Program Code

BEPMN

Program Minimum Units

120

Standard Duration

5 Years

Program Faculty

Faculty of Engineering, Computer and Math Sciences

AQF Level

08

Academic Year

2016

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

Overview

Through this 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 and Mechanical) is an AQF Level 8 qualification with a standard full-time duration of 5 years.

Academic Program Rules for Bachelor of Engineering (Honours) (Petroleum and Mechanical) (BE(Hons)(PetrolMech))

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

Qualification Requirements

Academic Program

To qualify for the double 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, comprising:

1. Courses to the value of 120 units, including Core courses to the value of 93 units and Elective courses to the value of 27 units
2. 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
3. Unless exempted, international students are required to take ENG 3003 Communication EAL in lieu of either a core or elective course as advised by the Faculty
4. Students who have not undertaken SACE Stage 2 Specialist Mathematics (or equivalent) 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)

**Bachelor of Engineering (Honours) (Petroleum and Mechanical)**

To satisfy the requirements for Bachelor of Engineering (Honours) (Petroleum and Mechanical) students must complete courses to the value of 120 units.

**Core**

All of the following courses must be completed:
- C&ENVENG 1010 [Engineering Mechanics - Statics](#) (3 units)
- CHEM ENG 1009 [Materials I](#) (3 units)
- MATHS 1011 [Mathematics IA](#) (3 units)
- MATHS 1012 [Mathematics IB](#) (3 units)
- MATHS 2201 [Engineering Mathematics IIA](#) (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 2019 [Dynamics and Control I](#) (3 units)
- MECH ENG 2020 [Materials & Manufacturing](#) (3 units)
- MECH ENG 2021 [Thermo-Fluids I](#) (3 units)
- MECH ENG 2100 [Design Practice](#) (3 units)
- MECH ENG 3027 [Engineering Systems Design & Communication](#) (3 units)
- MECH ENG 3028 [Dynamics & Control II](#) (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)
- PETROENG 1005 [Introduction to Petroleum Geosciences & the Oil Industry](#) (3 units)
- PETROENG 1006 [Introduction to Petroleum Engineering](#) (3 units)
- PETROENG 2005 [Sedimentology & Stratigraphy for Petrol Engineers](#) (3 units)
- PETROENG 2009 [Formation Evaluation, Petrophysics & Rock Properties](#) (3 units)
- PETROENG 2010 [Drilling Engineering](#) (3 units)
- PETROENG 3020 [Production Engineering](#) (3 units)
- PETROENG 3025 [Reservoir Engineering](#) (3 units)
- PETROENG 4004A [Petroleum Engineering Honours Project Part 1](#) (0 units)
- PETROENG 4004B [Petroleum Engineering Honours Project Part 2](#) (6 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)
- COMP SCI 1201 [Introduction to Programming for Engineers](#) (3 units)

**Mechanical Electives**

Courses to the value of 18 units from the following:
- MECH ENG 4101 [Biomechanical Engineering](#) (3 units)
- MECH ENG 4102 [Advanced PID Control](#) (3 units)
- MECH ENG 4104 Advanced Topics in Fluid Mechanics (3 units)
- MECH ENG 4105 [Advanced Vibrations](#) (3 units)
- MECH ENG 4107 [Air conditioning](#) (3 units)
- MECH ENG 4111 [CFD for Engineering Applications](#) (3 units)
- MECH ENG 4112 [Combustion Technology & Emission Control](#) (3 units)
Bachelor of Engineering (Honours) (Petroleum and Mechanical) (BE(Hons)(PetrolMech))

MECH ENG 4114 Corrosion: Principles & Prevention (3 units)
MECH ENG 4115 Engineering Acoustics (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 4126 Topics in Welded Structures (3 units)
MECH ENG 4143A Honours Project Part A (0 units)
MECH ENG 4143B Honours Project Part B (9 units)
MECH ENG 4144 Renewable Fluid Power Technology (3 units)
MECH ENG 4145 Sustainable Thermal Technologies (3 units)
CHEM ENG 4032 Composite & Multiphase Polymers (3 units)

Petroleum Electives

Courses to the value of 9 units from the following:
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)
PETROENG 3023 Well Completion & Stimulation (3 units)
PETROENG 3026 Formation Damage & Productivity Enhancement (3 units)
PETROENG 4033 Integrated Reservoir & Project Management (3 units)
PETROENG 4035 Reservoirs, Resources & Reserves (3 units)
PETROENG 4037 Unconventional Resources & Recovery (3 units)
MATHS 2104 Numerical Methods II (3 units)

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