

**REQUIRED COURSEWORK**

**REQUIREMENTS**

**HOURS**

**Six hours selected from the following courses:**

**6**

**Computer Science:**

309.1 Quantum Computing I  
 378.1 Quantum Computing II  
 358H Intro to Quantum Information Sci: Honors

**Twelve hours selected from among the following supplementary courses:**

**12**

**Physics:**

373 Quantum Physics I: Foundations  
 362K Quantum Physics II: Atoms & Molecules  
 Computer Science:  
 331 or 331H Algorithms & Complexity/Honors  
 358H Intro to Quantum Information Sci: Honors

**Mathematics:**

340L Matrices & Matrix Calculations  
 or 341 Linear Algebra & Matrix Theory  
 or SDS 329C Practical Linear Algebra I  
 346 Applied Linear Algebra

**Independent Research Project.** This may be taken, for example as one of the following courses:<sup>1</sup>

PHY 371C Individual Study in Physics  
 C S 370 Undergraduate Reading & Research  
 M 375C Conference Course (Computer-Assisted)

*Please Note: C S 358H Introduction to Quantum Information Science: Honors may only be counted toward one of the certificate requirements. With the approval of the certificate program faculty, other appropriate courses may be counted toward the certificate requirements.*

<sup>1</sup> The student conducts independent research on some aspect of quantum information science and completes a final report describing their work. The topic must be approved by a university faculty or research staff member and will be conducted under their supervision.

**POLICIES & PROCEDURES**

- Application for admission required
- Total of 18 hours required
- All coursework must be completed with a grade of C- or better
- Courses that appear in multiple approved course lists may be used to satisfy only one requirement.
- Courses under the Freshman Research Initiative (FRI) program will be open to all students, with consent of the instructor.