**Math 555 – Technology and Communication in the Mathematical Sciences**

**Course Syllabus**

**Course Description**. Practical training in the use of software for mathematics and statistics; writing mathematics and statistics for publication; developing mathematics and statistics presentations; other issues relating to mathematical exposition.

**Credit Hours:** 3

**Course Prerequisites**: MTH 317 or permission from instructor

**Course Outline: Approximate Time Spent:**

* Mathematical and Statistical Exposition **20%**
  + Paper preparation in the mathematical sciences
  + Software used in paper preparation and publication
  + Mathematics/Statistics publication process
  + Standards in thesis writing
* Mathematical and Statistical Presentations **20%**
  + Presentation preparation in the mathematical sciences
  + Software used in presentation preparation
  + Issues in presenting mathematics/statistics
* Mathematical Software and Computation **30%**
  + Basics of mathematical software
  + Calculus based calculations
  + Matrices and vectors
  + Probability and statistics
  + Graphics creation for teaching/presentations/papers
* Statistical Software and Computation **30%**
  + Reviewing basics of statistical software
  + Working with data
  + Implementing and using basic statistical procedures
  + Implementing and using advanced statistical procedures

**Student Learning Outcomes (SLO):** At the end of this course the successful student should be able to:

* Write mathematics and statistics for publication using appropriate software.
* Generate mathematical presentations using appropriate software and give successful presentations of mathematical/statistical results.
* Use mathematical and statistical software to assist in problem solving.
* Use statistical software to manipulate and process data.

**This is an elective course not required in the degree program; accordingly, the student learning outcomes are not linked to specific program learning outcomes.**

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