**Marshall University**

**MTH 225-501 Syllabus**

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| **Course Title/Number** | Introductory Statistics MTH 225 |
| **Semester/Year** | Summer II - 2016 |
| **Days/Time** | MTWRF 10:00 AM – 11:45 AM |
| **Location** | Smith Hall 509 |
| **Instructor** | Roger L. Estep |
| **Office** | Smith Hall 620 |
| **E-Mail** | [estep102@marshall.edu](mailto:estep102@marshall.edu) |
| **Office Hours** | MTWRF 9:00 AM – 10:00 AM and 12:30 PM – 1:30 PM |
| **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](http://www.marshall.edu/academic-affairs) and clicking on “Marshall University Policies.” Or, you can access the policies directly by going to [www.marshall.edu/academic-affairs/policies/](http://www.marshall.edu/academic-affairs/policies/). 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: From Catalog**

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| 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.  PR: ACT Math 21 or above, SAT Math 500 or above, or MTH 121 or above |

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| **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, exams, quizzes, and computer work |
| 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, exams, quizzes, and computer work |
| 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, exams, quizzes, and computer work |
| 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, exams, quizzes, and computer work |
| 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, exams, quizzes, and computer work |
| 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, exams, quizzes, and computer work |

**Required Texts, Additional Reading, and Other Materials**

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| 1. **Elementary Statistics: A Step-by-Step Approach** by Bluman, 7th Edition.  2. Students will be required to use a calculator. A TI-83 or TI-84 is recommended. |

**Course Requirements/Due Dates**

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| Homework will be due twice per week. Homework assigned Monday and Tuesday will be due on Friday of that week, and homework assigned Wednesday and Thursday will be due Tuesday of the following week.  On exam days (see course schedule), students will be given computer work to be completed and turned in within one week of the exam. |

**Grading Policy**

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| **Grading Policy**  A final letter grade will be determined on the following scale:  90.00 – 100% A  80.00 – 89.99% B  70.00 – 79.99% C  60.00 – 69.99% D  Below 60.00% F  \*\*Students must take the MTH 225 Comprehensive Final Examination in order to complete the class and receive a letter grade. The exam is scheduled for Friday, July 8th, 2016 at 10:00 AM in SH 509.\*\*   |  | | --- | | **Homework and computer work** will be worth  Homework assignments –> 24%  Quizzes –> 16%  Semester Exams –> 36%  Final Examination\*\* –> 24%  Total –> 100%  **24%**, **quizzes** will be worth **16**%, the **three in-**  **class** **exams** will be worth **36%**, and the **Final**  **Exam** will count for **24%** of the grade. | |

**Attendance Policy**

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| Students are expected to attend each class. Excessive use of cell phone or sleeping during class will be counted as an unexcused absence. Students who are frequently tardy or leave class early will also receive an unexcused absence.  Only **excused absences** will warrant make up exams. To obtain an excused absence, please see the instructor or go to the Dean of Students’ Office in the MSC. |

**Course Schedule**

* The three tests are scheduled for Monday 6/13, Wednesday 6/22, and Friday 7/1.
* The quizzes are scheduled for Friday 6/10, Monday 6/20, Wednesday 6/29, and Wednesday 7/6.
* The last day to drop an individual course is Friday 6/24.
* The last day to withdraw from Summer II Term is Thursday 7/7.
* There will be no classes scheduled for July 4 in observance of Independence Day.
* The Final Exam is scheduled for Friday 7/8.