Engineering (BE)
- Bioprocess Engineering
- Electrical Power Engineering
- Industrial Computer Systems Engineering
- Renewable Energy Engineering

Engineering (BE) + Commerce (BCom)

Engineering (BE) + Science (BSc)

School of Engineering and Energy
CONTENTS

Welcome to Murdoch University

Step 1: Accept Offer and Activate Account

Step 2: Research Your Options

Step 3: Complete Your Enrolment

Step 4: Select Your Activities

Step 5: Seek Advice

Step 6: Go To Orientation and Start Uni

Step 7: Important Information and FAQs

Full Course Description
  • Bioprocess Engineering (BE)
  • Electrical Power Engineering (BE)
  • Industrial Computer Systems Engineering (BE)
  • Instrumentation and Control Engineering (BE)
  • Medical Engineering (BE)
  • Renewable Energy Engineering (BE)
  • Engineering (BE) + Commerce (BCom)
  • Engineering (BE) + Science (BSc)
Checklist of Units and Prerequisites

- Bioprocess Engineering (BE)
- Electrical Power Engineering (BE)
- Industrial Computer Systems Engineering (BE)
- Instrumentation and Control Engineering (BE)
- Medical Engineering (BE)
- Renewable Energy Engineering (BE)
- Engineering (BE) + Commerce (BCom)

Sample Enrolments

- Bioprocess Engineering (BE)
- Electrical Power Engineering (BE)
- Industrial Computer Systems Engineering (BE)
- Instrumentation and Control Engineering (BE)
- Medical Engineering (BE)
- Renewable Energy Engineering (BE)
- Engineering (BE) + Commerce (BCom)

Foundation Units
Personal Study Plan
Program Chair & Academic Contact Details
Enrolment Enquiries
Handy Contact and Websites
Welcome to Murdoch University

Congratulations on your offer of a place to study at Murdoch University.

The details included in this booklet will assist you with accepting your offer, seeking advice on your enrolment options, choosing your units and completing your enrolment online. The 7 Steps below ensure that you have the basic information you need to navigate successfully through your first enrolment experience at Murdoch. Additional enrolment assistance is available via the “New Students” website at: http://www.murdoch.edu.au/students/new/.

Students who are unable to access computer facilities due to exceptional circumstances are able to apply to receive their University correspondence via hardcopy. For further information please contact the External Studies Unit on 93602710.

STEP 1 Accept Offer and Activate Account
STEP 2 Research Your Options
STEP 3 Complete Your Enrolment
STEP 4 Select Your Activities
STEP 5 Seek Advice
STEP 6 Go To Orientation and Start Uni
STEP 7 Important Information and FAQs
STEP 1

Accept Offer and Activate Account

☐ Go to the Murdoch Home page …
… http://www.murdoch.edu.au/ and click on the “New student” tab on your screen. This will take you to our New Students website.

☐ Select the Accept & Activate icon

☐ Read the instructions …
… carefully for your offer type, then click on the “New students…walk this way” icon.

You will need your Offer Letter (Domestic students) or Confirmation of Enrolment-eCOE (International students) as this contains your Student Number.

☐ Enter your Student Number

☐ Enter your Date of Birth …
… in the format DD/MM/YYYY (eg 12/03/1985) and click the SUBMIT button.

☐ Now 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)

☐ Congratulations …
… you have accepted your place as a Murdoch student and you are now ready to select your units and complete your enrolment!
Research Your Options

☐ Read your Course/Major Description
The description will provide you with information about your course and major, including recommended double majors and minors and can be found later in this booklet.

☐ Review your Checklist and Unit Prerequisites
The Checklist is the structure of your course and the units you need to complete for your degree. It includes required prerequisites to help you plan the order of your units and can be found later in this booklet.

☐ Review the Sample Enrolments
The Sample Enrolment provides you with a pre-made study plan for your major. Some majors provide you with a choice of units in the requirement, so you may wish to create your own study plan. These can be found later in this booklet.

☐ Choose your units …
…you want to enrol in for the current year by using the information you have reviewed above from the Checklist and Sample Enrolment. You can find out about each unit in the Handbook online http://handbook.murdoch.edu.au/units/.

Part I units (100-level units) are taken in the first year. Most of the Part I units are worth 3 points each, this means you will be taking 8 units in your first year, being 4 units each semester.

Part II units (200-level and above units) are taken in the second or third year of study. Most Part II units are worth 4 points each, this means that you will be taking 6 Part II units in each of the 2nd and 3rd years, being 3 units each semester.

General Electives are ‘free choice’ units. You can use these units to meet the requirements of a second major or a minor. Use the Handbook online (http://handbook.murdoch.edu.au/) to help you search for these and for individual unit prerequisites.

☐ Check your Timetable
Generally you should find that the lectures for your core units and specified elective units will not clash, however some general elective units may not fit into your timetable. If this happens you may need to choose another general elective.

You can check the timetable for the units you have chosen for your first semester of enrolment to make sure they are not timetabled to run at the same time.
The quickest method of checking this is to refer to the online teaching timetable’s Nominated Units Enquiry website at:

Don’t panic if you are unsure of your choice of units. Do the best you can, and then seek help via:

☐ **New Student website** [http://www.murdoch.edu.au/students/new/](http://www.murdoch.edu.au/students/new/) provides more details regarding the choices of units and enrolment in units via MyInfo.

☐ Your **Course Advice Session(s)** where staff will be available to answer your queries about your course. See Step 5 for dates and time of your session.

☐ **Faculty Student Administration staff member.** You have been allocated a staff member to assist you with your enrolment queries regarding your chosen course, for contact details see Enrolment Enquires later in this booklet. Sample enrolments of popular double majors can be found on the Faculty Student Administration website [http://www.murdoch.edu.au/fsa/](http://www.murdoch.edu.au/fsa/).

☐ **Now you are ready to enrol …**
STEP 3
Complete Your Enrolment

☐ Log in to MyMurdoch ...
  … Goto the Murdoch homepage, select “Current Students” right at the top of the page then select “MyMurdoch” to access your portal to Murdoch’s online facilities using your Murdoch User Name (Student Number) and Murdoch Password (as per Step 1).

☐ Log in to MyInfo
  Click on the MyInfo tab and then click on the MyInfo Login icon and use your Murdoch User Name (Student Number) and Murdoch Password (as per Step 1). And yes, the University is working on this double login process!

What is MyInfo? MyInfo is the University’s student self enrolment and management system. Within MyInfo you can manage your enrolment including unit selection, unit set (majors, minors) enrolment and activity signup. You can also update your personal details (home and postal addresses, email address etc).

☐ Go to Self Enrolment Steps
  Within MyInfo on the left menu, click on <Change Enrolment Details> and then <Self Enrolment Steps>. Read all of the information on this page and then scroll down to the <Self Enrolment Steps> heading. Work your way through each of the steps.

Icons are used to represent the status of each Self Enrolment Step. Each step has an explanation to the process so please read each one carefully.

☐ Disclaimer – statement regarding your use of MyInfo
☐ Services – opportunity to join the Murdoch Student Guild or validate your Transperth Smartrider.
☐ Government Statistics – Government requirement to assist in forward planning.

☐ Course Completion Date
  Keeps the university informed of when you expect to graduate, so please keep this up to date as it is very important.

☐ Unit Sets (Majors and Minors)
  You will need to have at least one Unit Set recorded as your Primary Unit Set. Your Primary Unit Set must relate to the course and major you are currently enrolled under.
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 that matches the course you were offered (eg. Bachelor of Arts in History, with Primary Unit set of History).

- **Units**
  This is where you enrol in your individual units. Use the Search function to find the unit you want. You can also just type in the unit code of the unit you wish to enrol in. Do one unit at a time and **Save Changes** after each unit added. Remember to enrol in all of your units for the year.

- **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 your TFN handy or have not applied for one from the Australian Taxation Office yet you can come back to this step later, however this step must be completed by the Census Date to avoid having your course cancelled as per Commonwealth Government regulations.

- **Check your Current Enrolment Details**
  When you have enrolled in all units that you intend to take for the year you are encouraged to view your current enrolment from the Current Enrolment Details menu in MyInfo. Select `<Course and Unit Details>` and then click on the course code next to the Units heading. You will need to check that all of the units that you intend to take for the year are included.

- **Unit Status shows as ENROLLED!**
  Well done, you have enrolled in your units. Please be aware that your Course Status will remain as Inactive until semester begins.

If you have any trouble getting into or navigating your way around MyMurdoch or MyInfo or have a technical issue, check out the Help link or contact the IT Service Desk ([itservicedesk@murdoch.edu.au](mailto:itservicedesk@murdoch.edu.au), p: 93602000 or Level 2, North Wing, Library).
STEP 4

Select Your Activities

What are Activities? Activities are the collective term used for lectures, tutorials, workshops, seminars and laboratories and only relate to internal units. There are no Activities for external units.

- **Sign up for your Activities**
  You will need to have completed your Unit Enrolment (Step 3) before you can sign up to the associated activities.

  Log in to MyMurdoch and then MyInfo as per Step 3. On the left menu, click on *<Change Enrolment Details>* and then *<Activity Sign Up>*. Read all of the information as it will tell you when the Activity Sign Up function is open.

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

  Click on *<Add or Change Activities>*. Read all of the information and then scroll down to see your Unit enrolments and the available activities.

- **Select Activities**
  Make your selections for the different activities. It is recommended that you start with all your lectures first and save. Then choose the other associated activities for each unit, saving as you go. Be sure you also note the start week for each activity as they may not all start from Week 1 of Semester.

- **View Personal Calendar**
  Click on the MyUnits page of MyMurdoch to see all of your activities displayed on your Personal Calendar, in a week-by-week format. Please note that it may take 15 minutes or more for any enrolment changes to be reflected in the calendar.
Your Program Chair(s) will advise you on the requirements of your course and answer any unit selection and enrolment queries at your Course Advice Session held during Orientation Week. This session will provide you with valuable information relating to your course, units and enrolment options and it is therefore essential that you attend.

☐ **When and Where is your Course Advice Session?**

The full Orientation week program is available online and can be viewed at [www.murdoch.edu.au/students/new/orientation](http://www.murdoch.edu.au/students/new/orientation).

For further information on all events and sessions occurring during Orientation week see the timetable at: [http://www.murdoch.edu.au/students/new/orientation.html](http://www.murdoch.edu.au/students/new/orientation.html).

There are online maps of the three campuses for Murdoch at [http://www.murdoch.edu.au/index/visitors/wherearewe#campuses](http://www.murdoch.edu.au/index/visitors/wherearewe#campuses). The maps will provide details of where the course advice venues are.

If you are still unsure of your choice of units after you have read this booklet and you have attended the relevant Course Advice Session you can email or phone your Faculty Student Administration staff member with details of your query.
The Orientation program has been designed to meet your specific needs as a new student to Murdoch University and will help you with a smooth transition to University studies. To experience and benefit from all the advice that is available during Orientation week you would be required to attend the 2 days scheduled for you. We encourage you to take advantage of this time to familiarise yourself with the campus, the support services available and to make friends and enjoy yourselves.

You can check the full orientation timetable ([http://www.murdoch.edu.au/students/new/orientation.html](http://www.murdoch.edu.au/students/new/orientation.html)) for event and Course Advice Session details.

Orientation Week will commence on Sunday 26th July. Closer to this date you will be sent detailed information on the events and session happening during Orientation Week that you need to attend.
Important Information and FAQs

**General Electives – What are they, where can I find them?** A General Elective is a unit that is not a required unit (that is not a 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. 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 complete list of units available [http://handbook.murdoch.edu.au/units/](http://handbook.murdoch.edu.au/units/).

**Units – Which units do I need to do and how do I know that I have enrolled in the right units?** Your Checklist of Units and Prerequisites and Sample Enrolment in this booklet show you which are your required units. The Sample Enrolments for other majors are available from the Faculty Student Administration website [http://www.murdoch.edu.au/fsa/](http://www.murdoch.edu.au/fsa/).

**Invalid Units – Why is my unit enrolment INVALID?** Beside the invalid unit, you will find a grey button labelled ‘Why is this Invalid?’. When you click on this button, 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 Faculty Student Administration staff member.

