

Syllabus
QMB-5304 Introduction to Managerial Statistics
Sections 2400 & 2404, 2 credits, Fall 2016, Mod 1

Instructor: Dr. Keith Florig, kflorig@ufl.edu, Office: 264 Stuzin Hall
Office hours: Mo/We 2:30-3:30 pm or by appointment

Teaching Assistant: Mr. Yoel Lapscher, yoel@lapscher.com
Office hours (in Hough 2nd floor lounge): Tu/Th 10:30-11:30 am

Meeting Coordinates:

<i>Section 2400</i>	<i>Section 2404</i>
Mon/Wed, 8/22-10/05	Mon/Wed, 8/22-10/05
No class on 9/5 (Labor Day)	No class on 9/5 (Labor Day)
11:45am -1:40pm, HGS 250	4:05pm – 6:00pm, STZ 101

Course Description: This course presents theories and methods to manage uncertainty in business decisions. Topics covered include probability, decision analysis, random variables, statistical inference, regression, and humans foibles in dealing with uncertainty.

Prerequisite: Students are assumed to have completed an introductory course in probability and statistics. A brief review at the start of the course will refresh concepts previously encountered.

Textbook : The recommended textbook is Practical Business Statistics, by Andrew F. Siegel, Sixth edition (2012) or Seventh edition (2016). Homework assignments will be drawn from this textbook.

Required readings:

- Bonilla, O. (2009) “Visualizing Bayes Theorem.” Available at <https://oscarbonilla.com/2009/05/visualizing-bayes-theorem/>
- Middleton, M., “Introduction to Decision Trees.” Available at <http://treeplan.com/chapters/introduction-to-decision-trees.pdf>
- Tversky, A. and Kahneman, D. (1974) Judgment Under Uncertainty: Heuristics and Biases, *Science*, 185:1124-31 [Download from Canvas > Files > Readings]
- Utts, J. (2003) “What Educated Citizens Should Know about Statistics and Probability,” *The American Statistician*, Vol. 57, No. 2, May. Available at <https://www.ics.uci.edu/~jutts/AmerStat2003.pdf>
- Warren Agency Case [Download from Canvas > Files > Readings]

Supplemental resource:

Khan Academy has many excellent video tutorials on probability and statistics. Each is brief and accessible. <https://www.khanacademy.org/math/probability>

Software: Because it is readily available, we will use Excel for data analysis. You will need to assure that Excel’s Analysis Toolpak add-in is installed on your computer. See <https://support.office.com/en-us/article/Load-the-Analysis-ToolPak-305c260e-224f-4739-9777-2d86f1a5bd89>

We will also use a \$17 excel add-in called Treeplan, available at www.treeplan.com/purchase/#TreePlan-Student-Licenses.

Course Website: Course materials will be posted on our course's Canvas website. The login page is located at lss.at.ufl.edu/

Lecture PPTs: Lecture slides will be posted to the course's Canvas website at least one week prior to class.

Teams: Teams of 6-7 students will be assigned the first week of class. Members of each team will work together on team homework assignments. Team members should also sit together during class to work on brief real-time exercises presented during lecture. Please sit in the same seat for each class meeting.

Grading: Final grades will be determined from the following components:

Quizzes (4, equally weighted)	60 %
Individual assignments (3)	10 %
Team assignment 1	10 %
Team assignment 2	10 %
Class participation*	10 %

*Participation in class includes attendance and contribution to discussion. To assure credit for participation, each student should display a name card in large bold print at their seat. Students should notify the instructor and TA by email in advance if a class will be missed. Excused absences are available only for documented medical/family emergencies. Job interviews are not excused absences.

Your final grade for this course will depend on your relative ranking in the class. Following college guidelines, final grades will be assigned so the grade-point average for the entire section is no greater than 3.50. For instance, 20% A, 30% A-, 30% B+, and 20% B, is one possible distribution. Grades lower than B will be assigned if performance warrants. To monitor your relative performance on each exam/quiz/assignment, compare your score against the mean score posted on Canvas grades.

Quizzes: Quizzes test knowledge of concepts covered in the lecture notes (ppts) and readings. Quizzes will be on-line, closed book, and multiple choice. To take a quiz on quiz day, you MUST bring your wifi-enabled laptop. No make-ups will be offered for failure to bring your laptop. Quizzes may not be made-up unless there is a documented emergency (e.g., illness with doctor's note) and the instructor and TA are notified by email before the quiz or exam. Job interviews are not emergencies.

Individual Assignments: Each lecture has accompanying exercises that will help you keep abreast of the course as it progresses. These exercises will be posted on Canvas>Files>Individual Assignments. Your solutions to some of these exercises must be turned in. Specific assignments and due dates are listed in the "Course Schedule" and "Important Dates" tables below. Solutions to the required individual assignments will be posted on Canvas immediately after the due date. Solutions to all other exercises will be available before the corresponding lecture. To receive full credit for a required individual assignment, your work must (1) reflect a good faith effort to address the assigned problem on your own, and (2) be submitted on time. Points will not be deducted for any errors that your solution might contain. Submitting solutions that have been copied from other students is plagiarism. Required individual assignments must be submitted before the start of class on the date that they are due. No late assignments will be accepted. Submit your work via Canvas>Assignments.

Team Assignments: There are two team assignments. Assignments are due at the start of class on the due date. Details on the team task, deliverables, and grading criteria will be provided with each assignment. All team members are expected to contribute equally. To avoid teamwork problems, communicate with each other early, often, and inclusively. During each phase of a project, each team member should have a specific assignment with a hard deadline. At the end of the course, each student will complete a survey assessing the performance of each

of his/her teammates. Based on the results of this survey, team members' scores on team assignments may be adjusted to better reflect the relative contributions of each team member.

