Program Code

BENG

Program Minimum Units

96

Standard Duration

4 Years

Program Faculty

Faculty of Engineering, Computer and Math Sciences

AQF Level

08

Academic Year

2017

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

Overview

This program will provide students with a background in the physical sciences, chemical engineering core disciplines, integrated design skills and research training. The first two years of the program are spent developing an understanding of the foundation courses of chemical engineering, which are increasingly put into practice in the third and fourth years via major design, research and experimental projects. The program offers specialisations in Chemical, Minerals Processing or Sustainable Energy.

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 and the Institute of Chemical Engineers (IChemE) (UK).

The Bachelor of Engineering (Honours) (Chemical) is an AQF Level 8 qualification with a standard full-time duration of 4 years.

Academic Program Rules for Bachelor of Engineering (Honours) (Chemical) (BE(Hons)(Chem))

There shall be a Bachelor of Engineering (Honours) (Chemical) (BE(Hons)(Chem)).

Qualification Requirements

Academic Program

To qualify for the degree of Bachelor of Engineering (Honours) (Chemical), the student must complete satisfactorily a program of study consisting of the following requirements with a combined total of not less than 96 units, comprising:

1. Courses to the value of 96 units including a specialisation in one of the following:
   - Chemical Engineering
   - Minerals Processing
o Sustainable Energy

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 Engineering Communication EAL
   in lieu of either a core or elective course as advised by the Faculty

Bachelor of Engineering (Honours) (Chemical) (BE(Hons)(Chem))

To satisfy the requirements for Bachelor of Engineering (Honours) (Chemical) students must complete courses to the value of 96 units.

Core

All of the following courses must be completed:
CHEM 2530 Environmental & Analytical Chemistry II (3 units)
CHEM ENG 1007 Introduction to Process Engineering (3 units)
CHEM ENG 1010 Professional Practice I (3 units)
CHEM ENG 1011 Introduction to Process Modelling (3 units)
CHEM ENG 2010 Principles of Process Engineering (3 units)
CHEM ENG 2011 Process Engineering Thermodynamics (3 units)
CHEM ENG 2014 Heat & Mass Transfer (3 units)
CHEM ENG 2016 Professional Practice II (3 units)
CHEM ENG 2018 Process Fluid Mechanics (3 units)
CHEM ENG 3024 Professional Practice III (3 units)
CHEM ENG 3029 Material Science & Engineering (3 units)
CHEM ENG 3030 Simulation and Concept Design (3 units)
CHEM ENG 3031 Process Control & Instrumentation (3 units)
CHEM ENG 3033 Separation Processes (3 units)
CHEM ENG 3034 Kinetics & Reactor Design (3 units)
CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics (3 units)
CHEM ENG 3036 Unit Operations Laboratory (3 units)
CHEM ENG 4014 Plant Design Project (6 units)
CHEM ENG 4034 Professional Practice IV (3 units)
CHEM ENG 4050 Advanced Chemical Engineering (3 units)
CHEM ENG 4054 Research Project (3 units)
CHEM ENG 4056 Research Practice (3 units)
MATHS 1011 Mathematics IA (3 units)
MATHS 1012 Mathematics IB (3 units)
MATHS 2201 Engineering Mathematics IIA (3 units)

and

Courses to the value of 3 units from the following:
CHEM 1100 Chemistry IA (3 units)
CHEM 1101 Foundations of Chemistry IA (3 units)

and

Courses to the value of 3 units from the following:
CHEM 1200 Chemistry IB (3 units)
CHEM 1201 Foundations of Chemistry IB (3 units)

and

Courses to the value of 3 units from the following:
BIOLOGY 1101 Biology I: Molecules, Genes and Cells (3 units)
GEOLOGY 1103 Earth Systems I (3 units)
Bachelor of Engineering (Honours) (Chemical) (BE(Hons)(Chem))

GEOLOGY 1104  Geology for Engineers I (3 units)

and

Courses to the value of 3 units from the following:
CHEM ENG 2013 Advanced Process Modelling (3 units)
CHEM ENG 2019 Introduction to Minerals Processing (3 units)

Electives

Courses to the value of 6 units from the following:
CHEM ENG 4046 Combustion Processes (3 units)
CHEM ENG 4048 Biofuels, Biomass & Wastes (3 units)
CHEM ENG 4051 Water & Wastewater Engineering (3 units)
CHEM ENG 4053 Pinch Analysis & Process Synthesis (3 units)
CHEM ENG 4058 Hydrometallurgy & Electrometallurgy (3 units)
CHEM ENG 4059 Pyrometallurgy (3 units)

Bachelor of Engineering (Honours) (Chemical) - Minerals Processing Specialisation

To satisfy the requirements for Bachelor of Engineering (Honours) (Chemical) - Minerals Processing Specialisation students must complete courses to the value of 96 units.

