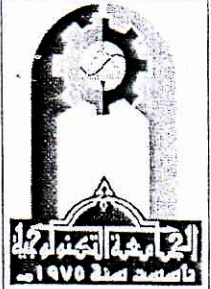


University of Technology
Computer Engineering Department
Academic Year 2016 - 2017
Forth Year – 2nd Semester – IE & CN



code	Embedded Systems	2 Hours/Week	2 Units
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Contents of Syllabus	Hours
1- Introduction to Embedded Systems	2
2- 8051 Microcontroller <ul style="list-style-type: none"> - Features of 8051 - 8051 Hardware - Memory organization in 8051 - I/O pins, ports, and circuits - Timers and Counters - Serial port - Interrupt structure - Clock and Oscillator - Power saving options 	8
3- Instruction Set. <ul style="list-style-type: none"> - Addressing modes - Data moving instructions - Logical Instructions - Arithmetic Instructions - Jump and Call Instructions 	4
4- 8051 Programming <ul style="list-style-type: none"> - Assembly Language Programming - Counter/Timer Programming - Serial communication programming - Interrupt Programming 	8
5- 8051 Microcontroller Interfacing. <ul style="list-style-type: none"> - Interfacing external RAM and ROM - Expansion I/O using 8255 PPI - Keyboard Interfacing - Display interfacing (LED, 7-segments, dot matrix, and LCD) - DAC Interfacing - ADC Interfacing - Stepper motor Interfacing 	8

Text books:-

- 1- A. P. Godse and D. A. Godse "Microprocessor and Microcontroller" Third Edition, 2009
- 2- . Muhammed Ali Mazidi, Janice Gillispie Mazidi and Rolin D. McKinlay, "The 8051 Microcontroller and Embedded Systems"l, Pearson Education, Second edition, 2007.

References:-

- 1- Kenneth J. Ayala "The 8051 Microcontroller; Architecture, Proqraming, and Applications" 1991.
- 2- I. Scott MacKenzie "The 8051 Microcontroller", Second Edition, 1995.