**Activities – How do I sign up & what do I do if they are full?** Use Step 4 to assist you with your Activity sign up within the MyInfo part of MyMurdoch. If your chosen Activity is full, there are three options available: review your whole timetable to check if you can change to another unit, consider doing a unit externally (if available), or contact the Unit Coordinator if you have exceptional circumstances. Unit Coordinator contact details can be found by entering the unit code in the search bar on the MyUnits page of MyMurdoch.

**Where can I find my credit and exemptions (Advanced Standing)?** If you have notified the University that you wish to be assessed for Advanced Standing (either on your application or via contact with the Accreditation Officer), your credit and exemptions will be shown on the MyInfo part of MyMurdoch. Go to ‘Current Enrolment Details’, select `<Course and Unit Details>`, scroll down the list to ‘Advanced Standing’ and click on course code next to this heading (eg B1137). Allow at least 10 working days from receipt by the University of your application and supporting documentation before this information will be available on your enrolment record. Should you have any queries regarding Advanced Standing you should contact the Accreditation Officer.
Enrolment Deadlines – Internal and External units. You will be expected to enrol in all your units for the current year as soon as possible. The last date to add a unit is the end of Week 1 of Semester. For external units, the mail-out of unit materials will commence two weeks prior to the start of each Semester, so you should enrol in your external units as soon as possible. If you enrol in an external unit you should allow up to 10 days from the date you enrolled to receive your materials.

University Regulations and Rules Students should ensure they are familiar with the University’s internal legislation, including provisions specifically relevant to their studies. University Regulations and Rules - see http://www.murdoch.edu.au/admin/legsln/

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

Email Account & Correspondence The University’s primary form of contact with students is via email. The University automatically provides you with an email address, (yourstudentnumber@student.murdoch.edu.au) and you can access this email account at: https://wwwstudent.murdoch.edu.au/mail using your Murdoch User name and Password (same as MyMurdoch). You can choose to use a different email account, for example a Yahoo account. It is essential that you keep the email address listed in the MyInfo page of MyMurdoch up to date so that you receive important communications from your lecturers and the University.

Cancellation of Courses, Minors and Units The University reserves the right to cancel, without notice, any course, major, minor or unit if the number of students enrolled falls below limits set by the University

Glossary A general summary to help you with some of the more common terms that you will come across as you plan your studies can be found on the Faculty Student Administration web page. A full list of Murdoch terminology and relevant regulation requirements can be found in the Murdoch Glossary (http://handbook.murdoch.edu.au/2008/09_glossary.pdf).
<table>
<thead>
<tr>
<th><strong>Bioprocess Engineering (BE) – Course Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School</strong></td>
</tr>
<tr>
<td><strong>Qualifications</strong></td>
</tr>
<tr>
<td><strong>Credit Points for Course</strong></td>
</tr>
<tr>
<td><strong>Course Codes</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
</tr>
<tr>
<td><strong>Special Requirements</strong></td>
</tr>
<tr>
<td><strong>Professional Recognition</strong></td>
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<tr>
<td><strong>Electrical Power Engineering (BE) – Course Description</strong></td>
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<td><strong>Special Requirements</strong></td>
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<td><strong>Credit Points for Course</strong></td>
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<td><strong>Course Codes</strong></td>
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<td><strong>Special Requirements</strong></td>
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<td><strong>Professional Recognition</strong></td>
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<td><strong>Medical Engineering (BE) – Course Description</strong></td>
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<td><strong>Qualifications</strong></td>
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<td><strong>Special Requirements</strong></td>
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<td><strong>Professional Recognition</strong></td>
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<td><strong>Renewable Energy Engineering (BE) – Course Description</strong></td>
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<td><strong>Special Requirements</strong></td>
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<td><strong>Professional Recognition</strong></td>
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<td><strong>Special Requirements</strong></td>
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<td><strong>Professional Recognition</strong></td>
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<td><strong>Professional Recognition</strong></td>
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### Course Structure — 96 points

#### Course Prerequisites

**Chemistry Background**
Students may need to complete one prerequisite unit depending on their background in chemistry and their final scaled core in TEE Chemistry within the past three years.

- TEE Chemistry with a final scaled score of 60% or more
- PEC140 Introduction to Chemistry — 3 pts
  
  - Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

Students who have completed previous chemistry not stated above should consult the Program Chair for clarification of their enrolment requirements.

**Mathematics Background**
Students may need to complete one prerequisite unit depending on their background in mathematics and their final scaled score in TEE Applicable Mathematics and Year 11 Introduction to Calculus.

- TEE Applicable Mathematics with a final scaled score of 55% or more and Year 11 Introduction to Calculus, within the past three years
- MAS164 Fundamentals of Mathematics — 3 pts
  
  - Murd: S1-Int, S1-Ext, S2-Int

Students who have completed previous mathematics not stated above should consult the Program Chair for clarification of their enrolment requirements.

**Physics Background**
Students may need to complete one prerequisite unit depending on their background in physics and their final scaled score in TEE Physics within the past three years.

- TEE Physics with a final scaled score of 60% or more
- PEC120 General Physics — 3 pts
  
  - Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

Students who have completed previous physics not stated above should consult the Program Chair for clarification of their enrolment requirements.

#### Part I — 24 points

- **Foundation Unit** — 3 pts
  
  Select one Foundation Unit from the Foundation Units section in this Handbook.

#### Core Units — 21 points

- **MAS182 Applied Mathematics** — 3 pts
  
  - Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

- **PEC144 Chemical Principles** — 3 pts
  
  - Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

- **ENG141 Design Concepts in Science and Engineering** — 3 pts
  
  - Murd: S1-Int

- **ENG109 Computing for Scientists and Engineers** — 3 pts
  
  - Murd: S2-Int

- **MAS161 Calculus and Matrix Algebra** — 3 pts
  
  - Murd: S2-Int, S2-Ext

- **PEC152 Principles of Physics** — 3 pts
  
  - Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

#### Part II — 72 points

- **Core Units** — 60 points

  - **ENG241 Principles of Process Engineering** — 4 pts
    
    - Murd: S1-Int

  - **MAS284 Applied Statistics and Process Management** — 4 pts
    
    - Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

  - **BIO263 Microbiology I** — 4 pts
    
    - Murd: S1-Int

  - **MAS208 Mathematical Modelling** — 4 pts
    
    - Murd: S2-Int, S2-Ext

  - **PEC238 Biological Chemistry** — 4 pts
    
    - Murd: S2-Int, S2-Ext

  - **ENG267 Control Systems and Process Dynamics** — 4 pts
    
    - Murd: S2-Int, W-Int

  - **PEC201 Thermodynamics** — 4 pts
    
    - Murd: S2-Int, S2-Ext

  - **ENG303 Advanced Process Engineering** — 4 pts
    
    - Murd: S1-Int

  - **EXM224 Principles of Unit Operations** — 4 pts
    
    - Murd: S1-Int, S1-Ext

  - **BIO301 Industrial Bioprocessing and Bioremediation** — 4 pts
    
    - Murd: S2-Int

  - **ENG428 Engineering Design** — 4 pts
    
    - Murd: S1-Int, S2-Int

  - **ENG453 Engineering Law, Management and Ethics** — 4 pts
    
    - Murd: S1-Int, SUM-Int

  - **ENG450 Engineering Internship** — 12 pts
    
    - Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int

  - **ENG460 Engineering Thesis** — 12 pts
    
    - Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int

  **Either**

  - **ENG450 Engineering Internship** — 12 pts
    
    - Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int

  **OR**

  - **ENG460 Engineering Thesis** — 12 pts
    
    - Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int

#### Specified Electives — 12 points

In order to obtain professional accreditation, students must undertake units that are acceptable to Engineers Australia. Choose any units at Part II from the other Engineering majors or other Part II units with permission of the Engineering Program Chair.

### PREREQUISITES — BIOPROCESS ENGINEERING (BE)

- **Advanced Process Engineering (ENG303)**
  Prerequisites: ENG241 Principles of Process Engineering.

- **Applied Mathematics (MAS182)**
  Prerequisites: M164/MAS164 Fundamentals of Mathematics or at least a pass in the Year 11 course Introduction to Calculus together with a final scaled score of 55% or more in TEE Applicable Mathematics.

- **Applied Statistics and Process Management (MAS284)**
  Prerequisites: A basic understanding of simple descriptive statistics and elementary probability.
Biological Chemistry (PEC238)  
Prerequisites: PEC114 Chemistry for Biological Sciences or PEC116 Chemistry for Physical Sciences or PEC144 Chemical Principles. Students with good grades in PEC115 Chemistry for Environmental Science may be admitted with the permission of the Unit Coordinator.

Calculus and Matrix Algebra (MAS161)  
Prerequisites: M182/MAS182 Applied Mathematics or a final scaled score of 55% or more in TEE Calculus or equivalent.

Cell Biology (BIO152)  
Prerequisites: A thorough knowledge of Year 12 secondary level Chemistry is assumed. Students who did not achieve a final scaled score of 61% or more in TEE Chemistry within the three years immediately preceding enrolment are required to pass M140/PEC140 Introduction to Chemistry or PEC144 Chemical Principles or M114/PEC114 Chemistry for Biological Sciences or M115/PEC115 Chemistry for Environmental Science or M116/PEC116 Chemistry for Physical Sciences prior to enrolling.

Chemical Principles (PEC144)  
Prerequisites: A thorough knowledge of Year 12 secondary-level chemistry is assumed. Students who did not achieve a final scaled score of 60% or more in TEE Chemistry within the three years immediately preceding enrolment are required to pass PEC140 Introduction to Chemistry prior to enrolling. Students who are unsure of their status should consult the Chemistry Program Chair.

Computing for Scientists and Engineers (ENG109)  
Prerequisites: Nil.

Control Systems and Process Dynamics (ENG267)  
Prerequisites: ENG109 Computing for Scientists and Engineers; PEC152 Principles of Physics; MAS161 Calculus and Matrix Algebra or co-requisite MAS208 Mathematical Modelling.

Design Concepts in Science and Engineering (ENG141)  
Prerequisites: Nil.

Engineering Design (ENG428)  
Prerequisites: Completion of all required third year Engineering units.

Engineering Internship (ENG450)  
Prerequisites: Permission of Engineering Program Chair.

Engineering Law, Management and Ethics (ENG453)  
Prerequisites: Completion of 40 or more points at Part II.

Engineering Thesis (ENG460)  
Prerequisites: Permission of Engineering Program Chair.

Fundamentals of Mathematics (MAS164)  
Prerequisites: Nil.

General Physics (PEC120)  
Prerequisites: Nil. TEE Applicable Mathematics or MAS164 Fundamentals of Mathematics are strongly recommended and may be taken concurrently.

Industrial Bioprocessing and Bioremediation (BIO301)  
Prerequisites: N263/BIO263 Microbiology I and either successful completion or concurrent enrolment in N270/BIO270 Biochemistry I. For Bioprocess Engineering students the prerequisite is BIO263 Microbiology I and PEC238 Biological Chemistry.

Introduction to Chemistry (PEC140)  
Prerequisites: This unit is for students with a weak background in chemistry. Students with a final scaled score of more than 60% in TEE Chemistry within the past three years may be excluded from the unit. A knowledge of basic mathematics will be assumed.

Mathematical Modelling (MAS208)  
Prerequisites: M182/MAS182 Applied Mathematics or M161/MAS161 Calculus and Matrix Algebra.

Microbiology I (BIO263)  
Prerequisites: N152/BIO152 Cell Biology.

Principles of Physics (PEC152)  
Prerequisites: Concurrent enrolment in MAS182 Applied Mathematics or MAS161 Calculus and Matrix Algebra; plus a final scaled score of 60% or more in TEE Physics or M120/PEC120 General Physics.

Principles of Process Engineering (ENG241)  
Prerequisites: MAS182 Applied Mathematics or MAS161 Calculus and Matrix Algebra; PEC140 Introduction to Chemistry or PEC144 Chemical Principles.

Principles of Unit Operations (EXM224)  
Prerequisites: 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.

Thermodynamics (PEC201)  
Prerequisites: MAS161 Calculus and Matrix Algebra or MAS182 Applied Mathematics or MAS183 Statistical Data Analysis and Databases; PEC152 Principles of Physics; PEC114 Chemistry for Biological Sciences or PEC115 Chemistry for Environmental Science or PEC116 Chemistry for Physical Sciences or PEC144 Chemical Principles or enrolment in G1034 Graduate Diploma in Extractive Metallurgy.

