MSCS DEGREE REQUIREMENTS FORM (30 CREDITS) *last revised (04/13/2026)*

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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  Course _____ Semester_____ Grade_____ Credits: ____
  Course _____ Semester_____ Grade_____ Credits: ____

- **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.2112-001 Scientific Computing
CSCI-GA.2130-001 Compiler Construction*
CSCI-GA.2270-001 Computer Graphics
CSCI-GA.2271-001 Computer Vision
CSCI-GA.2274-001 Advanced Computer Graphics*
CSCI-GA.2420-001 Numerical Methods I
CSCI-GA.2421-001 Numerical Methods II
CSCI-GA.2433-001 Database Systems
CSCI-GA.2434-001 Advanced Database Systems*
CSCI-GA.2436-001 Realtime & Big Data Analytics
CSCI-GA.2437-001 Big Data Application Development
CSCI-GA.2520-001 Bioinformatics & Genomes
CSCI-GA.2560-001 Artificial Intelligence
CSCI-GA.2565-001 Machine Learning
CSCI-GA.2566-001 Foundations of Machine Learning
CSCI-GA.2568-001 Big Data
CSCI-GA.2572-001 Deep Learning*
CSCI-GA.2590-001 Natural Language Processing
CSCI-GA.2591-001 Advanced Topics in Natural Language Processing
CSCI-GA.2620-001 Networks & Mobile Systems*
CSCI-GA.2621-001 Distributed Systems*
CSCI-GA.2750-001 Nonlinear Optimization
CSCI-GA.2945-001 High Performance Computing*
CSCI-GA.2945-002 Immersed Boundary Method
CSCI-GA.2945-003 Numerical Optimization
CSCI-GA.2945-004 Convex & Nonsmooth Optimization
CSCI-GA.2945-005 Monte Carlo Methods*
CSCI-GA.2945-006 Randomized Numerical Linear Algebra
CSCI-GA.2965-001 Heuristic Problem Solving
CSCI-GA.3033-004 Statistical Natural Language Processing
CSCI-GA.3033-022 Deep Generative Models
CSCI-GA.3033-025 Graphics Processing Units (GPUs): Architecture & Programming*
CSCI-GA.3033-026 Cloud Computing*
CSCI-GA.3033-027 Blockchain & Its Applications
CSCI-GA.3033-029 Social Networks
CSCI-GA.3033-034 Multicore Processors: Architecture & Programming*
CSCI-GA.3033-037 Big Data: Large Scale Machine Learning
CSCI-GA.3033-052 Advanced Machine Learning
CSCI-GA.3033-059 Big Data Science
CSCI-GA.3033-061 Predictive Analytics
CSCI-GA.3033-062 Security & Privacy
CSCI-GA.3033-065 Advanced Computer Vision
CSCI-GA.3033-071 Geometric Modeling*
CSCI-GA.3033-074 Practical Computer Security
CSCI-GA.3033-075 Integrating Machine Learning to Computer Vision
CSCI-GA.3033-076 Vision Meets Machine Learning
CSCI-GA.3033-077 Big Data & ML Systems*
CSCI-GA.3033-078 Cryptocurrencies & Decentralized Ledgers
CSCI-GA.3033-079 Mathematics of Deep Learning
CSCI-GA.3033-083 Machine Learning for Healthcare
CSCI-GA.3033-084 High Performance Machine Learning*
CSCI-GA.3033-085 Cloud & Machine Learning*
CSCI-GA.3033-086 Quantum Computation
CSCI-GA.3033-087 Bayesian Machine Learning
CSCI-GA.3033-090 Deep Decision Making & Reinforcement Learning*
CSCI-GA.3033-091 Introduction to Deep Learning & LLM based Gen. AI Systems
CSCI-GA.3033-096 Data Analytics & Visualization in Healthcare
CSCI-GA.3033-097 Virtual Reality*
CSCI-GA.3033-098 Data Science for Healthcare
CSCI-GA.3033-099 Introduction to Computer Vision
CSCI-GA.3033-100 Public Interest Technology
CSCI-GA.3033-102 Learning with Large Language & Vision Models
CSCI-GA.3033-104 Foundations of Deep Learning Theory
CSCI-GA.3033-107 Cryptography of Blockchains*
CSCI-GA.3033-109 Computer Vision for Science & Engineering
CSCI-GA.3033-110 Technologies for Finance*
CSCI-GA.3033-111 Protein Design
CSCI-GA.3033-115 Embodied Learning & Vision*
CSCI-GA.3033-116 Emerging Topics in Natural Language Processing
CSCI-GA.3033-121 Programming Parallel Algorithms
CSCI-GA.3033-122 Conceptual Gaps in Modern Machine Learning
CSCI-GA.3033-123 Encrypted Computation
CSCI-GA.3033-125 Reinforcement Learning with Foundation Models*
CSCI-GA.3033-126 Mathematical Foundations of Deep Learning & LLM
CSCI-GA.3033-127 Efficient AI Computing: Algorithm and Implementation*
CSCI-GA.3033-129 Artificial Intelligence in Genomics
CSCI-GA.3033-131 Building LLM Reasoners
CSCI-GA.3033-135 Computational Genomics
CSCI-GA.3033-9483 Efficient AI & Hardware Accelerator Design
CSCI-GA.3205-001 Applied Cryptography & Network Security
CSCI-GA.3210-001 Introduction to Cryptography
CSCI-GA.3812-001 Information Technology Projects*
DS-GA.1001-001 Introduction to Data Science
DS-GA.1017-001 Responsible Data Science

** Capstone courses*