

MARSHALL UNIVERSITY
DEPARTMENT OF MATHEMATICS
STUDENT INFORMATION SHEET AND SYLLABUS

Course Title/Number	MTH 225 – Introductory Statistics
Section	105
CRN	3250
Semester/Year	Fall 2014
Days/Time	TR 5:00 - 6:15 PM
Location	SH 529 (Smith Hall)
Instructor	Dr. Avishek Mallick
Office	SH 741A
Phone ext.	3443
E-Mail	mallicka@marshall.edu
Office/Hours	MW 5:00-6:30 PM TR 3:30-5:00 PM and by appointment.
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to www.marshall.edu/academic-affairs and clicking on “Marshall University Policies.” Or, you can access the policies directly by going to http://www.marshall.edu/academic-affairs/?page_id=802 Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment

Course Description and Objectives

This course covers topics in basic probability, descriptive statistics, fundamental statistical inference procedures involving estimation and hypothesis testing for a variety of situations with wide applications. The principle objective of the course is to cover fundamental probability and statistics that can be useful in a wide variety of fields.

The table below shows the following relationships: How each student learning outcomes will be practiced and assessed in the course.

Course Student Learning Outcomes	How students will practice each outcome in this Course	How student achievement of each outcome will be assessed in this Course
Students will select and produce appropriate graphical, tabular, and numerical summaries of the distributions of variables in a data set. Summarize such information into verbal descriptions.	Students are required to participate in class discussions, intensive reading of relevant chapters, and most importantly, practice numerous exercises that are available at the end of every chapter of the recommended textbook.	Homework assignments, quizzes and exams.

Students will summarize relationships in bivariate data using graphical, tabular, and numerical methods including scatter plots, correlation coefficients, and least squares regression lines.	Students are required to participate in class discussions, intensive reading of relevant chapters, and most importantly, practice numerous exercises that are available at the end of every chapter of the recommended textbook.	Homework assignments, quizzes and exams.
Students will construct a model for a random phenomenon using outcomes, events, and the assignment of probabilities. Use the addition rule for disjoint events and the multiplication rule for independent events.	Students are required to participate in class discussions, intensive reading of relevant chapters, and most importantly, practice numerous exercises that are available at the end of every chapter of the recommended textbook.	Homework assignments, quizzes and exams.
Students will be able to recognize the difference between discrete and continuous random variables and probability distribution. Especially use the normal distribution to interpret z-scores and compute probabilities	Students are required to participate in class discussions, intensive reading of relevant chapters, and most importantly, practice numerous exercises that are available at the end of every chapter of the recommended textbook.	Homework assignments, quizzes and exams.
Students will estimate a population mean or proportion using a point estimate and confidence intervals and interpret the confidence level and margin of error. Understand the dependence of margin of error on sample size and confidence level.	Students are required to participate in class discussions, intensive reading of relevant chapters, and most importantly, practice numerous exercises that are available at the end of every chapter of the recommended textbook.	Homework assignments, quizzes and exams.
Given a research question involving a single population, student will be able to formulate null and alternative hypotheses. Describe the logic and framework of the inference of hypothesis testing. Make a decision using a p-value and draw an appropriate conclusion. Interpret statistical and practical significance in this setting.	Students are required to participate in class discussions, intensive reading of relevant chapters, and most importantly, practice numerous exercises that are available at the end of every chapter of the recommended textbook.	Homework assignments, quizzes and exams.

Required Texts and Other Materials

Title	: <i>Elementary Statistics: A step by step approach (A Brief Version), 6th edition.</i>
Author	: Allen G. Bluman
ISBN	: 978-0-07-338611-9
Publisher	: McGraw-Hill, New York, NY.
Year	: 2013
Calculator	: You will need a calculator. It is recommended that you use a TI-83/TI-83 plus or similar graphing calculator.
MUOnline	: Assignments, announcements, grades and other course materials will be posted regularly on MUOnline.

Course Requirements

Pre-req : MTH 121 with a grade of C or higher, or at least 21 on Math ACT, or at least 500 on Math SAT.

Homework : For each topic we discuss in class, homework problems from the textbook will be assigned. It is your responsibility to understand the homework because test and quiz questions will be based on these problems. You are encouraged to work with your peers on the homework outside of class and to ask me if you have any questions. The problems will not be graded; they are for your benefit in assisting you with understanding the material.

Quiz : Quizzes will be given every other week. Any unexcused absence on the day of a quiz will result in a score of zero.

Academic Dishonesty: Plagiarism and/or Cheating

Note that plagiarism (the submission as one's own work of any oral, graphic, or written material wholly or in part created by another), is a form of academic dishonesty. Sanctions for academic dishonesty shall be imposed in accordance with university's guidelines on such matter. Also note that in a case where a student is suspected to have cheated, the student may be asked to re-take the test. And where the student is found or confirmed to have cheated, a zero grade will be awarded to the student.

You may wish to refer to other university policies concerning academic dishonesty at, <http://www.marshall.edu/wpmu/academic-affairs/policies/#AcademicDishonesty>

Attendance Policy

Students are expected to attend all scheduled classes. It is the student's responsibility to find out what was discussed in a missed class. Although, attendance records will not be used to compute grades (except possibly in borderline cases), however, missing class can be expected to significantly reduce your chances of success. Note also that it is the student's responsibility to present approved notice of any absence that would be excused under the terms and regulations stipulated by the university.

Student behavior

Students are advised to turn their cell phones and other noise generating devices off prior to entering the class. In the case where a student awaits any emergency call, the noise should be restricted and made personal. And in this case, I should be notified as soon as the student enters the class. Food items, apart from water or soft drink, are not allowed in the class. The reading of newspapers and other unrelated materials while the class is in session is prohibited. Please ensure that other students are respected.

Tutoring Facilities

The Department of Mathematics offers a **free** tutoring lab for Marshall students enrolled in mathematics courses. The tutors can help with all classes from MTH 098 to MTH 231. No appointment is necessary; just stop in and ask for a tutor. The lab is located in Smith Music Hall 115 and will be open from 9 AM to 5 PM during Monday through Thursday and 9 AM to 12 noon on Friday.

The Tutoring Center in Laidley Hall has tutors who are available for **free**, by appointment. Please consult their web page for additional information.

More information about these facilities can be accessed by going to <http://www.marshall.edu/math/tutoringlab.asp>

Grading Policy and Exam dates

The final grade will be based on the following components:

3 Regular Exams	300 points
Quizzes	100 points
Final Examination	100 points (Comprehensive)
Total	500 points

The semester grade will be based on the percentage of the 500 total possible points, using the following scale.

90 -100% -- A
80 - 89% -- B
70 - 79% -- C
60 - 69% -- D
00 - 59% -- F

EXAM I	: Tuesday Sep 23 (tentative)
EXAM II	: Tuesday Oct 28 (tentative)
EXAM III	: Thursday Nov 20 (tentative)
FINAL EXAMINATION	: Tuesday Dec 09 [5:00 – 7:00 PM]