

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

McQuaid Hall, Rm 212B

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dasc@shu.edu

www.shu.edu/academics/ms-in-data-science.cfm (<http://www.shu.edu/academics/ms-in-data-science.cfm>)

Faculty: Kahl; Minimair (*Program Director*); Saccoman (*Chair*); Wachsmuth
Senior Faculty Associate: Sethi Lecturer: Reynolds

Term Faculty: TBD

Adjunct Faculty: Abayomi

Major

- Data Science Major (M.S.) Online Program (<http://catalogue.shu.edu/graduate/college-arts-sciences/department-mathematics-computer-science/data-science-major-ms/>)

Accelerated and Dual Degree

- Accelerated 3+2 Applied Scientific Mathematics Minor, MS in Data Science (<http://catalogue.shu.edu/graduate/college-arts-sciences/department-mathematics-computer-science/accelerated-32-applied-scientific-mathematics-minor-ms-data-science/>)
- Accelerated 3+2 B.S. in Computer Science with M.S. in Data Science (<http://catalogue.shu.edu/graduate/college-arts-sciences/department-mathematics-computer-science/accelerated-32-bs-in-computer-science20with20ms20in20data20science/>)
- Accelerated 3+2 B.S./B.A. in Physics with MS in Data Science (<http://catalogue.shu.edu/graduate/college-arts-sciences/department-mathematics-computer-science/accelerated-32-bs-ba-in-physics-with-ms-in-computer-science/>)
- Accelerated 3+2 BS in Mathematics, MS in Data Science (<http://catalogue.shu.edu/graduate/college-arts-sciences/department-mathematics-computer-science/accelerated-3+2-bs-mathematics-ms-data-science/>)
- Accelerated 3+2 Mathematics Minor, MS in Data Science (<http://catalogue.shu.edu/graduate/college-arts-sciences/department-mathematics-computer-science/accelerated-32-mathematics-minor-/>)

Certificate

- Data Analytics Certificate (<http://catalogue.shu.edu/graduate/college-arts-sciences/department-mathematics-computer-science/data-analytics-certificate/>)

Note to Students: The following listing represents those courses that are in the active rotation for each department, i.e., have been offered in the past five years. Some departments have additional courses offered more rarely but still available – to find the complete list of all official courses for a department, please use the “Course Catalogue Search” function in Self-Service Banner

DASC 6010 Data Mining (3 Credits)

DASC 6811 Statistics for Data Science (3 Credits)

DASC 6911 Big Data Analytics (3 Credits)

This course is a graduate tour of techniques for processing big data that aims at future Data Scientists. It covers algorithms and software frameworks that are used for automating data analysis of big data. The course topics include Python for data science, big data stack, data analytics architecture, MapReduce, Hadoop and case studies such as recommendation engines. The course teaches practical skills in implementing big data analytics using industry-standard software, such as Python and MapReduce, and cloud computing services.

DASC 7000 Data Visualization (3 Credits)

DASC 7111 Text Mining (3 Credits)

DASC 7211 Network Analysis (3 Credits)

DASC 7521 Operations Research (3 Credits)

DASC 8011 Intern in Visual Analytics (3 Credits)

DASC 8211 Machine Learning (3 Credits)

DASC 8212 Deep Learning (3 Credits)

DASC 8222 Data Engineering (3 Credits)

The data engineering course offers a blend of theory, case studies, and hands-on experiences. At the end of the course, students will be able to build a data warehouse and data lake, automate data pipelines, work with massive datasets, and understand the concepts of a major platform for cloud computing, such as Amazon Web Services (AWS), its terminologies, and benefits.

DASC 8803 ST - Adv Machine Learning (3 Credits)

DASC 8811 Special Topics in Data Science (1 Credit)

DASC 8812 Special Topics in Data Science (2 Credits)

DASC 8813 MS in Data Science (3 Credits)

DASC 9311 Data Science Project (3 Credits)

DASC 9413 M.S. Thesis (3 Credits)

MATH 6611 Operations Research (3 Credits)

MATH 6721 Financial Calculus (3 Credits)

MATH 6722 Adv Topics Financial Calculus (3 Credits)

MATH 6811 Statistics for Data Science (3 Credits)