APPLIED DATA SCIENCE, MS

Contact

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Website

https://ischool.syracuse.edu/academics/applied-data-science-masters-degree/

Description

Offered jointly by the School of Information Studies and the Martin J. Whitman School of Management, the Master of Applied Data Science degree program is designed to be a professional program of study, with a strong emphasis on the applications of data science to enterprise operations and processes, particularly in the areas of data capture, management, analysis and communication for decision making. We also offer our MS in Applied Data Science online. (https://datascience.syr.edu/form/)Learn more at Master's Applied Data Science | Syracuse University Online (https://onlinegrad.syracuse.edu/information-science/applied-data-science/)

Admission

All candidates should have a bachelor's degree or equivalent. In addition, it is recommended that potential students have a strong background in a data-intensive domain such as business, science, statistics, research, or information technology. The online program may be of particular interest to early- or mid-career professionals who cannot, or prefer not to, relocate. Applicants should have an interest in interdisciplinary work focused on managing large data sets using information technologies as tools to enable solutions for such organizations as business and public enterprises. Prospective students who have an interest in data science, but lack the recommended undergraduate background, are encouraged to inquire. Individual consultations are available for such prospective students to explore their potential candidacy. The application checklist can be found here: https://ischool.syracuse.edu/admissions-aid/how-to-apply/masters-applied-data-science-applicaiton-checklist/ (https://ischool.syracuse.edu/admissions-aid/how-to-apply/masters-applied-data-science-application-checklist/)

Facilities

Classrooms and computer labs within the School of Information Studies and the Whitman School are available for this program; Online facilities provide complete coverage of all required course activities.

Degree Awarded

MS in Applied Data Science

Student Learning Outcomes

Successful students in the Master's of Applied Data Science program will be able to:

1. Collect, store, and access data by identifying and leveraging applicable technologies
2. Create actionable insight across a range of contexts (e.g. societal, business, political), using data and the full data science life cycle
3. Apply visualization and predictive models to help generate actionable insight
4. Use programming languages such as R and Python to support the generation of actionable insight
5. Communicate insights gained via visualization and analytics to a broad range of audiences (including project sponsors and technical team leads)
6. Apply ethics in the development, use and evaluation of data and predictive models (e.g., fairness, bias, transparency, privacy)

Program Requirements

Code	Title	Credits
Required Core		
The 15-credit required core includes foundational knowledge in databases, data analysis and business analytics. Students will complete courses in an order which builds foundational knowledge and skills in preparation for more advanced work.		
IST 659	Data Administration Concepts and Database Management	3
IST 686	Quantitative Reasoning for Data Science	3
IST 687	Introduction to Data Science	3
IST 707	Applied Machine Learning	3
SCM 651	Business Analytics	3
Electives		
Students can also choose any course from a different concentration for three credits, an additional course in the chosen concentration if available, or any course from the list below.		12
IST 615	Cloud Management	
IST 618	Information Policy	
IST 623	Introduction to Information Security	
IST 974	Internship in Applied Data Science	
MAS 766	Linear Statistical Models I: Regression Models	
MAS 777	Time Series Modeling and Analysis	
Exit Requirement		
Students take IST 782 in their last semester or term of study.		1
Concentration		
Concentrations allow students to select course work that matches their professional interests and planned career paths. Students are required to select one concentration below, and complete two classes, or 6 credits, from that concentration.		6
Total Credits		**34**

AI

Code	Title	Credits
Know how to use advanced deep learning predictive models in an ethical way		
IST 664	Natural Language Processing	3
IST 691	Deep Learning in Practice	3
IST 692	Responsible AI	3

Big Data

Code	Title	Credits
Know how to use advanced applications, tools and packages to work with very large datasets		
IST 718	Big Data Analytics	3
IST 769	Advanced Big Data Management	3

Data and Business Analytics

Code	Title	Credits
Understand how predictive analytics can be leveraged across a variety of business contexts to generate business insight.		
ACC 652	Accounting Analytics	3
FIN 654	Financial Analytics	3
MAR 653	Marketing Analytics	3
MBC 638	Data Analysis and Decision Making	3
SCM 703	Principles of Management Science	3

Data Pipelines and Platforms

Code	Title	Credits
Improve your data engineering skills by practicing collecting data, parsing /munging the data, doing feature engineering as well as storing the data in an appropriate data repository		
IST 652	Scripting for Data Analysis	3
IST 722	Data Warehouse	3
IST 769	Advanced Big Data Management	3

Language Analytics

Code	Title	Credits
Understand how to work with unstructured textual data, via both text mining (looking for patterns in the words) and natural language processing (parsing and analyzing the text from a linguistics perspective)		
IST 644	Managing Data Science Projects	3
IST 736	Text Mining	3

Project Management

Code	Title	Credits
Know how to best manage and deliver useful, ethical, and actionable insight and tools.		
IST 644	Managing Data Science Projects	3
IST 692	Responsible AI	3

Visual Analytics

Code	Title	Credits
Use visualization and interaction to generate insight from data and their associated predictive		
IST 719	Information Visualization	3
IST 737	Visual Analytic Dashboards	3

Transfer Credits

6 credits in related coursework can be transferred from other universities with the approval of the Program Director.

Part-Time Study

U.S. citizens, and non-citizens with the appropriate visa and/or immigration permissions for part-time study, may pursue this program on a part-time basis.

Satisfactory Progress

Students are required to have a 3.0 grade point average or higher to maintain satisfactory progress.

Notes

On-campus courses are delivered through the traditional semester format in which students take courses in the fall and spring semester, with optional internships in the summer. Section sizes for on-campus classes range from 20-45 students. Online courses are delivered with four (4) starts per year, where courses run for 11 weeks with required contact hours achieved through a mix of asynchronous and synchronous course interaction.