



**DEPARTMENT OF  
ELECTRICAL ENGINEERING  
AND COMPUTER SCIENCE**  
 College of Engineering & Computer Science  
 Florida Atlantic University

**M.S. IN DATA SCIENCE AND ANALYTICS  
DATA SCIENCE & ENGINEERING CONCENTRATION**

Name: \_\_\_\_\_ Z#: \_\_\_\_\_ Advisor: \_\_\_\_\_

Date of Admission: \_\_\_\_\_ GPA: \_\_\_\_\_

**Prerequisites**

List deficiency courses assigned by the Admission Committee, if applicable:

Grade	Semester	Course Number/Name

**Degree Requirements**

The Master of Science with Major in Data Science and Analytics program offers both thesis and non-thesis options. Both options require a minimum of 30 credits.

**Students are required to take 3 core courses:**

Grade	Semester	Course Number/Name
		CAP 5768 Introduction to Data Science <b>(Required)</b>
		CAP 6673 Data Mining and Machine Learning <b>(Required)</b>
		STA 5195 Biostatistics <b>OR</b> ISM 6404 Introduction to Business Analytics and Big Data <b>OR</b> POS 6934 Special Topics (Quantitative Methods)

**In addition, students are required to take 4 concentration courses – any course with prefix CAP offered by the EECS department or CEN 6405.**

Grade	Semester	Course Number/Name

**Lastly, students need to take 3 elective courses from the list below. Thesis option requires only 1 elective course and 6 thesis credits.**

Grade	Semester	Course Number/Name
<b>Business Analytics</b>		
		ISM 6136 Data Mining and Predictive Analytics

		ISM 6217 Database Management Systems
		ISM 6404 Introduction to Business Analytics and Big Data
		ISM 6405 Advanced Business Analytics
		ISM 6555 Social Media and Web Analytics
		QMB 6303 Data Management and Analysis with Excel
		QMB 6603 Data Analysis for Managers
<b>Database and Cloud Computing</b>		
		CDA 6132 Multiprocessor Architecture
		CEN 5086 Cloud Computing
		COP 6726 New Directions in Database Systems
		COP 6731 Theory and Implementation of Database Systems
		ISM 6217 Database Management Systems
<b>Data Mining and Machine Learning</b>		
		CAP 5615 Introduction to Neural Networks
		CAP 6315 Social Networks and Big Data Analytics
		CAP 6546 Data Mining for Bioinformatics
		CAP 6618 Machine Learning for Computer Vision
		CAP 6619 Deep Learning
		CAP 6629 Reinforcement Learning
		CAP 6635 Artificial Intelligence
		CAP 6673 Data Mining and Machine Learning <b>OR</b>
		CAP 6778 Advanced Data Mining and Machine Learning
		CAP 6780 Big Data Analytics with Hadoop
		CAP 6807 Computational Advertising and Real-time Data Analytics
		CAP 6776 Information Retrieval
		CAP 6777 Web Mining
		CEN 6405 Computer Performance Modeling
		ISM 6136 Data Mining and Predictive Analytics
<b>Data Security and Privacy</b>		
		CIS 6370 Computer Data Security
		CTS 6319 Cyber Security: Measurement and Data Analysis
		ISM 6328 Management of Information Assurance and Security
		MAD 5474 Introduction to Cryptology and Information Security
		MAD 6478 Cryptanalysis
		PHY 6646 Quantum Mechanics/Computing 2
<b>Scientific Applications and Modeling</b>		
		GIS 6028C Photogrammetry and Aerial Photography Interpretation
		GIS 6032C LiDAR Remote Sensing and Applications
		GIS 6061C Web GIS
		GIS 6112C Geospatial Databases
		GIS 6127 Hyperspectral Remote Sensing
		GIS 6306 Spatial Data Analysis
		PHY 6938 Quantum Information Processing
		PHZ 5156 Computational Physics
		PHZ 7609 Numerical Relativity
<b>Social Data Science</b>		
		ANG 6090 Advanced Anthropological Research 1
		ANG 6092 Advanced Anthropological Research 2
		ANG 6486 Quantitative Reasoning in Anthropological Research
		CAP 6315 Social Networks and Big Data Analytics
		COM 6316 Quantitative Communications Research
		POS 6934 Quantitative Methods
		POS 6736 Research Design in Political Science
		SYA 6305 Seminar in Advanced Research Methods
<b>Statistics and Data Applications</b>		

		BSC 6459 Biomedical Data and Informatics
		MTG 6329 Applied Computational Topology
		STA 5195 Biostatistics
		STA 6106 Statistical Computing
		STA 6177 Survival Analysis
		STA 6197 Biostatistics – Longitudinal Data Analysis
		STA 6207 Applied Statistical Methods
		STA 6208 Regression Analysis
		STA 6326 Mathematical Statistics
		STA 6857 Applied Time Series Analysis

**Thesis Option (6 credits)**

<b>Grade</b>	<b>Semester</b>	<b>Course Number/Name</b>
		COT 6970 Master's Thesis
		COT 6970 Master's Thesis

## SUMMARY OF RULES FOR MS IN DATA SCIENCE AND ANALYTICS DATA SCIENCE & ENGINEERING (DSE) CONCENTRATION

### Minimum Degree Requirements:

#### **MS with Major in Data Science and Analytics - DSE Concentration, Thesis Option (30 credits)**

1. Requires a total of 30 credits: 6 credits of orally defended written thesis and 24 credits of approved coursework
2. At least one-half of the credits must be at the 6000 level or above
3. Must have a GPA of 3.0 (out of 4.0) or better.
4. All courses in the degree program must be completed with a grade of "C" or better.

#### **Thesis Committee (for Thesis Option)**

- Composed of at least three faculty members
- At least two members from EECS Department
- Chair from the EECS Department

#### **MS with Major in Data Science and Analytics - DSE Concentration, Non-Thesis Option (30 credits)**

1. Requires 30 credits of approved coursework
2. At least one-half of the credits must be at the 6000 level or above
3. Must have a GPA of 3.0 (out of 4.0) or better.
4. All courses in the degree program must be completed with a grade of "C" or better.

### **Admission to Candidacy/Online Plan of Study**

Students must apply for candidacy as soon as they are eligible. Students should prepare, in consultation with a graduate advisor, an **Online Plan of Study** i.e. the list of courses, for completing their degree requirements. All courses must be approved by the student's advisor.

A student is eligible to apply for candidacy when:

1. A minimum of 9 credit hours as a graduate student have been completed.
2. A minimum of 3.0 GPA in all courses attempted as a graduate student has been maintained.

Normally no more than 15 credit hours of work completed before submitting your Plan of Study will be accepted toward degree program. Students working toward the MS (thesis option) degree may not register for thesis until their Plan of Study has been approved.

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_