

Decision Support Systems for Industrial and Systems Engineers

ESI 4356

Section 07DA

Class Periods: 07DA Tuesday & Thursday 3-4 (9:35 – 11:30 am) **Location:** MAEB 0229

Section 2499

Class Periods: Tuesday & Thursday 6-7 (12:50 – 2:45 pm)

Location: FLG 0285

Academic Term: Fall 2016

Instructor:

Konstantinos Gakis

Kgakis@ufl.edu

352-294-7719

Office Hours: Mondays 3-5pm & Fridays 2-4pm. All instructor's office hours will be taking place at Weil 406. Additional office hours will be announced as needed to assist students with assignments and tests.

Teaching Assistants:

Please contact through the Canvas website

- Grantley Chhour, gchhour@ufl.edu
- Additional TA will be announced.
- Check CANVAS announcements for TAs office hours.
- TAs office hour location: Weil 202

Course Description

Applications of decision support systems: developing and implementing systems arising in industrial and systems engineering using popular database management and spreadsheet software.

Credits: 4

Course Pre-Requisites / Co-Requisites

COP 2271 and ESI 4312 with minimum grades of C.

Course Objectives

The objectives of the course are to:

1. demonstrate to students the usefulness of decision support systems arising in the practice of industrial and systems engineering;
2. enable students to design, develop, and implement decision support systems for engineering applications using latest available IT tools.

Professional Component (ABET):

This is a course with design as well as analytical content. Throughout the semester, students will complete a project expected to meet specific design criteria. Assignments in the beginning of the semester reinforce their data analysis skills. Furthermore the project helps students cultivate project management and planning skills as part of their professional development.

Relation to Program Outcomes (ABET):

| Outcome | Coverage* |
|---------------------------------------|-----------|
| a. Apply knowledge | Medium |
| b1. Conduct experiments | |
| b2. Statistical design of experiments | |

| | |
|---|--------|
| c. Design | High |
| d. Function on teams | Low |
| e. Solve problems | High |
| f. Professional and ethical responsibility | |
| g. Communicate | Medium |
| h1. Economic impact | |
| h2. Global, societal, and environmental impact | |
| i. Lifelong learning | |
| j. Contemporary issues | |
| k. Techniques, skills, and tools for degree program | High |

Textbooks and Software

- Textbook: “Developing Spreadsheet-Based Decision Support Systems,” 2nd edition
- Authors: Michelle MH Seref, Ravindra K Ahuja, Wayne L Winston.
- ISBN: 978-0-9759146-8-7
- Software: MS Excel, preferably 2010 or later version.

Course Schedule

| Week No. | From: | To: | General Calendar | Lesson |
|-----------------|--------------|------------|---|---|
| 1 | 22-Aug-15 | 26-Aug-15 | | Introduction to DSS Excel Basics, Formatting, Referencing and Names, |
| 2 | 29-Aug-15 | 2-Sep-15 | | Functions and Formulas, Charts |
| 3 | 5-Sep-15 | 9-Sep-15 | Labor Day M | Pivot Tables, Statistical Analysis |
| 4 | 12-Sep-15 | 16-Sep-15 | | The Solver and other tools |
| 5 | 19-Sep-15 | 23-Sep-15 | | Review & Exam-1 |
| 6 | 26-Sep-15 | 30-Sep-15 | | Intro to VBA, Recording Macros, Objects and Variables |
| 7 | 3-Oct-15 | 7-Oct-15 | | Structures, Subroutines, Functions |
| 8 | 10-Oct-15 | 14-Oct-15 | Homecoming F | Arrays |
| 9 | 17-Oct-15 | 21-Oct-15 | | User Interface & DSS Development Process |
| 10 | 24-Oct-15 | 28-Oct-15 | | GUI Design |
| 11 | 31-Oct-15 | 4-Nov-15 | | Programming Principles & Review |
| 12 | 7-Nov-15 | 11-Nov-15 | Veteran's Day F | Exam-2 & Project Assignment |
| 13 | 14-Nov-15 | 18-Nov-15 | | Case Studies |
| 14 | 21-Nov-15 | 25-Nov-15 | 11/21 Last Day to drop Thanksgiving W-R-F | Project Discussion |
| 15 | 28-Nov-15 | 2-Dec-15 | | Project Discussion & first submission |
| 16 | 5-Dec-15 | 9-Dec-15 | Reading Days R-F | Acceptance testing |
| 17 | 12-Dec-15 | 16-Dec-15 | Week of Finals | Final Project Submission |

