Program and course changes in the School of Mechanical and Mining Engineering

Program and Course changes

Following a review of curriculum, some changes have been made by the School of Mechanical and Mining Engineering that take effect in 2017. These changes affect students who commenced the BE or BE(Hons) in Mechanical and Aerospace Engineering between 2014 and 2016.

A summary of the changes are –

1. AERO4200 Flight Mechanics and Avionics changed to Semester 1 offering
2. MECH4450 Aerospace Propulsion recoded to AERO4450
3. AERO3110 Aero Design & Manufacturing recorded to AERO4100
4. MECH4470 Hypersonics & Rarefied Gas Dynamics recoded to AERO4470
5. MECH4800 Space Engineering recoded to AERO4800
6. ENGG4000 Introduction to Systems Engineering not offered from 2018 onwards

Further details on each of these changes are provided on page 5.

Course List Update and Recommended Study Plans

Students who commenced in the Mechanical and Aerospace Engineering plan in 2014, 2015 or 2016, should note the following variations to course list and the recommended study plans.

Students who commenced in 2014

Please note that the Dual Major requirements of the 2014 Bachelor of Engineering (Mechanical and Aerospace Engineering) has been amended to remove the distinction between a Space stream or Aeronautical stream, allowing students to complete the remaining units from either Group B or Group C. The revised Dual Major requirement is provided here –

> ***Dual Major Requirement***
> Students are required to obtain at least #10 from the courses listed below. Students participating in the CEED program and undertaking #6 ENGG4011 are only required to obtain an additional #8. All students are required to take all courses in Group A. The remainder can be obtained from Group B or Group C.

Students who commenced in 2015

Please note that the Dual Major requirements of the 2015 Bachelor of Engineering (Mechanical and Aerospace Engineering) is amended to remove the distinction between a Space stream or Aeronautical stream, allowing students to complete the remaining units from either Group B or Group C. The revised Dual Major requirement is provided here –

Dual Major Requirement

Students are required to obtain at least #10 from the courses listed below. Students participating in the CEED program and undertaking #6 ENGG4011 are only required to obtain an additional #8. All students are required to take all courses in Group A. The remainder can be obtained from Group B or Group C.

Recommended Study Plan

The School recommends students who commenced in the Mechanical and Aerospace Engineering dual major in 2014 or 2015 follow this study plan for the remainder of their studies –

SEM	BACHELOR OF ENGINEERING (HONOURS) IN MECHANICAL & AEROSPACE ENGINEERING PROGRAM				
Sem 1 2017	**MECH3300** Finite Element Method & Fracture Mechanics	**MECH3400** Thermodynamics & Heat Transfer	**MECH3600** Engineering Management & Communication	**MATH2010** Analysis of ODEs	**STAT2201** Analysis of Engineering & Scientific Data
Sem 2 2017	**MECH3200** Advanced Dynamics & Vibrations	**MECH3410** Fluid Dynamics	**MECH3100*** Mechanical Systems Design	**MECH3750** Engineering Analysis II	
Sem 1 2018	**MECH4500** Engineering Thesis (OR) **MECH4552** Major Design Project (OR) **ENGG4011 (#6)**	**METR4201** Control Engineering I	**AERO4450** Aerospace Propulsion	**AERO4470** Hypersonics & Rarefied Gas Dynamics (OR) **AERO4200** Flight Mechanics & Avionics	
Sem 2 2018		**AERO4100**** Aero Design & Manufacturing	**ENGG4900***** Professional Practice & the Business Environment	**MECH4480** Computational Fluid Dynamics (OR) **AERO4300** Aerospace Composites (OR) **AERO4800** Space Engineering	

*Replaces AERO3110 (see page 4 for further details)
**Recommended Dual Major enrolment (see page 4 for further details)
***Replaces ENGG4000 Dual Major elective (see page 4 for further details)

Students who commenced in 2016

Please note that the Dual Major requirements of the 2016 Bachelor of Engineering (Mechanical and Aerospace Engineering) is amended to remove the distinction between a Space stream or Aeronautical stream, allowing students to complete the remaining units from either Group B or Group C. The revised Dual Major requirement is provided here –

Dual Major Requirement

Students are required to obtain at least #10 from the courses listed below. Students participating in the CEED program and undertaking #6 ENGG4011 are only required to obtain an additional #8. All students are required to take all courses in Group A. The remainder can be obtained from Group B or Group C.