Cancellation of Course, Minors and Units: The University reserves the right to cancel, without notice, any course, major, minor or unit if the number of students enrolled falls below the limits set by the University.
ELECTRICAL POWER ENGINEERING (BE)

Checklist of Units and Prerequisites 2009

School of Engineering and Energy

Bachelor of Engineering (BE) in Electrical Power Engineering

Course Structure — 96 points

Course Prerequisites

Mathematics Background

Students may need to complete one prerequisite unit depending on their background in mathematics and their final scaled score in either TEE Calculus, or TEE Applicable Mathematics and Year 11 Introduction to Calculus within the past three years.

TEE Applicable Mathematics with a final scaled score of 55% or more

OR

MAS164 Fundamentals of Mathematics — 3 pts

Murd: S1-Int, S1-Ext, S2-Int

Students who have completed previous mathematics not stated above should consult the Program Chair for clarification of their enrolment requirements.

Physics Background

Students may need to complete one prerequisite unit depending on their background in physics and their final scaled score in TEE Physics within the past three years.

TEE Physics with a final scaled score of 60% or more

OR

PEC120 General Physics — 3 pts

Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

Students who have completed previous physics not stated above should consult the Program Chair for clarification of their enrolment requirements.

Part I — 24 points

Foundation Unit — 3 points

Select one Foundation Unit from the Foundation Units section in this Handbook.

Core Units — 21 points

PEC152 Principles of Physics — 3 pts

Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

MAS182 Applied Mathematics — 3 pts

Murd: S1-Int, S1-Ext, S2-Ext

ENG141 Design Concepts in Science and Engineering — 3 pts

Murd: S1-Int

ENG109 Computing for Scientists and Engineers — 3 pts

Murd: S2-Int

MAS161 Calculus and Matrix Algebra — 3 pts

Murd: S2-Int, S2-Ext

ENG125 Circuits and Systems I — 3 pts

Murd: S2-Int

PEC144 Chemical Principles — 3 pts

Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

PEC140 Introduction to Chemistry — 3 pts

Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

Students who have not achieved TEE Chemistry with a final scaled score of 60% or more should enrol in PEC140 Introduction to Chemistry — 3 pts

Part II — 72 points

Core Units — 56 points

ENG241 Principles of Process Engineering — 4 pts

Murd: S1-Int

MAS284 Applied Statistics and Process Management — 4 pts

Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

ENG243 Circuits and Systems II — 4 pts

Murd: S1-Int

MAS261 Mathematical Methods — 4 pts

Murd: S1-Int, S1-Ext

ENG262 Principles of Electronic Instrumentation — 4 pts

Murd: S2-Int, SUM-Int

ENG267 Control Systems and Process Dynamics — 4 pts

Murd: S2-Int, W-Int

ENG453 Engineering Law, Management and Ethics — 4 pts

Murd: S1-Int, SUM-Int

ENG450 Engineering Internship — 12 pts

Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int

ENG460 Engineering Thesis — 12 pts

Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int

ENG347 Electromechanical Energy Conversion — 4 pts

Murd: S1-Int

ENG348 Power Transmission and Distribution Networks — 4 pts

Murd: S2-Int

ENG349 Power Electronic Converters and Systems — 4 pts

Murd: S1-Int, S2-Int

ENG455 Operation and Control of Power Systems — 4 pts

Murd: S1-Int

Either

ENG450 Engineering Internship — 12 pts

Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int

OR

ENG460 Engineering Thesis — 12 pts

Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int

ENG347 Electromechanical Energy Conversion — 4 pts

Murd: S1-Int

ENG348 Power Transmission and Distribution Networks — 4 pts

Murd: S2-Int

ENG349 Power Electronic Converters and Systems — 4 pts

Murd: S1-Int, S2-Int

ENG455 Operation and Control of Power Systems — 4 pts

Murd: S1-Int

Specified Electives — 16 points

Select units not already taken above or other Part II units with permission of the Engineering Program Chair. In order to obtain professional accreditation in Australia, students must undertake units that are acceptable to Engineers Australia. The units may be selected to complete a second Engineering major.
PREREQUISITES — ELECTRICAL POWER ENGINEERING (BE)

☐ Applied Mathematics (MAS182)
  Prerequisites: M164/MAS164 Fundamentals of Mathematics or at least a pass in the Year 11 course Introduction to Calculus together with a final scaled score of 55% or more in TEE Applicable Mathematics.

☐ Applied Statistics and Process Management (MAS284)
  Prerequisites: A basic understanding of simple descriptive statistics and elementary probability.

☐ Calculus and Matrix Algebra (MAS161)
  Prerequisites: M182/MAS182 Applied Mathematics or a final scaled score of 55% or more in TEE Calculus or equivalent.

☐ Chemical Principles (PEC144)
  Prerequisites: A thorough knowledge of Year 12 secondary-level chemistry is assumed. Students who did not achieve a final scaled score of 60% or more in TEE Chemistry within the three years immediately preceding enrolment are required to pass PEC140 Introduction to Chemistry prior to enrolling. Students who are unsure of their status should consult the Chemistry Program Chair.

☐ Circuits and Systems I (ENG125)

☐ Circuits and Systems II (ENG243)
  Prerequisites: ENG125 Circuits and Systems I; MAS161 Calculus and Matrix Algebra.

☐ Computing for Scientists and Engineers (ENG109)
  Prerequisites: Nil.

☐ Control Systems and Process Dynamics (ENG267)
  Prerequisites: ENG109 Computing for Scientists and Engineers; PEC152 Principles of Physics; MAS161 Calculus and Matrix Algebra or co-requisite MAS208 Mathematical Modelling.

☐ Design Concepts in Science and Engineering (ENG141)
  Prerequisites: Nil.

☐ Electromechanical Energy Conversion (ENG347)
  Prerequisites: PEC152 Principles of Physics; MAS161 Calculus and Matrix Algebra; ENG243 Circuits and Systems II.

☐ Engineering Internship (ENG450)
  Prerequisites: Permission of Engineering Program Chair.

☐ Engineering Law, Management and Ethics (ENG453)
  Prerequisites: Completion of 40 or more points at Part II.

☐ Engineering Thesis (ENG460)
  Prerequisites: Permission of Engineering Program Chair.

☐ Fundamentals of Mathematics (MAS164)
  Prerequisites: Nil.

☐ General Physics (PEC120)
  Prerequisites: Nil. TEE Applicable Mathematics or MAS164 Fundamentals of Mathematics are strongly recommended and may be taken concurrently.

☐ Introduction to Chemistry (PEC140)
  Prerequisites: This unit is for students with a weak background in chemistry. Students with a final scaled score of more than 60% in TEE Chemistry within the past three years may be excluded from the unit. A knowledge of basic mathematics will be assumed.

☐ Mathematical Methods (MAS261)
  Prerequisites: M161/MAS161 Calculus and Matrix Algebra or A208/MAS208 Mathematical Modelling.

☐ Operation and Control of Power Systems (ENG455)

☐ Power Electronic Converters and Systems (ENG349)

☐ Power Transmission and Distribution Networks (ENG348)
  Prerequisites: ENG243 Circuits and Systems II; MAS261 Mathematical Methods.

☐ Principles of Electronic Instrumentation (ENG262)
  Prerequisites: MAS182 Applied Mathematics and ENG125 Circuits and Systems I.

☐ Principles of Physics (PEC152)
  Prerequisites: Concurrent enrolment in MAS182 Applied Mathematics or MAS161 Calculus and Matrix Algebra; plus a final scaled score of 60% or more in TEE Physics or M120/PEC120 General Physics.

☐ Principles of Process Engineering (ENG241)
  Prerequisites: MAS182 Applied Mathematics or MAS161 Calculus and Matrix Algebra; PEC140 Introduction to Chemistry or PEC144 Chemical Principles.
INDUSTRIAL COMPUTER SYSTEMS ENGINEERING (BE) CHECKLIST OF UNITS AND PREREQUISITES 2009

School of Engineering and Energy
Bachelor of Engineering (BE) in Industrial Computer Systems Engineering

Course Structure — 96 points

Course Prerequisites

Mathematics Background
Students may need to complete one prerequisite unit depending on their background in mathematics and their final scaled score in either TEE Calculus, or TEE Applicable Mathematics and Year 11 Introduction to Calculus within the past three years.

TEE Applicable Mathematics with a final scaled score of 55% or more and Year 11 Introduction to Calculus

OR

MAS164 Fundamentals of Mathematics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int

Students who have completed previous mathematics not stated above should consult the Program Chair for clarification of their enrolment requirements.

Physics Background
Students may need to complete one prerequisite unit depending on their background in physics and their final scaled score in TEE Physics within the past three years.

TEE Physics with a final scaled score of 60% or more

OR

PEC120 General Physics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

Students who have completed previous physics not stated above should consult the Program Chair for clarification of their enrolment requirements.

Part I — 24 points

Foundation Unit — 3 points
Select one Foundation Unit from the Foundation Units section in this Handbook.

Core Units — 21 points

PEC152 Principles of Physics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

MAS182 Applied Mathematics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

ENG141 Design Concepts in Science and Engineering — 3 pts
Murd: S1-Int

ENG109 Computing for Scientists and Engineers — 3 pts
Murd: S2-Int

MAS161 Calculus and Matrix Algebra — 3 pts
Murd: S2-Int, S2-Ext

ENG125 Circuits and Systems I — 3 pts Murd: S2-Int

PEC144 Chemical Principles — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

OR

PEC140 Introduction to Chemistry — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

Students who have not achieved TEE Chemistry with a final scaled score of 60% or more should enrol in P EC140 Introduction to Chemistry — 3 pts

Part II — 72 points

Core Units — 56 points

ENG241 Principles of Process Engineering — 4 pts
Murd: S1-Int

MAS284 Applied Statistics and Process Management — 4 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

ENG243 Circuits and Systems II — 4 pts
Murd: S1-Int

MAS261 Mathematical Methods — 4 pts
Murd: S1-Int, S1-Ext

ENG262 Principles of Electronic Instrumentation — 4 pts
Murd: S2-Int, SUM-Int

ENG267 Control Systems and Process Dynamics — 4 pts
Murd: S2-Int, W-Int

ENG453 Engineering Law, Management and Ethics — 4 pts
Murd: S1-Int, SUM-Int

ENG450 Engineering Internship — 12 pts
Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int

ENG454 Industrial Computer Systems Design — 4 pts
Murd: S1-Int

Murdoch students

ENG305 PLC Systems — 4 pts Murd: S1-Int

ENG345 SCADA and Instrument Systems — 4 pts
Murd: S2-Int

ENG306 Real Time and Embedded Systems — 4 pts
Murd: S2-Int

Republic Polytechnic students

ENG333 Engineering Studio: PLC and SCADA Systems — 6 pts
SGP-REPOLY: T2J-Int

ENG334 Engineering Studio: Real Time and Embedded Systems — 6 pts
SGP-REPOLY: SS2-Int

Specified Electives — 16 points

Select units not already taken above or other Part II units with permission of the Engineering Program Chair. In order to obtain professional accreditation in Australia, students must undertake units that are acceptable to Engineers Australia. The units may be selected to complete a second Engineering major.

PREREQUISITES — INDUSTRIAL COMPUTER SYSTEMS ENGINEERING (BE)

Applied Mathematics (MAS182)

Prerequisites: M164/MAS164 Fundamentals of Mathematics or at least a pass in the Year 11 course Introduction to Calculus together with a final scaled score of 55% or more in TEE Applicable Mathematics.
- Applied Statistics and Process Management (MAS284)
  Prerequisites: A basic understanding of simple descriptive statistics and elementary probability.

- Calculus and Matrix Algebra (MAS161)
  Prerequisites: M182/MAS182 Applied Mathematics or a final scaled score of 55% or more in TEE Calculus or equivalent.

- Chemical Principles (PEC144)
  Prerequisites: A thorough knowledge of Year 12 secondary-level chemistry is assumed. Students who did not achieve a final scaled score of 60% or more in TEE Chemistry within the three years immediately preceding enrolment are required to pass PEC140 Introduction to Chemistry prior to enrolling. Students who are unsure of their status should consult the Chemistry Program Chair.

- Circuits and Systems I (ENG125)

- Circuits and Systems II (ENG243)
  Prerequisites: ENG125 Circuits and Systems 1; MAS161 Calculus and Matrix Algebra.

