MONASH University

Unit Guide

ENG1060
Computing for engineers

Semester 2, 2017

Table of contents

Unit handbook information

Synopsis

General rules for software development and design. Errors. Data types, variables, expressions, control statements M-files. Numerical techniques: Gauss elimination, solution of non-linear equations, optimisation, curve fitting, numerical calculus, ordinary differential equations.

Mode of delivery

Clayton (Day)
Malaysia (Day)

Workload requirements

2 hrs lectures, 3 hrs laboratory and 7 hrs private study per week

Unit relationships

Prerequisites

Mathematical methods (CAS) recommended.

Prohibitions

ENG1602

Co-requisites

ENG1091 or MTH1030 or MTH1035 or ENG1005

Chief Examiner(s)

Professor Julia Lamborn

Unit Coordinator(s)

Name: Prof Murray Rudman
Email: murray.rudman@monash.edu

Clayton/Malaysia staff contact details

Clayton campus	
Campus Coordinator	Name: Professor Murray Rudman Email: murray.rudman@monash.edu Building: 82 (New Horizons), Room: 218 Consultation hours: To be advised at start of semester
Lecturer(s)	Name: Professor Murray Rudman Email: murray.rudman@monash.edu Building: 82 (New Horizons), Room: 218 Consultation hours: To be advised at start of semester Name: Dr Tony Vo Email: Tony.Vo@monash.edu Building: , Room:

Malaysia campus	
Campus Coordinator	Name: Ms Teoh Boon Ean Email: teoh.boon.ean@monash.edu Building: 5, Room: 5-4-23 Consultation hours: To be advised at start of semester
Lecturer(s)	Name: Ms Teoh Boon Ean Email: teoh.boon.ean@monash.edu Building: 5, Room: 5-4-23

Demonstrator(s)

Clayton Campus
Head Demonstrator:
Tony Vo
Tony.Vo@monash.edu
Email to organize meeting

Malaysian Campus
Lab Demonstrators:
Dr. Md Abdus Samad Kamal (Md.Abdus.Samad@monash.edu)

Section A: For Clayton students

Academic Overview

Engineers Australia Stage 1 competencies

The Engineers Australia Policy on Accreditation of Professional Engineering Programs requires that all programs ensure that their engineering graduates develop to a substantial degree the stage 1 competencies. Listed below are the activities in this unit that will help you to achieve these competencies.

Note: that not all stage 1 competencies are relevant to each unit.

Element of competency	Indicators of attainment	Learning outcomes
1 Knowledge and skill base		
1.1 Engages with the engineering discipline at a phenomenological level, applying sciences and engineering fundamentals to systematic investigation, interpretation, analysis and innovative solution of complex problems and broader aspects of engineering practice.	**a)** Engages with the engineering discipline at a phenomenological level, applying sciences and engineering fundamentals to systematic investigation, interpretation, analysis and innovative solution of complex problems and broader aspects of engineering practice.	1,2,3,4
1.2 Develops and fluently applies relevant investigation analysis, interpretation, assessment, characterisation, prediction, evaluation, modelling, decision making, measurement, evaluation, knowledge management and communication tools and techniques pertinent to the engineering discipline.	**a)** Develops and fluently applies relevant investigation analysis, interpretation, assessment, characterisation, prediction, evaluation, modelling, decision making, measurement, evaluation, knowledge management and communication tools and techniques pertinent to the engineering discipline.	1,2,3,4
1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline.	**a)** Proficiently applies advanced technical knowledge and skills in at least one specialist practice domain of the engineering discipline.	1,2,3,4
2. Engineering application ability		
2.1 Application of established engineering methods to complex engineering problem solving.	**e)** e) Partitions problems, processes or systems into manageable elements for the purposes of analysis, modelling or design and then re-combines to form a whole, with the	4

	integrity and performance of the overall system as the paramount consideration.	
2.2 Fluent application of engineering techniques, tools and resources.	**a)** Proficiently identifies, selects and applies the materials, components, devices, systems, processes, resources, plant and equipment relevant to the engineering discipline.	1,2
	b) Constructs or selects and applies from a qualitative description of a phenomenon, process, system, component or device a mathematical, physical or computational model based on fundamental scientific principles and justifiable simplifying assumptions.	2,3,4
	d) Applies a wide range of engineering tools for analysis, simulation, visualisation, synthesis and design, including assessing the accuracy and limitations of such tools, and validation of their results.	1,2,3,4
	g) Analyses sources of error in applied models and experiments; eliminates, minimises or compensates for such errors; quantifies significance of errors to any conclusions drawn.	4
3. Professional and personal attributes		
3.3 Creative, innovative and pro-active demeanour.	**a)** Applies creative approaches to identify and develop alternative concepts, solutions and procedures, appropriately challenges engineering practices from technical and non-technical viewpoints; identifies new technological opportunities.	4

