



Course Outline

MTRN9222

**ARTIFICIALLY INTELLIGENT
MACHINES**

Contents

1. Staff Contact Details	2
2. Course details	2
3. Teaching strategies.....	4
4. Course schedule	4
5. Assessment	5
6. Expected Resources for students.....	7
7. Course evaluation and development	7
8. Academic honesty and plagiarism.....	7
9. Administrative Matters.....	8
Appendix A: Engineers Australia (EA) Professional Engineer Competency Standards.....	9

Localization 2	week 8	LR	Alternative approach: Applying an optimizer for solving the localization problem	No	Moodle lecture notes
Special Topic	week 9	LR	Case of Study: SLAM (Simultaneous Localization and Mapping)	No	Moodle lecture notes
PSO	week 10	LR	Introduction to PSO (Particle Swarm Optimization)	No	Moodle lecture notes
Genetic Algorithms	week 11	LR	Introduction to Genetic Algorithms	No	Moodle lecture notes
Fuzzy Logic	week 12	LR	Introduction to Fuzzy Logic	No	Moodle lecture notes
Revision	week 13	LR	Revision and discussion	No	Moodle lecture notes

(note: LR = lecture Room = Old Main Building 145)

5. Assessment

Assessment task	Length	Weight	Learning outcomes assessed	Assessment criteria	Due date, time, and submission requirements
Projects	4 projects	50%	1,3	Refer to assignments	

Task 2	Completely operational software	6%	3	Refer to assignment specification for exact details.	Meeting with a demonstrator during week 7.
--------	---------------------------------	----	---	--	--

For further information on exams, please see [Administrative Matters](#).

Calculators

You will need to provide your own calculator, of a make and model approved by UNSW, for the examinations. The list of approved calculators is shown at <https://student.unsw.edu.au/exam-approved-calculators-and-computers>

It is your responsibility to ensure that your calculator is of an approved make and model, and to obtain an “Approved” sticker for it from the School Office or the Engineering Student Centre prior to the examination. Calculators not bearing an “Approved” sticker will not be allowed into the examination room.

Special Consideration and Supplementary Assessment

For details of applying for special consideration and conditions for the award of supplementary assessment, see [Administrative Matters](#), available on the School website and on Moodle, and the information on UNSW’s [Special Consideration page](#).

6. Expected Resources for students

All the academic material is provided by the lecturer (Lecture notes, example data, software libraries, example code, sensors and equipment)

7. Course evaluation and development

Feedback on the course is gathered periodically using various means, including the Course and Teaching Evaluation and Improvement (CATE()-4.77(21i)4.74102(E)3.56074(()-4.77(21i)4.74102(E)36

Plagiarism is a type of intellectual theft. It can take many forms, from deliberate cheating to

Appendix A: Engineers Australia (EA) Professional Engineer Competency Standards

	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
	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	PE2.1 Application of established engineering method