Spreadsheet Based Decision Support Systems
ESI 4356   Section 07DA
Class Periods: T, R 3-4 (9:35 am – 11:30 am)
Location: MAEB 0211
Academic Term: Fall 2019

Instructor:
McKenzie Landrum - landrum@ise.ufl.edu, (352-294-7732)
Office Hours: M, W 10:00 am – 11:00 am or by appointment, Weil 415

Teaching Assistants:
TBA, please contact through the Canvas website

Course Description
Applications of decision support systems in industrial and systems engineering; Developing and implementing decision support systems arising in industrial and systems engineering using popular database management and spreadsheet software; Microsoft Excel; Visual Basic for Excel. (4 credits).

Course Pre-Requisites / Co-Requisites
COP 2271 and ESI 4312 with minimum grades of C.

Course Objectives
To understand the usefulness of decision support systems arising in the practice of industrial and systems engineering; to become expert users of spreadsheets and to learn how to take advantage of a large array of tools available in spreadsheet programs; to learn how to accomplish tasks programmatically in a spreadsheet and how to design user friendly graphical user interfaces; to understand the issues that arise in the conceptual development and implementation of effective and user friendly decision support systems; to design, develop, and implement integrated decision support systems for industrial and systems engineering applications.

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.

This course supports the ISE undergraduate program educational objectives of producing graduates who
- "will be successful professionals in industrial and systems engineering or other disciplines",
- "can acquire advanced knowledge through continuing education or advanced degree programs"
- "can become active leaders in their profession and/or community"

Relation to Program Outcomes (ABET):

Outcome	Coverage*
1. Ability to identify, formulate and solve engineering problems by applying principles of engineering, science and mathematics	High
2. Ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare as well as global, cultural, social, environmental, and economic factors	High
3. Ability to communicate effectively with a range of audiences	High
4. Ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts	Low
5. Ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks and meet objectives	High
6. Ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	Medium
7. Ability to acquire and apply new knowledge as needed, using appropriate learning strategies	Low

*Coverage is given as high, medium, or low. An empty box indicates that this outcome is not covered or assessed in 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 Excel 2013 or later.

Recommended Textbook

Developing Spreadsheet-Based Decision Support Systems – Using Excel and VBA for Excel

> Authors: Michelle Seref, Ravindra Ahuja, and Wayne Winston
> ISBN: 0975914650

Materials and Supply Fees

None

Course Schedule

Week	Tuesday Topics	Thursday Topics	Assignment (due Saturday at 11:59 pm unless otherwise stated)	Exams
1	Intro Class	Intro to VBA	Intro Assignment	
2	Intro to VBA	Intro to VBA	Intro VBA Assignment	
3	User Forms and Objects	User Forms and Objects	User Form and Object Assignment	
4	Collections	Collections	Collections Assignment	
5	Advanced User Interface	Advanced User Interface	Advanced User Interface Assignment	
6	Advanced User Interface	Review		
7	DTSD Training	DTSD Training		Exam 1 – Monday 9/30
8	DTSD Training	Functions and Formulas/Dynamic Charts/Pivot Tables	DTSD Assignment	
9	Functions and Formulas/Dynamic Charts/Pivot Tables	Functions and Formulas/Dynamic Charts/Pivot Tables	Functions and Formulas/Dynamic Charts/Pivot Tables Assignment	
10	Project Meeting 1	Statistical Analysis/Simulation	Statistical Analysis/Simulation Assignment	
11	Statistical Analysis/Simulation	Solver	Solver Assignment	
12	Solver	Review		Exam 2 – Friday 11/8
13	Project Work	Project Meeting 2	Peer Evals	
14	Project Work	Project Work		
15	Project Meeting 3 (Monday or Tuesday)	Thanksgiving	Peer Evals	
16	Project Work	Reading Days		
Finals Week			Peer Evals (Due Friday December 13th at 11:59 pm)	

Attendance Policy and Class Expectations

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. This is a primarily flipped course, therefore, most of the classes are devoted to practice sessions. There is preparation lecture videos that should be watched prior to attending the practice sessions.

Lectures are there to facilitate efficient learning, not chatting with friends, surfing the net, 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.

Make-Up Policy

Excused absences require appropriate documentation.

If you missed an exam due to a health problem, you will need to provide documentation that indicates the date of the visit. A note indicating that you were seen at the health center the day of the exam is <u>not sufficient</u> documentation of a medically excused absence from an exam. The note must say that you were medically unable to take the exam.

In case of an exam conflict, you will need to present evidence of the conflict to the instructor.

Employment interviews, employer events, weddings, vacations, etc. are not excused absences.

Assignments & Grade Disputes

Your grade will be based on two night exams, weekly assignments, 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.

Exam-1	30%
Exam-2	30%
Assignments	15%
Team project	25%

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.** <u>Only the instructor</u> has the authority to grant late submissions.

Exam grade disputes must be made to the instructor <u>within one week</u> 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.

Project Work Start	October 8th
Project Meeting	October 22nd
Project Meeting	November 14th
Project Meeting	November 25th
Project Code Due	December 9th
Document Due	December 10th
Presentation	December 11th

Project teams will consist of 8 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. For each deadline the project deliverable and peer evaluations are due the night before. The deadlines shown in the table are tentative and are subject to change with notice.

Grading Policy

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 course, and the percentage of As has historically been in the 10% range. You have to study hard and perform well in every course 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

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

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.

Commitment to a Safe and Inclusive Learning Environment
The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:
• Your academic advisor or Graduate Program Coordinator
• Robin Bielling, Director of Human Resources, 352-392-0903, rbielling@eng.ufl.edu
• Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
• Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@eng.ufl.edu

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: https://registrar.ufl.edu/ferpa.html

Campus Resources:

<u>*Health and Wellness*</u>

U Matter, We Care:
Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

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 Discrimination, Harassment, Assault, or Violence
If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu

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/.

<u>*Academic Resources*</u>

E-learning technical suppor*t*, 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.