Graduate Diploma in Engineering (GDipE)  
2015

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

Overview

Graduate Diploma in Engineering (Aerospace) (GDipE(Aero))

Graduate Diploma in Engineering (Chemical) (GDipE(Chem))

Graduate Diploma in Engineering (Civil and Environmental) (GDipE(CivEnv))

Graduate Diploma in Engineering (Civil and Structural) (GDipE(CivStruct))

Graduate Diploma in Engineering (Electrical) (GDipE(Elec))

Graduate Diploma in Engineering (Electronic) (GDipE(Elec))

Graduate Diploma in Engineering (Mechanical) (GDipE(Mech))

Graduate Diploma in Engineering (Mechatronic) (GDipE(Mecht))

Graduate Diploma in Engineering (Mining) (GDipE(Mining))

The Graduate Diploma in Engineering is an AQF Level 8 qualification with a standard full-time duration of 1 year.

1. Academic Program Rules for Graduate Diploma in Engineering

There shall be a Graduate Diploma in Engineering.

2. Qualification Requirements

2.1 Academic Program

To qualify for the Graduate Diploma in Engineering, the student must complete satisfactorily a program of study consisting of the following requirements with a combined total of not less than 24 units in one of the following Disciplines:

- Aerospace
- Chemical
- Civil and Environmental
- Civil and Structural
- Electrical
- Electronic
- Mechanical
- Mechatronic
- Mining
2.1.1 Core Courses

ELEC ENG 7057 Engineering Communication & Critical Thinking (3 units)

plus

Courses to the value of 6 units from the following:

TECHCOMM 5021 Applied Project Management 1 (3 units)
STATS 7053 Statistics in Engineering (3 units)

and either

APP MTH 7054 Modelling & Simulation of Stochastic Systems (3 units)
or

COMP SCI 7077 Solving Engineering Models (3 units)

2.1.1.1 Foundation courses

Foundation courses to the value of 12 units in one specialisation from the following:

Aerospace

MECH ENG 7073 Space Vehicle Design (3 units)
MECH ENG 7068 Applied Aerodynamics (3 units)
MECH ENG 7066 Aeronautical Engineering (3 units)
MECH ENG 7067 Aerospace Materials & Structures (3 units)

Chemical

CHEM ENG 7050 Multi-Phase Fluid & Particle Mechanics (3 units)
CHEM ENG 7051 Kinetics & Reactor Design (3 units)
CHEM ENG 7052 Separation Processes (3 units)
CHEM ENG 7057 Research Practice (3 units)

Civil & Environmental

C&ENVENG 7079 Water Engineering & Design (3 units)
C&ENVENG 7086 Engineering Management (3 units)
C&ENVENG 7029 Environmental Modelling & Management (3 units)
C&ENVENG 7077 Engineering Hydrology (3 units)

Civil & Structural

C&ENVENG 7058 Structural Mechanics (3 units)
C&ENVENG 7007 Structural Design (Steel) (3 units)
C&ENVENG 7005 Structural Design (Concrete) (3 units)
C&ENVENG 7069 Geotechnical Engineering (3 units)

Electrical
ELEC ENG 7082 Principles of Control Systems (3 units)
ELEC ENG 7049 Power Electronic Systems (3 units)
ELEC ENG 7069 Electric Energy Systems (3 units)
ELEC ENG 7074 Power Systems (3 units)

Electronic
ELEC ENG 7033 Principles of RF Engineering (3 units)
ELEC ENG 7082 Principles of Control Systems (3 units)
ELEC ENG 7080 Principles of Communication Systems (3 units)
ELEC ENG 7079 Principles of Signal Processing (3 units)

Mechanical
MECH ENG 7047 Dynamics & Control II (3 units)
MECH ENG 7068 Applied Aerodynamics (3 units)
MECH ENG 7070 Heat Transfer & Thermodynamics (3 units)
MECH ENG 7074 Structural Design & Solid Mechanics (3 units)

Mechatronic
MECH ENG 7047 Dynamics & Control II (3 units)
MECH ENG 7070 Heat Transfer & Thermodynamics (3 units)
MECH ENG 7071 Mechatronics II (3 units)
MECH ENG 7072 Microcontroller Programming (3 units)

