Master's of Science in
Data Science / Artificial Intelligence

Required courses - 12 credits:

Student must obtain a grade of C or better in these courses, C- not acceptable. Overall GPA required 3.0

Required courses				
Course # & name:	*Credits:*	*Term & Year:*	*Grade:*	*Comments/Professor:*
CAP 5602: Introduction to Artificial Intelligence	3			Fall / Spring
CAP 5768: Introduction to Data Science	3			Fall only
CAP 5771: Principles of Data Mining (or COP 5577)	3			Fall / Spring
STA 6244: Data Analysis I (or equivalent course)	3			Fall only

Business & Biostatistics Students can replace STA 6244 with the following:				
Course # & name:	*Credits:*	*Term & Year:*	*Grade:*	*Comments/Professor:*
QMB 6357: Business Stat Analysis (Business) **OR** QMB 6315: Quantitative Analytical Methods for Bus	3			
PHC 6052: Biostatistics 1 (Biostats option)	3			

Capstone – 3 credits:

Required courses			
Course # & name:	*Credits:*	*Grade:*	*Term & Year:*
IDC 6940 Capstone Course in Data Science	3		
ISM 6930: Special Topics in Man Info Systems **OR** (Business Analytics) ISM 6307: Management of the Information Systems Function	3		

Specialization Track - 15 credits:

Artificial Intelligence: pick 5 from the list below
Course # & name:
CAP 5109: Advanced Human-Computer Interaction
CAP 5507: Game Theory
CAP 5510C: Introduction to Bioinformatics
CAP 5627: Affective Intelligent Agents
CAP 5640: Grad Intr to Natural Language Processing
CAP 5610: Introduction to Machine Learning
CAP 6619: Advanced Topics in Machine Learning
CEN 5120: Expert Systems
EEL 5820: Digital Image Processing
EEL 5813: Neural Networks-Algorithms & Appls
STA 6247: Data Analysis II

Computational Data Analytics: pick 5 from list below
Course # & name:
CAP 5109: Advanced Human-Computer Interaction
CAP 5510C: Introduction to Bioinformatics
CAP 5610: Introduction to Machine Learning
CAP 5640: Grad Intr to Natural Language Processing
CAP 5738: Data Visualization
CAP 6776: Advanced Topics in Information Retrieval
CAP 6778: Advanced Topics in Data Mining
CEN 5082: Grid Enablement of Scientific Applications
CIS 5372: Fundamentals of Computer Security
CIS 5374: Information Security and Privacy
CIS 6931: Special Topics: Adv Topics in Info Processing
COP 5725: Principles of Database Management
COP 6727: Advanced Database Systems
COT 6405: Analysis of Algorithms
COT 6936: Topics in Algorithms
TCN 6420: Modeling & Perform. Eval of Telecomm Net
EEL 6803: Adv Digital Forensics Eng (special topics)
STA 6247: Data Analysis II
STA 6636: High Dimension Data Analysis (spring only)
EEL 5820: Digital Image Processing
EEL 5813: Neural Networks-Algorithms & Appls

Public Policy Analytics: pick 5 from the list below
Course # & name:
PAD 6306: Policy Analysis & Planning
PAD 6053: Pol, Soc & Eco Context of Public Admin
PAD 5256: Public Economics & Cost Benefit Analysis
PUP 6006: Public Policy Analysis & Evaluation
PAD 6434: Leadership & Decision-making
STA 6247: Data Analysis II

Business Data Analytics: pick 5 from the list below
Course # & name:
ISM 6136: Business Analytics Applications **OR**   ISM 6642: Machine Learning for Business Applications
ISM 6205 Database Management **OR**   COP 5725 Principles of Database Man Systems
ISM 6208 Data Warehousing **OR**   ISM 6404 Business Data Visualization & Reporting **OR**   ISM 6418: Business Data Visualization & Exploration **OR**   CAP 5738: Data Visualization
STA 6247: Data Analysis II
CAP 6778: Advanced Topics in Data Mining **OR**   COP 6727: Advanced Database Systems **OR**   STA 6636: High Dimension Data Analysis **OR**   CAP 5610: Introduction to Machine Learning **OR**   CAP 5622: Machine Learning Techniques & Application

Biostatistics Data Analytics: pick 5 from the list below
Course # & name:
PHC 6056: Longitudinal Health Data Analysis
PHC 6059 Survival Data Analysis
PHC 6064: Applied Statistical Methods for Discrete Data
PHC 6067: Probabilistic Graphical Models
PHC 6080: SAS Computing for Health Sciences
PHC 6099: R Computing (R methods for bio I and bio II)
PHC 7083: Advanced Bayesian Inference
PHC 7719: Multivariate Methods in Health Sci Research
PHC 6091: Biostatistics 2