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1. Staff contact d

Contact details and consultation times for course convenor

Name: Phil Howlin
Office location: J17/311E
Tel: (02) 9385 4180
Email: mman2700@unsw.edu.au
Moodle: https://moodle.telt.unsw.edu.au/course/view.php?id=38404

Consultation

Consultation for this subject will take place during the workshop sessions of the class. Minimal digital communication is expected. Personal matters can be raised by emailing the course email address (mman2700@unsw.edu.au) outlining the details of the matter and requesting a face-to-face meeting.

Head Demonstrator

Name: Moustafa Ali
Email: mman2700@unsw.edu.au

2. Important links

- Moodle
- Lab Access
- Computing Facilities
- Student Resou

Contact hours

	Day	Time	Location
Workshops *(Week 1 to 10[b] inclusive)*			

Summary and Aims of the course

This course introduces the student to the terminology, principles and methods used in engineering thermodynamics. Thermodynamics is a subject which deals with the transfer of energy essential for life. Thermodynamics has long been an essential part of engineering curricula all over the world. It has a broad application area ranging from microscopic organisms to common household appliances, transportation vehicles, power generation systems and even philosophy. The knowledge of thermodynamics gained in this course is essential to many other courses studied in the mechanical engineering degree programme, such as advanced thermofluids, aerospace propulsion, internal combustion engines, refrigeration and air conditioning and solar energy.

Most engineering jobs in a thermodynamic field will require greater knowledge than can be presented in a single session; however, an introduction to thermodynamics will be valuable to all engineers.

This course aims to prepare students for future studies in thermodynamics through the introduction of some common uses of thermodynamics and the analysis of thermodynamic cycles. Specifically, the aims of the course are to:

- Introduce students to the terminology associated with thermodynamics. Students should develop anel

Student learning outcomes

This course is designed to address the learning outcomes below and the corresponding

Class Pre-work Quiz and Workshop Quiz

Please read the following information carefully as it has an effect on your final course mark.

Class Pre-Work and Quiz

Before the first Workshop session each week there will be a Moodle Quiz assigned. There are a total of 10 Pre-work quizzes that will be assigned in this manner. Students may attempt each quiz as many times as they wish before the commencement of their assigned Workshop class, without penalty. If a student achieves a mark equal to 80% or greater in es 9 or 10 out of the 10 pre-work quizzes, the student will be allocated 10% of their course grade as a block of marks. If the student completes 8 or less of the pre-work quizzes, the student will receive zero (0%) for this component of the course.

It is very important to attempt the weekly quiz early and achieve a satisfactory grade *before* the commencement of the Workshop session *each week*. The pre-work quiz should be considered an individual assessment.

Workshop Quiz

In the first Workshop in Week 4, 7 and 10, there will be an in-class Workshop quiz. This quiz will be comprised of the hardest pre-work quiz questions and will be conducted in the first hour of the Workshop timeslot. Students will work in groups for this quiz. Only one attempt will be allowed for this quiz.

The total value of these 3 Workshop quizzes will be 5%, with relative weightings of 1.5% in Weeks 4 and 7 and 2% in Week 10.

Laboratories

Laboratory Pre-work and Attendance

There are 2 laboratories for this course, held in Week 2 and Week 6. Students are required to view a series of laboratory videos and complete a pre-laboratory quiz to demonstrate their knowledge prior to attending the laboratory. At the completion of the laboratory session, students will submit their recorded data to a central repository so that the readings can be shared by the whole class.

Each laboratory is worth 2 marks. This is divided between completion of the quiz and submission of the recorded data, each worth 1 mark. When the two laboratories are taken into consideration, this is worth 4 course marks.

Laboratory Report

Students will write a report in which they analyse the data generated by the class during the laboratory sessions and demonstrate their understanding of the thermodynamic principles at

work. This assessment is worth a maximum of 11 course marks. Details for this report will be shared on Moodle closer to the due date.

Assignment

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.

Additional materials provided in UNSW Moodle

Appendix A: Engineers Australia (EA) Competencies

Stage 1 Competencies for Professional Engineers

	Program Intended Learning Outcomes
PE1: Knowledge and Skill Base	PE1.1 Comprehensive, theory-based understanding of underpinning fundamentals
	PE1.2 Conceptual understanding of underpinning maths, analysis, statistics, computing
	PE1.3 In-depth understanding of specialist bodies of knowledge