Mining
MINING 7071 Mining Systems (3 units)
MINING 7070 Resource Estimation (3 units)
MINING 7073 Mine Planning (3 units)
MINING 7072 Mining Geomechanics (3 units)

2.1.2 Electives
Courses to the value of 3 units from the same specialisation as the foundation courses from the following:

**Aerospace**

CHEM ENG 7047 Composites & Multiphase Polymers  (3 units)
ELEC ENG 7017 Beamforming & Array Processing  (3 units)
MECH ENG 7023 Fracture Mechanics  (3 units)
MECH ENG 7025 Topics in Welded Structures  (3 units)
MECH ENG 7026 Advanced Topics in Fluid Mechanics  (3 units)
MECH ENG 7028 Advanced PID Control  (3 units)
MECH ENG 7030 Advanced Vibrations  (3 units)
MECH ENG 7034 Advanced Digital Control  (3 units)
MECH ENG 7043 Stresses in Plates & Shells  (3 units)
MECH ENG 7045 CFD for Engineering Applications  (3 units)
MECH ENG 7053 Aerospace Propulsion  (3 units)
MECH ENG 7059 Finite Element Analysis of Structures  (3 units)
MECH ENG 7061 Corrosion Principles & Prevention  (3 units)
MECH ENG 7062 Aircraft Design  (3 units)
MECH ENG 7063 Advanced Topics in Aerospace Engineering  (3 units)
MECH ENG 7075 Sustainable Thermal Technologies  (3 units)
MECH ENG 7076 Renewable Fluid Power Technology  (3 units)

**Chemical**

CHEM ENG 7048 Bio-fuels, Biomass & Wastes  (3 units)
CHEM ENG 7035 Water & Waste Water Treatment  (3 units)
CHEM ENG 7038 Process Plant Safety & Risk Assessment  (3 units)
CHEM ENG 7039 Pinch Analysis & Process Synthesis  (3 units)
CHEM ENG 7054 Simulation & Concept Design  (3 units)
CHEM ENG 7056 Process Control & Instrumentation  (3 units)
CHEM ENG 7027 Transport Processes in the Environment  (3 units)
CHEM ENG 7055 Material Science & Engineering  (3 units)
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Civil and Environmental

C&ENVENG 7037 Water Distribution Systems & Design (3 units)
C&ENVENG 7108 Environmental Engineering & Design IVA (3 units)
C&ENVENG 7109 Environmental Engineering & Design IVB (3 units)
C&ENVENG 7042 Advanced Reinforced Concrete (3 units)
C&ENVENG 7044 Introduction to Environmental Law (3 units)
C&ENVENG 7110 Environmental Engineering & Design IVC (3 units)
C&ENVENG 7114 Hydrological Modelling & Water Resources Management (3 units)
C&ENVENG 7115 Flood Estimation & Modelling (3 units)
TECHCOMM 7033 Carbon Management in Business (3 units)
TECHCOMM 7025 Introduction to Climate Change in Business (3 units)
TECHCOMM 5004 Managing Project and Systemic Risk (3 units)
TECHCOMM 7012 Business & Contract Legal Studies (3 units)

Civil and Structural

C&ENVENG 7061 Computer Methods of Structural Analysis (3 units)
C&ENVENG 7059 Structural Response to Blast Loading (3 units)
C&ENVENG 7107 Prestressed Concrete Structures (3 units)
C&ENVENG 7108 Environmental Engineering & Design IVA (3 units)
C&ENVENG 7033 Seismic Design of Masonry Buildings (3 units)
C&ENVENG 7112 Advanced Civil Geotechnical Engineering (3 units)
MECH ENG 7023 Fracture Mechanics (3 units)
MECH ENG 7059 Finite Element Analysis of Structures (3 units)
MECH ENG 7061 Corrosion Principles & Prevention (3 units)
TECHCOMM 5026 Enterprise Transformations (3 units)
TECHCOMM 5004 Managing Project & Systemic Risk (3 units)
TECHCOMM 7012 Business & Contract Legal Studies (3 units)
MECH ENG 7043 Stresses in Plates & Shells (3 units)

Electrical

ELEC ENG 7075 Distributed Generation Technologies (3 units)
ELEC ENG 7046 Power Quality & Fault Diagnostics (3 units)

