

IE 2305: Computer Applications in IE
Fall 2013

Instructor: Dr. Bonnie Boardman

Faculty Profile: <https://www.uta.edu/mentis/public/#profile/profile/view/id/224/>

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Office Hours: Monday: 1:00-3:30; Wednesday: 10:00-12:00; Thursday: 9:30-11:00

Time and Place of Class Meetings: TR 2:00-3:20; UH 04

Description of Course Content: An overview of Industrial Engineering concepts and issues important to the design and operation of industrial and service systems. Students will learn the use of software tools developed to enhance the Industrial Engineer's ability such as database management, high level programming languages, electronic spreadsheets, and computer graphics. Prerequisite: IE 1105 or concurrent enrollment.

Student Learning Outcomes:

- Use the six problem-solving steps to solve problems.
- Set up and evaluate expressions and equations using variables, constants, operators, and the hierarchy of operations.
- Use Visio to model problem solutions.
- Develop problems using decision logic structure and loop logic structure and arrays.
- Create a Microsoft Access database with multiple tables and establish table relationships.
- Design, create and run queries in Microsoft Access.
- Design, create and use forms and reports in Microsoft Access.
- Design and create Pivot Tables and Pivot Charts in Microsoft Access.
- Write procedures using VBA.
- Use VBA and Microsoft Excel and Microsoft Access to solve Industrial Engineering Problems.

Required Textbooks and Other Course Materials: Computer Applications in Industrial Engineering IE 2305
Pearson Custom Book, ISBN: 1-269-05050-8

Course Topics:

Class Introduction, Syllabus Information, Computer Lab Information, Blackboard Information
General Problem-Solving Concepts
Beginning Programming Concepts: constants, variables, data types, mathematical operators
Getting Started with VBA
Programming Decisions: if/then/else, decision tables, case logic
Programming Loops: incrementing, accumulating, while/while end, repeat/until, nested loops, recursion
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Solution Planning: charting and diagramming techniques, pseudocode, Unified Modeling Language (UML), software development cycle, Visio
VBA and Excel: create forms, create function procedures
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VBA and Excel: create forms, create function procedures
VBA and Excel: create forms, create function procedures
Review and Practice
Exam 1
Introduction to Microsoft Access: create tables, sort, filter
Microsoft Access: table relationships, queries
Microsoft Access: queries
Microsoft Access: forms and reports
Microsoft Access: pivot tables and pivot charts
Microsoft Access: pivot tables and pivot charts
Introduction to Visual Basic for Applications: VBA interface, procedures, calculations, data validation
Introduction to Visual Basic for Applications: VBA interface, procedures, calculations, data validation
Review and Practice
Exam 2
VBA and Access: modules, create forms and reports, access data, handle errors
VBA and Access: modules, create forms and reports, access data, handle errors
VBA and Access: modules, create forms and reports, access data, handle errors
VBA and Access: modules, create forms and reports, access data, handle errors
Review and wrap-up

Course Requirements:

Assignments – There will be many in class and out of class assignments throughout the semester. Homework must be turned in at the beginning of the class on the day they are due, no late assignments will be accepted. You must be in class in order to do the in class assignments. No makeup assignments will be given. Out of class assignments will count towards 60% of your final grade.

Examinations – There will be two regular tests and a final given during this course. You must take all tests at their scheduled times. If you miss a test you must have either a certified medical excuse or prior instructor approval. A makeup test at a designated time during the last week of the semester will be provided for those with excused exam absences. The makeup exam will be fair but comprehensive (covering all the course material) and challenging. Only one missed test can be made up. Examinations will count for 40% of your final grade. The final exam is scheduled for **Tuesday, December 10th, 2:00-4:30.**

Attendance: Participation in classroom exercises will be part of your assignments grade.

Grading: Grades in this course will be earned based on the following criteria:

- A = 90% and above
- B = 80% - 89%
- C = 70% - 79%
- D = 60% - 69%
- F = 0% - 59%

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. For more information, contact the Office of Financial Aid and Scholarships (<http://web.uta.edu/ses/fao>).

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: All students enrolled in this course are expected to adhere to the UT Arlington Honor Code: *I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence. I promise that I will submit only work that I personally create or*

contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

Instructors may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents' Rule* 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Student Support Services: UT 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. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as lecture, seminar, or laboratory shall be directed to complete a Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Inclement Weather Policy: In the event that weather or other conditions are such that normal campus operations could be impeded the following policy will apply for this class. If the University is closed, this class will not meet. Any assignments due or examinations scheduled will be due or rescheduled to the very next class period that the class meets. Local media should announce any closings. You can also get information by dialing (972) 601-2049.

Emergency Exit Procedures: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, you can find this information posted near the doors in this room. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.