
Salisbury University Department of Mathematical Sciences

MATH 502 : Applied Statistics
Syllabus (Tentative)

Description: The use of linear models in the analysis of data, starting with simple models and going to more complex models. Special attention given to the use and abuse of these models by researchers. Graduate credit only. 3 Hours Credit: This course is currently being taught online.

Prerequisites: C or better in MATH 151 or MATH 155 or MATH 213 or MATH 216.

Intended Audience: Highly-motivated graduate students who know they need a broader and deeper background in statistics.

Objective: To offer a second course in statistics with realistic goals for graduate students. This course is not an introduction to statistics (see prerequisite), nor is it the last course for a serious researcher. Rather, the goal is literacy in applied statistics - the ability to read one's professional journals.

Textbooks: *Biostatistics for the Biological & Health Sciences*, 2nd Ed., Triola & Triola, Pearson. ISBN: 9780134039015, Workbook to accompany text (optional) *How to Use SPSS*. ISBN: 9781936523443

| Topic | Weeks |
|---|-----------|
| Review of Descriptive Statistics & Probability Distributions | 2 |
| Review of Estimation & Tests Concerning One Sample | 2 |
| Two-Sample Inference | 1.5 |
| Multisample Inference: ANOVA | 2 |
| Nonparametric Techniques; Tests for Association: Categorical Data | 2 |
| Regression and Correlation | 2.5 |
| Optional Topics: Logistic regression Factor Analysis | 1.5 |
| Tests | 0.5 |
| Total | 14 |

Evaluation

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| Assignments: quizzes/homework | 30% |
| Mid-term exam | 30% |
| Final exam | 30% |
| Online participation | 10% |

- Clear descriptions of thought processes, evidence of critical thinking, and effective communication must be demonstrated in written work.
 - **Writing Across the Curriculum:** Students will be expected to communicate mathematics and mathematical ideas effectively in speech and writing. At the University Writing Center, trained consultants are ready to help you at any stage of the writing process. In addition to the important writing instruction that occurs in the classroom and during professors' office hours, the Center offers another site for learning about writing. **All students are encouraged to make use of these important services.**
 - **NOTE:** Once a student has received credit, including transfer credit, for a course, credit may not be received for any course with material that is equivalent to it or is a prerequisite for it.
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