Further Enquiries
ELEC ENG 7066 Power System Dynamics (3 units)
ELEC ENG 7079 Principles of Signal Processing (3 units)
ELEC ENG 7068 Power Systems Monitoring & Protection (3 units)
MECH ENG 7034 Advanced Digital Control (3 units)
TECHCOMM 5013 Systems Engineering 1 (3 units)
TECHCOMM 5014 Project Management Controls (3 units)
TECHCOMM 7029 Systems Engineering 2 (3 units)

Electronic
ELEC ENG 7049 Power Electronic Systems (3 units)
ELEC ENG 7051 Microelectronic Systems (3 units)
ELEC ENG 7060 Image Sensors & Processing (3 units)
ELEC ENG 7015 Adaptive Signal Processing (3 units)
ELEC ENG 7081 Telecommunications Systems (3 units)
ELEC ENG 7084 Avionic Sensors & Systems PG. (3 units)
ELEC ENG 7002 Kalman Filtering & Tracking.. (3 units)

Mechanical
CHEM ENG 7047 Composites & Multiphase Polymers (3 units)
MECH ENG 7020 Materials Selection & Failure Analysis (3 units)
MECH ENG 7021 Combustion Technology & Emission Control (3 units)
MECH ENG 7023 Fracture Mechanics (3 units)
MECH ENG 7024 Robotics M (3 units)
MECH ENG 7025 Topics in Welded Structures (3 units)
MECH ENG 7026 Advanced Topics in Fluid Mechanics (3 units)
MECH ENG 7027 Engineering Acoustics (3 units)
MECH ENG 7029 Airconditioning (3 units)
MECH ENG 7030 Advanced Vibrations (3 units)
MECH ENG 7043 Stresses in Plates & Shells (3 units)
MECH ENG 7044 Biomechanical Engineering (3 units)
MECH ENG 7045 CFD for Engineering Applications (3 units)
MECH ENG 7059 Finite Element Analysis of Structures  (3 units)
MECH ENG 7061 Corrosion Principles & Prevention  (3 units)
MECH ENG 7075 Sustainable Thermal Technologies  (3 units)
MECH ENG 7076 Renewable Fluid Power Technology  (3 units)

Mechatronic
ELEC ENG 7015 Adaptive Signal Processing  (3 units)
ELEC ENG 7060 Image Sensors and & Processing  (3 units)
ELEC ENG 7065 Sonar Sensors and & Systems  (3 units)
MECH ENG 7024 Robotics M  (3 units)
MECH ENG 7027 Engineering Acoustics  (3 units)
MECH ENG 7028 Advanced PID Control  (3 units)
MECH ENG 7030 Advanced Vibrations  (3 units)
MECH ENG 7034 Advanced Digital Control  (3 units)
MECH ENG 7044 Biomechanical Engineering  (3 units)
MECH ENG 7075 Sustainable Thermal Technologies  (3 units)
MECH ENG 7076 Renewable Fluid Power Technology  (3 units)

Mining
MINING 7107 Surface Mining Systems  (3 units)
MINING 7114 Simulation & Animation for Mining Engineering  (3 units)
MINING 7101 Mine Management  (3 units)
MINING 7102 Mine Geotechnical Engineering  (3 units)
MINING 7106 Hard Rock Mine Design & Feasibility  (3 units)
MINING 7063 Mining in a Global Environment  (3 units)
MINING 7112 Advanced Mine Geotechnical Engineering  (3 units)
APP MTH 7105 Optimisation & Operations Research  (3 units)
C&ENVENG 7043 Introduction to Geostatistics  (3 units)
C&ENVENG 7053 Non-Linear Geostatistics  (3 units)
C&ENVENG 7056 Linear Geostatistics  (3 units)
MECHENG 7059 Finite Element Analysis of Structures  (3 units)
TECHCOMM 5004 Managing Project & Systemic Risk  (3 units)
TECHCOMM 7033 Carbon Management in Business  (3 units)
TECHCOMM 7032 Mine Financing & Valuation  (3 units)

2.1.3 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:

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Freecall: 1800 061 459

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

CRICOS Provider Number 00123M

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