Homework Assignment Plan

| No. | Homework Assignment Topic |
|------------|--|
| 1 | Spreadsheet Functions |
| 2 | Data Operations & Analysis and Solver |
| 3 | Macros, VBA spreadsheet commands and simple controls |
| 4 | VBA structures, procedures and arrays |
| 5 | VBA navigation, forms, ActiveX controls and objects |

Attendance Policy, Class Expectations, and Make-Up Policy

Class Material and Announcements

Lecture notes, assignments, practice exercises, examples and extra information are all going to be available to you on the class website at CANVAS. The assignment submission system can be reached at the tab Assignments.

Grade Adjustments/Curving

Curving/grade adjustments may be made depending jointly on two factors: max score and score median being less than A- and C- respectively.

Re-grading Policy

Students may request regrading within 10 days after their grades are made available. A request from students to have their exams, assignments or projects regarded, may result in loss of points.

Attendance

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

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

Attendance is not mandatory. However, it is your responsibility to keep up with the class updates (material to be taught, homework, exams, etc.). You will be responsible for everything covered in class even if it is not in the textbook. Attending students will be asked to participate in class exercises. Attendance may be taken in class, but only for statistical reasons. Attendance records will not affect your class grade.

Lectures are there to facilitate efficient learning. Students that behave inappropriately will be asked to leave. If you feel like you cannot follow the lecture anymore, you can leave the classroom quietly; I will not be offended. Please remember to turn off your cell phones as soon as you enter the classroom.

Excused absences are consistent with university policies in the undergraduate catalog (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>) and require appropriate documentation.

Exam Policy

Under no circumstances students should expect an arrangement that will not require their physical presence to an examination.

Students needing a makeup exam, or special accommodation have to inform the instructor at least one week before the date of the exam. Please do not ask for a make-up exam to attend a job interview. Exceptions will be made for medical emergencies or other extraordinary occasions.

Homework Assignments and online Quizzes

Any homework assignments or online Quizzes must be submitted via the Course's website in the specified system unless specified otherwise. Submission of links to outside or cloud files does not constitute submission.

Assignment deadlines are rigid. If you do not submit before the deadline or submit the wrong file, you may receive a zero. Only the instructor has the authority to grant late submissions.

Project Guidelines

Each student will work a project individually. Students are expected to be present and participate in project meetings. Failure to attend most of these meetings may reflect in project grades. Project development will take place in stages.

Evaluation of Grades

| Assignment | Total Points | Percentage of Final Grade |
|---|---------------------|----------------------------------|
| Homework Sets (5) (four best will count) | 100 each | 25% |
| Midterm Exam 1 | 100 | 25% |
| Midterm Exam 2 | 100 | 25% |
| Project | 100 | 25% |
| | | 100% |

Grading Policy

| Percent | Grade | Grade Points |
|----------------|--------------|---------------------|
| 93.0 - 100 | A | 4.00 |
| 90.0 - 92.9 | A- | 3.67 |
| 87.0 - 89.9 | B+ | 3.33 |
| 83.0 - 86.9 | B | 3.00 |
| 80.0 - 82.9 | B- | 2.67 |
| 77.0 - 79.9 | C+ | 2.33 |
| 73.0 - 76.9 | C | 2.00 |
| 70.0 - 72.9 | C- | 1.67 |
| 67.0 - 69.9 | D+ | 1.33 |
| 63.0 - 66.9 | D | 1.00 |
| 60.0 - 62.9 | D- | 0.67 |
| 0 - 59.9 | E | 0.00 |

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.

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>.