Core

All of the following courses must be completed:
CHEM 2530 Environmental & Analytical Chemistry II (3 units)
CHEM ENG 4050 Advanced Chemical Engineering (3 units)
MATHS 1011 Mathematics IA (3 units)
MATHS 1012 Mathematics IB (3 units)
MATHS 2201 Engineering Mathematics IIA (3 units)
GEOLOGY 1104 Geology for Engineers I (3 units)
CHEM ENG 1007 Introduction to Process Engineering (3 units)
CHEM ENG 1010 Professional Practice I (3 units)
CHEM ENG 1011 Introduction to Process Modelling (3 units)
CHEM ENG 2010 Principles of Process Engineering (3 units)
CHEM ENG 2011 Process Engineering Thermodynamics (3 units)
CHEM ENG 2014 Heat & Mass Transfer (3 units)
CHEM ENG 2016 Professional Practice II (3 units)
CHEM ENG 2018 Process Fluid Mechanics (3 units)
CHEM ENG 2019 Introduction to Minerals Processing (3 units)
CHEM ENG 3024 Professional Practice III (3 units)
CHEM ENG 3029 Material Science & Engineering (3 units)
CHEM ENG 3030 Simulation and Concept Design (3 units)
CHEM ENG 3031 Process Control & Instrumentation (3 units)
CHEM ENG 3033 Separation Processes (3 units)
CHEM ENG 3034 Kinetics & Reactor Design (3 units)
CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics (3 units)
CHEM ENG 3036 Unit Operations Laboratory (3 units)
CHEM ENG 4014 Plant Design Project (6 units)
CHEM ENG 4034 Professional Practice IV (3 units)
CHEM ENG 4054 Research Project (3 units)
CHEM ENG 4056 Research Practice (3 units)
CHEM ENG 4058 Hydrometallurgy & Electrometallurgy (3 units)
CHEM ENG 4059 Pyrometallurgy (3 units)

and

Courses to the value of 3 units from the following:
CHEM 1100 Chemistry IA (3 units)
CHEM 1101 Foundations of Chemistry IA (3 units)

and

Courses to the value of 3 units from the following:
CHEM 1200 Chemistry IB (3 units)
CHEM 1201 Foundations of Chemistry IB (3 units)

Bachelor of Engineering (Honours) (Chemical) - Sustainable Energy Specialisation

To satisfy the requirements for Bachelor of Engineering (Honours) (Chemical) - Sustainable Energy Specialisation students must complete courses to the value of 96 units.

Core

All of the following courses must be completed:
MATHS 1011 Mathematics IA (3 units)
MATHS 1012 Mathematics IB (3 units)
MATHS 2201 Engineering Mathematics IIA (3 units)
CHEM ENG 1007 Introduction to Process Engineering (3 units)
CHEM ENG 1010 Professional Practice I (3 units)
CHEM ENG 1011 Introduction to Process Modelling (3 units)
CHEM ENG 2010 Principles of Process Engineering (3 units)
CHEM ENG 2011 Process Engineering Thermodynamics (3 units)
CHEM ENG 2014 Heat & Mass Transfer (3 units)
CHEM ENG 2016 Professional Practice II (3 units)
CHEM ENG 2018 Process Fluid Mechanics (3 units)
CHEM ENG 3024 Professional Practice III (3 units)
CHEM ENG 3029 Material Science & Engineering (3 units)
CHEM ENG 3030 Simulation and Concept Design (3 units)
CHEM ENG 3031 Process Control & Instrumentation (3 units)
CHEM ENG 3033 Separation Processes (3 units)
CHEM ENG 3034 Kinetics & Reactor Design (3 units)
CHEM ENG 3035 Multi-Phase Fluid & Particle Mechanics (3 units)
CHEM ENG 3036 Unit Operations Laboratory (3 units)
CHEM ENG 4014 Plant Design Project (6 units)
CHEM ENG 4034 Professional Practice IV (3 units)
CHEM ENG 4048 Biofuels, Biomass & Wastes (3 units)
CHEM ENG 4053 Pinch Analysis & Process Synthesis (3 units)
CHEM ENG 4054 Research Project (3 units)
CHEM ENG 4056 Research Practice (3 units)
MECH ENG 3105 Sustainability & the Environment (3 units)
ENTREP 3006 Energy Management, Economics & Policy (3 units)

and

Courses to the value of 3 units from the following:
CHEM 1100 Chemistry IA (3 units)
CHEM 1101 Foundations of Chemistry IA (3 units)

and

Courses to the value of 3 units from the following:
CHEM 1200 Chemistry IB (3 units)
CHEM 1201 Foundations of Chemistry IB (3 units)

and
Courses to the value of 3 units from the following:
GEOLOGY 1103 Earth Systems I (3 units)
GEOLOGY 1104 Geology for Engineers I (3 units)

and

Courses to the value of 3 units from the following:
CHEM ENG 2013 Advanced Process Modelling (3 units)
CHEM ENG 2019 Introduction to Minerals Processing (3 units)

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