MSCS DEGREE REQUIREMENTS FORM (30 CREDITS) *last revised (10/13/2025)*

First Name: _____ Last Name:_____ N number:_____ NYU Email:_____

Required: 30 credits with Capstone course (effective Fall 2024)

- **21 credits** – Standard graduate CS classroom-based courses

  Course _____ Semester_____ Grade_____ Credits: ____
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- **6 credits** – related electives from CS, Math and Data Science classroom-based courses (3 or 6 credits)

  Course _____ Semester_____ Grade_____ Credits: ____

  Course _____ Semester_____ Grade_____ Credits: ____

- Remaining **3 credits** - credits transferred from graduate study in CS; external internship; and relevant graduate courses. At most 3 credits of external internship. Relevant graduate courses and external internships require DGS approval.

  Course _____ Semester_____ Grade_____ Credits: ____

Requirement A: A student must take the three foundational courses and maintain a GPA of 2.667 or higher in the courses:

CSCI-GA 1170-001 Fundamental Algorithms Semester_____ Grade_____ Credits: ___ Notes ___

CSCI-GA 2110-001 Programming Languages Semester_____ Grade_____ Credits: ___ Notes ___

CSCI-GA 2250-001 Operating Systems Semester_____ Grade_____ Credits: ___ Notes ___

Requirement B: A student must pass **ONE** of the following four designated application areas computation for Computation Science and Society; Graphics; Intelligent Systems; and Databases (see page 2 for the list of application areas):

Course _____ Semester_____ Grade_____ Credits: ____

Requirement C: A student must complete a Capstone project course with the grade of B (3.0) or better (see page 2 for the list of Capstone courses marked in asterisk*)

Course _____ Semester_____ Grade_____ Credits: ____

Application Courses

CSCI-GA.2112 Scientific Computing
CSCI-GA.2130 Compiler Construction*
CSCI-GA.2270 Computer Graphics
CSCI-GA.2271 Computer Vision
CSCI-GA.2274 Advanced Computer Graphics*
CSCI-GA.2420 Numerical Methods I
CSCI-GA.2421 Numerical Methods II
CSCI-GA.2433 Database Systems
CSCI-GA.2434 Advanced Database Systems*
CSCI-GA.2436 Realtime & Big Data Analytics
CSCI-GA.2437 Big Data Application Development
CSCI-GA.2520 Bioinformatics & Genomes
CSCI-GA.2560 Artificial Intelligence
CSCI-GA.2565 Machine Learning
CSCI-GA.2566 Foundations of Machine Learning
CSCI-GA.2568 Big Data
CSCI-GA.2572 Deep Learning*
CSCI-GA.2590 Natural Language Processing
CSCI-GA.2591 Advanced Topics in Natural Language Processing
CSCI-GA.2620 Networks & Mobile Systems*
CSCI-GA.2621 Distributed Systems*
CSCI-GA.2750 Nonlinear Optimization
CSCI-GA.2945 Convex & Nonsmooth Optimization
CSCI-GA.2945 High Performance Computing*
CSCI-GA.2945 Immersed Boundary Method
CSCI-GA.2945 Monte Carlo Methods*
CSCI-GA.2945 Numerical Optimization
CSCI-GA.2965 Heuristic Problem Solving
CSCI-GA.3033 Advanced Computer Vision
CSCI-GA.3033 Advanced Machine Learning
CSCI-GA.3033 Artificial Intelligence in Genomics
CSCI-GA.3033 Bayesian Machine Learning
CSCI-GA.3033 Big Data & ML Systems*
CSCI-GA.3033 Big Data Science
CSCI-GA.3033 Big Data: Large Scale Machine Learning
CSCI-GA.3033 Blockchain & Its Applications
CSCI-GA.3033 Cloud & Machine Learning*
CSCI-GA.3033 Cloud Computing*
CSCI-GA.3033 Computer Vision for Science & Engineering
CSCI-GA.3033 Conceptual Gaps in Modern Machine Learning
CSCI-GA.3033 Cryptocurrencies & Decentralized Ledgers
CSCI-GA.3033 Cryptography of Blockchains*
CSCI-GA.3033 Data Analytics & Visualization in Healthcare
CSCI-GA.3033 Data Science for Health
CSCI-GA.3033 Deep Decision Making & Reinforcement Learning*
CSCI-GA.3033 Deep Generative Models
CSCI-GA.3033 Efficient AI & Hardware Accelerator Design
CSCI-GA.3033 Embodied Learning & Vision*
CSCI-GA.3033 Emerging Topics in Natural Language Processing
CSCI-GA.3033 Encrypted Computation
CSCI-GA.3033 Foundations of Deep Learning Theory
CSCI-GA.3033 Geometric Modeling*
CSCI-GA.3033 Graphics Processing Units (GPUs): Architecture & Programming*
CSCI-GA.3033 High Performance Machine Learning*
CSCI-GA.3033 Integrating Machine Learning to Computer Vision
CSCI-GA.3033 Introduction to Computer Vision
CSCI-GA.3033 Introduction to Deep Learning & LLM based Gen. AI Systems
CSCI-GA.3033 Learning with Large Language & Vision Models
CSCI-GA.3033 Machine Learning for Healthcare
CSCI-GA.3033 Mathematical Foundations of Deep Learning & LLM
CSCI-GA.3033 Mathematics of Deep Learning
CSCI-GA.3033 Multicore Processors: Architecture & Programming*
CSCI-GA.3033 Practical Computer Security
CSCI-GA.3033 Predictive Analytics
CSCI-GA.3033 Programming Parallel Algorithms
CSCI-GA.3033 Protein Design
CSCI-GA.3033 Public Interest Technology
CSCI-GA.3033 Quantum Computation
CSCI-GA.3033 Randomized Numerical Linear Algebra
CSCI-GA.3033 Reinforcement Learning with Foundation Models*
CSCI-GA.3033 Security & Privacy
CSCI-GA.3033 Social Networks
CSCI-GA.3033 Statistical Natural Language Processing
CSCI-GA.3033 Technologies for Finance*
CSCI-GA.3033 Virtual Reality*
CSCI-GA.3033 Vision Meets Machine Learning
CSCI-GA.3205 Applied Cryptography & Network Security
CSCI-GA.3210 Introduction to Cryptography
CSCI-GA.3812 Information Technology Projects*
DS-GA 1001 Introduction to Data Science
DS-GA.1017 Responsible Data Science

* *Capstone courses*