

IENG 423 Designing Decision Support Systems

Fall 2014

Catalog Description: IENG 423. Designing Decision Support System. 3 Hr. PR: IENG 331. Basic concepts of software design of decision support systems that can be used by non-technical personnel in management positions.

Prerequisites: IENG 331

Instructor: “Mike” Carr

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Office hours are before and after class **and by appointment**. Office location is on the second floor of WVU Hospitals in Hospital Administration.

Course Objective: The main objective of this course is to develop skills in database design, data retrieval and manipulation, spreadsheet design, and software development to make it all work together so that non-engineers can use the applications to make decisions on a daily basis.

Course Outcomes: By the end of this course, students will be able to:

1. Design and develop systems, and bring them into being
2. Create a relational data model from interviews and forms where no database has existed previously.
3. Analyze existing system in order to improve them.
4. Create basic queries in SQL to retrieve desired data from a database.

Contribution of course to meeting the professional component: Engineering topics 100%, significant design content.

Text Book: Database Design for Mere Mortals by Michael J. Hernandez. 3rd. Edition (available on-line at Amazon.com in Kindle edition).

Schedule:

Week	Topic	Assignment Due
1	Introduction and Syllabus Review	
2	Database Design, Introduction to Microsoft Access	Read Chapters 1-3, Quiz 1
3	Database Design Continued	Read Chapters 4-6, Quiz 2
4	Data Acquisition	Read Chapters 7-10, Quiz 3
5	Introduction to SQL	Read Chapters 11-15, Quiz 4
6	Excel as a DSS front end	Quiz 5
7	User Interface Design, DSS and Operations Research	Project 1, Quiz 6

8	DSS and Operations Research Continued	Quiz 7
9	DSS and Operations Research Continued	Quiz 8
10	DSS and Operations Research Continued	Quiz 9
11	DSS and Operations Research Continued	Quiz 10
12	DSS and Operations Research Continued	Quiz 11
13	Special topics	Quiz 12
14	Excel Tips and Tricks	Project 2

Grading:

<u>Weight</u>	
60%	Weekly quizzes (drop the lowest 2 scores)
20%	Project 1
20%	Project 2

Grading Scale:

92-100% - A; 82-91% - B; 72-81% - C; 62-71% - D; 0-61% - F;

No make-up quizzes (dropping 2 lowest quiz scores).

Statement on Attendance: Student attendance is mandatory unless excused by the instructor. The basis for an excused absence will follow University and IMSE policy. Students who are absent from class for any reason are responsible for all missed content.

Statement on Social Justice: West Virginia University is committed to social justice. I concur with that commitment and expect to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. West Virginia University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color or national origin. Any suggestions as to how to further such a positive and open environment in this class will be appreciated and given serious consideration. If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with the Office of Disability Services (293-6700). They will identify the nature of the accommodation your disability requires.

Prepared by: Mike Carr, Instructor, IMSE. August 17, 2014.