEC152 Principles of Physics or high school physics, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.

- EXM436 Process Design Project/Thesis

- EXM256 Process Mineralogy
  M130/EXM130 Geological Processes or equivalent, or approval of the unit coordinator, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.

- EXM358 Pyrometallurgy
  M201/PEC201 Chemical Thermodynamics, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.

- PEC201 Thermodynamics
  M161/MAS161 Calculus and Matrix Algebra or M182/MAS182 Applied Mathematics; M120/PEC120 General Physics or a score of at least 61% in TEE Physics within the last 3 years; M116/PEC116 Chemistry for Physical Sciences or PEC152 Principles of Physics, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.
Extractive Metallurgy (BExtMet) + Chemistry (BSc)

School of Chemical and Mathematical Sciences
Bachelor of Extractive Metallurgy (BExtMet) + Bachelor of Science (BSc) in Chemistry

Course Structure — 120 points

Part I — 24 points
□ A Foundation Unit — 3 points

Core Units — 21 points
□ EXM131 Introduction to Extractive Metallurgy — 3 pts
Murdoch: S1-internal, S1-external
□ PEC116 Chemistry for Physical Sciences — 3 pts
Murdoch: S1-internal, S1-external, S2-internal, S2-external
□ MAS182 Applied Mathematics — 3 pts
Murdoch: S1-internal, S1-external, S2-internal, S2-external
□ EXM130 Geological Processes — 3 pts
Murdoch: S2-internal, S2-external
□ PEC152 Principles of Physics — 3 pts
Murdoch: S1-internal, S1-external, S2-internal, S2-external
□ MAS161 Calculus and Matrix Algebra — 3 pts
Murdoch: S2-internal, S2-external
□ PEC143 Chemical Laboratory Techniques — 3 pts
Murdoch: S1-internal, S2-internal

Part II — 96 points

Core Units — 84 points
□ EXM224 Principles of Unit Operations— 4 pts
Murdoch: S1-internal, S1-external
□ PEC247 Physical and Inorganic Chemistry — 4 pts
Murdoch: S1-internal, S1-external
□ PEC240 Analytical Chemistry — 4 pts
Murdoch: S1-internal, S1-external
□ PEC201 Thermodynamics — 4 pts
Murdoch: S2-internal, S2-external
□ EXM256 Process Mineralogy — 4 pts
Murdoch: S2-internal, S2-external
□ MAS208 Mathematical Modelling — 4 pts
Murdoch: S2-internal, S2-external
□ EXM301 Mineral Processing I — 4 pts
Murdoch: S1-internal, S1-external
□ MAS284 Applied Statistics and Process Management — 4 pts
Murdoch: S1-internal, S1-external
□ PEC340 Instrumental Analysis — 4 pts
Murdoch: S2-internal, S2-external
□ EXM302 Mineral Processing II — 4 pts
Murdoch: S2-internal, S2-external
□ PEC238 Biological Chemistry — 4 pts
Murdoch: S2-internal, S2-external
□ EXM358 Pyrometallurgy — 4 pts
Murdoch: S1-internal
□ PEC347 Aquatic Chemistry — 4 pts
Murdoch: S1-internal, S1-external
□ EXM333 Metallurgical Process Control and Instrumentation — 4 pts
NA 2007
OR
□ ENG267 Control Systems and Process Dynamics — 4 pts
Murdoch: S2-internal
□ EXM357 Hydrometallurgy — 4 pts
Murdoch: S2-internal
□ EXM355 Mineral Resources and Environment — 4 pts
Murdoch: S1-internal, S1-external
□ EXM435 Advanced Topics in Extractive Metallurgy — 4 pts
Murdoch: S1-internal
□ EXM225 Financial Management and Process Economics — 2 pts
NA 2007
□ EXM437 Metallurgical Research Preparation — 2 pts
Murdoch: S1-internal
□ EXM436 Process Design Project/Thesis — 12 pts
Murdoch: S1-internal, S2-internal

General Electives — 12 points
Select from any 200- to 400-level units offered by the University, subject to individual unit prerequisites. Students are advised to consider using these points to meet the requirements of a second major or minor. Please refer to any recommended Double Majors and Minors listed in the description of this course.
PREREQUISITES — EXTRACTIVE METALLURGY (BEXTMET) + CHEMISTRY (BSC)

- EXM435 Advanced Topics in Extractive Metallurgy
  M301/EXM301 Mineral Processing I,
  M302/EXM302 Mineral Processing II,
  M357/EXM357 Hydrometallurgy,
  M358/EXM358 Pyrometallurgy, or by permission of the Unit Coordinator.

