Masters in Applied Statistics

The Department of Mathematics and Statistics will offer a new graduate program, Masters in Applied Statistics starting Fall 2025.

The degree program in Applied Statistics can be completed in 3-4 semesters as a stand-alone program or a little longer if pursued alongside a graduate degree program in another discipline or by working professionals interested in expanding their knowledge in analyzing and interpreting data. It will prepare students for the job market where data analyses skills are preferred. It is aimed to:

1. Students will demonstrate ability in computational methods---including basic statistical programming, data analysis, and reproducibility---necessary to do applied data analysis.
2. Students will demonstrate the ability to use appropriate statistical methodologies for real-world data analysis settings.
3. Students will evaluate the ethical implications of aspects related to statistical inquiry, including study design, data collection, and data analysis.
4. Students will develop skills in written communication and oral presentation of statistical findings.

Degree requirements: Pre-requisite is a bachelor's degree in any discipline. Students will be required to complete 30 hours of class work, from which one of two two-course sequences is mandatory (ST 540 and ST 545 OR MA 555 and MA 560) and the remaining 24 hours are to be chosen form the courses listed below. Possible courses are:

- Satisfy the *Graduate School's Degree Requirements for the Master's Degree*.
- A minimum of 30 semester hours of course work.
- One two-course sequence (6 hours), selected from ST540 & ST 545 or MA555 & MA560 must be completed.
- Thesis or non-thesis option is available.
- Non-thesis option: Complete at least 24 hours from the list below.
  MA 550, MA 551, MA567, MA 568, ST 525, ST 550, ST 555, ST 560, ST 570, ST 575, ST 580, ST 585, ST 590, ST 594.
- Thesis option: Complete 6 hours of ST 599 and 18 hours from the list below.
  MA 550, MA 551, MA567, MA 568, ST 525, ST 550, ST 555, ST 560, ST 570, ST 575, ST 580, ST 585, ST 590, ST 594.

For any more information, contact **Dr. Chase Holcombe** at holcombe@southalabama.edu or Phone: (251) 460-7294.

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Required one two-course sequence:

- ➢ ST 540: Statistics in Research I (3 cr)
- ➢ ST 545: Statistics in Research II (3 cr)

OR

- ➢ MA 555: Statistical Analysis I (3 cr)
- ➢ MA 560: Statistical Analysis II (3 cr)

Thesis and non-thesis options available. For non-thesis option select 24 hours from the list below. For thesis option select 6 hours of ST 599 and 18 hours from the list below.

- ➢ MA 550: Probability (3 cr)
- ➢ MA 551: Theory of Statistics (3 cr)
- ➢ MA 567: Operations Research (3 cr)
- ➢ MA 568: Topics in Operations Research (3 cr)
- ➢ ST 525: Applied Statistics for Clinical Trials (3 cr)
- ➢ ST 550: Environmental Statistics (3 cr)
- ➢ ST 555: Categorical Data Analysis (3 cr)
- ➢ ST 560: Applied Design and Analysis of Experiments (3 cr)
- ➢ ST 570: Applied Multivariate Analysis (3 cr)
- ➢ ST 575: Statistical Computing and Graphics (3 cr)
- ➢ ST 580: Statistical Learning Techniques in Data Science (3 cr)
- ➢ ST 585: Nonparametric Modeling (3 cr)
- ➢ ST 590: Special Topic (3 cr)
- ➢ ST 594: Directed Studies (3 cr)
- ➢ ST 599: Thesis (6 cr)

Graduate Faculty

- Olivia Atutey: Variable/Feature Selection, Nonparametric Statistics, and Statistical Inference
- H Frazier Bindele: Nonparametric Statistics, Robust Statistical procedures
- Chase Holcomb: Applied Statistics, Nonparametric Statistical Methods, Statistical Process Control, and Autocorrelated Integer-Valued Process Monitoring
- Mathias Muia: Stochastic Processes, Markov Chains, central limit theorems, dependence coefficients and applications, Parameter Estimation, Bayesian Analysis, Robust statistics, Statistical Models, Uncertainty Quantification, Data Science
- Madhuri Mulekar: Selection and Ranking Procedures, Sequential Estimation and Testing Procedures, and analysis of medical data
- Paramahansa Pramanik: Probability and Stochastic Processes, Mathematical Statistics, Mathematical Biology