2020-2021 Core & Concentrations

Analytics Concentration
Requirements:
1 x Big Data
1 x Machine Learning
1 x Software Systems
10-605 Machine Learning with Large Data Sets
10-805 Machine Learning with Large Data Sets
11-741 Machine Learning for Text Mining
11-775 Large-Scale Multimedia Analysis
11-777 Multimodal Machine Learning

Systems Concentration
Requirements:
3 x Systems Project
15-605 Operating Systems Implementation
15-618 Parallel Computer Arch. & Programming
15-640 Distributed Systems
15-641 Computer Networks
15-645 Database Systems
15-712 Adv. and Distributed Operating Systems
15-719 Advanced Cloud Computing
15-721 Advanced Databases
15-746 Advanced Storage Systems
15-821 Mobile and Pervasive Computing

Big Data
10-617 Intermediate Deep Learning
10-701 Introduction to Machine Learning (Ph.D.)
10-703 Deep Reinforcement Learning & Control
10-707 Topics in Deep Learning
10-708 Probabilistic Graphical Models
10-715 Advanced Introduction to Machine Learning
10-716 Advanced ML: Theory & Methods
10-718 Data Analysis
10-725 Convex Optimization
11-755 Machine Learning for Signal Processing
11-761 Language and Statistics
11-777 Multimodal Machine Learning
11-785 Introduction to Deep Learning
36-705 Intermediate Statistics
36-708 Statistical Methods in Machine Learning

Machine Learning
10-601 Machine Learning
11-637 Foundations of Computational Data Science
11-631 Data Science Seminar
15-619 Cloud Computing
05-839 Interactive Data Science

MCDS Core

Software Systems
11-642 Search Engines
11-737 Multilingual NLP
11-747 Neural Networks for NLP
11-788 Computational Forensics & AI
11-797 Question Answering
11-830 Computational Ethics for NLP

Research Methods
05-610 User Centered Research and Evaluation
05-816 Applied Research Methods
05-618 Human AI Interaction
05-891 Designing Human Centered Systems
05-813 Human Factors
05-821 Social Web
05-823 E-Learning Design Principles and Methods
05-840 Tools for Online Learning
05-833 Gadgets, Sensors & Activity Recognition
05-836 Usable Privacy and Security
05-838 The Role of Tech in 21st Century Learning
05-872 Rapid Prototyping of Computer Systems
05-899 Crowd Programming
05-899 Learning Analytics and Educational DS
05-899 AI: Design for the Long Term
05-899 Fairness, Accountability, Transparency & Ethics
05-899 Persuasive Design
05-899 Social Data Science
05-899 Transformational Game Design Studio

Human-Centered Data Science Concentration
Requirements:
1 x Research Methods
2 x HCI

Data Science Seminar
11-634 Capstone Planning Seminar
11-630 Internship
11-632 Data Science Capstone
11-635 Capstone Research

Capstone Requirement
Capstone Planning Seminar
Internship
2 x Capstone Courses

Human-Computer Interaction

Stellic Degree Planner
Schedule of Classes

MCDS Graduation Requirements
MCDS Core Courses
Capstone Requirement
One Set of Concentration Courses
Two Electives (any 600+ level SCS course)