

**Tennessee Technological University  
Mathematics Department**

**MATH 6991: Research and Independent Study**

**I. COURSE DESCRIPTION FROM CATALOG:**

The purpose of this course is to foster research and independent study at the graduate level in mathematics or statistics. Students will independently study a chosen area of mathematics, explore open and significant problems, draw conclusions and, if applicable, participate in problem solving via consulting. Students will be required to give presentations on their own investigations and conclusions. Lec. 1-3. Cr. 1-3.

**II. PREREQUISITE(S):**

Consent of instructor.

**III. COURSE OBJECTIVE(S):**

The main objective of this course is to provide an opportunity for graduate students to conduct significant independent study and research at the graduate level in any area of mathematics or statistics. Experience can be in the form of independent projects, problem solving, or consulting conducted under faculty supervision.

**IV. TOPICS TO BE COVERED:**

Topics will depend on student and faculty interests. The methodology may include one or more of the following:

- Read and present research papers or mathematical expositions in the chosen area.
- Use an appropriate programming language (e.g., C, C++, Java, FORTRAN, Pascal) for an independent project.
- Use tools for mathematical documentation, computation, and visualization of results (e.g. TeX, LaTeX, AXIOM, Maple, MATLAB, SAS, R, etc.)
- Define, implement, perform, and document numerical or statistical problems and interpret the results.
- Participate in statistical consulting.
- Write a report and make a presentation – at a graduate seminar or a conference - such as a survey on the topic or on the results of the investigations.

**V. ADDITIONAL INFORMATION:**

Independent reading assignments, homework, possibly consulting lab assignments

**VI. POSSIBLE TEXTS AND REFERENCES:**

To be chosen by the instructor.

**VII. ANY TECHNOLOGY THAT MAY BE USED:**

To be chosen by the instructor.

Students with a disability requiring accommodations should contact the Office of Disability Services (ODS). An Accommodation Request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The ODS is located in the Roaden University Center, Room 112; phone 372-6119. 1