Teaching and learning method

Lectures: The unit comprises 24 hours of lectures. The lectures are intended to introduce topics and to guide the student through the general principles and concepts required to use a computer to solve fundamental engineering problems. The class notes will be made available in electronic form through Moddle. These should be consulted and printed out prior to lectures. After the lectures, video recordings of the lectures can be downloaded from Moodle.

3-hour Computer Laboratories: In the computer laboratory classes, the students will have the opportunity to apply the material covered in previous lectures. Each lab consists of a number of exercises for students to solve using MATLAB, which is available at all Engineering Computer Labs.

Computer laboratory sessions are scheduled to run weekly. Students should allocate themselves to a laboratory session through the Allocate+ system.

Students are also expected to study and revise for 7 hours every week

Laboratory allocation

There are 3 hours of laboratory classes scheduled each week, commencing in week 2. Students must enroll in a lab class only using Allocate Plus. Students not allocated to a particular class will not be accepted into that session without the written consent of the unit coordinator. Once a particular session is full, no more students will be accepted, unless evidence is shown that the student has a timetabling clash.

Communication, participation and feedback

Monash aims to provide a learning environment in which students receive a range of ongoing feedback throughout their studies. In this unit it will take the form of group feedback via lab classes, individual feedback, peer feedback, self-comparison, verbal and written feedback, discussions in class, online discussions as well as more formal feedback related to assignment marks and grades. Students are encouraged to draw on a variety of feedback to enhance their learning.

You can also find information on inclusive teaching practices for students with learning disabilities or mental health conditions at:

http://www.monash.edu.au/lls/inclusivity/

Learning outcomes

At the successful completion of this unit you will be able to:

1. Identify appropriate MATLAB programming structures to solve simple computational tasks.
2. Identify and describe which numerical methods can be used to solve common engineering problems.
3. Construct short computer programs that implement these numerical methods.
4. Apply these numerical methods and programs to basic engineering problems.

Your feedback to us

One of the formal ways students have to provide feedback on teaching and their learning experience is through the Student Evaluation of Teaching and Units (SETU) survey. The feedback is anonymous and provides the Faculty with evidence of aspects that students are satisfied with and areas for improvement.

Previous student evaluations of this unit

In response to previous SETU results of this unit, the following changes have been made:

- Improved audio and video lecture recordings.
- The use of MARS (*Monash Audience Response System).*
- Improved laboratory material.

Student feedback has highlighted the following strength(s) in this unit:

Improved laboratory classes with rapid feedback on assessment tasks

If you wish to view how previous students rated this unit, please go to:
https://unitevaluations.connect.monash.edu.au/unitevaluations/index.jsp

Unit schedule - Clayton campus

Week	Lecture	Lab	Assignment
1	Lecture 1 Introduction Lecture 2 MATLAB Basics	NONE	
2	Lecture 3 Matrices Lecture 4 Matrix Calculations & Plotting	Intro Lab /Lab1	
3	Lecture 5 Good Programming Practices Lecture 6 Functions	Lab 2	
4	Lecture 7 Input and Output Lecture 8 IF Statements	Lab 3	
5	Lecture 9 Loops Lecture 10 Loops	Lab 4	
6	Lecture 11 Debugging MATLAB Programs Lecture 12 Advanced Functions and Limitation of MATLAB	Lab5	
7	Lecture 13 Roots and Optimization (1) Lecture 14 Roots and Optimization (2)	Lab 6	
8	Lecture 15 Curve Fitting (1) Lecture 16 Curve Fitting (2)	Lab 7	Available on Moodle
9	Lecture 17 Numerical Integration (1) Lecture 18 Numerical Integration (2)	Lab 8	
Mid Semester Break			
10		Lab 9	