- PEC240 Analytical Chemistry
  M114/PEC114 Chemistry for Biological Sciences or M115/PEC115 Chemistry for Environmental Science or M116/PEC116 Chemistry for Physical Sciences.

- MAS182 Applied Mathematics
  M164/MAS164 Fundamentals of Mathematics
  or at least a pass in the Year 11 course
  Introduction to Calculus together with at least 55% in TEE Applicable Mathematics.

- MAS284 Applied Statistics and Process Management
  A basic understanding of simple descriptive statistics and elementary probability.

- PEC347 Aquatic Chemistry
  M247/PEC247 Physical and Inorganic Chemistry or M240/PEC240 Analytical Chemistry.

- PEC238 Biological Chemistry
  M114/PEC114 Chemistry for Biological Sciences or M116/PEC116 Chemistry for Physical Sciences. Students with good grades in M115/PEC115 Chemistry for Environmental Science may be admitted with the permission of the Unit Coordinator.

- MAS161 Calculus and Matrix Algebra
  M182/MAS182 Applied Mathematics or at least 55% in TEE Calculus or equivalent.

- PEC143 Chemical Laboratory Techniques
  A thorough knowledge of Year 12 secondary-level Chemistry is assumed. Students who did not achieve scores in the top 40 per cent
  of Year 12 secondary-level Chemistry within the three years immediately preceding enrolment are required to sit a direct entry
  test in or before Week 1 and on the basis of this may be required to pass M140/PEC140 Introduction to Chemistry before enrolling in
  this unit.

- PEC116 Chemistry for Physical Sciences
  A thorough knowledge of Year 12 secondary-level Chemistry is assumed. Students who did not achieve scores in the top 40 per cent
  of Year 12 secondary-level Chemistry within the three years immediately preceding enrolment are required to pass M140/PEC140
  Introduction to Chemistry prior to enrolling. Students who achieved marks just below the 40th percentile will be given the opportunity
  in week 1 to sit a chemistry test for direct entry into this unit.

- ENG267 Control Systems and Process Dynamics
  G166/ENG166/ENG242 Engineering Mathematics II or MAS242 Engineering Mathematics or MAS161 Calculus and Matrix Algebra;
  ENG109 Computing for Scientists and Engineers; PEC152 Principles of Physics.
  Co-requisite MAS208 Mathematical Modelling.

- EXM225 Financial Management and Process Economics
  Nil.

- EXM130 Geological Processes
  No prior knowledge of geology is required. Knowledge of physical sciences at senior high school level is assumed.

- EXM357 Hydrometallurgy
  M201/PEC201 Chemical Thermodynamics, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.

- PEC340 Instrumental Analysis
  M240/PEC240 Analytical Chemistry.

- EXM131 Introduction to Extractive Metallurgy
  Knowledge of physical sciences at senior high school level is assumed.

- MAS208 Mathematical Modelling
  M182/MAS182 Applied Mathematics or M161/MAS161 Calculus and Matrix Algebra.

- EXM333 Metallurgical Process Control and Instrumentation
  M224/EXM224 Principles of Unit Operations; M161/MAS161 Calculus and Matrix Algebra,
  or enrolment in G1034 Graduate Diploma in Extractive Metallurgy. This unit will require study at both the Murdoch and Rockingham
  campuses.

- EXM437 Metallurgical Research Preparation
  M301/EXM301 Mineral Processing I,
  M302/EXM302 Mineral Processing II,
  M357/EXM357 Hydrometallurgy, and
  M358/EXM358 Pyrometallurgy.
- EXM301 Mineral Processing I  
M131/EXM131 Introduction to Extractive Metallurgy, M161/MAS161 Calculus and Matrix Algebra or M182/MAS182 Applied Mathematics, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.

- EXM302 Mineral Processing II  
M131/EXM131 Introduction to Extractive Metallurgy, M161/MAS161 Calculus and Matrix Algebra or M182/MAS182 Applied Mathematics, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.

- EXM355 Mineral Resources and Environment  
M130/EXM130 Geological Processes or approval of unit coordinator.

