

Welcome to Digital & Embedded Systems 2019

ENSC3020/ELEC4403

Professor Thomas Bräunl

Office EE4.15, phone 6488-1763

Consultation time: Mon. 14:00–15:00

Unit web site:

<http://robotics.ee.uwa.edu.au/courses/des/>

<http://robotics.ee.uwa.edu.au/nano/>

<http://robotics.ee.uwa.edu.au/rasp/>

Lab / Project Contact:

- Marcus Pham <marcus.pham@uwa.edu.au>
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You will need to sign up for:

- Lab class 3 hours weekly from week 2 (groups of 2)
work on embedded hardware
- Practical Class 1 hour weekly from week 2 (will be recorded)
lab preparation and tutorial
- Project team free timing from week 6 (groups of 4)
building your own system

Assessment:

- Midterm 1 30% wk 6
- Midterm 2 30% wk 11
- Prac Course Lab – wk 2+3, pass/fail
- Labs 20% wk 4-12, 9 labs (count 8 best incl. #9), groups of 2
- Project 20% wk 6-12, 1 project, groups 4
- Total 100%

Semester Dates:

week	week start	lecture A (2 lect.)	lecture B (2 lect.)	reading	project	tutorial/prep.	lab	type	lab contents
1	29-Jul	0. Org., 1. Intro	2. Number Systems	ER Ch. 1		–	–	–	---
2	5-Aug	3. Com.&Seq. Circuits	4. Memory	2.1 – 2.3		1 Number Systems	P1	Prac	Tools + PCB Design
3	12-Aug	5. CPU	5. CPU	2.4 – 2.7		2 Combinatorial	P2	Prac	Soldering + 3D Print
4	19-Aug	6. Assembly	7. State Machines	notes	Kick-Off	3 CPU/Retro	1	Sim	State Machines
5	26-Aug	8. Architecture	9. Actuators	Ch. 4		4 Hardware+ASM	2	Sim	CPU-Design
6	2-Sep	Test preparation	Midterm 1		Start	5 State Machines	3	HW	Adder
7	9-Sep	10. C Programming	10. C Programming	C-Book	work	6 C Programming	4	HW	Counter
8	16-Sep	–	–		work	7 Nano	5	C	Reaction Game
9	23-Sep	Guest Lecture	11. Control + 12. Linux	Ch. 5	work	8 PID / Raspberry	6	C	Servo Control
break	30-Sep								
10	7-Oct	13. Sensors	14. Image Proc. 15. IO	3 + 19	work	9 Image Processing	7	C	Motor Control
11	14-Oct	Test preparation	MidTerm 2	ER	work	10 Robot Driving	8	C	Image Processing
12	21-Oct	Project present. 3020	Project present. 4403		Finish	–	9	C	Can Colletion