	Lecture 19 Ordinary Differential Equations (1) Lecture 20 Ordinary Differential Equations (2)		
11	Lecture 21 Linear Systems (1) Lecture 22 Linear Systems (2)	Lab 10	Assignment due Friday
12	Lecture 23 Feedback on Assignment Lecture 24 Exam Info Session	Assignment marking	Assignment marking during lab session
SWOT VAC			
31 October - 18 November	Examination period	LINK to Assessment Policy: http://www.policy.monash.edu/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html	

Assessment requirements

Assessment summary

Written examination (3 hours): 60%
Continuous assessment: 40%
Students are required to achieve at least 45% in the total continuous assessment component and at least 45% in the final examination component and an overall mark of 50% to achieve a pass grade in the unit. Students failing to achieve this requirement will be given a maximum of 45% in the unit.

Assessment task	Value	Due date
Laboratory	30% (3x10)	weekly
Assignment	10%	Friday Week 11
Examination	60%	To be advised

Assessment tasks

Assessment title: Laboratory
Mode of delivery: In computer lab
Details of task: Students will be assessed over 10 laboratory class. In particular, they will be assessed on the logic and efficiency of their computer programs to satisfy the laboratory requirements. Each laboratory will be worth 3%, giving a total of 30%. Laboratory attendance is mandatory.
Release dates (where applicable): Weekly
Word limit (where applicable): N/A
Due date: weekly

Value: 30% (3x10)
Presentation requirements: To be specified in class
Hurdle requirements (where applicable): Students must receive 45% or more in the TOTAL in-semester assessments (i.e. Labs + Assignment)
Individual assessment in group tasks (where applicable): N/A
Criteria for marking: Explained in lab sheet
Additional remarks: None

Assessment title: Assignment
Mode of delivery: Assignment sheet
Details of task: Students will be asked to submit an assignment in the second half of the semester involving the written and computer generated solution of a number of simple engineering problems. Further details will be made available during the semester. The assignment is worth 10%.

Your assignments are to be submitted electronically via the ENG1060 Moodle website. Further instructions will be given during semester.

Release dates (where applicable): Week 8
Word limit (where applicable): N/A
Due date: Friday Week 11
Value: 10%
Presentation requirements:
Hurdle requirements (where applicable): Students must receive 45% or more in the TOTAL in-semester assessments (i.e. Labs + Assignment)
Individual assessment in group tasks (where applicable): N/A
Criteria for marking: Explained on assignment sheet
Additional remarks: None

Examination(s)

Exam title: Examination
Weighting: 60%
Length: 3 hours
Type (Open/closed book): Closed
Hurdle requirements (where applicable): Students must receive at least 45% in the Exam to pass the unit.
Electronic devices allowed: Faculty of Engineering and Faculty of Science approved calculators ONLY
Remarks (where applicable): None

Calculators
A list of the Faculty of Engineering approved calculators and the process for obtaining a sticker is available online at:
http://www.eng.monash.edu.au/current-students/calculators.html

IMPORTANT: Only these listed calculators with the **authorised Monash University-Science or Monash University-Engineering STICKER** will be allowed into the examination by the invigilators.

The following scientific calculators that are **not** programmable, but are capable of

1-variable and 2-variable statistics, (**with the authorised "Monash University-Science, or Engineering" sticker**) **are approved** for use in this unit examination:

Graphical calculators and programmable calculators are not permitted in exams.

APPROVED Scientific Calculators:

Caieion: FM-83

Canon: F720, F720i

Casio: fx-82, fx-83, fx-85, fx-100, fx-115, fx-350, fx-570, fx-911, fx-991 and fx-992 series

Citizen: SR-135, SR-260, SR-270, SR-275

Hewlett Packard: HP-6s, HP-8s, HP-9s, HP-10s, HP-30s

Texas instruments: TI-30 and TI-34 series

Texet: Albert 2, Albert 3, Albert 5

Sharp: EL-506, EL-509, EL-520 and EL-531WH series

The sticker will be available from the Faculty office ground floor building 72. You must bring your calculator with you to the Faculty office at any time during the semester to receive a sticker. ***We recommend you do this well in advance of the exam.***

Note: This list is updated from time to time. The latest list may be found at

http://www.eng.monash.edu.au/current-students/download/approved-calculator-list.pdf

Section B: For Malaysia students

Academic Overview

Program Education Objectives
The School of engineering discipline expects to produce graduates, who are:
1. competent in School of engineering
2. responsible and effective global citizens
3. leaders in their chosen profession or society at large.