Recommended Study Plan

The School recommends students who commenced in the Mechanical and Aerospace Engineering dual major in 2016 follow this study plan for the remainder of their studies –

SEM	BACHELOR OF ENGINEERING (HONOURS) IN MECHANICAL & AEROSPACE ENGINEERING PROGRAM				
Sem 1 2017	**MECH2305** Introduction to Engineering Design & Manufacturing	**MATH2000** Calculus & Linear Algebra II (OR) **MATH2001** Advanced Calulus & Linear Algebra	**MECH2300** Structures & Materials	**MECH2410** Fundamentals of Fluid Mechanics	
Sem 2 2017	**MECH2100** Machine Element Design	**MECH2210** Intermediate Mechanical & Space Dynamics	**MECH2700** Engineering Analysis I	**ENGG1300** Introduction to Electrical Systems (OR) **Free elective** (if ENGG1300 has already been completed)	
Sem 1 2018	**MECH3300** Finite Element Method & Fracture Mechanics	**MECH3400** Thermodynamics & Heat Transfer	**MECH3600** Engineering Management & Communication	**MATH2010** Analysis of ODEs	**STAT2201** Analysis of Engineering & Scientific Data
Sem 2 2018	**MECH3200** Advanced Dynamics & Vibrations	**MECH3410** Fluid Dynamics	**MECH3100*** Mechanical Systems Design	**MECH3750** Engineering Analysis II	
Sem 1 2019	**MECH4500** Engineering Thesis (OR) **MECH4552** Major Design Project (OR) **ENGG4011 (#6)**	**METR4201** Control Engineering I	**AERO4450** Aerospace Propulsion	**AERO4470** Hypersonics & Rarefied Gas Dynamics (OR) **AERO4200** Flight Mechanics & Avionics	
Sem 2 2019		**AERO4100**** Aero Design & Manufacturing	**ENGG4900***** Professional Practice & the Business Environment	**MECH4480** Computational Fluid Dynamics (OR) **AERO4300** Aerospace Composites (OR) **AERO4800** Space Engineering	

*Replaces AERO3110 (see page 4 for further details)
**Recommended Dual Major enrolment (see page 4 for further details)
***Replaces ENGG4000 Dual Major elective (see page 4 for further details)

Further details on the changes shown in the above Recommended Study Plans are provided here –

- ***AERO3110 Aero Design and Manufacturing***
  AERO3110 Aero Design and Manufacturing is no longer offered and the content has been adapted into AERO4100.

  Students should enrol in MECH3100 Mechanical Systems Design instead of AERO3110 in Year 3, Semester 2 as AERO3110 (previously listed as a compulsory course in Year 3, Semester 2) is no longer offered.

  This is a result of a review of design courses offered by the School of Mechanical and Mining Engineering. Students in all mechanical plans will now complete a year-long design project through enrolment in MECH3600 Engineering Management & Communication (Semester 1) followed by MECH3100 Mechanical Systems Design (Semester 2) in the third year of the program.

- ***AERO4100 Aero Design and Manufacturing***
  Students should complete AERO4100 Aero Design and Manufacturing in Year 4, Semester 2 of their program. This course covers important content toward the Dual Major and will count as #2 toward the Dual Major as a Group A, B or C course.

- ***ENGG4000 Introduction to Systems Engineering***
  ENGG4000 Introduction to Systems Engineering will not be available from 2018 onwards. A systems engineering approach is now included in the MECH3600/MECH3100 combination of courses.

  Students in all mechanical plans are now required to complete ENGG4900 Profession Practice and the Business Environment. This will count as #2 toward the Dual Major as a Group A, B, or C course. From 2018 onwards, ENGG4900 will be offered in both Semester 1 and Semester 2.

1. AERO4200 Flight Mechanics and Avionics changes to Semester 1 offering

AERO4200 Flight Mechanics and Avionics will now be offered each year in Semester 1 only.

This change has resulted in the removal of ENGG4000 from the fourth year of the Mechanical & Aerospace Engineering study plan (as can be seen online here).

2. MECH4450 Aerospace Propulsion is recoded to AERO4450

Students who need to complete MECH4450, will now enrol in AERO4450. This is a Course Code change only to reflect the Aerospace content of the course.

3. AERO3110 Aero Design & Manufacturing is recorded to AERO4100

Students who need to complete AERO3110, will now enrol in AERO4100. This is a Course Code change only to reflect the Aerospace content of the course.

4. MECH4470 Hypersonics & Rarefied Gas Dynamics is recoded to AERO4470

Students who need to complete MECH4470, will now enrol in AERO4470. This is a Course Code change only to reflect the Aerospace content of the course.

5. MECH4800 Space Engineering is recoded to AERO4800

Students who need to complete MECH4800, will now enrol in AERO4800. This is a Course Code change only to reflect the Aerospace content of the course.

6. ENGG4000 Introduction to Systems Engineering

ENGG4000 Introduction to Systems Engineering will not be available from 2018 onwards.

Students who need to complete ENGG4000, can enrol in ENGG4900 Profession Practice and the Business Environment instead and this will count as #2 toward the Dual Major as a Group A, B, or C course. From 2018 onwards, ENGG4900 will be offered in both Semester 1 and Semester 2.