

College of Integrated Studies

Under Construction

Master of Applied Data Science (MADS)

The Master of Applied Data Science (MADS) provides an applied approach to data science and is oriented towards working professionals. In the current economic environment, as every industry and sector of the economy transitions to digital models of operation, data science knowledge and expertise is in great demand. Many working professionals must acquire an understanding of data science methods to contribute to digital transformation projects and the ongoing operation of digitally transformed organizations. These professionals seek a practical approach to data science, focusing on the skills for responsible use of data science methods and tools. Because data science tools are used in every aspect of the modern organization, these professionals have a variety of educational backgrounds and may lack traditional preparation in subjects like computer science and statistics that form a significant part of data science. In response to this need, the MADS degree innovatively combines concepts and skills from many disciplines to enable learners to gain a mastery of data science concepts along with practical, hands-on experience in using data science methods. To address the needs of working professionals, the degree is designed to be offered fully online. To ensure the accessibility of the program, the degree has been designed to obviate the need for prerequisite courses that add demotivating friction to a learner's ability to commence the program. Coursework provides deep engagement with data modeling, collection, analysis (including statistical, machine learning, and deep learning AI approaches), computation, and integration. Students learn how to present data-driven discoveries and craft data-intensive solutions to real-world problems while understanding the legal and ethical context of their work. A capstone practicum class provides experience in the complete data science lifecycle applied to a real-world problem in the student's field of choice.

Required Courses

DSCI 6113	Programming for Applied Data Science	3
DSCI 6122	R Lab for Applied Data Science	2
DSCI 6133	Applied Data Visualization	3
DSCI 6204	Applied Statistical Methods for Data Science	4
DSCI 6214	Applied Machine Learning for Data Science	4
DSCI 6301	Data Science Project Management	1
DSCI 8133	Foundations of Applied Data Science I	3
DSCI 8143	Foundations of Applied Data Science II	3
DSCI 8224	Applied Neural Networks and Deep Learning for Data Science	4
DSCI 8413	Applied Graduate Data Science Capstone	3
Total Hours		30