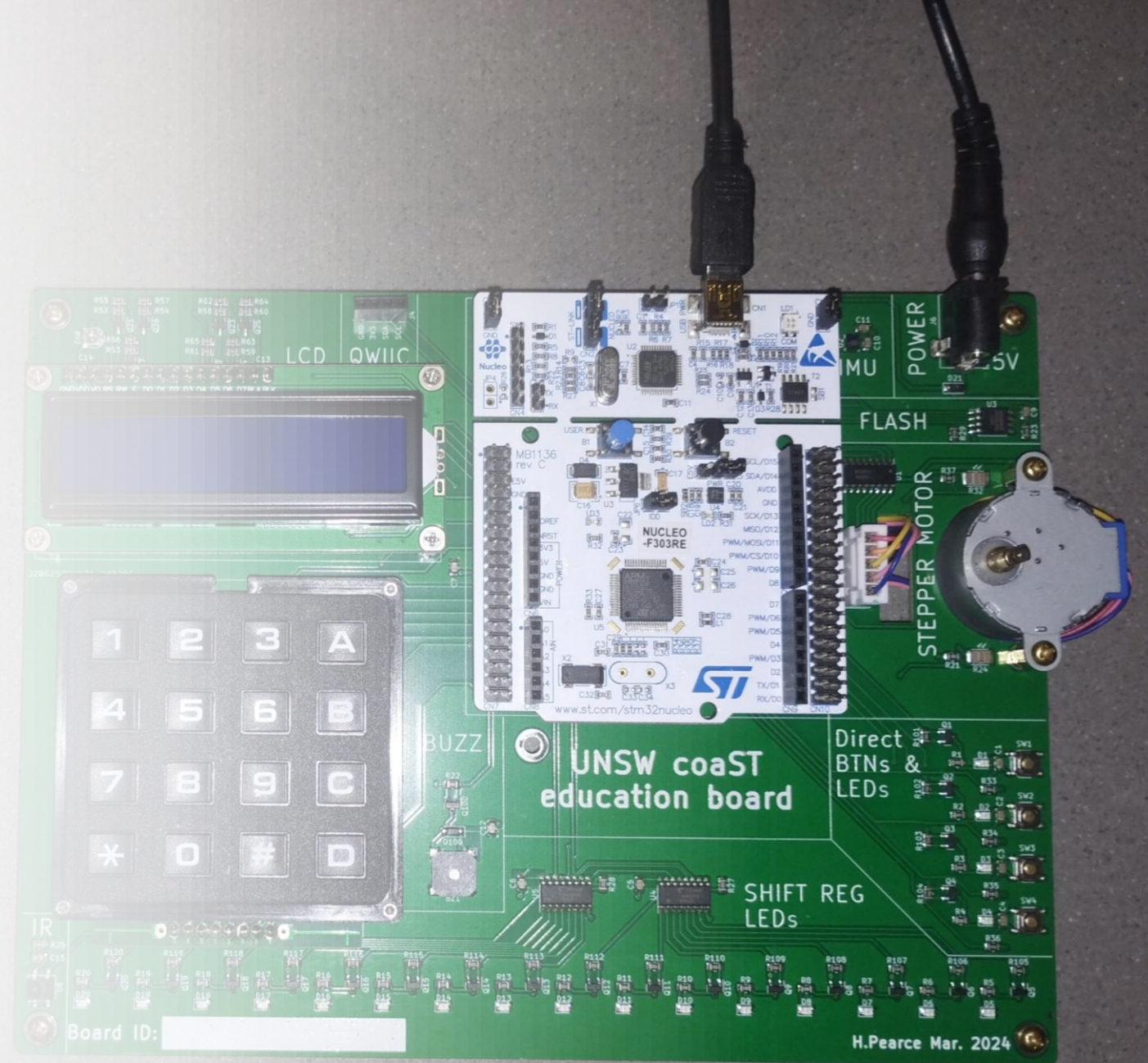# DESN2000 (Computer Engineering) 2025 T2
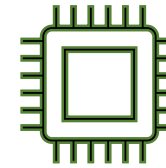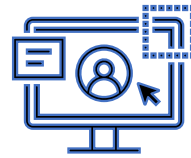
Course Introduction

Hasindu Gamaarachchi

DESN2000 (COMP Stream)

DESN2000 = Engineering Design + Technical Component

For computer engineering stream, it is about embedded systems design

- Stream Coordinator:
  - Dr Hasindu Gamaarachchi
  - Room 501K,Level 5, K17
  - hasindu+desn2000@unsw.edu.au