- Computing for Scientists and Engineers (ENG109)
  Prerequisites: Nil.

- Control Systems and Process Dynamics (ENG267)
  Prerequisites: ENG109 Computing for Scientists and Engineers; PEC152 Principles of Physics; MAS161 Calculus and Matrix Algebra or corequisite MAS208 Mathematical Modelling.

- Design Concepts in Science and Engineering (ENG141)
  Prerequisites: Nil.

- Engineering Internship (ENG450)
  Prerequisites: Permission of Engineering Program Chair.

- Engineering Law, Management and Ethics (ENG453)
  Prerequisites: Completion of 40 or more points at Part II.

- Engineering Studio: PLC and SCADA Systems (ENG333)
  Prerequisites: G267/ENG267 Control Systems and Process Dynamics, G262/ENG262 Principles of Electronic Instrumentation.

- Engineering Studio: Real Time and Embedded Systems (ENG334)
  Prerequisites: G267/ENG267 Control Systems and Process Dynamics, G262/ENG262 Principles of Electronic Instrumentation.

- Engineering Thesis (ENG460)
  Prerequisites: Permission of Engineering Program Chair.

- Fundamentals of Mathematics (MAS164)
  Prerequisites: Nil.

- General Physics (PEC120)
  Prerequisites: Nil. TEE Applicable Mathematics or MAS164 Fundamentals of Mathematics are strongly recommended and may be taken concurrently.

- Industrial Computer Systems Design (ENG454)
  Prerequisites: ENG305 PLC Systems; ENG306 Realtime and Embedded Systems; ENG345 SCADA and Instrument Systems.

- Introduction to Chemistry (PEC140)
  Prerequisites: This unit is for students with a weak background in chemistry. Students with a final scaled score of more than 60% in TEE Chemistry within the past three years may be excluded from the unit. A knowledge of basic mathematics will be assumed.
INSTRUMENTATION AND CONTROL ENGINEERING (BE) CHECKLIST OF UNIT AND PREREQUISITES 2009

School of Engineering and Energy
Bachelor of Engineering (BE) in Instrumentation and Control Engineering

Course Structure — 96 points

Course Prerequisites

Mathematics Background
Students may need to complete one prerequisite unit depending on their background in mathematics and their final scaled score in either TEE Calculus, or TEE Applicable Mathematics and Year 11 Introduction to Calculus within the past three years.

TEE Applicable Mathematics with a final scaled score of 55% or more and Year 11 Introduction to Calculus
OR
MAS164 Fundamentals of Mathematics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int
Students who have completed previous mathematics not stated above should consult the Program Chair for clarification of their enrolment requirements.

Physics Background
Students may need to complete one prerequisite unit depending on their background in physics and their final scaled score in TEE Physics within the past three years.

TEE Physics with a final scaled score of 60% or more
OR
PEC120 General Physics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext
Students who have completed previous physics not stated above should consult the Program Chair for clarification of their enrolment requirements.

Part I — 24 points

Foundation Unit — 3 points
Select one Foundation Unit from the Foundation Units section in this Handbook.

Core Units — 21 points

PEC152 Principles of Physics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

MAS182 Applied Mathematics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

ENG141 Design Concepts in Science and Engineering — 3 pts
Murd: S1-Int

ENG109 Computing for Scientists and Engineers — 3 pts
Murd: S1-Ext

MAS161 Calculus and Matrix Algebra — 3 pts
Murd: S2-Int, S2-Ext

ENG125 Circuits and Systems I — 3 pts Murd: S2-Int, S2-Ext

ENG453 Engineering Law, Management and Ethics — 4 pts
Murd: S1-Int, SUM-Int

ENG450 Engineering Internship — 12 pts
Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int

ENG460 Engineering Thesis — 12 pts
Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int

ENG420 Instrumentation and Control Systems Design — 4 pts
Murd: S1-Int

Murdoch students

ENG303 Advanced Process Engineering — 4 pts
Murd: S1-Int

ENG304 Process Control Engineering I — 4 pts
Murd: S1-Int

ENG346 Process Control Engineering II — 4 pts
Murd: S2-Int

Republic Polytechnic students

ENG331 Engineering Studio: Process Engineering — 6 pts
SGP-REPOLY: T2J-Int

ENG332 Engineering Studio: Control Engineering — 6 pts
SGP-REPOLY: SS2-Int

Specified Electives — 16 points
Select units not already taken above or other Part II units with permission of the Engineering Program Chair. In order to obtain professional accreditation in Australia, students must undertake units that are acceptable to Engineers Australia. The units may be selected to complete a second Engineering major.

Part II — 72 points

Core Units — 56 points

ENG241 Principles of Process Engineering — 4 pts
Murd: S1-Int

MAS284 Applied Statistics and Process Management — 4 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

ENG243 Circuits and Systems II — 4 pts
Murd: S1-Int

MAS261 Mathematical Methods — 4 pts
Murd: S1-Int, S1-Ext

ENG262 Principles of Electronic Instrumentation — 4 pts
Murd: S2-Int, SUM-Int

ENG267 Control Systems and Process Dynamics — 4 pts
Murd: S2-Int, W-Int

ENG453 Engineering Law, Management and Ethics — 4 pts
Murd: S1-Int, SUM-Int

ENG420 Instrumentation and Control Systems Design — 4 pts
Murd: S1-Int

Murdoch students

ENG303 Advanced Process Engineering — 4 pts
Murd: S1-Int

ENG304 Process Control Engineering I — 4 pts
Murd: S1-Int

ENG346 Process Control Engineering II — 4 pts
Murd: S2-Int

Republic Polytechnic students

ENG331 Engineering Studio: Process Engineering — 6 pts
SGP-REPOLY: T2J-Int

ENG332 Engineering Studio: Control Engineering — 6 pts
SGP-REPOLY: SS2-Int

Specified Electives — 16 points
Select units not already taken above or other Part II units with permission of the Engineering Program Chair. In order to obtain professional accreditation in Australia, students must undertake units that are acceptable to Engineers Australia. The units may be selected to complete a second Engineering major.

PREREQUISITES — INSTRUMENTATION AND CONTROL ENGINEERING (BE)

Advanced Process Engineering (ENG303)
Prerequisites: ENG241 Principles of Process Engineering.
Applied Mathematics (MAS182)
Prerequisites: M164/MAS164 Fundamentals of Mathematics or at least a pass in the Year 11 course Introduction to Calculus together with a final scaled score of 55% or more in TEE Applicable Mathematics.

Applied Statistics and Process Management (MAS284)
Prerequisites: A basic understanding of simple descriptive statistics and elementary probability.

Calculus and Matrix Algebra (MAS161)
Prerequisites: M182/MAS182 Applied Mathematics or a final scaled score of 55% or more in TEE Calculus or equivalent.

Chemical Principles (PEC144)
Prerequisites: A thorough knowledge of Year 12 secondary-level chemistry is assumed. Students who did not achieve a final scaled score of 60% or more in TEE Chemistry within the three years immediately preceding enrolment are required to pass PEC140 Introduction to Chemistry prior to enrolling. Students who are unsure of their status should consult the Chemistry Program Chair.

Circuits and Systems I (ENG125)

Circuits and Systems II (ENG243)
Prerequisites: ENG125 Circuits and Systems 1; MAS161 Calculus and Matrix Algebra.

Computing for Scientists and Engineers (ENG109)
Prerequisites: Nil.

Control Systems and Process Dynamics (ENG267)
Prerequisites: ENG109 Computing for Scientists and Engineers; PEC152 Principles of Physics; MAS161 Calculus and Matrix Algebra or co-requisite MAS208 Mathematical Modelling.

Design Concepts in Science and Engineering (ENG141)
Prerequisites: Nil.

Engineering Internship (ENG450)
Prerequisites: Permission of Engineering Program Chair.

Engineering Law, Management and Ethics (ENG453)
Prerequisites: Completion of 40 or more points at Part II.

Engineering Studio: Control Engineering (ENG332)

Engineering Studio: Process Engineering (ENG331)

Engineering Thesis (ENG460)
Prerequisites: Permission of Engineering Program Chair.

Fundamentals of Mathematics (MAS164)
Prerequisites: Nil.

General Physics (PEC120)
Prerequisites: Nil. TEE Applicable Mathematics or MAS164 Fundamentals of Mathematics are strongly recommended and may be taken concurrently.

Instrumentation and Control Systems Design (ENG420)
Prerequisites: ENG304 Control Engineering I; ENG346 Control Engineering II; ENG303 Advanced Process Engineering or EXM224 Principles of Unit Operations.

Introduction to Chemistry (PEC140)
Prerequisites: This unit is for students with a weak background in chemistry. Students with a final scaled score of more than 60% in TEE Chemistry within the past three years may be excluded from the unit. A knowledge of basic mathematics will be assumed.

Mathematical Methods (MAS261)
Prerequisites: M161/MAS161 Calculus and Matrix Algebra or A208/MAS208 Mathematical Modelling.

Principles of Electronic Instrumentation (ENG262)
Prerequisites: MAS182 Applied Mathematics and ENG125 Circuits and Systems I.

Principles of Physics (PEC152)
Prerequisites: Concurrent enrolment in MAS182 Applied Mathematics or MAS161 Calculus and Matrix Algebra; plus a final scaled score of 60% or more in TEE Physics or M120/PEC120 General Physics.

Principles of Process Engineering (ENG241)
Prerequisites: MAS182 Applied Mathematics or MAS161 Calculus and Matrix Algebra; PEC140 Introduction to Chemistry or PEC144 Chemical Principles.

Process Control Engineering I (ENG304)
Prerequisites: ENG241 Principles of Process Engineering; ENG267 Control Systems and Process Dynamics.

Process Control Engineering II (ENG346)
Prerequisites: ENG241 Principles of Process Engineering; ENG267 Control Systems and Process Dynamics.
**MEDICAL ENGINEERING (BE) CHECKLIST OF UNITS AND PREREQUISITES 2009**

*School of Engineering and Energy*

*Bachelor of Engineering (BE) in Medical Engineering*

## Course Structure — 96 points

### Course Prerequisites

**Mathematics Background**

Students may need to complete up to two prerequisite units depending on their background in mathematics and their final scaled score in either TEE Calculus, or TEE Applicable Mathematics and Year 11 Introduction to Calculus within the past three years.

- **TEE Calculus** with a final scaled score of 55% or more
  - OR
  - **TEE Applicable Mathematics** with a final scaled score of 55% or more
    - and Year 11 Introduction to Calculus
    - and **MAS182 Applied Mathematics** — 3 pts
      - Murd: S1-Int, S1-Ext, S2-Int, S2-Ext
    - **MAS164 Fundamentals of Mathematics** — 3 pts
      - Murd: S1-Int, S1-Ext, S2-Int

Students who have completed previous mathematics not stated above should consult the Program Chair for clarification of their enrolment requirements.

**Physics Background**

Students may need to complete one prerequisite unit depending on their background in physics and their final scaled score in TEE Physics within the past three years.

- **TEE Physics** with a final scaled score of 60% or more
  - OR
  - **PEC120 General Physics** — 3 pts
    - Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

Students who have completed previous physics not stated above should consult the Program Chair for clarification of their enrolment requirements.

### Part I — 24 points

- **Foundation Unit** — 3 points
  - Select one Foundation Unit from the Foundation Units section in this Handbook.

