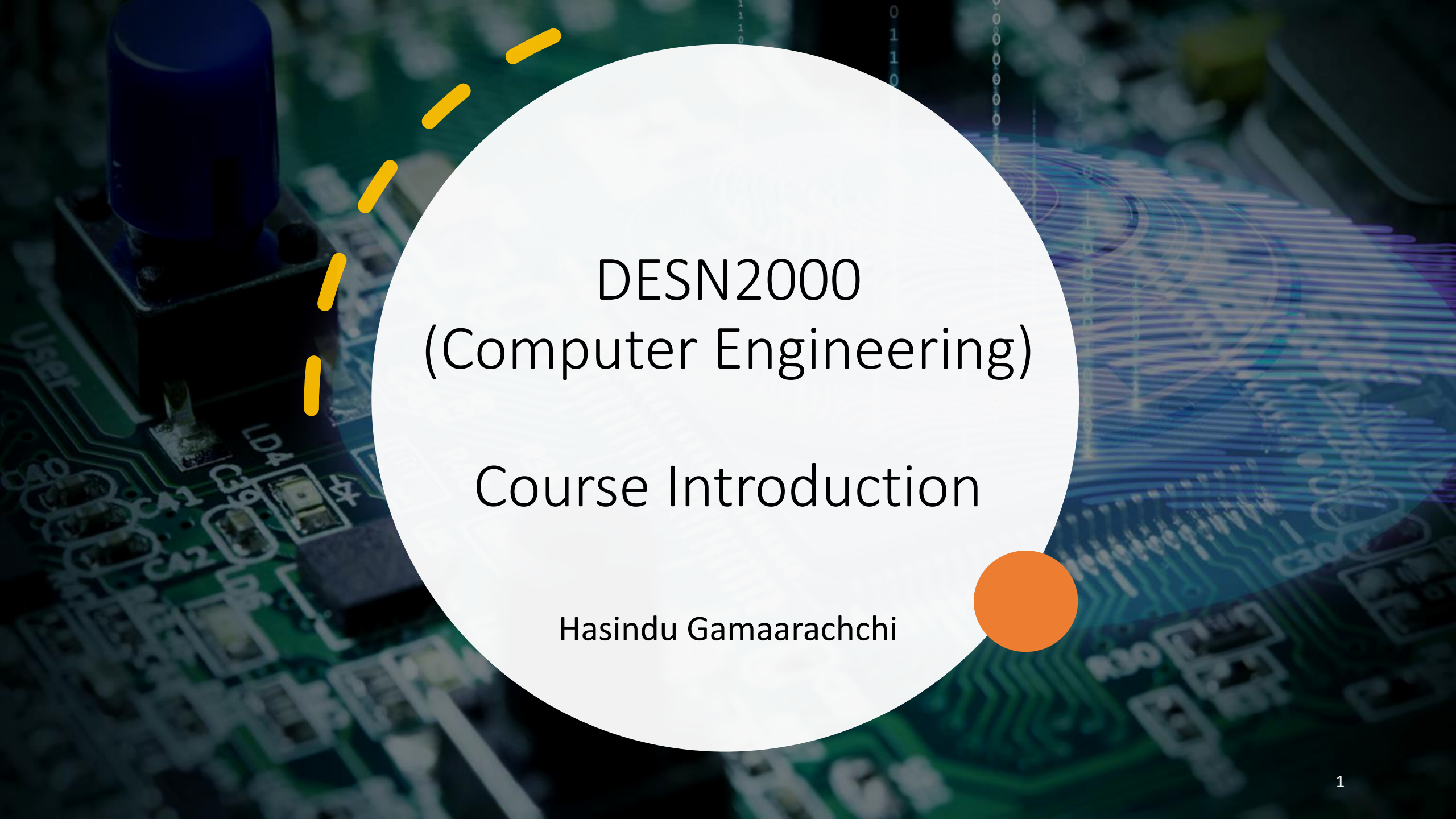


DESN2000 (Computer Engineering)

Course Introduction

Hasindu Gamaarachchi

DESN2000 (COMP Stream)

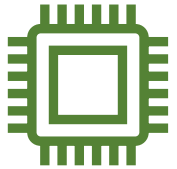
DESN2000 = Engineering Design + Technical Component

Engineering Design

- done by cross-faculty Design next
- Course Coordinator:
  - Ilpo Koskinen
  - Room 503, Level 5, J17
  - ilpo.koskinen@unsw.edu.au

Technical Component

- done by the school of CSE
- Stream Coordinator:
  - Dr Hasindu Gamaarachchi
  - Room 501K,Level 5, K17
  - hasindu+desn2000@unsw.edu.au



Technical Component Timetable

- Technical lectures

Day	Start Time	End Time	Weeks	Room	Staff
Mon	10:00	12:00	1-2, 4-5 and 7-10	Griff M11	Hasindu Gamaarachchi
Fri	10:00	11:00	1-5 and 7-10	BUS 216	Hasindu Gamaarachchi

- Technical Labs

Name	Day	Start Time	End Time	Weeks	Room	Staff
W14B	Wed	14:00	16:00	1-5 and 7-9	Flute ME303	Tony Yang Suneth Samarasinghe
W14C	Wed	14:00	16:00	1-5 and 7-9	Oboe ME304	Riley Haydon Feddrick Aquino

More Info: https://webcms3.cse.unsw.edu.au/DESN2000/24T2/resources/98735

Lab Demonstrators

- Tony Yang
  - yifan.yang4@student.unsw.edu.au
- Suneth Samarasinghe
  - suneth@unsw.edu.au
- Riley Haydon
  - r.haydon@student.unsw.edu.au
- Feddrick Aquino
  - f.aquino@unsw.edu.au

Assumed knowledge

- C programming language
- assembly language
- architectural layers of modern computer systems

assumed to have been acquired in COMP1521

Technical 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/16529/discussion/

Course Material:

https://webcms3.cse.unsw.edu.au/DESN2000/24T2/

Technical Lectures

- You are expected to attend all lectures
- delivered face-to-face
- available through 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/DESN2000/24T2/resources/98736

Project

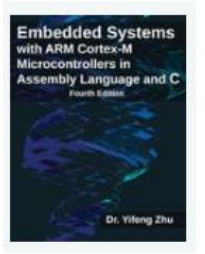
- Custom clock with laboratory timer functions
- Groups of 3 (same as lab groups)
- Detailed discussion in next lecture
- See the project brief on webCMS
  - https://webcms3.cse.unsw.edu.au/DESN2000/24T2/resources/98739

Technical Assessments

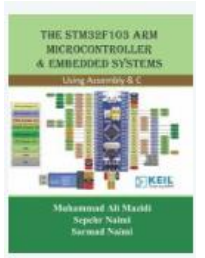
Item	Weight	Assessment criteria	Due date
Lab Exercises	20%	Refer to assessment guide (see WebCMS labs)	End of Week 2, 4, 7, 9 labs
Project implementation	30%	Refer to assessment guide (provided later)	11:59 PM, Friday (Week 10)
Project documentation	10%	Refer to the assessment guide (provided later)	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/5935606236000173 1?auth=SAML