

CSE - 3442-001/5442-001

EMBEDDED SYSTEMS/MICROCOMPUTER DESIGN I

Instructor(s): Dr. Roger S. Walker

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Office Hours: Tu. 2:00 – 3:30, Wed 11:00 AM-1:30 PM or by appointment

Section Information: CSE - 3442-001/5442-001

Time and Place of Class Meetings: TuTh 9:30 AM - 10:50 AM, Rm. 129 ERB
Labs: Rm. 125 ERB; Lab Times: Fr. 2:00 - 4:50 PM

Description of Course Content:. This course focuses on the design of microprocessor based embedded systems. Specific topics include embedded PIC microcontrollers, concepts, programming, system components, architectures, I/O interfacing, and typical applications. A lab accompanies the lecture where basic interfacing and other design concepts are investigated and implemented.

COURSE TOPICS:

1. Course Introduction
2. Embedded System Concepts & Microcontroller Features
3. Lab Introduction and Resources
3. PIC Architecture & Assembly Language Programming
4. PIC Programming in C
5. PIC18F Hardware Connections
6. PIC Timers & Serial I/O
7. Interrupt Concepts
8. ADC, DAC, and Sensor Interfacing
9. Other concepts and applications

Student Learning Outcomes: Students should be able to understand basic concepts and uses of embedded systems

Requirements: See CSE Catalog

Required Textbooks and Other Course Materials: PIC Microcontroller and Embedded Systems, Mazidi, Mckinlay, and Causey

Descriptions of major assignments and examinations with due dates: Lecture slides will be placed on the web. Reference documents will be on Reserve in the Technical Library.

Exam 1 - Tentative set for February 25th

Exam 2 - Tentative set for March 31st

Final Exam (Final) - TBA

Grading Policy: In class and outside assignments (10%), Exams, 2 @ 20% each, Final 20%, and Lab Assignments (30%). Handouts and notes, assignments, and lab materials will be on class web site.

Attendance Policy: Students are expected to attend all classes and lab.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. Contact the Financial Aid Office for more information.

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817) 272-3364.

Academic Integrity: It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. According to the UT System Regents' Rule 50101, §2.2, "Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts."

Student Support Services Available: The University of Texas at Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. These resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals to resources for any reason, students may contact the Maverick Resource Hotline at 817-272-6107 or visit www.uta.edu/resources for more information.

Electronic Communication Policy: The University of Texas at Arlington has adopted the University "MavMail" address as the sole official means of communication with students. MavMail is used to remind students of important deadlines, advertise events and activities, and permit the University to conduct official transactions exclusively by electronic means. For example, important information concerning registration, financial aid, payment of bills, and graduation are now sent to students through the MavMail system. All students are assigned a MavMail account. **Students are responsible for checking their MavMail regularly.** Information about activating and using MavMail is available at <http://www.uta.edu/oit/email/>. There is no additional charge to students for using this account, and it remains active even after they graduate from UT Arlington.

To obtain your NetID or for logon assistance, visit <https://webapps.uta.edu/oit/selfservice/>. If you are unable to resolve your issue from the Self-Service website, contact the Helpdesk at helpdesk@uta.edu.