### Core Units — 21 points

- **BMS101 Introduction to the Human Body** — 3 pts
  - Murd: S1-Int
- **BMS107 Principles of Vertebrate Physiology** — 3 pts
  - Murd: S2-Int
- **ENG125 Circuits and Systems I** — 3 pts
  - Murd: S2-Int
- **ENG141 Design Concepts in Science and Engineering** — 3 pts
  - Murd: S1-Int
- **MAS161 Calculus and Matrix Algebra** — 3 pts
  - Murd: S2-Int, S2-Ext
- **MAS183 Statistical Data Analysis and Databases** — 3 pts
  - Murd: S1-Int, S1-Ext, S2-Int, S2-Ext
- **PEC152 Principles of Physics** — 3 pts
  - Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

### Part II — 72 points

#### Core Units — 60 points

- **ENG243 Circuits and Systems II** — 4 pts
  - Murd: S1-Int
- **ENG262 Principles of Electronic Instrumentation** — 4 pts
  - Murd: S2-Int, SUM-Int
- **ENG267 Control Systems and Process Dynamics** — 4 pts
  - Murd: S2-Int, W-Int
- **ENG304 Process Control Engineering I** — 4 pts
  - Murd: S1-Int
- **MAS208 Mathematical Modelling** — 4 pts
  - Murd: S2-Int, S2-Ext
- **BMS264 Biomedical Physiology** — 4 pts
  - Murd: S1-Int
- **CHI280 Human Anatomy I** — 4 pts
  - Murd: S1-Int
- **ENG371 Biomedical Instrumentation** — 4 pts
  - NA2009
- **ENG372 Biomedical Signal Processing** — 4 pts
  - NA 2009
- **ENG373 Biomedical Systems Engineering** — 4 pts
  - Murd: S2-Int
- **MAS230 Biostatistical Methods** — 4 pts
  - Murd: S2-Int, S2-Ext
- **CHI209 Biomechanics and Diagnostic Palpation Skills** — 4 pts
  - Murd: S2-Int
- **VET4XX Diagnostic Imaging for Medical Engineers** — 4 pts
  - NA 2009
- **ENG428 Engineering Design** — 4 pts
  - Murd: S1-Int, S2-Int
- **ENG453 Engineering Law, Management and Ethics** — 4 pts
  - Murd: S1-Int, SUM-Int

#### Specified Electives — 12 points

Select from the following:

- **ENG450 Engineering Internship** — 12 pts
  - Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int
- **ENG460 Engineering Thesis** — 12 pts
  - Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int

### PREREQUISITES — MEDICAL ENGINEERING (BE)

- **Applied Mathematics (MAS182)**
  - Prerequisites: M164/MAS164 Fundamentals of Mathematics or at least a pass in the Year 11 course Introduction to Calculus together with a final scaled score of 55% or more in TEE Applicable Mathematics.


Cancellation of Course, Minors and Units: The University reserves the right to cancel, without notice, any course, major, minor or unit if the number of students enrolled falls below the limits set by the University.
Biomechanics and Diagnostic Palpation Skills (CHI209)

Biomedical Instrumentation (ENG371)
Prerequisites: ENG262 Principles of Electronic Instrumentation.

Biomedical Physiology (BMS264)
Prerequisites: BMS107 Principles of Vertebrate Biology or N362/BIO362 Comparative Animal Physiology.

Biomedical Signal Processing (ENG372)
Prerequisites: EN243 Circuits and Systems II; ENG267 Control Systems and Process Dynamics.

Biomedical Systems Engineering (ENG373)
Prerequisites: ENG371 Biomedical Instrumentation; ENG372 Biomedical Signal Processing; MAS208 Mathematical Modelling; ENG267 Control Systems and Process Dynamics.

Biostatistical Methods (MAS230)
Prerequisites: M180/MAS180 Introduction to Statistics or M183/MAS183 Statistical Data Analysis and Databases or M184/MAS184 Biostatistics and Information Retrieval.

Calculus and Matrix Algebra (MAS161)
Prerequisites: M182/MAS182 Applied Mathematics or a final scaled score of 55% or more in TEE Calculus or equivalent.

Circuits and Systems I (ENG125)

Circuits and Systems II (ENG243)
Prerequisites: ENG125 Circuits and Systems I; MAS161 Calculus and Matrix Algebra.

Control Systems and Process Dynamics (ENG267)
Prerequisites: ENG109 Computing for Scientists and Engineers; PEC152 Principles of Physics; MAS161 Calculus and Matrix Algebra or co-requisite MAS208 Mathematical Modelling.

Design Concepts in Science and Engineering (ENG141)
Prerequisites: Nil.

Engineering Design (ENG428)
Prerequisites: Completion of all required third year Engineering units.

Engineering Internship (ENG450)
Prerequisites: Permission of Engineering Program Chair.

Engineering Law, Management and Ethics (ENG453)
Prerequisites: Completion of 40 or more points at Part II.

Engineering Thesis (ENG460)
Prerequisites: Permission of Engineering Program Chair.

Fundamentals of Mathematics (MAS164)
Prerequisites: Nil.

General Physics (PEC120)
Prerequisites: Nil. TEE Applicable Mathematics or MAS164 Fundamentals of Mathematics are strongly recommended and may be taken concurrently.

Human Anatomy I (CHI280)
Prerequisites: BMS101 Introduction to the Human Body and BMS108 Comparative Musculoskeletal Anatomy (or VET108 Topics in Comparative Mammalian Anatomy). This unit is subject to quota and Chiropractic students will be given priority.

Introduction to the Human Body (BMS101)
Prerequisites: Nil.

Mathematical Modelling (MAS208)
Prerequisites: M182/MAS182 Applied Mathematics or M161/MAS161 Calculus and Matrix Algebra.

Principles of Electronic Instrumentation (ENG262)
Prerequisites: MAS182 Applied Mathematics and ENG125 Circuits and Systems I.

Principles of Physics (PEC152)
Prerequisites: Concurrent enrolment in MAS182 Applied Mathematics or MAS161 Calculus and Matrix Algebra; plus a final scaled score of 60% or more in TEE Physics or M120/PEC120 General Physics.

Principles of Vertebrate Physiology (BMS107)
Prerequisites: Nil. BMS101 Introduction to the Human Body or ANS102 Introduction to the Animal Body are strongly recommended as precursor units.

Process Control Engineering I (ENG304)
Prerequisites: ENG241 Principles of Process Engineering; ENG267 Control Systems and Process Dynamics.

Statistical Data Analysis and Databases (MAS183)
Prerequisites: Nil.
RENEWABLE ENERGY ENGINEERING (BE) CHECKLIST FOR UNITS AND PREREQUISITES 2009

School of Engineering and Energy
Bachelor of Engineering (BE) in Renewable Energy Engineering

Course Structure — 96 points

Course Prerequisites

Mathematics Background

Students may need to complete one prerequisite unit depending on their background in mathematics and their final scaled score in either TEE Calculus, or TEE Applicable Mathematics and Year 11 Introduction to Calculus within the past three years.

TEE Applicable Mathematics with a final scaled score of 55% or more and Year 11 Introduction to Calculus
OR

MAS164 Fundamentals of Mathematics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

Students who have completed previous mathematics not stated above should consult the Program Chair for clarification of their enrolment requirements.

Physics Background

Students may need to complete one prerequisite unit depending on their background in physics and their final scaled score in TEE Physics within the past three years.

TEE Physics with a final scaled score of 60% or more
OR

PEC120 General Physics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

Students who have completed previous physics not stated above should consult the Program Chair for clarification of their enrolment requirements.

Part I — 24 points

Foundation Unit — 3 points

Select one Foundation Unit from the Foundation Units section in this Handbook.

Core Units — 21 points

PEC152 Principles of Physics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

MAS182 Applied Mathematics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

ENG141 Design Concepts in Science and Engineering — 3 pts
Murd: S1-Int

ENG109 Computing for Scientists and Engineers — 3 pts
Murd: S2-Int

ENG125 Circuits and Systems I — 3 pts
Murd: S2-Int

PEC144 Chemical Principles — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

OR

PEC140 Introduction to Chemistry — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

Students who have not achieved TEE Chemistry with a final scaled score of 60% or more should enrol in PEC140 Introduction to Chemistry — 3 pts

Part II — 72 points

Core Units — 56 points

ENG241 Principles of Process Engineering — 4 pts
Murd: S1-Int

MAS284 Applied Statistics and Process Management — 4 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

ENG243 Circuits and Systems II — 4 pts
Murd: S1-Int

ENG453 Engineering Law, Management and Ethics — 4 pts
Murd: S1-Int, SUM-Int

Either

ENG450 Engineering Internship — 12 pts
Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int
OR

ENG460 Engineering Thesis — 12 pts
Murd: H-Int, S1-Int, S2-Int, SUM-Int, WU3-Int, Y-Int

ENG307 Resources for Renewable Energy — 4 pts
Murd: S1-Int

ENG352 Energy Supply Systems — 4 pts
Murd: S2-Int, Y-Ext

ENG421 Renewable Energy Systems Engineering — 4 pts
Murd: S1-Int

Specified Electives — 16 points

Select units not already taken above or other Part II units with permission of the Engineering Program Chair. In order to obtain professional accreditation in Australia, students must undertake units that are acceptable to Engineers Australia. The units may be selected to complete a second Engineering major.

PREREQUISITES — RENEWABLE ENERGY ENGINEERING (BE)

Applied Mathematics (MAS182)
Prerequisites: M164/MAS164 Fundamentals of Mathematics or at least a pass in the Year 11 course Introduction to Calculus together with a final scaled score of 55% or more in TEE Applicable Mathematics.

Applied Statistics and Process Management (MAS284)
Prerequisites: A basic understanding of simple descriptive statistics and elementary probability.

Calculus and Matrix Algebra (MAS161)
Prerequisites: M182/MAS182 Applied Mathematics or a final scaled score of 55% or more in TEE Calculus or equivalent.

Correct as at 31 Oct 2008. For the latest version go to the online handbook at http://handbook.murdoch.edu.au/
Cancellation of Course, Minors and Units: The University reserves the right to cancel, without notice, any course, major, minor or unit if the number of students enrolled falls below the limits set by the University.
Chemical Principles (PEC144)
Prerequisites: A thorough knowledge of Year 12 secondary-level chemistry is assumed. Students who did not achieve a final scaled score of 60% or more in TEE Chemistry within the three years immediately preceding enrolment are required to pass PEC140 Introduction to Chemistry prior to enrolling. Students who are unsure of their status should consult the Chemistry Program Chair.

Circuits and Systems I (ENG125)

Circuits and Systems II (ENG243)
Prerequisites: ENG125 Circuits and Systems 1; MAS161 Calculus and Matrix Algebra.

Computing for Scientists and Engineers (ENG109)
Prerequisites: Nil.

Control Systems and Process Dynamics (ENG267)
Prerequisites: ENG109 Computing for Scientists and Engineers; PEC152 Principles of Physics; MAS161 Calculus and Matrix Algebra or co-requisite MAS208 Mathematical Modelling.

Design Concepts in Science and Engineering (ENG141)
Prerequisites: Nil.

Energy Supply Systems (ENG352)
Prerequisites: PEC152 Principles of Physics; MAS161 Calculus and Matrix Algebra; ENG262 Principles of Electronic Instrumentation.
Co-requisite ENG267 Control Systems and Process Dynamics.

Engineering Internship (ENG450)
Prerequisites: Permission of Engineering Program Chair.

Engineering Law, Management and Ethics (ENG453)
Prerequisites: Completion of 40 or more points at Part II.

Engineering Thesis (ENG460)
Prerequisites: Permission of Engineering Program Chair.

Fundamentals of Mathematics (MAS164)
Prerequisites: Nil.

General Physics (PEC120)
Prerequisites: Nil. TEE Applicable Mathematics or MAS164 Fundamentals of Mathematics are strongly recommended and may be taken concurrently.

Introduction to Chemistry (PEC140)
Prerequisites: This unit is for students with a weak background in chemistry. Students with a final scaled score of more than 60% in TEE Chemistry within the past three years may be excluded from the unit. A knowledge of basic mathematics will be assumed.

Mathematical Methods (MAS261)
Prerequisites: M161/MAS161 Calculus and Matrix Algebra or A208/MAS208 Mathematical Modelling.

Principles of Electronic Instrumentation (ENG262)
Prerequisites: MAS182 Applied Mathematics and ENG125 Circuits and Systems I.

Principles of Physics (PEC152)
Prerequisites: Concurrent enrolment in MAS182 Applied Mathematics or MAS161 Calculus and Matrix Algebra; plus a final scaled score of 60% or more in TEE Physics or M120/PEC120 General Physics.

Principles of Process Engineering (ENG241)
Prerequisites: MAS182 Applied Mathematics or MAS161 Calculus and Matrix Algebra; PEC140 Introduction to Chemistry or PEC144 Chemical Principles.

Renewable Energy Design Workshop (ENG351)
Prerequisites: Co-requisite ENG352 Energy Supply Systems.