Communications: The instructor and TA will communicate with you via your UF email address. It is your responsibility to check your inbox for messages. The best way to reach the instructor or TA is via email. We will generally get back you within 24 hours. Do not use the in-mail facility in Canvas, as this may delay a response.

Classroom policies: We follow the HGSB's guidelines on Student Performance and Accountability at warrington.ufl.edu/graduate/academics/msm/docs/StudentPerformanceAccountability.pdf

The following are particularly important for receiving full class participation credit:

1. Attend the section for which you are registered.
2. Attend all classes and sign the roster each time.
3. Arrive on time.
4. Display a name card (in large bold lettering).
5. Contribute to class discussion.
6. Silence your phone during class. Do not text during class.
7. Use your electronic devices only for class-related work during class.
8. If you have to miss a class, notify the instructor and TA by email in advance. Excused absences for documented medical/family emergencies. Job interviews are not excused absences.

Religious Observances: According to UF policy, a student may be excused from class for a religious observance of their faith provided that the student informs the instructor BEFORE the absence. A student taking such an absence will be permitted a reasonable amount of time to make up any material or activity that was missed during the absence.

Academic Dishonesty: UF policy provides serious penalties for academic dishonesty, including possible failure of the course and/or dismissal from the university. It is the student's responsibility to be familiar with the Student Honor Code: dso.ufl.edu/sccr/process/student-conduct-honor-code/

Examples of honor code infractions include, but are not limited to, texting during an exam, copying from others during an exam, sharing contents of an exam with someone who has yet to take it, copying solutions to homework problems from others, submitting fake excuses for absences, forging a signature on a class sign-in sheet, and plagiarism (presenting the intellectual work of others as your own work without attribution).

Accommodations for Students with Disabilities: This course follows university guidelines for accommodating students with disabilities. Students can request accommodation by following the procedures at dso.ufl.edu/drc/

Counseling Services: Feeling overwhelmed? UF's Counseling and Wellness Center can help: counseling.ufl.edu/cwc/

Online Course Evaluation Process: During the last couple of weeks of the module, students will be asked to provide feedback on the quality of instruction in this course by completing online evaluations at evaluations.ufl.edu. Please take a moment to complete this brief and valuable survey.

Course Schedule, Readings, Quizzes, and Assignments

Reading chapters refer to Siegel 6th and 7th editions. Subject to change. Monitor announcements.

#	Day Date	Lecture Topic	PPT	Read BEFORE class*	Today's deliverable (required)	Tasks for AFTER class (not required to submit practice problems)
1	Mo 8/22	Review syllabus Form teams Probability	1	Ch. 6 Bonilla 2009		Purchase and install TreePlan Practice problems on probability
2	We 8/24	TreePlan software demo Decision analysis	2	Middleton 2015 Warren Agency Case	Bring laptop to class with TreePlan loaded	Implement Warren decision using TreePlan. For help, consult "Applying TreePlan to the Warren Case" Read Team Assignment 1. Create team work plan.
3	Mo 8/29	Types of data Displaying data	3	Ch. 2,3	Individual HW 1	Practice problems on data type and display. Study for Quiz 1.
4	We 8/31	Descriptive statistics	4	Ch. 4, 5	Quiz 1	Practice problems on descriptive stats
	Mo 9/5	Labor Day Holiday. No class.				
5	We 9/7	Random variables and probability distributions	5	Ch. 7	Individual HW 2	Practice problems on probability distributions. Prep for team presentation.
6	Mo 9/12	Team presentations: Decision analysis			Team assignment 1	Read Team Assignment 2. Create team work plan. Study for Quiz 2
7	We 9/14	Sampling, central limit theorem, confidence intervals	6	Ch. 8, 9	Quiz 2	Practice problems on confidence intervals
8	Mo 9/19	Hypothesis tests, analysis of variance (ANOVA)	7	Ch. 10, 15		Practice problems on hypothesis testing and ANOVA
9	We 9/21	Relationships among variables: Scatterplots, Correlation and covariance; Regression	8	Ch. 11	Individual HW 3	Practice problems on correlation and regression Study for quiz 3
10	Mo 9/26	Multiple regression, dummy variables	9	Ch. 12	Quiz 3	Practice problems on regression
11	We 9/28	Regression: interactions, non-linear models, training & validation, collinearity	10	Ch. 12		Practice problems on regression Prepare team presentation.
12	Mo 10/4	Team presentations: Regression analysis			Team Assignment 2	Study for quiz 4
13	We 10/6	Foibles of human judgment and decision making under uncertainty	11	Utts 2003; Tversky & Kahneman 1974	Quiz 4	Develop awareness of foibles in your own treatment of uncertainty

*Readings from outside the textbook can be found in Canvas > Files > Readings

Important Dates
(arranged by task type, then date)

Tasks		Time/Due Date
Quiz BRING LAPTOP!!!	Quiz 1	8/31 in class
	Quiz 2	9/14 in class
	Quiz 3	9/26 in class
	Quiz 4	10/6 in class
Team Assignments	Team Assignment 1	9/12 at 9:00 am
	Team Assignment 2	10/4 at 9:00 am
Individual Assignments	Individual Assignment 1	8/29 at start of class
	Individual Assignment 2	9/7 at start of class
	Individual Assignment 3	9/21 at start of class

***** END OF SYLLABUS *****