- PEC247 Physical and Inorganic Chemistry  
M114/PEC114 Chemistry for Biological Sciences or M115/PEC115 Chemistry for Environmental Science or M116/PEC116 Chemistry for Physical Sciences; M182/MAS182 Applied Mathematics or M161/MAS161 Calculus and Matrix Algebra. M152/PEC152 Principles of Physics.

- PEC152 Principles of Physics  
TEE Physics or M120/PEC120 General Physics. TEE Applicable mathematics or M164/MAS164 Fundamentals of Mathematics and concurrent enrolment in M182/MAS182 Applied Mathematics.

- EXM224 Principles of Unit Operations  
M182/MAS182 Applied Mathematics or M161/MAS161 Calculus and Matrix Algebra and M152/PEC152 Principles of Physics or high school physics, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.

- EXM436 Process Design Project/Thesis  

- EXM256 Process Mineralogy  
M130/EXM130 Geological Processes or equivalent, or approval of the unit coordinator, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.

- EXM358 Pyrometallurgy  
M201/PEC201 Chemical Thermodynamics, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.

- PEC201 Thermodynamics  
M161/MAS161 Calculus and Matrix Algebra or M182/MAS182 Applied Mathematics; M120/PEC120 General Physics or a score of at least 61% in TEE Physics within the last 3 years; M116/PEC116 Chemistry for Physical Sciences or PEC152 Principles of Physics, or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.
**Mathematics and Statistics (BSc)**
School of Chemical and Mathematical Sciences
*Bachelor of Science (BSc) in Mathematics and Statistics*

**Course Structure — 72 points**

**Part I — 24 points**
- □ A Foundation Unit — 3 points

**Core Units — 9 points**
- □ MAS161 Calculus and Matrix Algebra — 3 pts
  Murdoch: S2-internal, S2-external
- □ MAS167 Computational Mathematics — 3 pts
  Murdoch: S1-internal, S1-external, S2-internal, S2-external
- □ MAS183 Statistical Data Analysis and Databases — 3 pts
  Murdoch: S1-internal, S1-external, S2-internal, S2-external
  *Students without the necessary calculus background will also be required to take:*
  - □ MAS182 Applied Mathematics — 3 pts
    Murdoch: S1-internal, S1-external, S2-internal, S2-external

**General Electives — 12 points**
Select from any 100-level units offered by the University, subject to individual unit prerequisites. Students are advised to consider using these points to meet the requirements of a second major or minor. Please refer to any recommended Double Majors and Minors listed in the description of this course.

**Part II — 48 points**

**Core Units — 24 points**

*Select at least 12 points from the following:*
- □ MAS208 Mathematical Modelling — 4 pts
  Murdoch: S2-internal, S2-external
- □ MAS261 Mathematical Methods — 4 pts
  Murdoch: S1-internal, S1-external
- □ MAS278 Stochastic Models and Inference — 4 pts
  Murdoch: S2-internal, S2-external
- □ MAS230 Biostatistical Methods — 4 pts
  Murdoch: S2-internal, S2-external
- □ MAS284 Applied Statistics and Process Management — 4 pts
  Murdoch: S1-internal, S1-external

*plus at least 12 points from the following:*
Students should ensure that they have satisfied the prerequisites for their chosen 300-level units.

- □ MAS305 Environmental and Biological Modelling — 4 pts
  Murdoch: S1-internal, S1-external
- □ MAS368 Time Series and Multivariate Analysis — 4 pts
  Murdoch: S1-internal, S1-external
- □ MAS374 Statistical Design and Data Analysis — 4 pts
  Murdoch: S2-internal, S2-external
- □ MAS375 Modelling and Simulation — 4 pts
  Murdoch: S2-internal, S2-external

**General Electives — 24 points**
Select from any 200- to 400-level units offered by the University, subject to individual unit prerequisites. Students are advised to consider using these points to meet the requirements of a second major or minor. Please refer to any recommended Double Majors and Minors listed in the description of this course.

