MTRN4010

ADVANCED AUTONOMOUS SYSTEMS

Contents

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1. Staff Contact Details

Contact details and consultation times for course convenor

Name: Dr Jose Guivant
Office: ME311B, J17
Tel: (02) 9385 4096
Email: J.Guivant@unsw.edu.au

Consultation Times: To be agreed with students, before week 2.

[illegible]

Credit Points:

This is a 6 unit-of-credit (UoC) course, and involves 5 hours per week (h/w) of face-to-face contact.

ns of a student are approximately 25 hours per semester for each UoC, including class contact hours, other learning activities, preparation and time spent on all assessable work. Thus, for a full-time enrolled s4(ho)3(urs)9( )6(pe)334(s0 0 1 413.35 468 Tm[t)-4(i)5(m)-3(e)13( )]95.69 64.81 lS EMC /P <</MC

3. Teaching strategies

Teaching of this course is through lectures to cover the theory and laboratory and project sessions to put it in practice. All laboratory work is individual work and attendance is necessary

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 is managing the laboratory tasks.

Example source code for the projects is provided, in order to help in the understanding and full implementation of the projects.

Projects complexity is incremental, in order to allow the student to finally complete the solution of a complex problem.

4. Course schedule

Topic	Date	Location

Special Topic	week 9	LR	Case of Study: SLAM (Simultaneous Localization and Mapping) or similar problem (to be decided with the students).	Moodle lecture notes
PSO	week 10	LR	Introduction to PSO (Particle Swarm Optimization)	Moodle lecture notes

Project 2	42%	1,3	Refer to assignment specification for exact details (*).	Meeting with a demonstrator during week 12. (2)

(*) Provided via Moodle; 2 weeks before the official release of the project.
(2) Students can expect the marks to be available in less than two weeks(after submission).

Assignments

Presentation

All programs and results must be explained to your demonstrator. A significant portion of the marks are for your knowledge demonstration during your meeting with the demonstrator.
A short quiz (for all the students in a lab session), before the demonstration, may be required by the demonstrators. In such cases, the quiz would commence 10 minutes past the nominal starting time of the lab/project session. Students who are not able to attend a demonstration session must apply for special consideration.

At the end of the demonstrations, you must submit all your software and report (if required) in a zipped file, via a Moodle submission site, before midnight of the Friday of the week the assignment is assessed. Details about the format and name convention for programs files and reports will be explained with the release of the tasks and projects.

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,

It is your responsibility to ensure that your calculator is of an approved make and model, and

ticker 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 the School intranet 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).

In addition to the real-time data provided by the sensors, a dataset of typical measurements are provided for allowing the students to perform play-back sessions and work at home when needed.

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Feedback on the course is gathered periodically using various means, including the Course and Teaching Evaluation and Improvement (CATEI) process, informal discussion in the final class for the course,
feedback is taken seriously, and continual improvements are made to the course based, in part, on such feedback.

In this course, recent improvements resulting from student feedback includes the practical component, which has been adapted to providing skills and experience in line with the state of the art of the related area of Engineering. More sensors have been added to the experimental and project components of the course.

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UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW students have a responsibility to adhere to this principle of academic

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

Appendix A: Engineers Australia (EA) Professional Engineer Graduate Attributes

	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 methods to complex problem solving
	PE2.2 Fluent application of engineering techniques, tools and resources