Program Outcomes
The School of engineering discipline has developed a set of Program Outcomes (POs) for all of its graduates based on the competencies required by the Malaysian Engineering Accreditation Council.

Program Outcomes (POs)	Activities used in this unit to develop POs, achievement of Bloom's domains and complex problem solving
PO1 **School of Engineering Knowledge:** Apply knowledge of mathematics, natural science, engineering fundamentals and specialisation in School of engineering to the solution of complex engineering problems	Cognitive:
PO2 **Problem Analysis:** Identify, formulate, survey research literature and analyse complex School of engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences	Cognitive:
PO3 **Design/Development of Solutions:** Design solutions for complex School of engineering problems and design systems, components or processes that meet specified needs.	Cognitive: Psychomotor:
PO4 **Research-based Investigation:** Conduct investigations of complex School of engineering problems using research-based knowledge and research methods including design of experiments, (analysis and interpretation of data, and synthesis of information to provide valid conclusions.	Cognitive:
PO5 **Modern Tool Usage:** Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex School of engineering problems, with an understanding of the limitations	Cognitive: Psychomotor:
PO6 **Engineer and Society:** Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice	Affective:

Program Outcomes (POs)	Activities used in this unit to develop POs, achievement of Bloom's domains and complex problem solving
and solutions to complex School of engineering problems	
PO7 **Environment and Sustainability:** Understand and evaluate the sustainability and impact of professional engineering work in the solution of complex School of engineering problems in environmental contexts.	Cognitive: Affective:
PO8 **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.	Affective:
PO9 **Communication:** Communicate effectively on complex School of engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions	Affective:
PO10 **Individual and Team work:** Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings	Affective:
PO11 **Lifelong Learning:** Recognise the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change	Affective:
PO12 **Project Management and Finance:** Demonstrate knowledge and understanding of engineering management principles and economic decision-making and apply these to manage projects	Cognitive: Affective:

Teaching and learning method

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3-hour Computer Laboratories: In the computer laboratory classes, the students will have the opportunity to apply the material covered in previous lectures. Each lab consists of a number of exercises for students to solve using MATLAB, which is available at all Engineering Computer Labs.

Computer laboratory sessions are scheduled to run weekly. Students should allocate themselves to a laboratory session through the Allocate+ system.

Students are also expected to study and revise for 7 hours every week

Laboratory allocation

There are 3 hours of laboratory classes scheduled each week, commencing in week 2. Students must enroll in a lab class only using Allocate Plus. Students not allocated to a particular class will not be accepted into that session without the written consent of the unit coordinator. Once a particular session is full, no more students will be accepted, unless evidence is shown that the student has a timetabling clash.

Communication, participation and feedback

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3. Construct short computer programs that implement these numerical methods.
4. Apply these numerical methods and programs to basic engineering problems.

OBE requirements to learning outcomes (LOs)

Learning Outcomes (LOs) for Outcome Based Education (OBE) requirements	Handbook Learning Outcomes (LOs)	
1. Apply basic programming syntax and build-in functions		To develop structured problem solving

to develop programming solution		techniques and to develop a knowledge of programming concepts and the ability to write simple programs
2. Create solutions for complex problem using structured problem solving techniques	To develop an understanding of commonly used numerical methods for solving engineering problems; the ability to appropriately apply numerical methods to engineering problems and to know some of the limitations of such methods	
3. Operate software package (i.e. MATLAB) to develop and demonstrate complex programming solution		
4. Design and evaluate numerical solutions for complex engineering problem using suitable numerical method and software tool		

Relationship between unit learning outcomes and program outcomes

No.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
LO1	√											
LO2		√										
LO3					√							√
LO4			√									

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Student feedback has highlighted the following strength(s) in this unit:

Improved laboratory classes with rapid feedback on assessment tasks

If you wish to view how previous students rated this unit, please go to:
https://emuapps.monash.edu.au/unitevaluations/index.jsp