**Prerequisites — Mathematics and Statistics (BSc)**
- □ MAS182 Applied Mathematics
  - M164/MAS164 Fundamentals of Mathematics or at least a pass in the Year 11 course Introduction to Calculus together with at least 55% in TEE Applicable Mathematics.
- □ MAS284 Applied Statistics and Process Management
  - A basic understanding of simple descriptive statistics and elementary probability.
- □ MAS230 Biostatistical Methods
  - M180/MAS180 Introduction to Statistics or M183/MAS183 Statistical Data Analysis and Databases or M184/MAS184 Biostatistics and Information Retrieval.
- □ MAS161 Calculus and Matrix Algebra
  - M182/MAS182 Applied Mathematics or at least 55% in TEE Calculus or equivalent.
- □ MAS167 Computational Mathematics
  - M164/MAS164 Fundamentals of Mathematics or at least 55% in TEE Applicable Mathematics. Students with at least 65% in TEE Discrete Mathematics may also enrol in this unit.
- MAS305 Environmental and Biological Modelling
  A208/MAS208 Mathematical Modelling or M261/MAS261 Mathematical Methods.
- MAS261 Mathematical Methods
  M161/MAS161 Calculus and Matrix Algebra or A208/MAS208 Mathematical Modelling.
- MAS208 Mathematical Modelling
  M182/MAS182 Applied Mathematics or M161/MAS161 Calculus and Matrix Algebra.
- MAS375 Modelling and Simulation
  M161/MAS161 Calculus and Matrix Algebra or A208/MAS208 Mathematical Modelling or both M167/MAS167 Computational Mathematics and M182/MAS182 Applied Mathematics.
- MAS183 Statistical Data Analysis and Databases
  Nil.
- MAS374 Statistical Design and Data Analysis
- MAS278 Stochastic Models and Inference
  M180/MAS180 Introduction to Statistics OR M183/MAS183 Statistical Data Analysis and Databases OR M184/MAS184 Biostatistics and Information Retrieval OR M284/MAS284 Applied Statistics and Process Management. In addition, students must have a calculus background equivalent to at least M182/MAS182 Applied Mathematics.
- MAS368 Time Series and Multivariate Analysis
  M278/MAS278 Probability and Statistical Inference or M284/MAS284 Applied Statistics and Process Management or M230/MAS230 Biostatistical Methods. In addition, students must have a calculus background equivalent to at least M161/MAS161 Calculus and Matrix Algebra.
## Appendix C – Sample Enrolments

### Chemistry (BSc)

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td></td>
<td>Foundation Unit (see list below)</td>
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<tr>
<td></td>
<td><strong>PEC143 Chemical Laboratory Techniques</strong></td>
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<tr>
<td></td>
<td>MAS182 Applied Mathematics</td>
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<tr>
<td></td>
<td>PEC120 General Physics (only if you do not have Year 12 Physics mark 60% or over)</td>
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<td>OR</td>
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<td>(** students who did not achieve a scaled score of 60% or more for Year 12 Chemistry must enrol in PEC140 Introduction to Chemistry before taking these units)</td>
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<tr>
<td></td>
<td><strong>PEC152 Principles of Physics</strong></td>
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<td>Part I unit (General Elective)</td>
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<tr>
<td></td>
<td>Part I unit (General Elective)</td>
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<tr>
<td></td>
<td>12pts</td>
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<td></td>
<td>PEC238 Biological Chemistry</td>
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<td>PEC201 Thermodynamics</td>
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<td>Part II Unit (General Elective)</td>
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<td>Part II Unit (General Elective)</td>
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<td></td>
<td>12pts</td>
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<td>PEC247 Physical and Inorganic Chemistry</td>
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<td>PEC240 Analytical Chemistry</td>
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<td>PEC340 Instrumental Analysis</td>
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<td>PEC349 Biomolecular Design</td>
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<tr>
<td></td>
<td>PEC347 Aquatic Chemistry</td>
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<td>Part II Unit (General Elective)</td>
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<td></td>
<td>12pts</td>
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**Foundation Unit:** Select one of the following:

FDN115 Interactions of Society and Technology
FDN150 Reinventing Australia
## Extractive Metallurgy (BExtMet, BSc)

