Bachelor of Engineering (Honours) (Petroleum and Mechanical) (BE(Hons)(Petrol Mech))

2015

These Program Rules should be read in conjunction with the University's policies (http://www.adelaide.edu.au/policies).

Overview

Through this combined degree program students can combine the concepts of petroleum engineering with mechanical engineering. The petroleum program integrates core petroleum engineering with geosciences and management and builds a strong foundation of mathematics, physics, geology, geophysics, computer applications and engineering principles. The mechanical engineering program has a strong focus on design with a design and build project in second year followed by a more advanced project in third year and a large design / research project in the final year. This program provides a core understanding of mechanical disciplines and problem solving skills.

Students are also required to complete 12 weeks of approved practical experience during their study. Graduates of the program qualify for professional membership of Engineers Australia.

The Bachelor of Engineering (Honours) (Petroleum) / Bachelor of Engineering (Honours) (Mechanical) is an AQF Level 8 qualification with a standard full-time duration of 5 years.

Condition of Enrolment

Mathematics IM: Students who have not undertaken SACE Stage 2 Specialist Mathematics will be required to enrol in Mathematics IM, followed by Mathematics IA with Mathematics IB taken in Summer Semester to complete the Mathematics requirements at Level I. The satisfactory completion of Mathematics IM is in addition to the normal requirements of the Bachelor of Engineering (Honours).

1. Academic Program Rules for Bachelor of Engineering (Honours) (Petroleum and Mechanical)

There shall be a Bachelor of Engineering (Honours) (Petroleum and Mechanical).

2. Qualification Requirements

2.1 Academic Program

To qualify for the combined degree of Bachelor of Engineering (Honours) (Petroleum and Mechanical), the student must complete satisfactorily a program of study consisting of the following requirements with a combined total of not less than 120 units:

2.1.1 Core Courses

C&ENVENG 1010 Engineering Mechanics - Statics (3 units)

CHEM ENG 1009 Materials I (3 units)
ELEC ENG 1009 Electrical & Electronic Engineering IA (3 units)
MATHS 1011 Mathematics IA (3 units)
MATHS 1012 Mathematics IB (3 units)
MATHS 2201 Engineering Mathematics IIA (3 units)
MATHS 2104 Numerical Methods II (3 units)
MECH ENG 1006 Design Graphics & Communication (3 units)
MECH ENG 1007 Engineering Mechanics - Dynamics (3 units)
MECH ENG 2002 Stress Analysis & Design (3 units)
MECH ENG 2021 Thermo-Fluids I (3 units)
MECH ENG 2100 Design Practice (3 units)
MECH ENG 2019 Dynamics & Control I (3 units)
MECH ENG 2020 Materials & Manufacturing (3 units)
MECH ENG 3027 Engineering Systems Design & Communication (3 units)
MECH ENG 3030 Structural Design & Solid Mechanics (3 units)
MECH ENG 3102 Heat Transfer & Thermodynamics (3 units)
MECH ENG 3105 Sustainability & the Environment (3 units)
MECH ENG 3028 Dynamics & Control II (3 units)
PETROENG 1005 Introduction to Petroleum Geosciences & the Oil Industry (3 units)
PETROENG 1006 Introduction to Petroleum Engineering (3 units)
PETROENG 2005 Sedimentology & Stratigraphy (3 units)
PETROENG 2009 Formation Evaluation, Petrophysics & Rock Properties (3 units)
PETROENG 2010 Drilling Engineering (3 units)
PETROENG 3020 Production Engineering (3 units)
PETROENG 3023 Well Completion & Stimulation (3 units)
PETROENG 3025 Reservoir Engineering (3 units)
PETROENG 4022 Integrated Field Development & Economics Project (3 units)
PETROENG 4027 Decision Making & Risk Analysis (3 units)
PETROENG 4034 Petroleum Business & Project Economics (3 units)
MECH ENG 4143A/B Mechanical Honours Project Level IV (9 units)
PETROENG 4004A/B Petroleum Engineering Honours Project Part 1 & 2 (6 units)
2.1.2 Electives

Courses to the value of 15 units including Mechanical Engineering electives to the value of 6 units and Petroleum Engineering electives to the value of 9 units from the following:

Engineering Communication

ENG 3003 Engineering Communication EAL^ (3 units)

Mechanical Engineering

MECH ENG 4102 Advanced PID Control (3 units)
MECH ENG 4103 Advanced Computer Aided Engineering (3 units)
MECH ENG 4104 Advanced Topics in Fluid Mechanics (3 units)
MECH ENG 4105 Advanced Vibrations (3 units)
MECH ENG 4107 Airconditioning (3 units)
MECH ENG 4111 CFD for Engineering Applications (3 units)
MECH ENG 4112 Combustion Technology & Emission Control (3 units)
MECH ENG 4114 Corrosion: Principles & Prevention (3 units)
MECH ENG 4115 Engineering Acoustics (3 units)
MECH ENG 4117 Finance for Engineers (3 units)
MECH ENG 4118 Finite Element Analysis of Structures (3 units)
MECH ENG 4120 Fracture Mechanics (3 units)
MECH ENG 4121 Materials Selection & Failure Analysis (3 units)
MECH ENG 4124 Robotics M (3 units)
MECH ENG 4125 Stresses in Plates & Shells (3 units)
MECH ENG 4127 Wind Engineering (3 units)

Petroleum Engineering

PETROENG 3001 Reservoir Simulation (3 units)
PETROENG 3005 Reservoir Characterisation & Modelling (3 units)
PETROENG 3007 Well Testing & Pressure Transient Analysis (3 units)
PETROENG 3019 Structural Geology & Seismic Methods (3 units)
PETRO ENG 3026 Formation Damage & Productivity Enhancement (3 units)
PETROENG 4037 Unconventional Resources & Recovery (3 units)
PETROENG 4033 Integrated Reservoir & Project Management  (3 units)

PETROENG 4035 Reservoirs, Resources & Reserves  (3 units)

^Unless exempted by the Faculty, all international students are required to take this course and the Faculty will advise which course is to be replaced by ENG 3003 Engineering Communication EAL.

**2.1.3 Extra Course Requirement**

Students who have not taken SACE Stage 2 Specialist Mathematics (or equivalent) will be required to enrol in Mathematics IM, followed by Mathematics IA with Mathematics IB to complete the Mathematics requirements at Level I. The satisfactory completion of Mathematics IM is in addition to the 120 units for the Bachelor of Engineering (Honours) (Petroleum and Mechanical):

MATHS 1013 Mathematics IM  (3 units)

**2.1.4 Work Based Training / Extra Mural Studies**

Students must complete a total of 12 weeks practical experience, approved by the Faculty and of which a minimum 6 weeks should be under the supervision of a professional engineer.

**2.1.5 Repeating Courses**

A student who has failed a course twice may not enrol in that course again except by special permission of the Faculty and then only under such conditions as the Faculty may prescribe.

For all current Academic Programs Rules, visit:

The University of Adelaide Calendar website

For information about Programs and Courses, contact Ask Adelaide:

Telephone: +61 8 8313 5208

Freecall: 1800 061 459

Online enquiries: adelaide.edu.au/student/enquiries

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