- Course Coordinator:
  - Elizabeth Kyriakou
  - e.kyriakou@unsw.edu.au

Timetable

- Lectures

Day	Start Time	End Time	Weeks	Room	Staff
Mon	9:00 am	11:00 am	1,3-5 and 7-10	Law Th G02	Hasindu Gamaarachchi
Thu	4:00 pm	6:00 pm	1-5 and 7-10	Law Th G02	Hasindu Gamaarachchi

- Labs

Name	Day	Start Time	End Time	Weeks	Room	Staff
T16D	Tue	16:00	18:00	1-5 and 7-9	Lyre K17 G12	Tony Yang Suneth Samarasinghe
W09G	Wed	09:00	11:00	1-5 and 7-9	Lyre K17 G12	Tony Yang Kavindu Jayasooriya
W11A	Wed	11:00	13:00	1-5 and 7-9	Lyre K17 G12	William Chan Suneth Samarasinghe

Lab Demonstrators

- Tony Yang
  - yifan.yang4@student.unsw.edu.au
- Suneth Samarasinghe
  - suneth@unsw.edu.au
- William Chan
  - william.chan5@student.unsw.edu.au
- Kavindu Jayasooriya
  - k.jayasooriya@unsw.edu.au
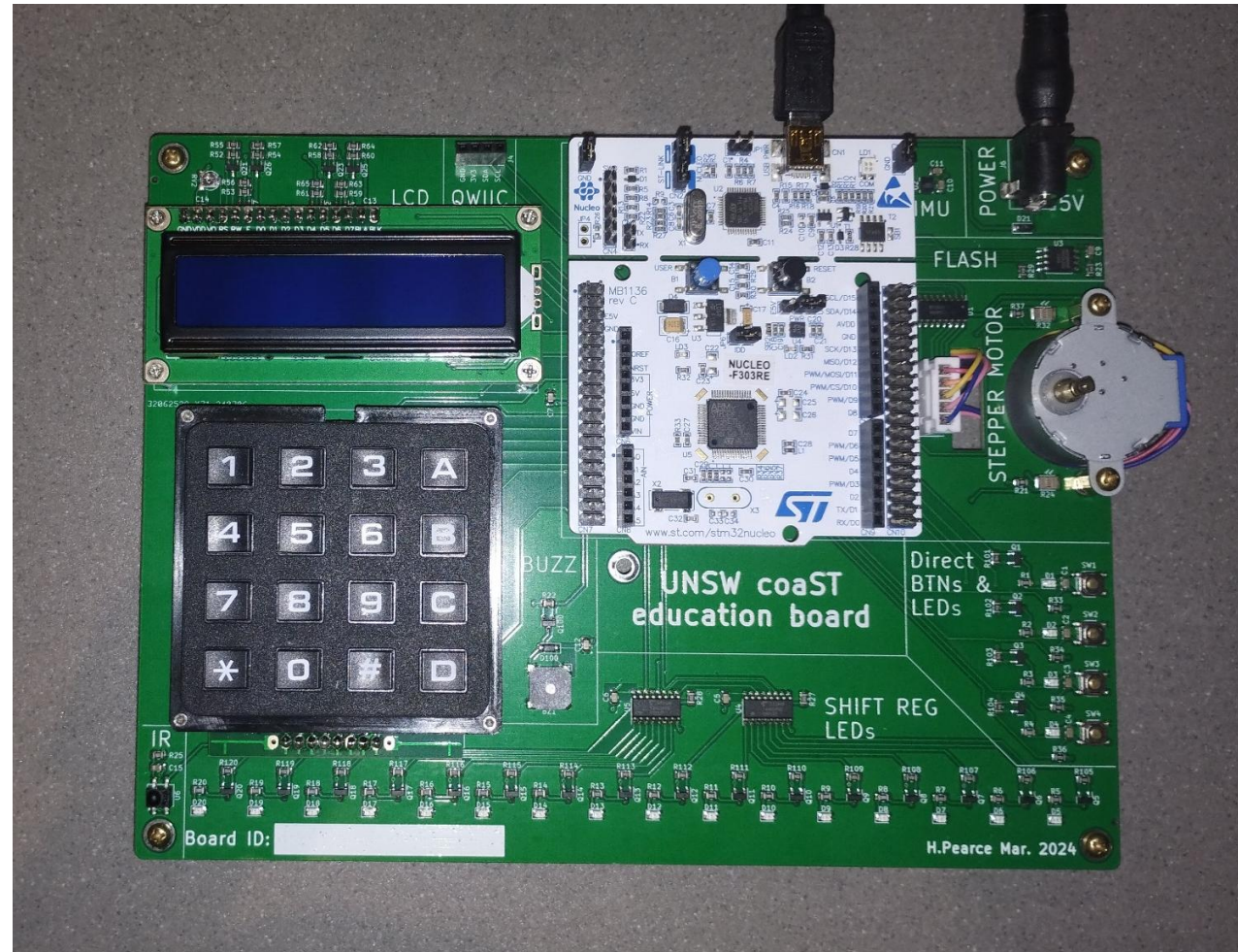
Assumed knowledge

