MECH4620

COMPUTATIONAL FLUID DYNAMICS

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1. Staff contact details

Contact details and consultation times for course convenor

Name: Dr Victoria Timchenko
Office: Room 401C, J17
Tel: (02) 9385 4148
Fax: (02) 9663 1222
E-mail: v.timchenko@unsw.edu.au

Consultation times: Tuesdays 2-3pm. Communication prefereo3f7e4p6(f BT /t)-6.6(i)2<nh1 841.4(-52 T67

			boundary conditions x Heat exchanger exercise: Characterization of boundary conditions	
6	GHY	Turbulence: basics and introduction	x Backward facing step exercise: Convergence and Discretization, Turbulence models, T2 work	
7	GHY	Turbulence: applications of models	Major assignment work, T2 work	T2: turbulence
8	VT	Computational methods – discretisation	Major assignment work, T3 work	Initial assignment for literature review and mesh
9	VT	Solution Procedures	Major assignment work, T3 work	T3: Computational methods
10	VT	Post Processing – analysis of results. Validation and Verification	Major assignment work	
11	GHY	Multiphase modelling and combustion	Major assignment work	
12	GHY,VT	Revision	Major assignment work	Assignment due

The report you submit will be a technical report in the style of a journal article or industrial project report for a client familiar with CFD – a template will be provided to you which will also contain a structured marking criteria: you will write an abstract/executive summary, and you will be required to conduct a short review of some similar CFD you are able to find in relevant journal papers. Following this, you will write a discussion of your chosen numerical method and assumptions, and then sections relating to mesh convergence, turbulence modelling, and presentation of key results – these reflect the topics which will be covered in depth in the lectures and labs and comprise the typical structure of a research report.

Assessment of your major assignment will be taken in two steps. In week 8, you will be asked to submit an initial assignment for literature review and mesh. The final report for your major assignment will be the extended version of your initial assignment containing all your results. All details may be found in the template of the major assignment on Moodle.

Assignments

Presentation

All non-electric submissions should have a standard School cover sheet, which is available from this course's Moodle page.

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

Late submissions will be penalised 5 marks per calendar day (including weekends). An extension may only be granted in exceptional circumstances. Where an assessment task is worth less than 20% of the total course mark and you have a compelling reason for being unable to submit your work on time, you must seek approval for an extension from the course convenor before the due date . Special consideration for assessment tasks of 20% or greater must be processed through student.unsw.edu.au/special-consideration.

It is always worth submitting late assessment tasks when possible. Completion of the work, even late, may be taken into account in cases of special consideration.

Where there is no special consideration granted, the 'deadline for absolute fail' in the table above indicates the time after which a submitted assignment will not be marked, and will achieve a score of zero for the purpose of determining overall grade in the course.

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.

Examinations

There will be a three-hour examination at the end of the Semester.

You must be available for all tests and examinations. Final examinations for each course are held during the University examination periods, which are June for Semester 1 and November for Semester 2.

Provisional Examination timetables are generally published on myUNSW in May for Semester 1 and September for Semester 2

For further information on exams, please see the Exams section on the intranet.

Calculators

All of the above textbooks can be found in the UNSW Library website:
http://info.library.unsw.edu.au/web/services/services.html

Recommended Internet sites

www.ansys.com
www.cfd

website with a wealth of resources to support students to understand and avoid plagiarism: student.unsw.edu.au/plagiarism The Learning Centre assists students with understanding academic integrity and how not to plagiarise. They also hold workshops and can help students one-on-one.

You are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and the proper referencing of sources in preparing all assessment tasks.

If plagiarism is found in your work when you are in first year, your lecturer will offer you assistance to improve your academic skills. They may ask you to look at some online resources, attend the Learning Centre, or sometimes resubmit your work with the problem fixed. However more serious instances in first year, such as stealing another student's work or paying someone to do your work, may be investigated under the Student Misconduct Procedures.

Repeated plagiarism (even in first year), plagiarism after first year, or serious instances, may also be investigated under the Student Misconduct Procedures. The penalties under the procedures can include a reduction in marks, failing a course or for the most serious matters (like plagiarism in an honours thesis) even suspension from the university. The Student Misconduct Procedures are available here: www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf

Further information on School policy and procedures in the event of plagiarism is available on the intranet.

9. Administrative matters

All students are expected to read and be familiar with School guidelines and polices,

Appendix A: Engineers Australia (EA) Competencies

Stage 1 Competencies for Professional Engineers

	Program Intended Learning Outcomes
PE1: Knowledge	