

EE 2004

Microcomputer Systems

Course Assessment

- Examination: 50%
- Continuous Assessment: 50%
 - In-class tests: 25%
 - 2 Tests: 12.5% each
 - Tutorial quizzes: 7%
 - 7 quizzes done after each tutorial.
 - Three attempts are allowed. Highest point is taken.
 - Assignments: 6%
 - 2 Assignments: 3% each
 - Mini-project: 12%
- To pass the course:
 - At least 30% in the examination
 - At least 30% in continuous assessment

Policy for Late Submission

- 50% penalty per day
- If the assignment is late for 1 day, we will multiply the raw assignment score by 0.5.
- A zero score will be given if the assignment is late for 2 days or more than 2 days.

Assignments, exam and lab report schedule

- 2 Tests
 - Week 6: Feb. 24, 2021
 - Week 11: Mar. 31, 2021
- 7 quizzes
 - Last 30 minutes in Weeks 2-8 tutorials
- Assignments
 - Week 5 Friday: Feb. 19, 2021
 - Week 10 Friday: Mar. 26, 2021
- Mini-project
 - Proposal due Week 5 Friday: Feb. 19, 2021
 - Demonstration required in Week 13 tutorial
 - Report due Week 14 Friday: Apr. 30, 2021

References

- Mazidi, MA, McKinlay, RD and Causey, D, “PIC Microcontroller and Embedded Systems Using Assembly and C for PIC18,” Pearson Education, New Jersey, 2008.
- Katzen, S, “The Essential PIC18 Microcontroller,” Springer-Verlag, London, 2010
 - available as e-book through CityU library:
<https://link.springer.com/book/10.1007%2F978-1-84996-229-2>
- EE2004 Laboratory Manual (available in Canvas)

A glimpse of what you can do
after taking this course

Example Mini-project: Digital Lock

- Components
 - PIC18 Microcontroller: Brain of the digital lock system – Decide what should be displayed.
 - Input Device: Matrix Key Pad
 - Output Device: 7-segment LED
 - Non-volatile memory to store the code

Digital Lock

- To implement the digital lock, you will need to understand how the PIC18 microcontroller:
 - interacts with the 4x4 keypad
 - Keypad scanning technique in Ch. 3
 - interacts with the 7-segment LED so that appropriate digits/messages are displayed
 - Concepts on how the 7-segment LED works (Ch. 3)
 - Concepts on delay (Ch. 4), which may be implemented using a timer (Ch. 6) and interrupt (Ch. 7).
 - interacts with the EEPROM chip to store/retrieve the combination
 - Serial communication protocol (Ch. 8)