MSCS DEGREE REQUIREMENTS FORM EFFECTIVE FALL 2009 *last revised (5/28/10)*

Name: _____   **ID #:**_____

Requirement A: 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: ____

  Course _____ Semester_____ Grade_____ Credits: ____

- **6** credits - standard graduate CS & Math 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 B: A student must take the three foundational courses and maintain a rolling GPA of 2.7 or better in the courses:

  G22.1170-001 Fundamental Algorithms Semester_____ Grade_____ Credits: ___ Placement Out ___

  G22.2110-001 Programming Languages Semester_____ Grade_____ Credits: ___ Placement Out ___

  G22.2250-001 Operating Systems Semester_____ Grade_____ Credits: ___ Placement Out ___

Requirement C: 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
- ✳ Computational Photography
- ✳ Computer Games
- ✳ Computer Graphics
- ✳ Computer Vision
- ✳ Computer Vision and Tracking
- ✳ Experiments in Motion Capture
- ✳ Geometric Modeling
- ✳ Interactive Shape Modeling
- ✳ Multimedia
- ✳ User Interfaces
- ✳ Visualization

Computation for Science and Society
✳ Advanced Topics in Numerical Analysis: Convex & Nonsmooth Optimization
✳ Advanced Cryptography
✳ Applied Cryptography & Network Security
✳ Bioinformatics
✳ Bioinformatics and Genomics
✳ Computational Biology
✳ Computational Fluid Dynamics
✳ Computational PDEs
✳ Computational Systems Biology
✳ Cryptographic Tools in Deployed Systems: What Does the Padlock Mean?
✳ Financial Computing I
✳ Financial Computing Projects
✳ Financial Software Projects
✳ High Performance Scientific Computing
✳ Immersed Boundary Method
✳ Information & Communication Technology for Developing Countries
✳ Introduction to Cryptography
✳ Introduction to Finance for CS
✳ Linear Programming
✳ Monte Carlo Methods
✳ Numerical Methods I
✳ Numerical Methods II
✳ Numerical Methods for Time-Dependant PDEs
✳ Scientific Computing
✳ Speech Recognition
✳ Topics in Numerical Analysis
✳ Values Embodied in Information and Communications Technology

Intelligent Systems
✳ Advanced Computer Vision
✳ Advanced Topics in Natural Language Processing
✳ Artificial Intelligence
✳ Computer Vision
✳ Data Mining
✳ Data Warehousing and Mining
✳ Deductive Verification of Reactive Systems
✳ Foundations of Machine Learning
✳ Heuristic Problem Solving
✳ Information Science of Marketing
✳ Logic in Computer Science
✳ Machine Learning
✳ Mobile Robots
✳ Natural Language Processing
✳ Optimization in Machine Learning
✳ Programming Semantics, Analysis & Verification by Abstract Interpretation
✳ Topics in Automated Deduction
✳ Web Search Engines

Databases
✳ Advanced Database Systems
✳ Data Mining
✳ Data Warehousing
✳ Database Systems
✳ Distributed Storage Systems

Requirement D: 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 advance lab.

Course _____ Semester_____ Grade_____ Credits: _____

✳ Advanced Computer Graphics
✳ Advanced Database Systems
✳ Compiler Construction
✳ Distributed Systems
✳ Info Tech Projects
✳ Software Engineering