<table>
<thead>
<tr>
<th>Year</th>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
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<tbody>
<tr>
<td><strong>Year 1</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Foundation Unit (see list below)</strong></td>
<td>3pts</td>
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</tr>
<tr>
<td>EXM130 Geological Processes</td>
<td>3pts</td>
<td></td>
</tr>
<tr>
<td><strong>MAS161 Calculus and Matrix Algebra</strong></td>
<td>3pts</td>
<td></td>
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<tr>
<td>PEC140 Introduction to Chemistry (only if you did not achieve a scaled score of 60% or above in TEE Chemistry)</td>
<td>3pts</td>
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<tr>
<td>OR</td>
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<td>12pts</td>
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<tr>
<td>Part I Unit (General Elective)</td>
<td>12pts</td>
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</tr>
<tr>
<td><strong>Students wishing to graduate with the BSc (Mineral Science) must complete all units marked with an asterisk (*)</strong></td>
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<td></td>
</tr>
<tr>
<td>MAS208 Mathematical Modelling</td>
<td>4pts</td>
<td></td>
</tr>
<tr>
<td>* PEC201 Thermodynamics</td>
<td>4pts</td>
<td></td>
</tr>
<tr>
<td>* EXM256 Process Mineralogy</td>
<td>4pts</td>
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</tr>
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<td><strong>Foundation Unit:</strong> Select one of the following:</td>
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<tr>
<td>FDN115 Interactions of Society and Technology</td>
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</tr>
<tr>
<td>FDN150 Reinventing Australia</td>
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<tr>
<td><strong>Note:</strong> some Part II units are available externally in alternate years. Please check availability before enrolling.</td>
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<table>
<thead>
<tr>
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<tr>
<td>EXM131 Introduction to Extractive Metallurgy</td>
<td>3pts</td>
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<tr>
<td>PEC152 Principles of Physics (students with a weak background in physics should take PEC120 General Physics before undertaking this unit)</td>
<td>3pts</td>
</tr>
<tr>
<td>PEC116 Chemistry For Physical Sciences</td>
<td>3pts</td>
</tr>
<tr>
<td>Part I Unit (General Elective)</td>
<td>3pts</td>
</tr>
<tr>
<td><strong>Students wishing to graduate with the BSc (Mineral Science) must complete all units marked with an asterisk (*)</strong></td>
<td></td>
</tr>
<tr>
<td>MAS208 Mathematical Modelling</td>
<td>4pts</td>
</tr>
<tr>
<td>* PEC201 Thermodynamics</td>
<td>4pts</td>
</tr>
<tr>
<td>* EXM256 Process Mineralogy</td>
<td>4pts</td>
</tr>
<tr>
<td><strong>Foundation Unit:</strong> Select one of the following:</td>
<td></td>
</tr>
<tr>
<td>FDN115 Interactions of Society and Technology</td>
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<tr>
<td>FDN150 Reinventing Australia</td>
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<td><strong>Note:</strong> some Part II units are available externally in alternate years. Please check availability before enrolling.</td>
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<table>
<thead>
<tr>
<th>Year 3</th>
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</thead>
<tbody>
<tr>
<td>* EXM301 Mineral Processing I</td>
<td>4pts</td>
</tr>
<tr>
<td>* PEC247 Physical and Inorganic Chemistry</td>
<td>4pts</td>
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<tr>
<td>* EXM224 Principles of Unit Operations in Mineral Processing</td>
<td>4pts</td>
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<td><strong>Foundation Unit:</strong> Select one of the following:</td>
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<tr>
<td>FDN115 Interactions of Society and Technology</td>
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<td>FDN150 Reinventing Australia</td>
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<td><strong>Note:</strong> some Part II units are available externally in alternate years. Please check availability before enrolling.</td>
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<tbody>
<tr>
<td>* EXM358 Pyrometallurgy</td>
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<tr>
<td>EXM435 Advanced Topic in Extractive Metallurgy</td>
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<td>EXM437 Metallurgical Research Preparation</td>
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<tr>
<td>FDN115 Interactions of Society and Technology</td>
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<td>FDN150 Reinventing Australia</td>
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<tr>
<td><strong>Note:</strong> some Part II units are available externally in alternate years. Please check availability before enrolling.</td>
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<tr>
<td>MAS284 Applied Statistics and Process Management</td>
<td>4pts</td>
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<td>EXM355 Mineral Resources and Environment</td>
<td>4pts</td>
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<td>Part II Unit (General Elective)*</td>
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* Foundation Unit: Select one of the following:
  - FDN115 Interactions of Society and Technology
  - FDN150 Reinventing Australia

* Note: some Part II units are available externally in alternate years. Please check availability before enrolling.
# Extractive Metallurgy + Chemistry (BExtMet, BSc)

