

# MSCS DEGREE REQUIREMENTS FORM (30 CREDITS) *last revised (03/25/2026)*

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: _____
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: _____
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**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: _____
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**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: _____
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## 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.3033-9483 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