AUBURN UNIVERSITY
College of Sciences and Mathematics

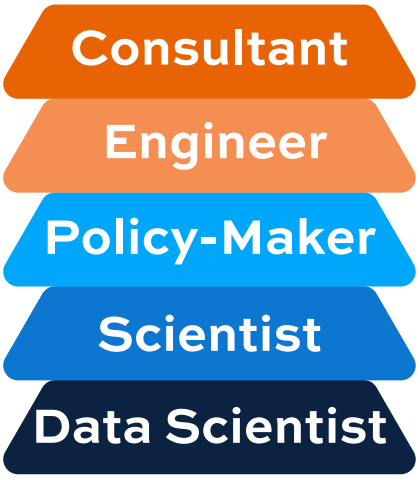
Graduate Certificate
Data Science

The graduate certificate program in Data Science (GCRT-DSCI), which is available online and on campus to both degree and non-degree-seeking students, prepares students to analyze data statistical learning, create machine learning solutions, interpret patterns, develop and design applications, and communicate big data concepts with non-technical stakeholders.

If a student chooses to pursue a master's, all academic credit earned from the certificate may be applied toward the graduate degree.

More than 11.5 million new jobs will be created in the data science field by 2026.

Source: U.S. Bureau of Statistics



The data science graduate certificate prepares you for these careers in industry or government.

APPLYING FOR THE DATA SCIENCE GRADUATE CERTIFICATE:

- Fill out the online graduate application at aub.ie/apply2grad (you will be required to create an account) or scan the QR code to the right.
- Contact Nedret Billor, Coordinator of Statistics and Data Science Programs in the Department of Mathematics and Statistics: billone@auburn.edu or 334.844.3619

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DATA SCIENCE GRADUATE CERTIFICATE REQUIRED COURSES:

STAT 6000	Intermediate Statistical Methods for Data Science	3
STAT 6600	Probability and Statistics for Data Science	3
STAT 6650	Statistical Learning	3
An Elective	**(Select one from the following three electives)**	3
COMP 6120	Database Systems I	3
COMP 6130	Data Mining	3
COMP 6630	Machine Learning	3
TOTAL		**12**

SHORT DESCRIPTION OF THE COURSES:

STAT 6000 INTERMEDIATE STATISTICAL METHODS FOR DATA SCIENCE (3) LEC. 3.
Principles of probability and statistics, multiple testing and bootstrapping, parametric and nonparametric regression, generalized linear models, time-dependent data.

STAT 6600 PROBABILITY AND STATISTICS FOR DATA SCIENCE (3) LEC. 3.
Random processes, times series, convergence of random processes, Markov chains, Maximum Likelihood Estimation, Bayesian statistics, hypothesis testing, prediction, Sampling and Resampling methods, multivariate statistics.

STAT 6650 STATISTICAL LEARNING (3) LEC. 3.
Topics include common supervised and unsupervised learning methods such as linear regression, logistic regression, regularization, non-parametric regression, model assessment and selection, neural network, support vector machines, principal components analysis.

COMP 6120 DATABASE SYSTEMS I (3) LEC. 3.
Theoretical and applied issues related to the analysis, design, and implementation of relational database systems.

COMP 6130 DATA MINING (3) LEC. 3.
Advanced topics include data visualization, data warehousing, data cube computation, pattern and rule mining, classification, belief networks, clustering, outlier detection, graph matching.

COMP 6630 MACHINE LEARNING (3) LEC. 3.
An exploration of current concepts, techniques, and applications in machine learning including abductive learning, case-based learning, deep learning, and reinforcement learning.

Learn more online at aub.ie/cosamdse or check out the QR code!