

Core & Concentrations

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

F : Fall course
 S: Spring course

Analytics Concentration

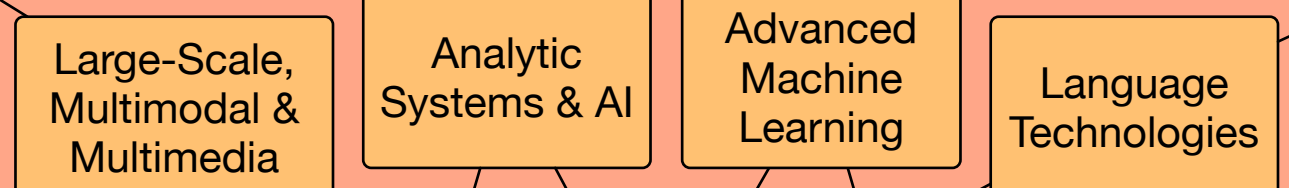
Requirements:
 1 x Machine Learning (ML)
 1 x Big Data (BD)
 1 x Software Systems (SS)

- 10-608 Conversational Machine Learning [S, ML]
- 11-642 Search Engines [F&S, SS]
- 11-754 Dialog Systems Project [S]
- 11-777 Advanced Multimodal Machine Learning [F, ML, SS]
- 11-791 Design & Eng. of Intell. Info. Systems [F&S, SS]
- 11-792 Intelligent Info Systems Project [F&S, SS]
- 11-775 Large-Scale Multimedia Analysis [S, BD, SS]
- 11-797 Question Answering [S, SS]

- 10-701 Introduction to Machine Learning (PhD) [F, ML]
- 10-703 Deep Reinforcement Learning & Control [F&S, ML]
- 10-715 Advanced Introduction to Machine Learning [F, ML]
- 10-725 Convex Optimization [F, ML]
- 36-705 Intermediate Statistics [F, ML]
- 36-725 Convex Optimization [F, ML]
- 11-755 Machine Learning for Signal Processing [F, ML]
- 11-777 Advanced Multimodal Machine Learning [F, ML, SS]
- 10-608 Conversational Machine Learning [S, ML]
- 10-708 Probabilistic Graphical Models [S, ML]
- 36-702 Statistical Machine Learning [S, ML]
- 11-785 Introduction to Deep Learning [S, ML]

- 11-641 Machine Learning for Text Mining [F&S, ML]
- 11-642 Search Engines [F&S, SS]
- 11-661 Language and Statistics [F, ML]
- 11-741 Machine Learning for Text Mining [F&S, ML]
- 11-761 Language and Statistics [F, ML]
- 11-727 Computational Semantics for NLP [S]
- 11-747 Neural Networks for NLP [S, SS]
- 11-754 Dialog Systems Project [S]
- 11-763 Structured Prediction [S]
- 11-797 Question Answering [S, SS]

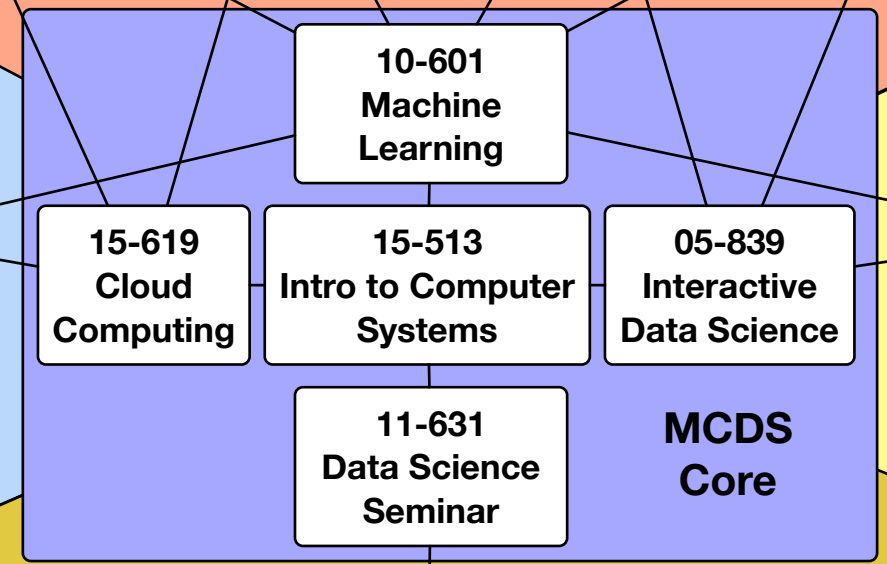
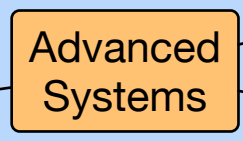
- 11-777 Advanced Multimodal Machine Learning [F, ML, SS]
- 11-775 Large-Scale Multimedia Analysis [S, BD, SS]
- 10-605 Machine Learning w/ Large Datasets [F, ML, BD]
- 10-805 Machine Learning w/ Large Datasets [F, ML, BD]



Systems Concentration

Requirements:
 3 x Project Course (P)

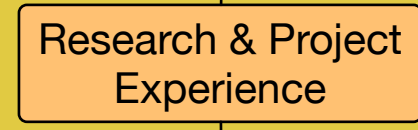
- 15-605 Operating Systems Implementation [F&S, P]
- 15-618 Parallel Computer Arch. & Programming [F, P]
- 15-640 Distributed Systems [F&S, P]
- 15-719 Advanced Cloud Computing [F, P]
- 15-641 Computer Networks [F, P]
- 15-645 Database Systems [S, P]
- 15-721 Adv. Databases [S, P]
- 15-712 Adv. and Distributed Operating Systems [F, P]
- 15-746 Adv. Storage Systems [S, P]
- 15-821 Mobile and Pervasive Computing [F,P]



- 05-816 Applied Research Methods [F, RM]
- 94-834 Applied Econometrics I & II [F&S, RM]
- 05-891 Designing Human Centered Systems [F&S, HCI]
- 05-821 Social Web [F, HCI]
- 05-823 E-Learning Design Principles and Methods [F, HCI]
- 05-840 Tools for Online Learning [S, HCI]
- 05-833 Appl. Gadgets, Sensors & Activity Recognition [S, HCI]
- 05-836 Usable Privacy and Security [S, HCI]
- 05-872 Rapid Prototyping of Computer Systems [S, HCI]
- 05-899 Crowd Programming [F, HCI]
- 05-899 Learning Analytics & Educational Data Science [F, HCI]
- 05-899 Special Topics in HCI: Sensemaking [S, HCI]
- 05-899 Design of Large-scale Peer Learning Systems [F, HCI]
- 05-899 Learning with Peers at Massive Scale [S, HCI]
- 05-899 Mobile Health [S, HCI]

Human-Centered Data Science Concentration

Requirements:
 1 x Research Methods (RM)
 2 x HCI (HCI)



Capstone Requirement
 Capstone Planning Seminar
 Internship
 Capstone Course

- 11-632 Capstone Course (24u) [F]
- 11-630 Internship
- 11-634 Capstone Planning Seminar [S]
- 11-633 Independent Study