Unit schedule - Malaysia campus

Week	Lecture	Lab	Assignment
1	Lecture 1 Introduction Lecture 2 MATLAB Basics	NONE	
2	Lecture 3 Matrices Lecture 4 Matrix Calculations & Plotting	Intro Lab /Lab1	
3	Lecture 5 Good Programming Practices Lecture 6 Functions	Lab 2	
4	Lecture 7 Input and Output Lecture 8 IF Statements	Lab 3	
5	Lecture 9 Loops Lecture 10 Loops	Lab 4	
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Mid Semester Break			
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SWOT VAC			
31 October - 18 November	Examination period	LINK to Assessment Policy: http://www.policy.monash.edu/policy-bank/academic/education/assessment/assessment-in-coursework-policy.html	

Assessment Summary

Written examination (3 hours): 60%
Continuous assessment: 40%
Students are required to achieve at least 45% in the total continuous assessment component and at least 45% in the final examination component and an overall mark of 50% to achieve a pass grade in the unit. Students failing to achieve this requirement will be given a maximum of 45% in the unit.

Assessment task	Value	Due date
1. Labs	30%	**Weekly**
2. Assignment	10%	**Friday Week 11**
4. Exam	60%	**Exam Period**

Bloom's Taxonomy:
Three domains of educational activities have been identified under the general taxonomy known as Bloom's.

- **Cognitive**: mental skills (*Head*)
- **Affective**: growth in feelings or emotional areas (*Heart*)
- **Psychomotor**: manual or physical skills (*Hand*)

The *cognitive* domain involves knowledge and the development of intellectual skills. This includes the recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills.

The *affective* domain includes the attitudes with which someone deals with things emotionally, such as feelings, values, appreciation, enthusiasms and motivations.

The *psychomotor* domain includes physical movement, coordination, and use of the motor-skill areas. Development of these skills requires practice and is measured in terms of speed, precision, distance, procedures, or techniques in execution.

Key for the LO-assessment relationship table above:

Cognitive

C1	C2	C3	C4	C5	C6
Knowledge: Remembers previously learned material	**Comprehension:** Grasps the meaning of material (lowest level of understanding)	**Application:** Uses learning in new and concrete situations (higher level of understanding)	**Analysis:** Understands both the content and structure of material	**Synthesis:** Formulates new structures from existing knowledge and skills	**Evaluation:** Judges the value of material for a given purpose

Psychomotor

P1	P2	P3	P4	P5	P6	P7
Perception: Senses cues that guide motor activity	**Set:** Is mentally, emotionally and physically ready to act	**Guided Response:** Imitates and practices skills, often in discrete steps	**Mechanism:** Performs acts with increasing efficiency, confidence and proficiency	**Complete Overt Response:** Performs automatically	**Adaption:** Adapts skill sets to meet a problem situation	**Organisation:** Creates new patterns for specific situations

Affective

A1	A2	A3	A4	A5
Receiving: Selectively attends to stimuli	**Responding:** Responds to stimuli	**Valuing:** Attaches value or worth to something	**Organisation:** Conceptualises the value and resolves conflict between it and other values	**Internalising:** Integrates the value into a value system that controls behaviour

Relationship between Assessments and OBE Learning Outcomes (LOs)

Assessment		Learning Outcomes				Open-ended Labs
		LO1	LO2	LO3	LO4	
1	Lab1			P3		-
2	Lab 2 - Lab 5	C3				-
3	Lab 6 - Lab 10		C4			-
4	Assignment				C5	-
5	Final Exam - Part A	C4				-
6	Final Exam - Part B		C4			-

Relationship between Assessments and Complex Problems /Activities

Assessment	Complex Problems	Complex Activities

	Depth of Knowledge	Range of Requirements	Depth of Analysis	Infrequent Issues	Extent of Codes	Stakeholder Involvement	Components or Sub-problems	Range of Resources	Level of Interactions	Innovation	Consequences to Society and Environment	Unfamiliarity
1	Lab 1	x			x							
2	Lab 2 - Lab 5	x		x								
3	Lab 6 - Lab 10	x		x								
4	Assignment	x						x				
5	Final Exam - Part A	x		x								
6	Final Exam - Part B	x		x								

