MECH 7004 ADVANCED MOBILE ROBOTICS

Credit Points 10

Legacy Code 301020

Coordinator Gu Fang (https://directory.westernsydney.edu.au/search/name/Gu Fang/)

Description This subject aims to develop an understanding of Mobile Robotics, encompassing fundamental concepts such as mobile robot mechanics, localisation, map building, and path planning. Additionally, the subject will introduce diverse sensors and their applications in the field of mobile robotics.

School Eng, Design & Built Env

Discipline Mechanical And Industrial Engineering And Technology

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Postgraduate Coursework Level 7 subject

Restrictions

Students must be enrolled in a postgraduate program OR in 8083 Bachelor of Research Studies.

Assumed Knowledge

Some basic skills in computer programming, such as MATLAB and C++.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Model different types of mechanical structures of mobile robots.
2. Solve issues of localisation in mobile robots.
3. Examine the map building and path planning techniques used in mobile robotics.
4. Evaluate various sensors and assess their applications in mobile robots.

Subject Content

1. Mechanics of Mobile robots
2. Localisation, map-building and path planning
3. Sensors and sensing techniques.
4. Recent development in mobile robots

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Practical	3x 2hrs	20	N	Individual	N
Quiz	3x0.5hr	30	N	Individual	N
Report	Report is limited to 15 pages max.	30	N	Group/ Individual	N
Report	Report is limited to 15 pages max.	20	N	Individual	N

Teaching Periods

Spring (2024)

Parramatta City - Macquarie St

On-site

Subject Contact Gu Fang (https://directory.westernsydney.edu.au/search/name/Gu Fang/)

View timetable (https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=MECH7004_24-SPR_PC_1#subjects)

Spring (2025)

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