IE 2305: Computer Applications in IE
Spring 2015

Instructor: Dr. Bonnie Boardman

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

Office Number: 420N   **Office Telephone Number:** 817-272-3220

Email Address: boardman@uta.edu   **Section Information:** IE 2305-001

Office Hours: Monday: 10:00-12:00; Wednesday: 10:00-12:00

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 1205 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 Requirements:

Assignments and Quizzes – There will be many in class and out of class assignments and quizzes 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 and quizzes. There will also be both announced and unannounced quizzes throughout the semester. No makeup assignments or quizzes will be given. Assignments and quizzes will count towards 50% of your final grade.

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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	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
	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

Examinations – There will be two exams given during this course. You must take both exams at their scheduled times. If you miss an exam 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 exam can be made up. Examinations will count for 50% of your final grade. The final exam is scheduled for **Tuesday, December 15th, 2:00-3:20.**

Attendance: Attendance: At the University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. While I will not take

attendance, participation in classroom exercises will be part of your assignments grade. If you are not present to complete an in class grade, you will not be allowed to make up that grade.

Expectations for Out-of-Class Study: Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional 9 hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

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://wweb.uta.edu/ses/fao).

Disability Accommodations: UT 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), The Americans with Disabilities Amendments Act (ADAAA),* and *Section 504 of the Rehabilitation Act.* 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 disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the **Office for Students with Disabilities (OSD).** Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:
The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364.
Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671.

Title IX: The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.

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 on UTA's homepage.

The English Writing Center (411LIBR): Hours are 9 am to 8 pm Mondays-Thursdays, 9 am to 3 pm Fridays and Noon to 5 pm Saturdays and Sundays. Walk In *Quick Hits* sessions during all open hours Mon-Thurs. Register and make appointments online at http://uta.mywconline.com. Classroom Visits, Workshops, and advanced services for graduate students and faculty are also available. Please see www.uta.edu/owl for detailed information.

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.

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. Non-emergency number 817-272-3381.