Renewable Energy Systems Engineering (ENG421)

Resources for Renewable Energy (ENG307)
Prerequisites: PEC152 Principles of Physics; MAS161 Calculus and Matrix Algebra; MAS284 Applied Statistics and Process Management.
ENGINEERING (BE) + COMMERCE (BCOM)

Checklist of Units and Prerequisites 2009

School of Engineering and Energy

Bachelor of Engineering (BE) +
Bachelor of Commerce (BCom)

ENGINEERING + MANAGEMENT

Student must choose one of the following Engineering majors to complete with Management to be able to follow this course structure: Industrial Computer Systems Engineering, Instrumentation and Control Engineering, Electrical Power Engineering or Renewable Energy Engineering. Other Engineering and/or Commerce majors can be chosen, see Engineering + Commerce section for details of course structure.

Course Structure — 122 points

Course Prerequisites

Mathematics Background

Students may need to complete up to two prerequisite units depending on their background in mathematics and their final scaled score in either TEE Calculus, or TEE Applicable Mathematics and Year 11 Introduction to Calculus within the past three years.

TEE Calculus with a final scaled score of 55% or more
OR
TEE Applicable Mathematics with a final scaled score of 55% or more
and Year 11 Introduction to Calculus
and MAS182 Applied Mathematics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

OR

MAS164 Fundamentals of Mathematics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Int

Students who have completed previous mathematics not stated above should consult the Program Chair for clarification of their enrolment requirements.

Physics Background

Students may need to complete one prerequisite unit depending on their background in physics and based on their final scaled score in TEE Physics within the past three years.

TEE Physics with a final scaled score of 60% or more
OR
PEC120 General Physics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

Students who have completed previous physics not stated above should consult the Program Chair for clarification of their enrolment requirements.

Part I — 30 points

□ Foundation Unit — 3 points

Select one Foundation Unit from the Foundation Units section in this Handbook.

Core Units — 27 points

□ MAS161 Calculus and Matrix Algebra — 3 pts
Murd: S2-Int, S2-Ext

□ PEC152 Principles of Physics — 3 pts
Murd: S1-Int, S1-Ext, S2-Int, S2-Ext

□ ENG141 Design Concepts in Science and Engineering — 3 pts
Murd: S1-Int

□ BUS165 Principles of Commercial Law — 3 pts
Murd: F3-Int (full fee-paying), S1-Int, S1-Ext, S2-Int

□ ENG109 Computing for Scientists and Engineers — 3 pts
Murd: S2-Int

□ ENG125 Circuits and Systems I — 3 pts
Murd: S2-Int

□ BUS160 Introduction to Accounting — 3 pts
Murd: F3-Int (full fee-paying), S1-Int, S2-Int

□ BUS169 Principles of Marketing — 3 pts
Murd: S1-Int, S2-Int

□ BUS145 Principles of Management — 3 pts
Murd: F3-Int (full fee-paying), S1-Int, S2-Int

Part II — 92 points

Core Units — 92 points

For all BE courses, students should complete the Part II Core and Part II Specified Elective units as listed under the individual major descriptions.

Students completing the BE/BCom (Management) should also take:

□ BUS240 Organisational Development and Human Resources Management — 4 pts
Murd: S2-Int

□ BUS228 Workplace Law — 4 pts
Murd: S2-Int

□ BUS317 Strategic Management — 4 pts
Murd: S2-Int

□ BUS223 Organisational Theory and Behaviour — 4 pts
Murd: S1-Int

□ BUS320 Advanced Human Resource Perspectives — 4 pts
Murd: S1-Int

Honours

Students completing the Engineering major at a sufficiently high standard may be granted a degree with honours, based on the results achieved in Engineering units undertaken across all five years.

Students wishing to gain honours in the Bachelor of Commerce will be required to undertake an additional year of study of 24 points.

An Honours qualification of 2A or higher provides for admission to higher research degree study.
ENGINEERING + COMMERCE

Students who do not wish to do the Engineering major and/or Management listed under Engineering + Management may choose another Engineering major and/or Commerce major following their individual course structures.

Course Structure — at least 122 points

Students should follow the individual course structures for their chosen major in Engineering and Commerce, that would enable them to complete the course requirements of both degrees.

Honours

Students completing the Engineering major at a sufficiently high standard may be granted a degree with honours, based on the results achieved in Engineering units undertaken across all five years.

Students wishing to gain honours in the Bachelor of Commerce will be required to undertake an additional year of study of 24 points.

An Honours qualification of 2A or higher provides for admission to higher research degree study.

PREREQUISITES — ENGINEERING (BE) + COMMERCE (BCOM)

- Advanced Human Resource Perspectives (BUS320)
  Prerequisites: C145/BUS145 Principles of Management and either C240/BUS240 Organisation Management and Development or BUS240 Human Resources and Organisational Development.

- Applied Mathematics (MAS182)
  Prerequisites: M164/MAS164 Fundamentals of Mathematics or at least a pass in the Year 11 course Introduction to Calculus together with a final scaled score of 55% or more in TEE Applicable Mathematics.

- Calculus and Matrix Algebra (MAS161)
  Prerequisites: M182/MAS182 Applied Mathematics or a final scaled score of 55% or more in TEE Calculus or equivalent.

- Circuits and Systems I (ENG125)

- Computing for Scientists and Engineers (ENG109)
  Prerequisites: Nil.

- Design Concepts in Science and Engineering (ENG141)
  Prerequisites: Nil.

- Fundamentals of Mathematics (MAS164)
  Prerequisites: Nil.

- General Physics (PEC120)
  Prerequisites: Nil. TEE Applicable Mathematics or MAS164 Fundamentals of Mathematics are strongly recommended and may

- Introduction to Accounting (BUS160)
  Prerequisites: Nil.

- Organisational Development and Human Resources Management (BUS240)
  Prerequisites: C145/BUS145 Principles of Management.

- Organisational Theory and Behaviour (BUS223)
  Prerequisites: C145/BUS145 Principles of Management or enrolment in the Graduate Certificate in Human Resource Management or the Graduate Diploma in Human Resource Management.

- Principles of Commercial Law (BUS165)
  Prerequisites: Nil.

- Principles of Management (BUS145)
  Prerequisites: Nil.

- Principles of Marketing (BUS169)
  Prerequisites: Nil.

- Principles of Physics (PEC152)
  Prerequisites: Concurrent enrolment in MAS182 Applied Mathematics or MAS161 Calculus and Matrix Algebra; plus a final scaled score of 60% or more in TEE Physics or M120/PEC120 General Physics.

- Strategic Management (BUS317)
  Prerequisites: C240/BUS240 Organisation and Management Development and either C223/BUS223 Organisational Theory and Behaviour or C320/BUS320 Human Resources Management.

- Workplace Law (BUS228)
  Prerequisites: C165/BUS165 Principles of Commercial Law.
Bioprocess Engineering (BE) – 2009
Mid Year 2009
Sample Enrolment – 96 points

Must be read in conjunction with full course structure, unit prerequisites and enrolment options on checklist

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foundation Unit (see list below)</strong></td>
<td><strong>3pts</strong></td>
</tr>
<tr>
<td>ENG109 Computing for Scientists and Engineers</td>
<td><strong>3pts</strong></td>
</tr>
<tr>
<td>BIO152 Cell Biology</td>
<td><strong>3pts</strong></td>
</tr>
<tr>
<td>MAS182 Applied Mathematics</td>
<td><strong>3pts</strong></td>
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<tr>
<td><strong>12pts</strong></td>
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<tr>
<td><strong>Year 1</strong></td>
<td></td>
</tr>
<tr>
<td>PEC144 Chemical Principles</td>
<td><strong>3pts</strong></td>
</tr>
<tr>
<td>ENG141 Design Concepts in Science and Engineering</td>
<td><strong>3pts</strong></td>
</tr>
<tr>
<td>PEC152 Principles of Physics</td>
<td><strong>3pts</strong></td>
</tr>
<tr>
<td>MAS284 Applied Statistics and process Management</td>
<td><strong>4pts</strong></td>
</tr>
<tr>
<td><strong>13pts</strong></td>
<td></td>
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<tr>
<td><strong>Year 2</strong></td>
<td></td>
</tr>
<tr>
<td>ENG241 Principles of Process Engineering</td>
<td><strong>4pts</strong></td>
</tr>
<tr>
<td>BIO263 Microbiology I</td>
<td><strong>4pts</strong></td>
</tr>
<tr>
<td>EXM224 Principles of Unit Operations</td>
<td><strong>4pts</strong></td>
</tr>
<tr>
<td><strong>12pts</strong></td>
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<tr>
<td><strong>Year 3</strong></td>
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<tr>
<td>ENG303 Advanced Process Engineering</td>
<td><strong>4pts</strong></td>
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<tr>
<td>Specified Elective (see list below)</td>
<td><strong>4pts</strong></td>
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<tr>
<td>Specified Elective (see list below)</td>
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<tr>
<td><strong>12pts</strong></td>
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<tr>
<td><strong>Year 4</strong></td>
<td></td>
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<tr>
<td>ENG453 Engineering Law, Management and Ethics</td>
<td><strong>4pts</strong></td>
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<tr>
<td>ENG428 Engineering Design</td>
<td><strong>4pts</strong></td>
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<tr>
<td>Specified Elective (see list below)</td>
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<tr>
<td><strong>12pts</strong></td>
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</tbody>
</table>

**Foundation Unit:** Select one unit from the following:

<table>
<thead>
<tr>
<th>Semester 2</th>
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</thead>
<tbody>
<tr>
<td>FDN105 Structure, Thought and Reality</td>
</tr>
<tr>
<td>FDN115 Interactions of Society and Technology</td>
</tr>
<tr>
<td>FDN150 Reinventing Australia</td>
</tr>
</tbody>
</table>

**Specified Elective Units:** Select three units from the following. The units may be selected towards completion of a second engineering major.

### Electrical Power Engineering

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGS47 Electromechanical Energy Conversion</td>
<td>ENG348 Power Transmission and Distribution Networks</td>
</tr>
<tr>
<td>ENGS49 Power Electric Converters and Systems</td>
<td>ENG348 Power Transmission and Distribution Networks</td>
</tr>
<tr>
<td>ENGS55 Operation and Control of Power Systems</td>
<td>ENG348 Power Transmission and Distribution Networks</td>
</tr>
</tbody>
</table>

### Industrial Computer Systems Engineering

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGS05 PLC Systems</td>
<td>ENG306 Real Time and Embedded Systems</td>
</tr>
<tr>
<td>ENGS454 Industrial Computer Systems Design</td>
<td>ENG345 SCADA and Instrument Systems</td>
</tr>
</tbody>
</table>

### Instrumentation and Control Engineering

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGS03 Advanced Process Engineering</td>
<td>ENG346 Process Control Engineering II</td>
</tr>
<tr>
<td>ENGS04 Process Control Engineering I</td>
<td>ENG346 Process Control Engineering II</td>
</tr>
<tr>
<td>ENGS420 Instrumentation and Control Systems Design</td>
<td>ENG346 Process Control Engineering II</td>
</tr>
</tbody>
</table>

### Renewable Energy Engineering

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGS07 Resources for Renewable Energy</td>
<td>ENG352 Energy Supply Systems</td>
</tr>
<tr>
<td>ENGS421 Renewable Energy Systems Engineering</td>
<td>ENG351 Renewable Energy Design Workshops</td>
</tr>
</tbody>
</table>

36
### Electrical Power Engineering (BE) – 2009

**Mid Year 2009**

Sample Enrolment - 96 points

Must be read in conjunction with full course structure, unit prerequisites and enrolment options on checklist

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
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<tbody>
<tr>
<td>Foundation Unit (see list below)</td>
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</tr>
<tr>
<td>ENG109 Computing for Scientists and Engineers</td>
<td>3pts</td>
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<tr>
<td>MAS182 Applied Mathematics</td>
<td>3pts</td>
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<tr>
<td>PEC144 Chemical Principles</td>
<td>3pts</td>
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<td>OR</td>
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</tr>
<tr>
<td>PEC140 Introduction to Chemistry</td>
<td>3pts</td>
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<tr>
<td>3pts</td>
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<tr>
<td><strong>Year 1</strong></td>
<td></td>
</tr>
<tr>
<td>ENG141 Design Concepts in Science and Engineering</td>
<td>3pts</td>
</tr>
<tr>
<td>PEC152 Principles of Physics</td>
<td>3pts</td>
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<td>ENG241 Principles of Process Engineering</td>
<td>3pts</td>
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<td>3pts</td>
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<tr>
<td>10pts</td>
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<td><strong>Year 2</strong></td>
<td></td>
</tr>
<tr>
<td>ENG243 Circuits and Systems II</td>
<td>4pts</td>
</tr>
<tr>
<td>MAS261 Mathematical Modelling</td>
<td>4pts</td>
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<td>ENG347 Electromechanical Energy Conversion</td>
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<tr>
<td><strong>Year 4</strong></td>
<td></td>
</tr>
<tr>
<td>ENG453 Engineering Law, Management and Ethics</td>
<td>4pts</td>
</tr>
<tr>
<td>ENG455 Operation and Control of Power Systems</td>
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</tbody>
</table>