<table>
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<tbody>
<tr>
<td><strong>Foundation Unit (see list below)</strong></td>
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</tr>
<tr>
<td><strong>MAS161 Calculus and Matrix Algebra</strong></td>
<td><strong>3pts</strong></td>
</tr>
<tr>
<td>EXM130 Geological Processes</td>
<td><strong>3pts</strong></td>
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<tr>
<td>PEC140 Introduction to Chemistry (only if you did not achieve a scaled score of 60% or above in TEE Chemistry)</td>
<td><strong>3pts</strong></td>
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<td>OR Part I Unit (General Elective)</td>
<td><strong>12pts</strong></td>
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<tr>
<td>(** students who did not achieve a score of 60% for Year 12 Calculus must enrol in MAS182 Applied Mathematics before taking this unit)**</td>
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- | **Ye** | **Semester** |
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<tbody>
<tr>
<td><strong>Year 1</strong></td>
<td><strong>EXM131 Introduction to Extractive Metallurgy</strong></td>
<td><strong>3pts</strong></td>
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<td></td>
<td>PEC143 Chemical Laboratory Techniques</td>
<td><strong>3pts</strong></td>
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<td>PEC152 Principles of Physics (students with a weak background in physics should take PEC120 General Physics before undertaking this unit)</td>
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<td>PEC116 Chemistry for Physical Sciences</td>
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<td><strong>Year 2</strong></td>
<td>PEC238 Biological Chemistry</td>
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<td>EXM256 Process Mineralogy</td>
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<td><strong>Year 3</strong></td>
<td>EXM224 Principles of Unit Operations</td>
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<td>PEC347 Aquatic Chemistry</td>
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<td>EXM358 Pyrometallurgy</td>
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<td>EXM302 Mineral Processing II</td>
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<td>PEC333 Metallurgical Process Control &amp; Instrumentation</td>
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<td>EXM357 Hydrometallurgy</td>
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<td><strong>Year 6</strong></td>
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<td>EXM436 Process Design Project/Thesis</td>
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<td><strong>14pts</strong></td>
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**Foundation Unit:** Select one of the following:
- FDN115 Interactions of Society and Technology
- FDN150 Reinventing Australia

**Note:** some Part II units are available externally in alternate years. Please check availability before enrolling.
# Mathematics and Statistics (BSc)

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<th>Year 1</th>
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<tbody>
<tr>
<td>Foundation Unit (see list below)</td>
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<tr>
<td><strong>MAS161 Calculus and Matrix Algebra</strong></td>
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<td>MAS164 Fundamentals of Mathematics (only if you have not achieved a score of 55% or more in TEE Applicable Mathematics)</td>
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<tr>
<td>MAS182 Applied Mathematics (only if you have not achieved a score of 55% or more in TEE Calculus)</td>
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<td>(** students who did not achieve a score of 60% for Year 12 Calculus must enrol in MAS182 Applied Mathematics before taking this unit)</td>
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<tr>
<td>MAS183 Statistical Data Analysis &amp; Databases</td>
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<tbody>
<tr>
<td>Core Unit 200 Level# (see list below)</td>
<td>4pts</td>
<td>Core Unit 200 Level# (see list below)</td>
</tr>
<tr>
<td>Core Unit 200 Level# (see list below)</td>
<td>4pts</td>
<td>Core Unit 300 Level ## (see list below)</td>
</tr>
<tr>
<td>Part II Unit (General Elective)*</td>
<td>4pts</td>
<td>Part II Unit (General Elective)*</td>
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<table>
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<tr>
<th>Year 4</th>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Unit 300 Level ## (see list below)</td>
<td>4pts</td>
<td>Core Unit 300 Level ## (see list below)</td>
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<tr>
<td>Part II Unit (General Elective)*</td>
<td>4pts</td>
<td>Part II Unit (General Elective)*</td>
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## Core Unit 200 Level: Select at least 3 from the following:

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAS261 Mathematical Methods</td>
<td>MAS208 Mathematical Modelling</td>
</tr>
<tr>
<td>MAS284 Applied Statistics and Process Management</td>
<td>MAS230 Biostatistical Methods</td>
</tr>
<tr>
<td>MAS278 Probability and Statistical Inference</td>
<td></td>
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</tbody>
</table>

(Only one of MAS230 Biostatistical Methods and MAS284 Applied Statistics and Process Management can be used to satisfy this requirement, although the other may be used as a general elective).

Students should ensure that they have satisfied the prerequisites for their chosen 300-level units.

