DEPARTMENT OF COMPUTER SCIENCE

Computer Science Approved Elective Courses for Graduate Students – *2024*

Please note that not all courses below are offered with the same frequency. They may be offered every once or twice a year, or every other year.

Seat availability is limited for courses offered by other departments. Entry into these courses is not guaranteed.

Artificial Intelligence Courses

AI-6000 Artificial Intelligence Foundations (*MAI priority*)
AI-6001 Topics in Artificial Intelligence (*MAI priority*)

MAI priority: These are required courses for the MAI program. Students in that program will have priority to register first.

Biology Courses

BIOL-7941 Introduction to Bioinformatics

Business Courses

BUSI-9903 Quantitative Methods in Management Research
BUSI-9910 Optimization
BUSI-9911 Data and Process Models in Information Systems Development
BUSI-9912 Probabilistic Models
BUSI-9913 Human-Computer Interaction and Decision Support Systems
BUSI-9915 Electronic Commerce
BUSI-9918 Special Topics in Information Systems
BUSI-8103 Statistical Applications in Management (*MBA priority*)
BUSI-8107 Managing Ethics and Responsibility (*MBA priority*)
BUSI-8205 Information Systems (*MBA priority*)
BUSI-8207 Operations Management (*MBA priority*)
BUSI-9021 Data Management (*MBA priority*)
BUSI-9022 Information Systems Analysis & Design (*MBA priority*)

MBA priority: Students in the MBA program will have priority to register first.

Engineering Courses

ENGI-9081 Human Factors and System Safety
ENGI-9098 Human Factors in Engineering
ENGI-9560 Applied Remote Sensing
ENGI-9804 Industrial Machine Vision
ENGI-9805 Advanced Topics in Computer Vision
ENGI-9807 Computer Security
ENGI 9818 - Software Fundamentals (*MASSE priority*)
ENGI 9819 – Computer Hardware Foundations (*MASSE priority*)
ENGI-9821 Digital Signal Processing
ENGI-9826 Advanced Control Systems
ENGI-9827 Continuous & Discrete-Event Systems
ENGI 9839 Software Verification and Validation (*MASSE priority*)
ENGI-9861 High-Performance Computer Architecture (*MASCE priority*)
ENGI-9865 Advanced Digital Systems
ENGI-9866 Fault-Tolerant Computing (formerly 9846)
ENGI-9867 Advanced Computing Concepts for Engineering
ENGI-9868 ASIC Design
ENGI-9869 Advanced Concurrent Programming
ENGI-9871 Information Theory & Coding (*MASCE priority*)
ENGI-9872 Digital Communications
ENGI-9873 Image Communications
ENGI-9874 Software Design & Specification (credit restricted with COMP 6713/6905)
ENGI-9875 Embedded & Real-Time Systems Design
ENGI-9876 Advanced Data Networks
ENGI-9877 Computer & Communications Security
ENGI-9878 Wireless & Mobile Communications
ENGI-9879 Formal Specification & Development
ENGI-9940 Advanced Robotics

MASCE priority: These are required courses for the MASCE program. Students in that program will have priority to register first.

MASSE priority: These are required courses for the MASSE program. Students in that program will have priority to register first.

Mathematics Courses

MATH-6202 Nonlinear & Linear Optimization (Credit Restricted with COMP-6933)
MATH-6205 Deep Learning and Deed Reinforcement Learning
MATH-6340 Graph Theory
MATH-6341 Combinatorial Design Theory
MATH-6342 Advanced Enumeration

Scientific Computing Courses

CMSC-6910 Matrix Computations and Applications (Credit Restricted with COMP-6732/6931)
CMSC-6920 Applied Scientific Programming
CMSC-6925 Tools of the Trade for Programming High Performance Computers (2 credit hours)
CMSC-6930 Algorithms for Distributed & Shared Memory Computers
CMSC-6950 Computer Based Tools and Applications (Credit Restricted with CMSC-6940)

Statistics Courses

STAT-6500 Probability (Credit Restricted with former 6586)
STAT-6503 Stochastic Processes
STAT-6530 Longitudinal Data Analysis
STAT-6540 Time Series Analysis
STAT-6545 Computational Statistics
STAT-6561 Categorical Data Analysis
STAT-6519/DSCI-6619 Regression Models (*DSCI priority*)
STAT-6559/ DSCI-6659 Statistical Exploration of Data (*DSCI priority*)

DSCI priority: These are required courses for the Data Science program. Students in that program will have priority to register first.