**Specifies Elective Units:** Select four from the following. The units may be selected to complete a second engineering major.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Computer Systems Engineering</td>
<td></td>
</tr>
<tr>
<td>ENGL5 PLC Systems</td>
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<tr>
<td>ENGL54 Industrial Computer Systems Design</td>
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<tr>
<td>Instrumentation and Control Engineering</td>
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<tr>
<td>ENGL35 Advanced Process Engineering</td>
<td></td>
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<tr>
<td>ENGL39 Process Control Engineering I</td>
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<tr>
<td>ENGL40 Instrumentation and Control Systems Design</td>
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<tr>
<td>Renewable Energy Engineering</td>
<td></td>
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<tr>
<td>ENGL7 Resources for Renewable Energy</td>
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<tr>
<td>ENGL42 Renewable Energy Systems Engineering</td>
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<tr>
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<td>12pts</td>
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<tr>
<td>4pts</td>
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<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
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</thead>
<tbody>
<tr>
<td>12pts</td>
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<td>12pts</td>
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</tbody>
</table>

37
### Industrial Computer Systems Engineering (BE) – 2009
#### Mid Year 2009

**Sample Enrolment – 96 points**

*Must be read in conjunction with full course structure, unit prerequisites and enrolment options on checklist*

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foundation Unit (see list below)</strong></td>
<td><strong>ENG109 Computing for Scientists and Engineers</strong></td>
</tr>
<tr>
<td><strong>ENG141 Design Concepts in Science and Engineering</strong></td>
<td><strong>MAS182 Applied Mathematics</strong></td>
</tr>
</tbody>
</table>
| **ENG241 Principles of Process Engineering** | **PEC140 Introduction to Chemistry** *
| | **OR** *
| | **PEC144 Chemical Principles** |
| **3pts** | **3pts** |
| **3pts** | **3pts** |
| **3pts** | **3pts** |
| **12pts** | **12pts** |

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PEC152 Principles of Physics</strong></td>
<td><strong>ENG125 Circuits and Systems I</strong></td>
</tr>
<tr>
<td><strong>ENG141 Design Concepts in Science and Engineering</strong></td>
<td><strong>MAS161 Calculus and Matrix Algebra</strong></td>
</tr>
<tr>
<td><strong>ENG241 Principles of Process Engineering</strong></td>
<td><strong>ENG262 Principles of Electronic Instrumentation</strong> <em>(in summer period)</em></td>
</tr>
<tr>
<td><strong>3pts</strong></td>
<td><strong>4pts</strong></td>
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<td><strong>3pts</strong></td>
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<table>
<thead>
<tr>
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<th>Year 3</th>
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<tbody>
<tr>
<td><strong>ENG243 Circuits and Systems II</strong></td>
<td><strong>ENG267 Control Systems and Process Dynamics</strong></td>
</tr>
<tr>
<td><strong>MAS261 Mathematical Modelling</strong></td>
<td><strong>ENG306 Real Time and Embedded Systems</strong></td>
</tr>
<tr>
<td><strong>ENG305 PLC Systems</strong></td>
<td><strong>ENG345 SCADA and Instrument Systems</strong></td>
</tr>
<tr>
<td><strong>4pts</strong></td>
<td><strong>4pts</strong></td>
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<table>
<thead>
<tr>
<th>Year 3</th>
<th>Year 4</th>
</tr>
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<tbody>
<tr>
<td><strong>Specified Elective (see list below)</strong></td>
<td><strong>ENG450 Engineering Internship</strong></td>
</tr>
<tr>
<td><strong>Specified Elective (see list below)</strong></td>
<td><strong>ENG454 Industrial Computer Systems Design</strong></td>
</tr>
<tr>
<td><strong>Specified Elective (see list below)</strong></td>
<td><strong>Specified Elective (see list below)</strong></td>
</tr>
<tr>
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<tr>
<td><strong>4pts</strong></td>
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</tr>
<tr>
<td><strong>12pts</strong></td>
<td><strong>12pts</strong></td>
</tr>
</tbody>
</table>

**Specified Elective Units:** Select four from the following. The units may be selected to complete a second engineering major.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instrumentation and Control Engineering</strong></td>
<td><strong>ENG303 Advanced Process Engineering</strong></td>
</tr>
<tr>
<td><strong>ENG304 Process Control Engineering I</strong></td>
<td><strong>ENG307 Resources for Renewable Energy</strong></td>
</tr>
<tr>
<td><strong>ENG420 Instrumentation and Control Systems Design</strong></td>
<td><strong>ENG421 Renewable Energy Systems Engineering</strong></td>
</tr>
<tr>
<td><strong>ENG346 Process Control Engineering II</strong></td>
<td><strong>ENG347 Electromechanical Energy Conversion</strong></td>
</tr>
<tr>
<td><strong>ENG349 Power Electric Converters and Systems</strong></td>
<td><strong>ENG348 Power Transmission and Distribution Networks</strong></td>
</tr>
<tr>
<td><strong>ENG55 Operation and Control of Power Systems</strong></td>
<td><strong>ENG352 Energy Supply Systems</strong></td>
</tr>
<tr>
<td><strong>Renewable Energy Engineering</strong></td>
<td><strong>ENG351 Renewable Energy Design Workshops</strong></td>
</tr>
</tbody>
</table>

**Foundation Unit:** Select one unit from the following:

<table>
<thead>
<tr>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FDN105 Structure, Thought and Reality</strong></td>
</tr>
<tr>
<td><strong>FDN115 Interactions of Society and Technology</strong></td>
</tr>
<tr>
<td><strong>FDN150 Reinventing Australia</strong></td>
</tr>
</tbody>
</table>
# Instrumentation and Control Engineering (BE) - 2009

**Mid Year 2009**

Sample Enrolment – 96 points

Must be read in conjunction with full course structure, unit prerequisites and enrolment options on checklist

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foundation Unit</strong> (see list below)</td>
<td>3pts</td>
</tr>
<tr>
<td>ENG109 Computing for Scientists and Engineers</td>
<td>3pts</td>
</tr>
<tr>
<td>MAS182 Applied Mathematics</td>
<td>3pts</td>
</tr>
<tr>
<td>PEC140 Introduction to Chemistry OR PEC144 Chemical Principles</td>
<td>3pts</td>
</tr>
</tbody>
</table>

**Year 1**

| PEC152 Principles of Physics | 3pts |
| ENG141 Design Concepts in Science and Engineering | 3pts |
| ENG241 Principles of Process Engineering | 4pts |
| ENG125 Circuits and Systems I | 3pts |
| MAS161 Calculus and Matrix Algebra | 3pts |
| ENG262 Principles of Electronic Instrumentation (in summer period) | 4pts |
| MAS284 Applied Statistics and process Management | 4pts |
| **Total** | 12pts |

| ENG243 Circuits and Systems II | 4pts |
| ENG303 Advanced Process Engineering | 4pts |
| MAS261 Mathematical Modelling | 4pts |
| ENG267 Control Systems and Process Dynamics | 4pts |
| ENG346 Process Control Engineering II | 4pts |
| Specified Elective (see list below) | 4pts |
| **Total** | 12pts |

**Year 2**

| ENG304 Process Control Engineering I | 4pts |
| Specified Elective (see list below) | 4pts |
| Specified Elective (see list below) | 4pts |
| ENG450 Engineering Internship OR ENG460 Engineering Thesis | 12pts |
| **Total** | 12pts |

| ENG420 Instrumentation and Control Systems Design | 4pts |
| ENG453 Engineering Law, Management and Ethics | 4pts |
| Specified Elective (see list below) | 4pts |
| **Total** | 12pts |

**Year 3**

| ENG305 PLC Systems | 3pts |
| ENG454 Industrial Computer Systems Design | 4pts |
| **Total** | 7pts |

| ENG347 Electromechanical Energy Conversion | 3pts |
| ENG349 Power Electric Converters and Systems | 3pts |
| ENG355 Operation and Control of Power Systems | 3pts |
| ENG348 Power Transmission and Distribution Networks | 3pts |
| **Total** | 12pts |

| ENG307 Resources for Renewable Energy | 3pts |
| ENG421 Renewable Energy Systems Engineering | 4pts |
| **Total** | 7pts |

**Year 4**

| ENG352 Energy Supply Systems | 3pts |
| ENG351 Renewable Energy Design Workshops | 3pts |
| **Total** | 6pts |

**Specifies Elective Units**: Select four from the following. The units may be selected to complete a second engineering major.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
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</thead>
<tbody>
<tr>
<td><strong>Industrial Computer Systems Engineering</strong></td>
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</tr>
<tr>
<td>ENG305 PLC Systems</td>
<td>ENG306 Real Time and Embedded Systems</td>
</tr>
<tr>
<td>ENG454 Industrial Computer Systems Design</td>
<td>ENG345 SCADA and Instrument Systems</td>
</tr>
<tr>
<td><strong>Electrical Power Engineering</strong></td>
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<tr>
<td>ENG347 Electromechanical Energy Conversion</td>
<td>ENG348 Power Transmission and Distribution Networks</td>
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<tr>
<td>ENG349 Power Electric Converters and Systems</td>
<td>ENG355 Operation and Control of Power Systems</td>
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<tr>
<td><strong>Renewable Energy Engineering</strong></td>
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<tr>
<td>ENG421 Renewable Energy Systems Engineering</td>
<td>ENG351 Renewable Energy Design Workshops</td>
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</table>

**Foundation Unit**: Select one unit from the following:

<table>
<thead>
<tr>
<th>Semester 2</th>
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</thead>
<tbody>
<tr>
<td>FDN105 Structure, Thought and Reality</td>
</tr>
<tr>
<td>FDN115 Interactions of Society and Technology</td>
</tr>
<tr>
<td>FDN150 Reinventing Australia</td>
</tr>
<tr>
<td>Foundation Unit: Select one unit from the following:</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>FDN105 Structure, Thought and Reality</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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<table>
<thead>
<tr>
<th><strong>Semester 1</strong></th>
<th><strong>Semester 2</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Year 1</strong></td>
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<td>Semester 1</td>
<td>Semester 2</td>
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<td>Semester 1</td>
<td>Semester 2</td>
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<td>Semester 1</td>
<td>Semester 2</td>
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## Renewable Energy Engineering (BE) – 2009

### Mid Year 2009

Sample Enrolment – 96 points

Must be read in conjunction with full course structure, unit prerequisites and enrolment options on checklist