## Core Unit 300 Level: Select at least 3 from the following:

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAS305 Environmental and Biological Modelling</td>
<td>MAS374 Statistical Design and Data Analysis</td>
</tr>
<tr>
<td>MAS368 Analysis of Multivariate &amp; Time Series Data</td>
<td>MAS375 Modelling and Simulation</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Foundation Unit</strong>: Select one of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDN115 Interactions of Society and Technology</td>
</tr>
<tr>
<td>FDN150 Reinventing Australia</td>
</tr>
<tr>
<td>Semester 1</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>MAS261 Mathematical Methods</td>
</tr>
<tr>
<td>MAS284 Applied Statistics and Process Management</td>
</tr>
<tr>
<td>MAS278 Probability and Statistical Inference</td>
</tr>
</tbody>
</table>
Appendix D – Foundation Units

All Murdoch students are required to complete one Foundation Unit unless they have been awarded advanced standing and exemption for it. Check the teaching timetable for most up-to-date day, time and room location of each Foundation Unit. (http://www.murdoch.edu.au/admin/timetables/teaching/) All foundation units have Lectures: 2 hours per week; workshops/tutorials: 2 hours per week.

FDN115 Interactions of Society and Technology
Murdoch: Semester 1-internal, Semester 2-internal
Peel: Semester 1-internal
Rockingham: Semester 1-internal, semester 2-internal

Society’s constantly evolving interrelationship with technology has fundamentally changed our perception of ourselves and society. It is increasingly important for people to have a broad understanding of social, historical, ethical, economic and environmental factors that interconnect societal development with the nature of technology. FDN115 will provide students with an understanding of these important issues. Topics: histories of western culture and sciences, the nature of democracy, life cycle analysis and sustainability, political structures, cities, reproductive technologies, privacy, medicine, design and innovation.

FDN150 Reinventing Australia
Murdoch: Semester 1-internal, Semester 1-external, Semester 2-internal, Semester 2-external
Rockingham: S1-internal

Semester 2 Unit Coordinator – Dr Bradley Pettitt
As Australia is in some sense being 'reinvented' by globalisation, new technology and other forces for change, we consider just what 'Australia' is and possibilities for shaping its future. Topics: contemporary issues such as the environment, Aboriginal rights, the family and citizenship. Our aim is to identify and understand some of the salient features of Australian society.
Appendix E – Personal Study Plan

Course: (eg BSc in Chemistry) ________________________________

Major 1: (eg Chemistry) ____________________________________

Major 2: _________________________________________________

<table>
<thead>
<tr>
<th>YEAR</th>
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<th>SEMESTER 2</th>
</tr>
</thead>
<tbody>
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<td>❖</td>
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</table>

Appendix F – Personal Timetable Planner

The Murdoch Teaching Timetable website provides a facility for students to key in their unit codes (Nominated Units Inquiry) where a personal Timetable for Lectures, Workshops and Tutorials will be displayed.

http://www.murdoch.edu.au/admin/timetables/teaching/

<table>
<thead>
<tr>
<th>Day of Week</th>
<th>8.30</th>
<th>9.30</th>
<th>10.30</th>
<th>11.30</th>
<th>12.30</th>
<th>1.30</th>
<th>2.30</th>
<th>3.30</th>
<th>4.30</th>
<th>5.30</th>
<th>6.30</th>
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</table>
Appendix G – Dates & Deadlines

<table>
<thead>
<tr>
<th>Teaching Period Code</th>
<th>SEMESTER</th>
<th>YEAR-LONG</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S1</td>
<td>S2</td>
</tr>
</tbody>
</table>

**ENROLMENT**

- **Adding Internal units:**
- **Adding External units:**
- **Extending External units:**

**WITHDRAWAL**

- **Last date to withdraw without appearing on your academic record:**
- **Last date to withdraw with a WITHDRAWN outcome:**

**FEES**

- **Due date for tuition fees:**
- **Census Date at which tuition liabilities are determined:**
- **Last date to lodge a HELP form:**

Appendix H – Program Chair Contact Details

<table>
<thead>
<tr>
<th>Title</th>
<th>Contact</th>
<th>Phone (+61 8)</th>
<th>Location</th>
<th>Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry</td>
<td>Dr David Ralph</td>
<td>9360 2887</td>
<td>PS 2.011</td>
<td>Murdoch</td>
</tr>
<tr>
<td>Extractive Metallurgy</td>
<td>Dr Nimal Subasinghe</td>
<td>9360 2568</td>
<td>SC 2.037</td>
<td>Murdoch</td>
</tr>
<tr>
<td>Mathematics and Statistics</td>
<td>Professor Walter Bloom</td>
<td>9360 2143</td>
<td>SC 3.026</td>
<td>Murdoch</td>
</tr>
</tbody>
</table>

Appendix I - Enrolment queries

Enrolment advice will be provided at the Course Advice Sessions being offered in the Orientation Week. If you have attended one of these Course Advice Sessions and still have queries regarding your enrolment, please contact Christina Dyt (Science and Computing Building Room 2.026, c.dyt@murdoch.edu.au). Christina is the Manager of the Division of Science and Engineering Student Services Office and looks after all students enrolled in courses offered by the School of Chemical and Mathematical Sciences.

