

# QUANTUM COMPUTING (Z157)

Graduate Certificate Program  
College: Computer, Mathematical, and Natural Sciences

## ABSTRACT

The Graduate Certificate in Quantum Computing introduces the applicants to quantum computing and an overview of its current state. Participants explore machine learning and identify areas where quantum computing can impact this discipline. We explore applications of quantum computing to optimization, chemistry, encryption, information theory and communications. Participants will have the opportunity to apply learning through hands-on exercises and experiential learning. No prior knowledge in quantum physics or quantum computing is necessary.

## FINANCIAL ASSISTANCE

See: <https://exst.umd.edu/professionals-post-baccalaureates/professional-graduate-programs/science-academy/tuition-fees> (<https://exst.umd.edu/professionals-post-baccalaureates/professional-graduate-programs/science-academy/tuition-fees/>) for information about fees, payment plans, and financial aid.

## CONTACT

### Science Academy

#### College of Computer, Mathematical, and Natural Sciences

3400 A.V. Williams  
8223 Paint Branch Drive  
University of Maryland  
College Park, MD 20742

**Telephone:** 301.405.9101

**Email:** [scienceacademy@umd.edu](mailto:scienceacademy@umd.edu)

**Website:** <https://cmns.umd.edu/graduate/science-academy/quantum-computing/graduate-certificate> (<https://cmns.umd.edu/graduate/science-academy/quantum-computing/graduate-certificate/>)

**Courses:** MSQC (<https://cmns.umd.edu/graduate/science-academy/quantum-computing/courses/>)

## ADMISSIONS

### GENERAL REQUIREMENTS

- Statement of Purpose
- Transcript(s)
- TOEFL/IELTS/PTE

### PROGRAM-SPECIFIC REQUIREMENTS

- Letters of Recommendation (optional, up to 3)
- CV/Resume
- Description of Research/Work Experience
- Prior coursework establishing quantitative ability (linear algebra required)
- Proficiency in programming languages, Python preferred, demonstrated either through prior programming coursework or substantial software development experience

**\*Visa Eligibility:** This program is not eligible for I-20 or DS-2019 issuance by the University of Maryland.

## APPLICATION DEADLINES

Type of Applicant	Fall Deadline	Spring Deadline
<b>Domestic Applicants</b>		
US Citizens and Permanent Residents	June 14, 2024	N/A

### RESOURCES AND LINKS:

**Program Website:** <https://cmns.umd.edu/graduate/science-academy/quantum-computing/graduate-certificate> (<https://cmns.umd.edu/graduate/science-academy/quantum-computing/graduate-certificate/>)

**Application Process:** [www.gradschool.umd.edu/admissions](http://www.gradschool.umd.edu/admissions) (<http://www.gradschool.umd.edu/admissions/>)

## REQUIREMENTS

- Quantum Computing, Post-Baccalaureate Certificate (P.B.C.) (<https://academiccatalog.umd.edu/graduate/programs/quantum-computing-Z157/quantum-computing-pbc/>)