Assessment requirements

Assessment tasks

Assessment title: Lab
Mode of delivery: Computer Labs
Details of task: Students will be assessed over 10 laboratory classes. The lab questions are designed to test the recollection of the lecture material. Students are required to write MATLAB programs that produce correct answer and satisfy the question's requirement. Laboratory attendance is mandatory.
Release dates (where applicable): One week in advance
Word limit (where applicable): Not applicable
Due date: Weekly
Value: 30% (3% for each lab, Lab 1-10).
Presentation requirements: As detailed in Labs
Hurdle requirements (where applicable): -
Individual assessment in group tasks (where applicable): Not applicable
Criteria for marking: The labs will be assessed on the correctness, logic and efficiency of the computer programs to satisfy the laboratory. Marking scheme for each lab is different depending on the question's requirement.
Additional remarks: Estimated return date: 2 weeks after the due date

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Assessment title: Assignment
Mode of delivery: Not applicable
Details of task: Students will be asked to submit an assignment in the second half of the semester involving the written and computer generated solution of a number of simple engineering problems. Further details will be made available during the semester.
Release dates (where applicable): Week 8
Word limit (where applicable): Not applicable
Due date: Friday Week 11
Value: 10%
Presentation requirements: Refer to Moodle for up-to-date information
Hurdle requirements (where applicable): -
Individual assessment in group tasks (where applicable): Not applicable
Criteria for marking: The code produces correct results automatically (without user intervention) and is well written based on good programming practices discussed in lecture.
Additional remarks: **Estimated return date:** Early Week 13

Examination(s)

Exam title: Examination
Weighting: 60%
Length: 3 hours
Type (Open/closed book): Closed book
Hurdle requirements (where applicable): Students must obtain at least 45% in the Exam to pass the unit.
Electronic devices allowed: Faculty approved calculator
Remarks (where applicable): The three hour closed book examination (60%) forms the major part of the assessment in this subject. You will need to bring a calculator to this examination. The examination is designed to test not only your MATLAB knowledge and ability to solve problems, but also your understanding of the numerical methods and techniques, and will comprise a number of questions similar to those encountered in the computer labs and the assignment.

Calculators

A list of the Faculty of Engineering approved calculators and the process for obtaining a sticker is available online at:
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IMPORTANT: Only these listed calculators with the **authorised Monash University-Science or Monash University-Engineering STICKER** will be allowed into the examination by the invigilators.

The following scientific calculators that are **not** programmable, but are capable of

1-variable and 2-variable statistics, (**with the authorised "Monash University-Science, or Engineering" sticker**) **are approved** for use in this unit examination:

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Canon: F720, F720i

Casio: fx-82, fx-83, fx-85, fx-100, fx-115, fx-350, fx-570, fx-911, fx-991 and fx-992 series

Citizen: SR-135, SR-260, SR-270, SR-275

Hewlett Packard: HP-6s, HP-8s, HP-9s, HP-10s, HP-30s

Texas instruments: TI-30 and TI-34 series

Texet: Albert 2, Albert 3, Albert 5

Sharp: EL-506, EL-509, EL-520 and EL-531WH series

The sticker will be available from the Faculty office ground floor building 72. You must bring your calculator with you to the Faculty office at any time during the semester to receive a sticker. ***We recommend you do this well in advance of the exam.***

Note: This list is updated from time to time. The latest list may be found at

http://www.eng.monash.edu.au/current-students/download/approved-calculator-list.pdf

Section C: All students

Extensions and penalties

The due dates for the submission of assignments are given in previous sections. Please make every effort to submit work by the due dates. Students are advised to NOT assume that granting of an extension is a matter of course.

If you need an extension for any of the assignments, you must submit a written request **48- hours before the due time and date, and attach supportive evidence** such as medical certificate.

The request should preferably be forwarded as an email attachment, sent to the unit coordinator. The email should be sent from your University email address with your name typed in lieu of signature.

Note that other lecturers cannot grant extensions. Lecturer-in-charge (unit coordinator) will indicate at the time of granting the extension whether any penalty in marks will apply to the submitted work.

If an extension is granted, the approval must be attached to the assignment.

Returning assignments

Assignments will be returned via Moodle

Resubmission of assignments

Resubmissions are explicitly allowed through Moodle until the due date.

Plagiarism and collusion

Intentional plagiarism or collusion amounts to cheating under Part 7 of the Monash University (Council) Regulations.