The New Student website (http://www.murdoch.edu.au/students/new/) will also assist you with links to enrolment procedures, sample enrolments, including unit selection for common double majors, Fees, Orientation and Services and Facilities.
## Appendix J – Handy Contacts and Websites

<table>
<thead>
<tr>
<th>Need help with:-</th>
<th>Contact</th>
<th>Email</th>
<th>Phone (+618)</th>
<th>Location Murdoch Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolment queries</td>
<td>Christina Dyt (Manager, Divisional Student Services)</td>
<td><a href="mailto:c.dyt@murdoch.edu.au">c.dyt@murdoch.edu.au</a></td>
<td>9360 2822</td>
<td>SC 2.026</td>
</tr>
<tr>
<td>General Student queries</td>
<td>Student Service Centre</td>
<td><a href="http://www.murdoch.edu.au/goto/AskTheOracle">http://www.murdoch.edu.au/goto/AskTheOracle</a></td>
<td>9360 6127</td>
<td>Chancellery 2.020</td>
</tr>
<tr>
<td>IT/MyInfo (Computer problems)</td>
<td>IT Service Desk</td>
<td><a href="mailto:itservicedesk@murdoch.edu.au">itservicedesk@murdoch.edu.au</a></td>
<td>9360 2000</td>
<td>Library (north) Level 3</td>
</tr>
<tr>
<td>Student ID/Library cards</td>
<td>IT Service Desk</td>
<td><a href="mailto:itservicedesk@murdoch.edu.au">itservicedesk@murdoch.edu.au</a></td>
<td>9360 2000</td>
<td>Library (north) Level 3</td>
</tr>
<tr>
<td>Parking Permits</td>
<td>Student Service Centre</td>
<td><a href="mailto:parking@murdoch.edu.au">parking@murdoch.edu.au</a></td>
<td>9360 6127</td>
<td>Chancellery 2.020</td>
</tr>
<tr>
<td>HECS-Help and Fees</td>
<td>Student Service Centre</td>
<td><a href="mailto:fees@murdoch.edu.au">fees@murdoch.edu.au</a></td>
<td>9360 6127</td>
<td>Chancellery 2.020</td>
</tr>
<tr>
<td>Books/Unit materials</td>
<td>Bookshop</td>
<td><a href="mailto:bookshop@murdoch.edu.au">bookshop@murdoch.edu.au</a></td>
<td>9360 2540 Fax: 9310 7365</td>
<td>Refectory Building 2.051</td>
</tr>
<tr>
<td>International Students – arrivals, visas</td>
<td>Murdoch International</td>
<td><a href="mailto:internat@murdoch.edu.au">internat@murdoch.edu.au</a></td>
<td>9360 6770</td>
<td>Senate Building 1.001</td>
</tr>
<tr>
<td>Not Sure Who can help?</td>
<td>Murdoch Reception Switchboard or “Ask the Oracle” (online)</td>
<td><a href="http://www.murdoch.edu.au/goto/AskTheOracle">http://www.murdoch.edu.au/goto/AskTheOracle</a></td>
<td>9360 6000</td>
<td>Murdoch Campus</td>
</tr>
</tbody>
</table>

### Handy Websites

- Division of Science and Engineering: [http://www.dse.murdoch.edu.au/](http://www.dse.murdoch.edu.au/)
- Guild of Students: [http://guild.murdoch.edu.au](http://guild.murdoch.edu.au)
- Library: [http://wwlib.murdoch.edu.au/](http://wwlib.murdoch.edu.au/)
- Murdoch International: [http://www.international.murdoch.edu.au](http://www.international.murdoch.edu.au)
- Murdoch University Homepage: [http://www.murdoch.edu.au](http://www.murdoch.edu.au)
- Parking and Transport: [http://www.murdoch.edu.au/index/students/P&T](http://www.murdoch.edu.au/index/students/P&T)
- Unit coordinator details (from Unit Welcome page): [http://www.murdoch.edu.au/index/units](http://www.murdoch.edu.au/index/units)