

Web based Decision Support Systems

ESI 4357 / Section 8476

Class Periods and Location: TR 6-7 (12:50 PM- 2:45 PM), CSE E121

Academic Term: Fall 2018

Instructor:

Ehsan Salimi, e.salimi@ufl.edu, (352) 294-7727

Office Hours: Tuesdays 10:30 am to 12:30 pm or by appointment, Weil 378

Teaching Assistants:

Please contact through the Canvas website

- Tong Zhang, tongzhang305@ufl.edu, Office hours: Monday and Friday, 2:00-3:00 pm, 406 Weil Hall
- Connor Guerin, cguerin@ufl.edu, Office hours: Monday, 9:30-11:30 am, 202 Weil Hall

Course Description

The ability to extract data from databases and embed analytical decision models within larger systems are some of the most valuable skills required for students entering today's IT dominated workplace. This course will teach how to use IT tools to develop decision support systems arising in the practice of IE/OR/Management and to make them web-enabled. (4 credits).

Course Pre-Requisites

COP227: Computer Programming for Engineers, ESI4312: Operations Research 1 with minimum grades of C.

Course Objectives

Upon completion, students should be able to do the followings:

1. Understand the usefulness of decision support systems arising in the practice of industrial and systems engineering.
2. Illustrate the essential concepts in database design; to teach popular database management systems;
3. Understand the issues that arise in the conceptual development and implementation of effective and user-friendly decision support systems;
4. Design, develop, and implement integrated decision support systems for industrial and systems engineering applications.

Materials and Supply Fees

None

Professional Component (ABET):

This is a course with significant design content. Throughout the semester, students will complete a team project expected to meet specific design criteria. By completing this course, students:

- can become successful professionals in industrial and systems engineering or other disciplines.
- can acquire advanced knowledge through continuing education or advanced degree programs.

Relation to Program Outcomes (ABET):

| Outcome | Coverage* |
|---|-----------|
| a. Apply knowledge | High |
| b1. Conduct experiments | |
| b2. Statistical design of experiments | |
| c. Design | High |
| d. Function on teams | High |
| e. Solve problems | Medium |
| f. Professional and ethical responsibility | |
| g. Communicate | High |
| h1. Economic impact | |
| h2. Global, societal, and environmental impact | Low |
| i. Lifelong learning | |
| j. Contemporary issues | Low |
| k. Techniques, skills, and tools for degree program | High |

*Coverage is given as high, medium, or low. An empty box indicates that this outcome is not part of the course.

Required Textbooks and Software

No textbook is required. Lectures will be provided to students through videos posted on Canvas and in-class presentations. Other course materials, including instructions, slides and exercises can also be downloaded from the course website on Canvas.

The development software required for this course is Microsoft Visual Studio .NET 2017, downloadable for free from Microsoft DreamSpark for Academic Institutions.

Course Schedule

| Week | Topic |
|------|---|
| 1 | Introduction |
| 2 | DSS Overview & Relational Data Modeling |
| 3 | Normalization & Introduction to Access |
| 4 | Access & SQL |
| 5 | Introduction to Web Applications & Exam 1 |
| 6 | VB. NET review & ASP.NET |
| 7 | User Interface Design & Database Connectivity in Web Applications |
| 8 | Introduction to Optimization module |
| 9 | Optimization |
| 10 | Exam-2 & Project Introduction |
| 11 | Project Meeting & Project Work |
| 12 | Project Meeting & Project Work |
| 13 | Project Meeting & Project Work |
| 14 | Break |
| 15 | Project Meeting & Project Work |
| 16 | Project Deadline & Presentations |

Attendance Policy, Class Expectations, and Make-Up Policy

Attendance is not required; however, it is strongly recommended. It will be to your benefit to attend all lectures. Students will be responsible for all material covered in class.

Lectures are there to facilitate efficient learning, not chatting with friends, surfing the net, reading the Alligator, or sleeping. You should be focused on the course material and the in-class exercises assigned, not on activities that do not involve course work. Those who behave inappropriately will be asked to leave. If you cannot follow the lecture anymore, you can leave the class quietly; I will not be offended. Please, remember to turn off your cell phone as soon as you enter the classroom.

Students needing a make-up exam due to schedule conflicts must notify the instructor at least one week before the day the exam is scheduled for. You will need to present evidence of the conflict to the instructor. Please do not ask for a make-up exam to attend a job interview.

Excused absences require appropriate documentation.

Exam Dates: (Tentative dates)

| Exam | Date | Time | Location |
|--------|--------------|-------------------|----------|
| Exam-1 | September 20 | 8:20 pm- 10:20 pm | TBD |
| Exam-2 | October 25 | 8:20 pm- 10:20 pm | TBD |

Evaluation of Grades

Your grade will be based on two in-class exams, popup quizzes and a team project. In each exam, I include a few challenging tasks, which only the best students will be able to answer. These are the questions that distinguish the A students.

All assignments must be submitted via E-learning unless specified otherwise. Assignment deadlines are rigid. **If you do not submit before the deadline or submit the wrong file, you will receive a zero.** Only the instructor has the authority to grant late submissions

| | |
|--------------|-----|
| Exam-1 | 30% |
| Exam-2 | 30% |
| Quiz | 5% |
| Team project | 35% |

Exam grade disputes must be made to the instructor within one week after grades are posted. Any grade dispute after the specified period will not be considered. The following describes the procedure:

- (1) Within one week after your grade has been posted, e-mail the instructor requesting a grade breakdown,
- (2) Compare your solution to the solution posted on the web-site using the detailed grade breakdown you receive,
- (3) If you still have questions about your grade, to resolve the issue either go to the instructor's office hours or request an appointment.

| | |
|------------------|-------------|
| Team Selection | Oct 30 |
| Project Meeting | Nov 5-6 |
| Project Meeting | Nov 26 - 27 |
| Final Submission | Dec 5 |
| Presentation | Dec 8 |

Project teams will consist of 6 students. At the end of the semester, you will evaluate your teammates and you will be evaluated by them. Your grade will be based not only on your team score but also on your teammates' evaluations of you.

Project development will take place in stages with specific deadlines. The deadlines shown in the table are tentative and are subject to change with notice.

Grading Policy

| Grade | Range | Grade Points |
|-------|-----------|--------------|
| A | [93, 100] | 4.00 |
| A- | [90, 93) | 3.67 |
| B+ | [87, 90) | 3.33 |
| B | [83, 87) | 3.00 |
| B- | [80, 83) | 2.67 |
| C+ | [77, 80) | 2.33 |
| C | [73, 77) | 2.00 |
| C- | [70, 73) | 1.67 |
| D+ | [65, 70) | 1.33 |
| D | [60, 65) | 1.00 |
| D- | [55, 60) | 0.67 |

There may or may not be a curve at the end of the semester. This depends on the overall performance of the class throughout the semester.

Please keep in mind that this is a challenging and time consuming class, and the percentage of As has historically been in the 10% range. You have to study hard and perform well in every class activity in order to deserve an A.

Please note that **this is a required course for ISE students. This means that you must earn, at a minimum, a C in order to satisfy the requirement.**

More information on UF grading policy may be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Students Requiring Accommodations

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluation

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu/evals>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

University Honesty Policy

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

Campus Resources:

Health and Wellness

U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. <https://www.crc.ufl.edu/>.

Library Support, <http://cms.uflib.ufl.edu/ask>. **Various** ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <https://teachingcenter.ufl.edu/>.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <https://writing.ufl.edu/writing-studio/>.

Student Complaints Campus: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf.

On-Line Students Complaints: <http://www.distance.ufl.edu/student-complaint-process>.