Bachelor of Science in
Applied Data Science Analytics (DSA)

0718

ANALYTICS

WHAT DO STUDENTS LEARN?

Graduates of the applied data science analytics program are able to critically identify, communicate, and analyze challenging analytical problems, effectively organize and manage datasets, and develop robust solutions. They are also equipped to evaluate ethical, privacy, and security challenges in their fields of practice.

WHAT DO GRADUATES GO ON TO DO?

Graduates can explore a wide range of career options across public, private and nonprofit sectors, including:

- Data Scientist
- Data Analyst
- Data Visualization Specialist
- Business Analyst

- Data Architect
- Database Engineer
- Data and Analytics Manager
- Machine Learning Scientist

! **Data scientist was named the best job in America for 2016 by job site Glassdoor.com, with an average job satisfaction of 4.4 out of 5.**

chatham®UNIVERSITY

Data science is an emerging **INTERDISCIPLINARY FIELD THAT BLENDS COMPUTER TECHNOLOGY, STATISTICS, AND BUSINESS** to manage, organize, and analyze the massive amounts of data produced by modern technologies every day. Digitalized data make it easier than ever to conduct research on historical records, providing connections between the old and new. Data scientists need to understand information systems and have a strong foundation in analytical methods and tools. Employers are increasingly looking for these skills to help solve important problems and create new insights in industry, healthcare, government, non-profits, and beyond.

Data science is one of the fastest growing fields and is among the highest paid professions today. Being able to synthesize large amounts of data and communicate the results effectively, often across many disciplines, is a unique skill and one that is in demand on an increasing basis. Data scientists are needed in virtually all job sectors including health, finance, technology, and retail/sales.

PROGRAM HIGHLIGHTS

- Choose a minor in a specialized knowledge domain, such as a business field, political science, sustainability, biology, psychology, mathematics, or more.
- Take classes at Carnegie Mellon University or University of Pittsburgh through our agreements with those schools the Pittsburgh Council for Higher Education agreement.
- Through the Chatham Plan, DSA graduates leave Chatham with the communication skills they need to not only analyze data, but to work in teams and leadership roles to communicate their results.
- Benefit from innovative courses such as Information and Cybersecurity which teaches students to identify vulnerabilities, assess threats, and analyze risk. And in Introduction to Data Science students examine how digital technologies are transforming industries such as business, music, and healthcare.

SAMPLE COURSES

Database Management Systems
This course is a study of database management systems and their applications to a wide range of information processing needs. Students design and implement database management systems while being introduced to a conceptual model of a database environment comprised of five basic components: databases, database management systems, data dictionary/directory systems, database administration, and user-system interfaces.

Data Visualization & Communication
Covers the different ways of visualizing data, given different types and characteristics of data. Includes assessment and evaluation of existing data visualization techniques. Current tools used transform data and visualize data are reviewed, including Python, Google Charts, and Tableau.

Machine Learning
An introduction to machine learning and algorithms. Topics include least squares methods, Gaussian distributions, linear classification, linear regression, maximum likelihood, exponential family distributions, Bayesian networks, Bayesian inference, graphical models, hidden Markov models, support vector machines, and kernel methods. Includes current issues relevant to big data problems.

▶ www.chatham.edu/data-science/
   curriculum.cfm

INTERNSHIPS

Each student is required to complete at least one internship. Students in the Department of Business and Entrepreneurship have interned at companies including:

- ADASHI Systems
- Allegheny County Economic Development
- Bayer
- Bossa Nova Robotics
- BNY Mellon
- Conservation International
- Federated Investors
- Ford
- Global Solutions Pittsburgh
- Google
- GNC
- Hilton Hotels
- Home Depot
- Intercontinental Hotels
- Ketchum
- LunaMetrics
- Merrill Lynch
- Mylan
- Penguins
- RTI International Metals
- Schneider Downs
- Steelers
- Uber
- US Commercial Service in Pittsburgh
- WQED

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"Governments, healthcare providers, and businesses are producing an unprecedented amount of data thanks to advances in information technologies and computational models. Bright minds who can turn data into insights and innovations are leaders we need for all industries."

– RACHEL CHUNG, PH.D., *program director, Business and Entrepreneurship*

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▶ **Apply online at apply.chatham.edu**

LEARN MORE

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