DATA SCIENCE MASTER OF SCIENCE

Leading to a Master of Science Degree in Data Science

Our society is producing an unprecedented amount of data through media outlets, research, and most of our online presence. The tools to analyze and infer from these data are also developing at an accelerated rate. Companies and researchers in a diverse range of fields, including biomedical sciences, financial services, and marketing, are seeking experts to capitalize on the data revolution. The goal of the Master of Science in Data Science program is to enable students to become professional data scientists with the computational skills demanded by the labor market. This accelerated program is taught by interdisciplinary faculty with both academic and industrial expertise and offers flexible delivery options (online and part-time).

Program Educational Outcomes

The program educational outcomes for the Master of Science in Data Science that align with the listed graduate student learning outcomes developed by the Office of Institutional Effectiveness are as follows:

- Develop computational programming abilities to represent and explore data
- Apply statistical data analysis techniques and quantitative modelling to solve data science tasks
- Apply data munging/management principles to extract, load, process, and transform real-world data
- Be aware of ethical consequences of data-informed decision making
- Communicate data findings effectively to an audience, in oral, visual, and/or in written formats

Student Outcomes

Wentworth published the following graduate student learning outcomes developed by the Office of Institutional Effectiveness in The Wentworth Model. Our graduate students will be able to demonstrate their mastery of these skills through the coursework required in the programs. The mapping of the Learning Outcomes to coursework will be as follows:

- Core Knowledge: advanced knowledge in a specialized area consistent with the focus of their graduate program, including critical thinking and problem-solving.
- Scholarly Communication: advanced proficiency in written and oral communication, appropriate to purpose and audience.
- Professionalism: advanced intellectual and organizational skills of professional practice, including ethical conduct.
- Research Methods and Analysis: quantitative and qualitative skills in the use of data gathering methods and analytical techniques used in typical research that is consistent with the focus of their graduate program.

Total credits for degree: 33 credits

Course	Title	Credits
SEMESTER 1		
DATA6000	APPLIED STATISTICS FOR RESEARCH	3
DATA6100	DATA VISUALIZATION	3
DATA6150	DATA SCIENCE FOUNDATIONS	3
SEMESTER 2		
DATA6200	DATA MANAGEMENT	3
DATA6250	MACHINE LEARNING FOR DATA SCIENCE	3
*DATA SCIENCE ELECTIVE		3
DATA6900	CAPSTONE I	3
SEMESTER 3		
DATA6950	CAPSTONE II	3
*DATA SCIENCE ELECTIVE		3
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Total Credits		33

***Data Science Electives are maintained by the School of Computing and Data Science**