<table>
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<tr>
<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td></td>
<td>Foundation Unit (see list below) 3pts</td>
</tr>
<tr>
<td></td>
<td>ENG109 Computing for Scientists and Engineers 3pts</td>
</tr>
<tr>
<td></td>
<td>MAS182 Applied Mathematics 3pts</td>
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<tr>
<td></td>
<td>PEC140 Introduction to Chemistry</td>
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<tr>
<td></td>
<td>OR</td>
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<td></td>
<td>PEC144 Chemical Principles 3pts</td>
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<tr>
<td>Year 1</td>
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</tr>
<tr>
<td>PEC152 Principles of Physics 3pts</td>
<td>ENG125 Circuits and Systems I 3pts</td>
</tr>
<tr>
<td>ENG41 Design Concepts in Science and Engineering 3pts</td>
<td>MAS161 Calculus and Matrix Algebra 3pts</td>
</tr>
<tr>
<td>ENG241 Principles of Process Engineering 4pts</td>
<td>ENG262 Principles of Electronic Instrumentation (in summer period) 4pts</td>
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<tr>
<td></td>
<td>MAS284 Applied Statistics and process Management 14pts</td>
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<td>10pts</td>
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<tr>
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<td></td>
<td>MAS261 Mathematical Modelling 4pts</td>
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<td>ENG307 Resources for Renewable Energy 4pts</td>
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<tr>
<td></td>
<td>ENG267 Control Systems and Process Dynamics 4pts</td>
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<tr>
<td></td>
<td>ENG351 Renewable Energy Design Workshops 4pts</td>
</tr>
<tr>
<td></td>
<td>ENG352 Energy Supply Systems 4pts</td>
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<tr>
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<td>12pts</td>
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<tr>
<td>Year 3</td>
<td>Specified Elective (see list below) 4pts</td>
</tr>
<tr>
<td></td>
<td>ENG450 Engineering Internship 12pts</td>
</tr>
<tr>
<td></td>
<td>OR</td>
</tr>
<tr>
<td></td>
<td>ENG460 Engineering Thesis 12pts</td>
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<tr>
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<td>12pts</td>
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<tr>
<td>Year 4</td>
<td>ENG453 Engineering Law, Management and Ethics 4pts</td>
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<td>Specified Elective (see list below) 4pts</td>
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<tr>
<td></td>
<td>Specified Elective (see list below) 4pts</td>
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<td>Specified Elective (see list below) 4pts</td>
</tr>
<tr>
<td></td>
<td>12pts</td>
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</table>

### Specified Elective Units:

- Select four from the following. The units may be selected to complete a second engineering major.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
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</thead>
<tbody>
<tr>
<td>Industrial Computer Systems Engineering</td>
<td></td>
</tr>
<tr>
<td>ENG305 PLC Systems</td>
<td>ENG306 Real Time and Embedded Systems</td>
</tr>
<tr>
<td>ENG454 Industrial Computer Systems Design</td>
<td>ENG345 SCADA and Instrument Systems</td>
</tr>
<tr>
<td>Instrumentation and Control Engineering</td>
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<tr>
<td>ENG303 Advanced Process Engineering</td>
<td>ENG346 Process Control Engineering II</td>
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<tr>
<td>ENG304 Process Control Engineering I</td>
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</tr>
<tr>
<td>ENG420 Instrumentation and Control Systems Design</td>
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<td>Electrical Power Engineering</td>
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<td>ENG347 Electromechanical Energy Conversion</td>
<td>ENG348 Power Transmission and Distribution Networks</td>
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<td>ENG349 Power Electric Converters and Systems</td>
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<tr>
<td>ENG455 Operation and Control of Power Systems</td>
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</table>

### Foundation Unit:

- Select one unit from the following:

<table>
<thead>
<tr>
<th>Semester 2</th>
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</thead>
<tbody>
<tr>
<td>FDN105 Structure, Thought and Reality</td>
</tr>
<tr>
<td>FDN115 Interactions of Society and Technology</td>
</tr>
<tr>
<td>FDN150 Reinventing Australia</td>
</tr>
</tbody>
</table>
Bachelor of Engineering and Bachelor of Commerce (Management) – 2009 
(BE) + (BCom)
Mid Year 2009

Sample Enrolment - 122 points

Must be read in conjunction with full course structure, unit prerequisites and enrolment options on checklist
This double degree can be taken with the Engineering majors of Industrial Computer Systems Engineering, Instrumentation and Control Engineering, Electrical Power Engineering or Renewable Energy Engineering, and the Commerce major of Management for 122 points. Students interested in completing other Engineering and/or Commerce majors should consult Engineering and will be required to complete more than 122 points.

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td>BUS145 Principles of Management</td>
<td>3pts</td>
<td>BUS240 Human Resources and Organisation 4pts</td>
</tr>
<tr>
<td>BUS165 Principles of Commercial Law</td>
<td>3pts</td>
<td>BUS228 Workplace Law 4pts</td>
</tr>
<tr>
<td>ENGI1 Concept in Science and Engineering</td>
<td>3pts</td>
<td>MAS284 Applied Statistics and Process Management 4pts</td>
</tr>
<tr>
<td>PECI52 Principles of Physics</td>
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<thead>
<tr>
<th>Year 2</th>
<th>Semester 1</th>
<th>Semester 2</th>
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<tbody>
<tr>
<td>BUS160 Introduction to Accounting</td>
<td>3pts</td>
<td>BUS317 Strategic Management 4pts</td>
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<tr>
<td>BUS169 Principles of Marketing</td>
<td>3pts</td>
<td>ENG267 Control Systems and Process Dynamics 4pts</td>
</tr>
<tr>
<td>ENGI24 Circuits and Systems II</td>
<td>4pts</td>
<td>ENG262 Principles of Electronic Instrumentation 4pts</td>
</tr>
<tr>
<td>BUS37 Knowledge and Organisational Learning</td>
<td>4pts</td>
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<tr>
<td><strong>Total</strong></td>
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<td><strong>12pts</strong></td>
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<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAS261 Mathematical Modelling</td>
<td>4pts</td>
<td>Core Unit or Restricted Elective Unit (see below) 4pts</td>
</tr>
<tr>
<td>BUS223 Organisational Theory and Behaviour</td>
<td>4pts</td>
<td>Core Unit or Restricted Elective Unit (see below) 4pts</td>
</tr>
<tr>
<td>ENGI241 Principles of Process Engineering</td>
<td>4pts</td>
<td>Core Unit or Restricted Elective Unit (see below) 4pts</td>
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<tr>
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<td><strong>12pts</strong></td>
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<table>
<thead>
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<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Unit or Restricted Elective Unit (see below)</td>
<td>4pts</td>
<td>ENG450 Engineering Internship 12pts</td>
</tr>
<tr>
<td>Core Unit or Restricted Elective Unit (see below)</td>
<td>4pts</td>
<td>OR</td>
</tr>
<tr>
<td>Core Unit or Restricted Elective Unit (see below)</td>
<td>4pts</td>
<td>ENG460 Engineering Thesis</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<thead>
<tr>
<th>Year 5</th>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG453 Engineering Law, Management and Ethics</td>
<td>4pts</td>
<td>ENG305 PLC Systems 3pts</td>
</tr>
<tr>
<td>Core Unit or Restricted Elective Unit (see below)</td>
<td>4pts</td>
<td>ENG454 Industrial Computer Systems Design 3pts</td>
</tr>
<tr>
<td>Core Unit or Restricted Elective Unit (see below)</td>
<td>4pts</td>
<td>ENGI25 Circuits and Systems 3pts</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12pts</strong></td>
<td><strong>12pts</strong></td>
</tr>
</tbody>
</table>

**Core Units for Engineering Major:** - Select four units from one of the following majors.

**Specified Elective Units:** - Select four units from a different major from the following. The units may be selected to complete a second Engineering Major.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Computer Systems Engineering</td>
<td></td>
</tr>
<tr>
<td>ENG305 PLC Systems</td>
<td>ENG306 Real Time and Embedded Systems</td>
</tr>
<tr>
<td>ENG454 Industrial Computer Systems Design</td>
<td>ENG345 SCADA and Instrument Systems</td>
</tr>
<tr>
<td>Instrumentation and Control Engineering</td>
<td></td>
</tr>
<tr>
<td>ENG303 Advanced Process Engineering</td>
<td>ENG346 Process Control Engineering II</td>
</tr>
<tr>
<td>ENG304 Process Control Engineering I</td>
<td></td>
</tr>
<tr>
<td>ENG420 Instrumentation and Control Systems Design</td>
<td></td>
</tr>
<tr>
<td>Electrical Power Engineering</td>
<td></td>
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42
<table>
<thead>
<tr>
<th>Foundation Unit: Select one unit from the following:</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDN105 Structure, Thought and Reality</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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</tr>
</tbody>
</table>

Renewable Energy Engineering

- ENG307 Resources for Renewable Energy
- ENG421 Renewable Energy Systems Engineering
- ENG352 Energy Supply Systems
- ENG351 Renewable Energy Design Workshops
Foundation Units

All Murdoch students are required to complete one Foundation Unit unless they have been awarded Advanced Standing including an 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. Below are the foundation units on offer for semester 2.

FDN105 Structure, Thought and Reality
Murdoch: S1-internal, S1-external, Y-external
Unit Coordinator: Dr Ian Cook, i.cook@murdoch.edu.au,
Tel: 9360 6117, Education and Humanities Room 3.040
In this unit you will be asked to think differently about reality. Rather than taking reality to be natural or objective, we will treat it as social or subjective. When we think of reality in this way, we start to understand "truth" and "knowledge" in a very different light. After considering reasons to treat reality as social or subjective, we apply this view of reality to topics including: human sexuality, childhood, death, virtual reality, God and the war on terror.

FDN115 Interactions of Society and Technology
Murdoch: S1-internal, S1-external, S2-internal, S2-external
Peel: S1-internal, S2-internal, Rockingham: S1-internal, S2-internal
Unit Coordinator – Ms Martina Muller, m.muller@murdoch.edu.au
Tel: 9360 2955, Science and Computing Room 2.011
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. This unit will provide students with an understanding of these 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: S1-internal, S1-external, S2-internal, S2-external, Rockingham: S1-internal
Unit Coordinator – Associate Professor Michael Sturma, m.sturma@murdoch.edu.au
Tel: 9360 2857, Social Sciences Room 2.016
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, multiculturalism, and terrorism. Our aim is to identify and understand some of the salient features of Australian society.
## Personal Study Plan

**Unit Sets:**

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<thead>
<tr>
<th>YEAR</th>
<th>SEMESTER 1</th>
<th>SEMESTER 2</th>
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</tbody>
</table>
Engineering (Bioprocess, Electrical Power, Industrial Computer Systems, Instrumentation and Control, Medical, Renewable Energy): Dr Gareth Lee
gareth.lee@murdoch.edu.au
08 9360 6098 Physical Sciences Room 3.025D

Correct at time of printing. For the most up-to-date list of Academic contacts, please consult: http://www.murdoch.edu.au/contacts/academic/.

Enrolment Enquiries

Enrolment advice will be provided at the Course Advice Sessions during Orientation Week. If you have attended one of these sessions and still have enrolment queries, please contact your Faculty Student Administration staff member.

Annette Connolly, Student Administrative Officer
a.connolly@murdoch.edu.au
Education and Humanities Building Room 2.002
p: 08 9360 6268
http://www.murdoch.edu.au/fsa/

The New Students 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.
## 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>Computer/ MyInfo</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 2</td>
</tr>
<tr>
<td>Enrolment – units</td>
<td>Faculty Student Administration</td>
<td><a href="mailto:fsa@murdoch.edu.au">fsa@murdoch.edu.au</a></td>
<td>9360 2420</td>
<td>EH 2.002</td>
</tr>
<tr>
<td>Student ID card</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 2</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</td>
<td>Refectory 2.051</td>
</tr>
<tr>
<td>International Students</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 1.001</td>
</tr>
<tr>
<td>Advanced Standing – Credit &amp; Exemptions</td>
<td>Mr Allan Wong (Domestic Students)</td>
<td><a href="mailto:A.Wong@murdoch.edu.au">A.Wong@murdoch.edu.au</a></td>
<td>9360 6352</td>
<td>Chancellery 2.027</td>
</tr>
<tr>
<td>First Year Experience Coordinator</td>
<td>or Tammy Geddes</td>
<td><a href="mailto:firstyear@murdoch.edu.au">firstyear@murdoch.edu.au</a></td>
<td>9360 2519</td>
<td>Library 3.001B</td>
</tr>
<tr>
<td></td>
<td>Mr John Tan (International Stud.)</td>
<td><a href="mailto:J.Tan@murdoch.edu.au">J.Tan@murdoch.edu.au</a></td>
<td>9360 6010</td>
<td>Senate 1.001</td>
</tr>
</tbody>
</table>

### New Student home page
- http://www.murdoch.edu.au/students/new/

### 2009 Handbook
- http://handbook.murdoch.edu.au

### Bookshop (eg. textbooks)

### Dates and Deadlines

### External Studies

### Faculty Student Administration

### Guild of Students
- http://guild.murdoch.edu.au

### Library

### Maps

### Murdoch International
- http://www.international.murdoch.edu.au

### MyMurdoch (online enrolment)
- http://my.murdoch.edu.au

### Orientation home page

### Parking and Transport
- http://www.murdoch.edu.au/index/students/P&T

### Teaching timetable

### Unit coordinator details
- http://www.murdoch.edu.au/index/units