



UNSW  
AUSTRALIA

2 2016

Never Stand Still

Engineering

Mechanical and Manufacturing Engineering

**MTRN3500**

**COMPUTING APPLICATIONS IN  
MECHATRONIC SYSTEMS**

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4.	To have developed the conceptual understanding of the underlying computing	PE 1.2, PE2.2
5	Effective oral and written communication skills during the interviews with the demonstrators	PE 3.2

### 3. Learning Outcomes

Teaching of this course is through lectures and laboratory sessions. All laboratory work is individual work and attendance is preferred.

The provision of the learning environment in the laboratory is to facilitate you to develop confidence in managing laboratory tasks as projects. Demonstrators in the laboratories are there to provide you all the guidance and assistance in managing the laboratory tasks.

### 4. Laboratory Schedule

Topic	Date Wed (9am-11am)	Location	Lecture Content	Demo/ Lab	Suggested Readings
Revision of OOP	Week 1	Colombo B	Revision of Object Oriented Programming	None	Moodle lecture notes
General Interfacing	Week 2	Colombo B	Principles of input/output to hardware	None	Moodle lecture notes
Data acquisition systems	Week 3	Colombo B	Programming data acquisition systems	None	Moodle lecture notes
Serial Communication	Week 4	Colombo B	Programming serial communication	None	Moodle lecture notes
Ethernet Communication	Week 5	Colombo B	Client and server software	None	Moodle lecture notes
Binary and ASCII Data	Week 6	Colombo B	Dealing with binary and ASCII data	None	Moodle lecture notes
File Streams	Week 7	Colombo B	File I/O with binary and ASCII data	None	Moodle lecture notes
Reading Sensors	Week 8	Colombo B	Reading sensors such as		

5.









	<b>Program Intended Learning Outcomes</b>
<b>PE1: Knowledge and Skill Base</b>	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
	PE1.4 Discernment of knowledge development and research directions
	PE1.5 Knowledge of engineering design practice
	PE1.6 Understanding of scope, principles, norms, accountabilities of sustainable engineering practice

**PE2: Engineering Application Ability**

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