

Data Science (DATA)

Data Science (DATA) Courses

DATA 5000 [0.5 credit]

Introduction to Data Science

Machine learning; statistics; data science; data ethics; data cleaning; data preparation; data visualization; communication skills to explain advanced analytics. Students work on an interdisciplinary project in data science.

DATA 5001 [0.5 credit]

Fundamentals in Data Science and Analytics

Ethics in Data Science and Analytics, visualization and knowledge discovery in massive datasets; unsupervised learning: clustering algorithms; dimension reduction; supervised learning: pattern recognition, smoothing techniques, classification.

Precludes additional credit for STAT 5703.

DATA 5002 [0.5 credit]

Data Science, Ethics & Society

The ethical, social, political, and environmental implications of data science including the roles and responsibilities of data scientists in contemporary and emerging technological systems and the impact these systems may have at multiple scales, individual, group, institution, across sectors and nation-states.

Includes: Experiential Learning Activity

Also listed as COMS 5225.

Precludes additional credit for COMS 5225, ITEC 5206.

DATA 5900 [0.5 credit]

Special Topics in Data Science

Special topics, not covered by other graduate courses. Details will be available at the time of registration.

DATA 5901 [0.5 credit]

Directed Studies in DSAAI (Master's)

A course of independent study under the supervision of a faculty member in the Data Science, Analytics, and Artificial Intelligence program.

DATA 5908 [1.5 credit]

Project - MSc

DATA 5909 [2.5 credits]

Thesis - MSc

DATA 5913 [0.0 credit]

Co-operative Work Term

Includes: Experiential Learning Activity

Prerequisite(s): registration in the Co-operative Education

Option in the Data Science, Analytics, and Artificial

Intelligence program.

DATA 5918 [1.5 credit]

Project - MIT

DATA 5919 [2.5 credits]

Thesis - MIT

DATA 5928 [1.0 credit]

Project - MEng

DATA 5929 [2.5 credits]

Thesis - MASc

DATA 5939 [2.5 credits]

Thesis - MCS

DATA 6901 [0.5 credit]

Directed Studies in DSAAI (PhD)

A course of independent study under the supervision of a faculty member in the Data Science, Analytics, and Artificial Intelligence program.

DATA 6907 [0.0 credit]

Doctoral Comprehensive

Serves as starting point for the PhD literature survey and selection of a research topic. Student submits a document focusing on the problem statement, literature review, and gap analysis for the comprehensive exam. The student defends their submission in an oral exam.

DATA 6908 [0.0 credit]

Doctoral Proposal

Written proposal outlines a specific problem, connects it to current literature, and presents the hypothesis and goals. Summarizes preliminary results and details the research methodology and validation procedures(s). Proposal is defended in an oral exam, highlighting completed work and what is expected in final dissertation.

DATA 6909 [0.0 credit]

Thesis - PhD