Plagiarism: Plagiarism means taking and using another person's ideas or manner of expressing them and passing them off as one's own. For example, by failing to give appropriate acknowledgement. The material used can be from any source (staff, students or the internet, published and unpublished works).

Collusion: Collusion means unauthorised collaboration with another person on assessable written, oral or practical work and includes paying another person to complete all or part of the work. Where there are reasonable grounds for believing that intentional plagiarism or collusion has occurred, this will be reported to the Associate Dean (Education) or delegate,

Referencing requirements

To build your skills in citing and referencing, and using different referencing styles, see the online tutorial Academic Integrity: Demystifying Citing and Referencing at http://www.lib.monash.edu.au/tutorials/citing/

Assignment submission

Hard Copy Submission:

Online Submission: If Electronic Submission has been approved for your unit, please submit your work via the Moodle site or other; as directed by your demonstator for this unit.
Please keep a copy of tasks completed for your records.

Feedback to you

Lab grades and informal feedback from demonstrators, written comments attached with assignment grade, online discussion board.

Learning resources

Recommended textbooks

Textbook

- **ENG1060 Computing for Engineers**, Prepared by Wai Ho Li, ISBN 9780070285125
- **Introduction to MATLAB 7 for Engineers**, William J. Palm III, McGraw-Hill
- **Applied Numerical Methods with MATLAB for Engineers and Scientists**, S. C. Chapra, Second Edition, McGraw-Hill, 2008.

Monash Library Unit Reading List (if applicable to the unit):
http://readinglists.lib.monash.edu/index.html

Required resources

Students generally must be able to complete the requirements of their course without the imposition of fees that are additional to the student contribution amount or tuition fees. However,

students may be charged certain incidental fees or be expected to make certain purchases to support their study. For more information about this, go to Administrative Information for Higher Education Providers: Student Support, Chapter 21, Incidental Fees at: http://www.innovation.gov.au/HigherEducation/TertiaryEducation/ResourcesAndPublications/Pages/default.aspx

Electronic of all lecture notes, recorded lectures and laboratory questions are available on Moodle for reference. MATLAB software is available in all computers in the computer labs and library. Monash Library Unit Reading List: http://readinglists.lib.monash.edu/index.html

Technological requirements

Students should regularly check the Moodle site for this unit together with their student emails for updates and information related to this unit.

Other information

Policies

Monash has educational policies, procedures and guidelines, which are designed to ensure that staff and students are aware of the University's academic standards, and to provide advice on how they might uphold them. You can find Monash's Education Policies at: http://www.policy.monash.edu/policy-bank/academic/education/index.html

Graduate Attributes Policy

http://www.monash.edu/policy-bank/academic/education/course-governance-and-design/course-design-policy

Student Charter

http://www.monash.edu/students/policies/student-charter.html

Student Services

The University provides many different kinds of services to help you gain the most from your studies. Contact your tutor if you need advice and see the range of services available at http://www.monash.edu/students.

Malaysia students go to: http://www.monash.edu.my/Student-services/.

Monash University Library

The Monash University Library provides a range of services, resources and programs that enable you to save time and be more effective in your learning and research.
Go to http://www.monash.edu/library or the library tab in http://my.monash.edu.au portal for more information.

For Malaysia students the Library and Learning Commons, Monash University Malaysia Campus, provides a range of services and resources that enable you to save time and be more effective in your learning and research.
Go to http://www.lib.monash.edu.my or the library tab in my.monash portal for more information.

Disability Support Services

Students who have a disability, ongoing medical or mental health condition are welcome to contact Disability Support Services.

Disability Support Services also support students who are carers of a person who is aged and frail or has a disability, medical condition or mental health condition.

Disability Advisers visit all Victorian campuses on a regular basis.

- Website: monash.edu/disability
- Telephone: 03 9905 5704 to book an appointment with an Adviser;
- Email: disabilitysupportservices@monash.edu
- Drop In: Level 1, Western Annexe, 21 Chancellors Walk (Campus Centre) Clayton Campus

At Malaysia campus, for information and referral, telephone: Student Adviser, Student Community Services at 03 55146018 or, drop in at Student Community Services Department, Level 2 Building 2, Monash University Malaysia Campus.