



# Source Outline

Term 2 2020

**AERO4110**

**Aerospace Design 2**

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# 1. Staff contact details

## Contact details and consultation times for course convenor

Name: Dr Sonya A Brown

Email: [sonya.brown@unsw.edu.au](mailto:sonya.brown@unsw.edu.au)

Microsoft Teams: AERO4110 class Teams

Moodle: <https://moodle.telt.unsw.edu.au/login/index.php>

Consultations (Microsoft Teams):

I will be available during all scheduled tutorial times on Microsoft Teams. Additional consultation is available on Thursday's 10-11am following the tutorial session. It is preferred

### 3. ~~6~~ ~~unit~~ ~~of~~ ~~credit~~

#### **Credit points**

This is a 6 unit-of-credit (UoC) course and involves 5 hours per week (h/w) of scheduled online contact.

The normal workload expectations of a student are approximately 25 hours per term for each UOC, including class contact hours, other learning activities, preparation and time spent on all assessable work.

You should aim to spend about 13 h/w on this course. The additional time should be spent in

Students are expected to have a sound understanding of aerospace regulations, aerodynamics, flight performance, propulsion, structural design and analysis, materials, flight dynamics, and aerospace systems prior to attempting this course.

### Student learning outcomes

This course is designed to address the learning outcomes below and the corresponding Engineers Australia Stage 1 Competency Standards for Professional Engineers as shown. The full list of Stage 1 Competency Standards may be found in Appendix A.

After successfully completing this course, you should be able to:

Learning Outcome		EA Stage 1 Competencies
1.	Produce a preliminary aircraft design to meet request for proposal and regulatory requirements.	PE 1.5, PE 2.1, PE 2.3, PE 3.3
2.	Apply aerospace cross-disciplinary principles appropriately for a congruous design.	PE 1.3, PE 1.4, PE 2.3, PE 3.4
3.	Cooperatively manage and contribute to an engineering team.	PE 1.6, PE 2.4, PE 3.5, PE 3.6
4.	Professionally communicate design concepts and information.	PE 3.2, PE 3.3

## 4. Teaching strategies

This course is a capstone aerospace design project to meet a given request for proposal. Students will address the design challenge in teams. Online lectures will introduce the design project and briefly outline / review some of the required areas for design. Lecture videos will be provided on Moodle and Microsoft Teams, and it is expected that you will watch these each week.

## 5.

<b>Week</b>	<b>Topic</b>	<b>Delivery Mode</b>	<b>Suggested Readings</b>
1	Introduction and RFPs Design Process Conceptual Design and Configuration	Online	Jane's All the World's Aircraft Raymer Ch 2
2	Existing Aircraft Comparisons & Weight Sizing	Online	

# 6. Assessment

## Assessment overview

Assessment	Group Project? (# Students per group)	Length	Weight	Learning outcomes assessed	Assessment criteria	Due date and submission requirements	Deadline for absolute fail	Marks re4 reWBDC
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be completed by 4:00pm Tuesday August 25<sup>th</sup>. Failure to complete the peer evaluation by the required deadline for any assessment will result in an individual penalty of 10% of the maximum mark possible for the assessment.

4. Weekly design meetings must be documented with minutes. Minutes should be uploaded in a timely manner to a folder located in the Files tab of the Meetings channel in your designated Microsoft Teams team.
5. Maximum page numbers exclude front matter, references, and appendices.
6. Presentations will commence at 1pm on Wednesday of Week 10. Presentation slides, and a soft copy of your brochure, must be submitted electronically. The due time is before the presentations as the PDF copy of your brochure is required prior to allow electronic distribution to industry representatives and UNSW staff attending the presentations. UNSW MakerSpace staff will support 3D printing your models for the presentation – however to achieve this, all files for printing must be delivered to the MakerSpace team by 10am on Tuesday of Week 9 (28<sup>th</sup> July). MakerSpace staff will submit your physical model on your behalf.

Further assessment details may be found on the course [Moodle](#) and Microsoft Teams once released.



## Assignments

### *Presentation*

All submissions are expected to be neat and clearly set out. Your results are the pinnacle of all your hard work and should be treated with due respect. Presenting results clearly gives the marker the best chance of understanding your method; even if the numerical results are incorrect.

### *Submission*

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of 20 percent (20%) of the maximum mark possible for that assessment item, per calendar day.

The late penalty is applied per calendar day (including weekends and public holidays) that the assessment is overdue. There is no pro-rata of the late penalty for submissions made part way through a day.

Work submitted after the 'deadline for absolute fail' is not accepted and a mark of zero will be awarded for that assessment item.

For some assessment items, a late penalty may not be appropriate. These are clearly indicated in the course outline, and such assessments receive a mark of zero if not completed by the specified date. Examples include:

- a. Weekly online tests or laboratory work worth a small proportion of the subject mark, or
- b. Online quizzes where answers are released to students on completion, or
- c. Professional assessment tasks, where the intention is to create an authentic assessment that has an absolute submission date, or
- d. Pass/Fail assessment tasks.

### *Marking*

Marking guidelines for assignment submissions will be provided at the same time as assignment details to assist with meeting assessable requirements. Submissions will be marked according to the marking guidelines provided.

### *Attendance*

Attendance is required at all online tutorials via Microsoft Teams. If your absence equates to more than 20% of tutorials, you may fail the course, or be denied special consideration.

You must be available for all assessments. Your Design Presentations will be held online on Wednesday, August 5<sup>th</sup> from 1-7pm. You must be present for the entire event.







# Competencies

## Stage 1 Competencies for Professional Engineers

<b>PE1: Knowledge and Skill Base</b>	<b>Program Intended Learning Outcomes</b>
	PE1.1 Comprehensive, theory-based understanding of underpinning fundamentals