

Shape the future with data-driven decisions.

MASTER OF SCIENCE IN DATA SCIENCE & ANALYTICS

FULLY ONLINE



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PROGRAM DESCRIPTION

The Master of Science in Data Science and Analytics program is grounded on the belief that data-driven decision-making is central to organizational success in the digital era.

The program is designed to provide learners with the technical abilities and professional skills to utilize various analytical tools required to discover, understand and engage with massive complex data with the aim of meeting specific organizational needs and goals.

Learners will gain the expertise required to analyze data, improve decision-making, enhance critical thinking and help organizations gain a competitive advantage.



PROGRAM LEARNING OUTCOMES

Upon successful completion of the program the student will be able to:

- Apply data analytics expertise and devise successful analytics strategies to a wide range of organizations.
- Apply tools and techniques for building statistical or machine learning models to make predictions and decisions based on data.
- Implement computerized decision support systems applied to specific real-life problems.
- Conduct big data projects and manage innovation for developing data-driven solutions.
- Use data mining techniques to extract insights from data.

ADMISSION REQUIREMENTS

Must be a holder of a Bachelor's degree in Data Science and Analytics, Statistics, Engineering, Computer Science/Information Technology/Mathematical Sciences (with adequate computing units) or a related discipline with at least;

1. Upper second-class honors degree or cumulative Grade Point Average (GPA) of 3.0 on a scale of 4.00; or
2. Lower Second-Class Honors or cumulative GPA of 2.50 on a scale of 4.00 with additional relevant training, evidence of research capacity through research, presentations or peer-reviewed publications and relevant working experience of two years.

Other degrees maybe considered by demonstration of adequate programming skills/ take some bridging or pre-requisite courses.

Pre-Requisite Courses:

Students without background in Data Science and Analytics or related disciplines will be required to take the following courses:

1. DSA 1060: Introduction to Data Science
2. DSA 3020: Principles of Machine Learning
3. STA 3010: Statistical Modelling

CAREER OPPORTUNITIES

- Data Scientists
- Data Architects
- Data Engineer
- Machine Learning Engineer
- MLOPs Engineer
- Business Intelligence Analyst
- Data Analysts
- Statistical Analyst
- AI Researcher
- Risk/Fraud Analyst

DEGREE REQUIREMENTS**51 UNITS****CORE COURSES****36 UNITS**

| | | |
|----------|--------------------------------------|---------|
| STA 6110 | Linear and Nonlinear Models | 3 Units |
| MTH 6120 | Mathematics for Machine Learning | 3 Units |
| STA 6130 | Time Series Analysis | 3 Units |
| MDA 6210 | Data Visualization and Communication | 3 Units |
| STA 6220 | Computational Statistics | 3 Units |
| STA 6230 | Bayesian Statistics | 3 Units |
| MDA 6310 | Cybersecurity Analytics | 3 Units |
| MDA 6320 | Data Governance and Ethics in AI | 3 Units |
| MDA 6330 | Data Science Seminar | 3 Units |
| MDA 6570 | Project Proposal | 3 Units |
| MDA 6610 | Project Report/ Dissertation | 6 Units |

CONCENTRATIONS (Choose one)**15 UNITS****Data Science Concentration**

| | | |
|----------|---|---------|
| MDA 6410 | Advanced Machine Learning | 3 Units |
| MTH 6420 | Graph Analytics | 3 Units |
| MDA 6430 | Data Mining and Warehousing | 3 Units |
| STA 6510 | Multivariate Methods | 3 Units |
| MTH 6520 | Optimization and Simulation Methods for Analytics | 3 Units |

Machine Learning Operations (MLOps) Concentration

| | | |
|----------|----------------------------------|---------|
| MDA 6410 | Advanced Machine Learning | 3 Units |
| MTH 6420 | Graph Analytics | 3 Units |
| MDA 6430 | Data Mining and Warehousing | 3 Units |
| MDA 6450 | DevOps | 3 Units |
| MDA 6530 | Software Design and Architecture | 3 Units |

Applied Analytics Concentration

| | | |
|----------|---------------------------------------|---------|
| MDA 6460 | Business Analytics | 3 Units |
| MDA 6470 | Fraud Detection Analytics | 3 Units |
| MDA 6480 | Text Analytics | 3 Units |
| MDA 6550 | Finance and Risk Management Analytics | 3 Units |
| MDA 6560 | Geo-Intelligence/ Spatial Analytics | 3 Units |



WHY OUR ONLINE PROGRAMS

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FOR MORE INFORMATION:

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