- C programming language

- assembly language

- architectural layers of modern computer systems

assumed to have been acquired in COMP1521

Content

- Designing embedded systems. We will cover several technical topics such as:
  - STM32 ARM microcontroller architecture and programming
  - General purpose Input/Output (GPIO)
  - I/O peripherals such as keypads and LCD
  - Interrupts
  - Timers
  - Analog Input/Output such as Analogue to Digital Converter (ADC) and Pulse Width Modulation (PWM)
  - Serial communication

UNSW CoaST Education Board

Communication

Forum:

https://edstem.org/au/courses/24350/discussion

Course Material:

https://webcms3.cse.unsw.edu.au/DESN2000/25T2/

Indicate Your Preference

- https://forms.office.com/r/thstxA3xjg

25T2 Poll

Lectures

- You are expected to attend all lectures
- delivered face-to-face
- available through YouTube or echo360 for reviewing

Labs

- Groups of 3
- 2h sessions every week (except week 6 and 10)
- 4 sets of lab exercises (lab sheets)
  - 2 weeks for each set
- Lab demos will tell you more info during the first lab
- Lab resources:
  - https://webcms3.cse.unsw.edu.au/DESN2000/25T2/resources/111575

Project

- Smart watch prototype
- Groups of 3 (same as lab groups)
- Detailed discussion in next lecture
- See the project brief provided later on webCMS

Design Assessments

| Item	Weight	Assessment criteria	Due date
Design Journal	20%	Refer to assessment guide (will be provided later in WebCMS)	11:59 PM, Wednesday (Week 7)
Design Presentation	20%	Refer to assessment guide (will be provided later in WebCMS)	Week 10 (Announced Later, likely to be during the lab time)

Technical Assessments

Item	Weight	Assessment criteria	Due date
Lab Exercises	20%	Refer to assessment guide (will be provided later in WebCMS)	End of Week 2, 4, 7, 9 labs
Project implementation	30%	Refer to assessment guide (will be provided later in WebCMS)	11:59 PM, Friday (Week 10)
Project documentation	10%	Refer to the assessment guide (will be provided later in WebCMS)	11:59 PM, Friday (Week 10)

Resources

1. Zhu, Yifeng, Embedded Systems with ARM Cortex-M Microcontrollers in Assembly Language and C
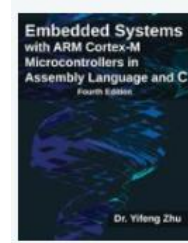
2. Sepehr Naimi, Sarmad Naimi, The STM32F103 ARM Microcontroller and Embedded Systems
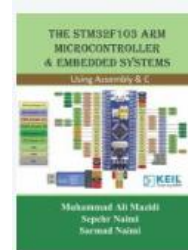
- UNSW Leganto library reading list for these two textbooks:
  - https://unsw.alma.exlibrisgroup.com/leganto/public/61UNSW_INST/lists/68311758100001731?auth=SAML

You are not alone!

What to do in the event of a problem or concern with the course

1

In the first instance, please try to resolve the issue with the **immediate party** - which in most cases will be your **tutor**

2

If unresolved, please escalate to the **course admins and lecturer**

3

If unresolved, please escalate to the CSE Student Representatives at **stureps@cse.unsw.edu.au** (or anonymously through our website)

4

If unresolved, please escalate to the CSE Grievance Officers at **grievance-officer@cse.unsw.edu.au**

5

If unresolved, please escalate to **UNSW Complaints** via the UNSW website

Brought to you by the CSE Student Representatives | Find us at https://cgi.cse.unsw.edu.au/~stureps/