

Welcome to Embedded Systems – ELEC3020
 Professor Thomas Bräunl, office EE4.15, phone 6488-1763

2025

Unit web site:

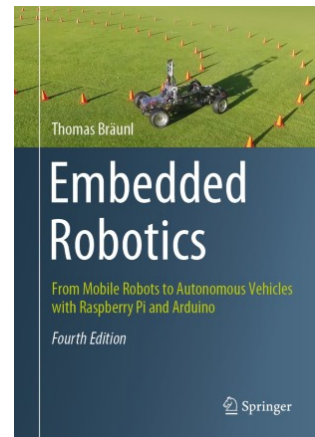
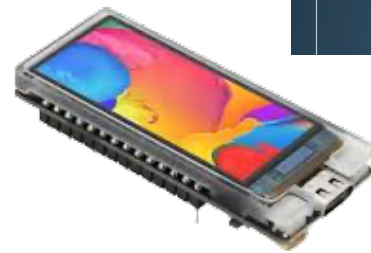
<http://roblab.org/courses/embedded/>
<http://roblab.org/ttgo/>

Lab / Project Contact:

- Kieran Quirke-Brown <kieran.quirke-brown@uwa.edu.au>

Material:

- Lecture notes **free online** on LMS or printed from bookstore
- Textbook “Embedded Robotics” 4th Ed., **free online** at UWA OneSearch or at bookstore
- Each student gets a **free TTGO controller** !
Collect in lab session.



Weekly:

- Lectures In-person (recorded)
- Tutorials / lab preparations In-person (recorded)
- Labs week 3–12, 1-2 students per group, three-hour block
- Project week 6–12, 3-4 students per group, free timing

Assessment:

- Labs 20% wk 3-12 best 9 out of 10 labs (must do final lab)
- Project 20% wk 6-12
- Midterm 1 30% wk 6
- Midterm 2 30% wk 11
- Total 100%

Semester Dates:

Week	Week start	Lecture Mon.	Lecture Thu.	EmRo reading	Project	Tut	Tutorial/Prep.	Lab	Type	Lab contents
1	21-Jul	1. Introduction	2. Number Systems	Ch. 1 + notes				--	--	---
2	28-Jul	3. Circuits	4. Memory + Retro demo	Ch. 2.1–2.3		1	Number Systems	--	--	---
3	4-Aug	5. CPU	(continued)	Ch. 2.4–2.7		3	CPU/Retro	1	Sim	State Machines
4	11-Aug	6. Assembly	7. C Programming	Ch. 3 + notes		4	ASM+C+Gates	2	Sim	CPU-Design
5	18-Aug	8. EPS32 9. Architecture	10. Actuators	notes + Ch. 6		5	TTGO + C	3	HW	Adder/Counter
6	25-Aug	Test preparation	Midterm-1	--	Start	6	Actuators	4	TTGO	Reaction Game
	1-Sep	STUDY BREAK								
7	8-Sep	11. Sensors		C-Book + online	work	7	Sensors + IOT	5	TTGO	Servo Control
8	15-Sep	12. Control		Ch. 7+ Ch. 5	work	8	Motor Control, PID	6	TTGO	IOT
9	22-Sep	13. Image Proc.		notes + Ch. 4	work	9	Robot Drive	7	TTGO	PID Motor Control
10	29-Sep	Public Holiday	14. Interfaces 15. Multit.	Ch.5.11 + Ch.16	work	10	Image Processing	8	Rasp	Robot Driving
11	6-Oct	Test preparation	Midterm-2	--	work	--	--	9	Rasp	Image Processing
12	13-Oct	Video presentations	Project presentations	--	Finish	--	--	10	Rasp	Can collection