

Earn your Master's degree in Data Science and Engineering from a leading research university with top-ranked programs.

The Master of Science in Data Science and Engineering degree entails a minimum of 30 semester graduate credit hours. There are two formal options in the program: **Data Engineering Option** administered by the Department of Computer Science and Software Engineering; and **Data Science Option** managed by the Department of Mathematics and Statistics.



### Data Engineering Option

Samuel Ginn College of Engineering  
Auburn University

Department of Computer Science  
and Software Engineering  
3101 Shelby Center  
Auburn, AL 36849

Xiao Qin, Ph.D.  
Director of Graduate Programs  
Phone: 334-844-6327  
E-mail: xqin@auburn.edu

### Data Science Option

College of Science and Mathematics  
Auburn University

Department of Mathematics and  
Statistics  
221 Parker Hall  
Auburn, AL 36849

Nedret Billor, Ph.D.  
Coordinator of Statistics and Data  
Science Programs  
Phone: 334- 844-3619  
E-mail: billone@auburn.edu

# Master of Science in Data Science and Engineering

## Auburn University

Samuel Ginn College of Engineering

College of Science and Mathematics



## Program Overview

This graduate program prepares students to pursue careers in data science and engineering, where valuable insights are derived from massive amounts of raw data.

Our high-quality curriculum offers an excellent balance between theory and application, equipping students with foundational skills and state-of-the-art technologies related to the next generation of big data applications.

Students will be able to complete this on-campus graduate program in one to two years. This program blends graduate-level courses in core topics like data mining, machine learning, and statistical learning. The program also offers a wide variety of electives in addition to a required capstone experience, in which students apply their knowledge and skills to a real-world application scenario.

## Program Outcomes

**Outcome 1:** Students will demonstrate proficiency in knowledge, skills, and experiences in data science and engineering.

**Outcome 2:** Students will demonstrate proficiency in processes involved in managing and analyzing massive data sets.

**Outcome 3:** Students will be able to demonstrate effective oral and written communication skills.

**Outcome 4:** Students will acquire the capability to carry out real-world projects by applying core concepts and expert knowledge of data science and engineering while demonstrating the highest standards of ethical conduct.

## Admission Requirements

Minimum admission requirements are GRE, a baccalaureate degree in engineering or science from an institution of recognized standing, at least one Statistics course at the 3000-level or above, and knowledge of at least one modern programming language. Having a baccalaureate degree in computer science, software engineering, mathematics, statistics, or an equivalent discipline, or significant work experience in information technology or applied mathematics & statistics will be beneficial. Data Engineering Option applicants will be evaluated by the graduate committee of the Department of Computer Science and Software Engineering; Data Science Option applicants will be assessed by the graduate committee of the Department of Mathematics and Statistics.

## Program Requirements

This graduate program offers two options: Data Engineering and Data Science. The degree entails a minimum of **30 semester graduate credit hours**. The curriculum consists of the following courses:

### Bridge Courses: If Needed; No Credit

#### COMP Courses

- COMP1210 Fundamentals of Computing I
- COMP2210 Fundamentals of Computing II
- COMP3270 Introduction to Algorithms

#### STAT Courses

- STAT3600/3610 Probability & Statistics I or II
- MATH1610/1620 Calculus I or II
- MATH2660 Topics in Linear Algebra

### Required Core Courses: 18 Credit Hours

#### COMP Core Courses

- COMP6120 Databases
- COMP6130 Data Mining
- COMP6630 Machine Learning

#### STAT Core Courses

- STAT6000 Intermediate Stat. Methods for Data Science
- STAT6600 Probability & Statistics for Data Science
- STAT6650 Statistical Learning

### Elective Courses: 9 Credit Hours

#### Data Engineering Option

- COMP6/7000-Level Course 1
- COMP6/7000-Level Course 2
- A STAT or Other Elective Course at the 6/7000-Level

#### Data Science Option

- STAT6/7000-Level Course 1
- STAT6/7000-Level Course 2
- A COMP or Other Elective Course at the 6/7000-Level

### Capstone Experience: 3 Credit Hours

#### Data Engineering Option

- COMP7980 Capstone Engineering Project

#### Data Science Option

- STAT7940 Capstone Project