

# **Statistical Research for Mathematics Teachers**

## **MTCH 8010**

### **Course Description:**

This course is designed for graduate students in the MAT program who select the statistics option to complete their degree. The student will do a literature review, design a study involving mathematics education, gather and analyze the data, and prepare a manuscript for submission to a refereed journal. (The course will not count toward a major in the MA or MS program.) To prepare for the course, interested students should contact the instructor of the course several months before (8 is the norm) to have time to do the groundwork for the study. **3 credits**

### **Prerequisites:**

STAT 8015 and TED 8010.

### **Overview of Content and Purpose of the Course:**

This course is the culmination of the Statistics option for the Masters in Arts for Teachers degree in the Mathematics Department. The course allows students to take what they have learned and conduct their own research project. The students will be able to go through a literature review, selection of a study question. They will go through the IRB approval process, collect their data and then analyze the data. Their final report will be written and submitted to a refereed journal. This course will thus position the student to begin to contribute to the research in their field.

### **Anticipated Audience/Demand:**

Students who are current teachers (grades 7-12) or who are planning on teaching at the collegiate level in Mathematics and are enrolled in the MAT degree program in the Mathematics Department.

### **Major Topics:**

Literature Review

Mathematics

Statistics

Mathematics Education

Institutional Review Board

Inferences

**Methods:**

The instructor/mentor facilitates the student-directed research project.

**Student Role:**

The student is expected to direct the learning in the course. The instructor facilitates the learning by guiding, correcting, suggesting changes and providing the general framework (what major steps the student should take next).

**Textbook:**

Many (probably close to 50) journal articles related to the research question.

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