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

2016

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

Overview

The first two years of this program allows students to build a solid foundation in core mechanical engineering skills and knowledge and includes mathematics and physics with an introduction to the basic principles of design, stress analysis, thermodynamics, materials, fluid mechanics, physiology, anatomy, control and computer programming, complemented by laboratory and project work. Year three develops a more complex understanding in these fields, including aerodynamics, exercise physiology and sports materials coupled with a design project. In year four, more advanced courses in finite element analysis, computational fluid dynamics and biomechanical engineering are included in addition to courses in management and the integration of the fundamental work in the previous years into a range of sports-related courses. The program culminates in a research project that allows students to apply their knowledge to a real sports engineering problem. 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) (Mechanical and Sports) is an AQF Level 8 qualification with a standard full-time duration of 4 years.

Academic Program Rules for Bachelor of Engineering (Honours) (Mechanical and Sports) (BE(Hons)(Mech&Sports))

There shall be a Bachelor of Engineering (Honours) (Mechanical and Sports) (BE(Hons)(Mech&Sports)).

Qualification Requirements

Academic Program

To qualify for the degree of Bachelor of Engineering (Honours) (Mechanical and Sports), 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  Core courses to the value of 93 units and  Elective courses to the value of 3 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 for the Bachelor of Engineering (Honours)

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

To satisfy the requirements for Bachelor of Engineering (Honours) (Mechanical and Sports) students must complete courses to the value of 96 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)
- MATHS 2202 Engineering Mathematics IIB (3 units)
- MECH ENG 1006 Design Graphics & Communication (3 units)
- MECH ENG 1007 Engineering Mechanics - Dynamics (3 units)
- MECH ENG 1104 Introduction to Sports Engineering (3 units)
- MECH ENG 2002 Stress Analysis & Design (3 units)
- MECH ENG 2019 Dynamics and Control I (3 units)
- MECH ENG 2021 Thermo-Fluids I (3 units)
- MECH ENG 2100 Design Practice (3 units)
- MECH ENG 2102 Sports Engineering I (3 units)
- MECH ENG 3027 Engineering Systems Design & Communication (3 units)
- MECH ENG 3028 Dynamics & Control II (3 units)
- MECH ENG 3101 Applied Aerodynamics (3 units)
- MECH ENG 3102 Heat Transfer & Thermodynamics (3 units)
- MECH ENG 3103 Manufacturing Engineering & Quality Systems (3 units)
- MECH ENG 3107 Sports Engineering II (3 units)
- MECH ENG 3108 Sports Materials (3 units)
- MECH ENG 4101 Biomechanical Engineering (3 units)
- MECH ENG 4111 CFD for Engineering Applications (3 units)
- MECH ENG 4118 Finite Element Analysis of Structures (3 units)
- MECH ENG 4140 Sports Engineering III (3 units)
- MECH ENG 4143A Honours Project Part A (0 units)
- MECH ENG 4143B Honours Project Part B (9 units)
- ANAT SC 2200 Functional Human Anatomy II (3 units)
- PHYSIOL 2510 Physiology IIA: Heart, Lung & Neuromuscular Systems (3 units)

**Electives**

Courses to the value of 3 units from the following:
- MECH ENG 4102 Advanced PID Control (3 units)
- MECH ENG 4112 Combustion Technology & Emission Control (3 units)
- MECH ENG 4120 Fracture Mechanics (3 units)
- MECH ENG 4126 Topics in Welded Structures (3 units)
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