

Spreadsheet Based Decision Support Systems

ESI 4356

Class Periods: T,R Periods 2-3, (8:30am – 10:25am)

Location: MCCA G186

Academic Term: Spring 2025

Instructor:

Dr. Katie Basinger-Ellis

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Office Phone Number: (352)294-7730

Office Hours: TBD

Commented [KB1]: Office Hours

Teaching Assistant/Peer Mentor/Supervised Teaching Student:

Please contact through email:

- Devon Yee (devonyee@ufl.edu)

Commented [KB2]: Add Graders

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 – pre-requisite with minimum grade of C.

ESI 3312 – co-requisite (must have taken OR 1 with a minimum grade of C or be enrolled in the course in the same semester)

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.

Materials and Supply Fees

Students will need their own laptop (preferably PC) with access to Microsoft Excel. See *Required Textbooks and Software* below.

Relation to Program Outcomes (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”

Outcome	Coverage*
1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	High
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare,	High

as well as global, cultural, social, environmental, and economic factors	
3. An ability to communicate effectively with a range of audiences	High
4. An 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. An 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. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	Medium
7. An 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.

Required Computer

UF student computing requirement: <https://news.it.ufl.edu/education/student-computing-requirements-for-uf/>

The development software required for this course is Microsoft Excel.

If you have a MAC you will need to be able to run Windows on your device, or plan to use a Windows device for programming. Although Excel works on a MAC there are limitations, and some functions are not accessible. If you choose to use a MAC as your main device for this course, support is limited due to instructor and TA usage of PC's. There are online message boards that you can use for support.

iClicker: This is a free app. See the link on Canvas for more information about getting signed up and added to the course.

Link to join iClicker Class: <https://join.iclicker.com/IVFT>



Recommended Materials

Developing Spreadsheet-Based Decision Support Systems – Using Excel and VBA for Excel Authors: Michelle Seref, Ravindra Ahuja, and Wayne Winston ISBN: 0975914650

Course Schedule

Week	Date	Tuesday	Date	Thursday	Notes/Assignments Due
		Module Topic		Module Topic	
1	14-Jan	Welcome and Intro	16-Jan	Intro to VBA	
2	21-Jan	Intro to VBA	23-Jan	User Forms and Objects	Intro to VBA
3	28-Jan	User Forms and Objects	30-Jan	Collections	Collections
4	4-Feb	Collections	6-Feb	Advanced User Interface	
5	11-Feb	Advanced User Interface	13-Feb	Advanced User Interface	Adv. User Interface
6	18-Feb	Review	20-Feb	Exam 1	Exam 1
7	25-Feb	Functions and Formulas/Dynamic Charts/Pivot Tables	27-Feb	Functions and Formulas/Dynamic Charts/Pivot Tables	
8	4-Mar	Functions and Formulas/Dynamic Charts/Pivot Tables	6-Mar	Functions and Formulas/Dynamic Charts/Pivot Tables	Func ...
9	11-Mar	Statistical Analysis/Simulation	13-Mar	Statistical Analysis/Simulation	Stats & Sim -
	18-Mar	SPRING BREAK	20-Mar	Spring Break	No Class
11	25-Mar	Solver	27-Mar	Solver	Solver, Introduce Project, Project Group
12	1-Apr	Review	3-Apr	Exam 2	Exam 2
13	8-Apr	Project Work	10-Apr	Project Meetings	
14	15-Apr	Project Meetings	17-Apr	Project Meetings	
15	22-Apr	Project Presentations	24-Apr	Reading Day - Project Presentations	
16			25-Apr	Reading Day - Project Presentations	Friday
			2-May	Project Presentations (12:30 - 2:30)	Final Exam Time

Attendance Policy, Class Expectations, and Make-Up Policy

- This class is a flipped course and will require you to watch video lecturers outside of class and participate in exercises during the class time. Only a few exercises will be due each week, however, exams will cover material from all exercises, and you will be expected to know this material.
- Attendance will be collected via iClicker each day there is a topic assigned in the schedule above. Attendance will not be taken during Exam Review, Exam days, and project work days. If you have completed all the current week's exercises, you can either watch the lecture videos for the next week or assist your classmates in understanding the material. The instructor will not repeat material in office hours just because you didn't attend class.
- There is one allowed un-excused absence.
- 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.
- Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies. Click here to read the university attendance policies:
- <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

Make-Up Policy

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- Excused absences require appropriate documentation.
- If you miss 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 not sufficient 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. Excused absences must be consistent with university policies in the undergraduate catalog (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>) and require appropriate documentation.

Assignments & Grade Disputes

- Your grade will be based on 2 exams, weekly assignments, and a team project. The exact distribution will be decided on the first day of class.
- All assignments must be submitted via Canvas unless specified otherwise.
- Assignment deadlines: All assignments are due on the date posted in the schedule. NO late assignments will be accepted. Only university excused reasons will be accepted for late assignment submissions.
- Only the instructor has the authority to grant late submissions.
- 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 website 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 teams will consist of 3-5 students. Throughout 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 at the time specified on Canvas.
- Please note there are times during reading days that teams can sign up for project presentations.

Evaluation of Grades – TBD based on outcome of student vote

Assignment	Total Points	Percentage of Final Grade
iClicker	100	TBD%
Homework Sets	100 each	15%
Exam 1	100	TBD%
Exam 2	100	TBD%
Team Project	100	25%
		100%

Grading Policy

Percent	Grade	Grade Points
93 - 100	A	4.00
90.0 – 92.9	A-	3.67
86 - 89.9	B+	3.33
83 – 85.9	B	3.00
80.0 – 82.9	B-	2.67
76 - 79.9	C+	2.33
73 – 75.9	C	2.00
70.0 – 72.9	C-	1.67
66 - 69.9	D+	1.33
63 – 66.9	D	1.00
60.0 – 62.9	D-	0.67
0 - 59.9	E	0.00

- A grade of C (73) or higher is required to “pass” this course.

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 who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

In-Class Recording

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons),

including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

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://sccr.dso.ufl.edu/process/student-conduct-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 varied perspectives and lived experiences within our community and is committed to supporting the University's core values, including the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information, and veteran status.

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 Undergraduate Coordinator
- HWCOE Human Resources, 352-392-0904, student-support-hr@eng.ufl.edu
- Pam Dickrell, Associate Dean of Student Affairs, 352-392-2177, pld@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:

Health and Wellness

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: <https://counseling.ufl.edu>, 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/>.

Academic Resources

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

Career Connections Center, Reitz Union, 392-1601. Career assistance and counseling; <https://career.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://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>; <https://care.dso.ufl.edu>.

On-Line Students Complaints: <https://distance.ufl.edu/getting-help/>; <https://distance.ufl.edu/state-authorization-status/#student-complaint>.