STAT 355 Introduction to Probability and Statistics for Scientists and Engineers
(Summer 2015)

Instructor: Zhou Feng

- Lecture Schedule: MoWeTh 6:00 - 8:05 PM Room MP 101
- Office Location: MP 012A
- Office Hours: By appointment
- Email: zhouf1@umbc.edu

Teaching Assistant: Gregory Haber

- Discussion Schedule: MoWe 8:15 - 9:15 PM Room MP 101
- Office Location: MP 201
- Office Hours: TBA
- Email: ghaber1@umbc.edu

Textbook: *Probability & Statistics for Engineering and the Sciences,* by Jay Devore (8^{th} Ed).

Material Covered: Chapters 1-5, 7-10

Course Objectives and Learning Goals: This is a course for students who wish to learn basic methods in order to analyze simple studies and experiments. This course will present the basic methods of applied statistics using EXCEL and R. Topics to be covered include: basic descriptive statistics for univariate and bivariate data, elementary probability theory, random sampling from populations and random allocation to experimental treatments, sampling distributions, concepts of confidence intervals and hypothesis testing and tests of means in one-sample, two-sample, and paired-samples. Upon completion of this course, a student should be able to perform a basic statistical analysis on a set of data, including test hypotheses and report the results. Students should be able to make decisions based on statistical inferences.

Lectures: You are expected to attend every class, both lecture and discussion. You will be held responsible for all material presented, announcements made, and schedule changes given in class.

Discussion Sessions: The discussion is an informal class session with the teaching assistant and is the time to go over concepts from the lecture, work on sample problems and do quizzes. You are expected to attend discussion sessions and you will be held responsible for the material covered in the discussion sessions.

Homework: 10 homework will be assigned. Late homework will not be accepted.

Calculator: Calculators providing basic functions such as (+, -, *, /), logarithms and exponents, simple memory and recall, and factorial key may be used on quizzes and exams.

Software: R will be introduced during two discussion sections on 6/8 and 6/22. Some video will be provided for EXCEL if needed. (One homework will need to be done by software.) Excel is available in campus computer labs such as ENGR 021 and in the library. R is also available on campus and is free to download at http://www.r-project.org/.

Exams: Two mid-term exams (6/4 and 6/18) and one comprehensive final exam (7/2) will be given during the course. All exams will be closed book and closed notes, but compliant calculators will be allowed. You will be allowed a formula sheet on a single A4 paper.

Grading: Your final grade for the course will be the sum of your homework, quiz, exam and discussion (software introduction) attendance.

- Homework 130 points
- Quizzes 120 points
- Mid-Term Exam 1 250 points
- Mid-Term Exam 2 250 points
- Final Exam 250 points

1000 points

From your final sum S, letter grades will be assigned as follows:

- $900 \leq S \leq 1000$ A
- $800 \leq S < 900$ B
- $700 \leq S < 800$ C
- $600 \leq S < 700$ D
- $S < 600$ F

Make-Ups: A makeup exam will be given only by my discretion and under reasonable circumstances (i.e. illness, death in family, car trouble, &c). If I agree to allow a makeup to be taken, I will request documentation of your reasonable circumstance. If at all possible you should notify me before you miss an exam to arrange the makeup. An unexcused absence on exam day will result in a zero for that exam.

Student Academic Conduct Policy: As per university policy, by enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating, fabrication, plagiarism, and helping others to commit theses acts are all forms of academic dishonesty, and they are wrong. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. To read the full policy, consult the UMBC Student handbook, faculty handbook, or the UMBC policies section of the UMBC directory.