MSCS DEGREE REQUIREMENTS FORM  

First Name: _______________  Last Name: _______________  N number: __________________

Required: 36 credits of approved coursework

- 21 credits - standard graduate CS classroom-based courses.

  Course ________________________________ Semester_______ Grade____ Credits: ___
  Course ________________________________ Semester_______ Grade____ Credits: ___
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  Course ________________________________ Semester_______ Grade____ Credits: ___
  Course ________________________________ Semester_______ Grade____ Credits: ___
  Course ________________________________ Semester_______ Grade____ Credits: ___

- 6 credits - standard graduate CS, Math and Data Science classroom-based courses; independent study; MS thesis (no external internships) Independent study and master’s thesis require DGS approval.

  Course ________________________________ Semester_______ Grade____ Credits: ___
  Course ________________________________ Semester_______ Grade____ Credits: ___

- Remaining 9 credits in any of above or: credits transferred from graduate study in CS; external internship; and relevant graduate courses. At most 6 credits of external internship. Relevant graduate courses and external internships require DGS approval.

  Course ________________________________ Semester_______ Grade____ Credits: ___
  Course ________________________________ Semester_______ Grade____ Credits: ___
  Course ________________________________ Semester_______ Grade____ Credits: ___

Requirement A: A student must take the three foundational courses and maintain a GPA of 2.7 or better in the courses:

  CSCI-GA 1170-001 Fundamental Algorithms  Semester_______ Grade____ Credits: ___ Placed Out ___
  CSCI-GA 2110-001 Programming Languages  Semester_______ Grade____ Credits: ___ Placed Out ___
  CSCI-GA 2250-001 Operating Systems  Semester_______ Grade____ Credits: ___ Placed Out ___

Requirement B: A student must pass ONE course in TWO of the following four designated application areas

  Course ________________________________ Semester_______ Grade____ Credits: ___
  Course ________________________________ Semester_______ Grade____ Credits: ___
Graphics
- Advanced Computer Graphics
- Advanced Computer Vision
- Computational Geometry
- Computer Graphics
- Computer Vision

Computation for Science and Society
- Advanced Topics in Numerical Analysis: Convex and Nonsmooth Optimization
- Applied Cryptography and Network Security
- Bioinformatics and Genomics
- Financial Software Projects
- Information and Communication Technology for Developing Countries
- Introduction to Cryptography
- Linear Programming
- Monte Carlo Methods
- Music Software Projects

Intelligent Systems
- Advanced Computer Vision
- Advanced Machine Learning
- Advanced Topics in Natural Language Processing
- Artificial Intelligence
- Big Data: Large Scale Machine Learning
- Big Data and ML Systems
- Big Data Science
- Computer Vision
- Data Mining
- Deep Learning
- Foundations of Machine Learning
- Heuristic Problem Solving
- Integrating Machine Learning to Computer Vision

Databases
- Advanced Database Systems
- Big Data

Requirement C: A student must complete a designated capstone course with the grade of B (3.0) or better. Alternatively, subject to requirements and prior approval of the DGS, a student may complete a master’s thesis or a capstone advanced lab.

Course ________________________________ Semester _______ Grade ______ Credits: ______

- Advanced Computer Graphics
- Advanced Database Systems
- Cloud Computing
- Compiler Construction
- Distributed Systems
- Graphics Processing Units (GPUs): Architecture & Programming
- Database Systems
- Realtime & Big Data Analytics
- Info Tech Projects
- Multicore Processors: Architecture & Programming
- Networks & Distributed Systems
- Networks & Mobile Systems
- Search Engine Architecture
- Software Engineering
- Virtual Machines: Concepts and Applications