Masters in Data Science – Approved Electives List

<mark>All electives need to have an Elective Approval form submitted to the SE Office.</mark> Students can refer to the list below for graduate elective courses that are pre-approved. Other courses can be suggested by consulting with the Graduate Director. If the course you choose is not on the pre-approved list, make sure to provide a compelling "justification for choosing this elective" statement on the Elective Approval form.

Note that the student needs to meet any prerequisites for a course and/or the student may need to contact the instructor for permission to enroll.

Students are responsible for enrolling themselves in electives. Some courses are restricted and the department housing the course will need to enroll the student.

Note that during the Fall semester, it is difficult to enroll in some Computer Science courses. In any case, have at least 3 electives in mind.

BS/MS students: Courses in the CS and CE disciplines are pre-approved to double-count as your undergraduate Engineering Electives. Other courses may double-count as a Free Elective or an Application Domain with advisor approval.

The approved course list (not every course is offered each semester)

Computer Science

- CSCI(603)-Adv C++ and Program Design
- CSCI(605)-Advanced Java Programming
- CSCI(610)-Found of Computer Graphics
- CSCI(620)-Introduction to Big Data
- CSCI(621)-Database System Implementation
- CSCI(622)-Secure Data Management
- CSCI(630)-Found of Intelligent Systems

- CSCI(641)-Advanced Programming Skills(Aspect-Oriented Program)
- CSCI(641)-Advanced Programming Skills(Designpatterns&C#/.Net)
- CSCI(641)-Advanced Programming Skills(Advanced C++)
- CSCI(642)-Secure Coding
- CSCI(651)-Found of Computer Networks
- CSCI(652)-Distributed Systems
- CSCI(654)-Found of Parallel Computing
- CSCI(662)-Foundations of Cryptography
- CSCI(665)-Foundations of Algorithms
- CSCI(713)-Applied Perception in Graphics
- CSCI(715)-Apps in Virtual Reality
- CSCI(720)-Big Data Analytics
- CSCI(729)-Topics in Data Management(Advanced Data Mining)
- CSCI(735)-Found of Intell Security Sys
- CSCI(746)-Software Development Tools
- CSCI(749)-Topics in Languages and Tools(Scripting Languages)

Computer Security

- CSEC(603)-Enterprise Security
- CSEC(742)-Computer System Security

Computer Engineering

- CMPE(663)-Real-time & Embedded Systems
- CMPE(664)-Modeling of Real-Time Systems

Human-Computer Interaction

- HCIN(610) Found Human-Comp Interaction
- HCIN(735) Collaboration, Technology, and the Human Experience
- HCIN(620)-Info & Interaction Design
- HCIN(630)-Usability Testing
- HCIN(730)-User-Centered Design Methods

Information Sciences and Technology

- ISTE(608)-DB Design & Implementation
- ISTE(645)-Found Web Technologies I
- ISTE(646)-Found Web Technologies II
- ISTE(722)-Database Connect & Access
- ISTE(726)-Database Management and Access
- ISTE(728)-Database Performance & Tuning
- ISTE(756)-Server Design and Development
- ISTE(760)-Des, Dev, and Deploy Apps
- ISTE(773)-XML Transform & Present

Management

- MGMT(720)-Entrprnshp&NewVentureCreation
- MGMT(735)-Mgmnt.ofInnovtn inPrdcts&Svcs
- MGMT(740)-Orgnztnl Behavior & Leadership
- MGMT(742)-Technology Management

Software Engineering

- SWEN(711)-Engineering Self-Adaptive SW Systems
- SWEN(712)-Engineering Accessible Software
- Any graduate Special Topics course (these are not always offered)