

# The Master of Science Degree in Computer Science

---

**Chairperson: Assistant Prof. Linda Day**

**E-mail: day@kutztown.edu**

**Program Coordinator: Dr. Daniel Spiegel**

**E-mail: spiegel@kutztown.edu**

**Department Office: 256 Old Main**

**Telephone: (610) 683-4340**

**Hours: 30**

**Thesis: Optional**

1. Candidates for the MS degree in Computer Science must complete a total of 30 credits. A candidate must complete all degree requirements for the MS within six calendar years after his or her acceptance into the program.
2. Students may do an optional thesis. The thesis constitutes 6 credit hours of the 30 required. Students who do not do a thesis must pass a comprehensive exam. Comprehensive exams are given the first week of December, May, and August.
3. **CORE:** Students must take at least 18 credit hours from the following courses.
  - CSC 510 Advanced Operating Systems
  - CSC 512 Networking II
  - CSC 516 Design & Analysis of Algorithms II
  - CSC 520 Object Oriented Programming II
  - CSC 521 Advanced Web-Based Java Programming
  - CSC 526 Principles of Compiler Design II
  - CSC 541 Advanced Information Security
  - CSC 548 Artificial Intelligence II
  - CSC 552 Advanced UNIX Programming
  - CSC 555 Applied Cryptography
  - CSC 556 Database Management Systems II
  - CSC 570 Independent Study in Computer Science
  - CSC 580 Special Topics in Computer Science
  - CSC 599 Thesis (6 hours) / Comprehensive Examination
4. **ELECTIVES:** Students may take no more than four of the following courses.
  - CSC 402 Data Structures II
  - CSC 411 Networking I
  - CSC 415 Design and Analysis of Algorithms I
  - CSC 421 Web-Based Software Design and Development
  - CSC 425 Compiler Design I
  - CSC 447 Artificial Intelligence I
  - CSC 456 Database Management Systems I
  - CSC 570 Independent Study in Computer Science
  - CSC 480 Special Topics in Computer Science
  - CSC 554: Project Management

# The Master of Science Degree in Computer Science: Information Technology Track

---

**Chairperson: Assistant Prof. Linda Day**

**E-mail: day@kutztown.edu**

**Program Coordinator: Dr. Daniel Spiegel**

**E-mail: spiegel@kutztown.edu**

**Department Office: 256 Old Main**

**Telephone: (610) 683-4340**

**Hours: 30**

**Thesis: Optional**

1. Candidates for the MS degree in Computer Science must complete a total of 30 credits. A candidate must complete all degree requirements for the MS within six calendar years after his or her acceptance into the program.
2. Students may do an optional thesis. The thesis constitutes 6 credit hours of the 30 required. Students who do not do a thesis must pass a comprehensive exam. Comprehensive exams are given the first week of December, May, and August.
3. Students must complete at least 18 credits of 500-level courses.
4. **CORE:** Students must take at least 18 – 24 credit hours from the following courses.

CSC	411 Networking I	
CSC	421 Web-Based Software Design and Development	
CSC	456 Database Management Systems I	
CSC	464 Human-Computer Interaction	
	CSC	510 Advanced Operating Systems
CSC	512 Networking II	
CSC	521 Advanced Web-Based Java Programming	
CSC	541 Advanced Information Security	
CSC	552 Advanced UNIX Programming	
CSC	554: Project Management	
5. **ELECTIVES:** 0- 6 credit hours.

CSC	402 Data Structures II
CSC	415 Design and Analysis of Algorithms I
CSC	425 Compiler Design I
CSC	447 Artificial Intelligence I
CSC	480 Special Topics in Computer Science
CSC	520 Advanced Object Oriented Programming
CSC	526 Principles of Compiler Design II
CSC	548 Artificial Intelligence II
CSC	555 Applied Cryptography
CSC	556 Database Management Systems II
CSC	570 Independent Study in Computer Science
CSC	580 Special Topics in Computer Science
5. **Thesis:** 0 or 6 credit hours.

CSC	599 Thesis (6 hours)
-----	----------------------

# The Master of Science Degree in Computer Science: Professional Science Masters Track

---

**Chairperson: Assistant Prof. Linda Day**

**E-mail: day@kutztown.edu**

**Program Coordinator: Dr. Daniel Spiegel**

**E-mail: spiegel@kutztown.edu**

**Department Office: 256 Old Main**

**Telephone: (610) 683-4340**

**Hours: 30**  
**Thesis: Optional**

1. Candidates must complete a total of 33 credits.
2. A candidate must complete all degree requirements for an MS within six (6) calendar years after his or her acceptance. Requirements for the MS CS – PSM Track are:
  - 15-21 hours of CS core courses
  - 0 – 6 hours of CS elective courses
  - 3 hours of CS internship
  - 9 hours of Professional Skills courses

This includes the following requirements:

- A minimum of 15 hours of CSC courses must be at the 500 level
  - Successful completion of **one** of the following concentrations:
    - Networking: CSC 411 and CSC 512
    - Security: CSC 541 and CSC 555
    - Management: CSC 554 and BUS 572
    - Web-based Software: CSC 421 and CSC 521
    - Database CSC 456 and CSC 556
4. **CORE:** Students must take at least 15-21 credit hours from the following courses.

CSC	411 Networking I
CSC	421 Web-Based Software Design and Development
CSC	456 Database Management Systems I
CSC	464 Human-Computer Interaction
CSC	505 Fundamentals of Computer Systems
CSC	510 Advanced Operating Systems
CSC	512 Networking II
CSC	520 Advanced Object Oriented Programming
CSC	521 Advanced Web-Based Java Programming
CSC	540 Engineering Enterprise OO Systems
CSC	541 Advanced Information Security
CSC	554: Project Management
  5. **ELECTIVE CS Courses:** 0- 6 credit hours.

CSC	402 Data Structures II
CSC	425 Compiler Design I
CSC	445 Intelligent Robotics
CSC	447 Artificial Intelligence I

CSC	480 Special Topics in Computer Science
CSC	526 Principles of Compiler Design II
CSC	548 Artificial Intelligence II
CSC	552 Advanced UNIX Programming
CSC	555 Applied Cryptography
CSC	556 Database Management Systems II
CSC	580 Special Topics in Computer Science

6. **Culminating Experience: 3 credit hours**

CSC	590 Internship
-----	----------------

## Professional Skills Courses

PROFESSIONAL SKILLS COURSES PROVIDE BREADTH IN GRADUATE STUDIES BY PERMITTING STUDY IN AREAS THAT ENHANCE AND BROADEN THE STUDENT’S KNOWLEDGE AND SKILLS. THE COMPUTER SCIENCE PSM TRACK PROVIDES THE OPPORTUNITY TO INCORPORATE STUDY IN MANAGEMENT AND ADMINISTRATION RELATED DISCIPLINES INTO A COMPUTER SCIENCE MASTER’S DEGREE

Courses may be selected from Kutztown or other PASSHE universities to fulfill this category under the following conditions:

1. Courses selected must develop skills in related professional areas such as management, communication, planning, and decision making. They need not all be from a single discipline.
2. The courses selected represent a cogent concentration and are chosen and approved in consultation with the graduate coordinator and department chair.

<b>Professional Skill Courses (9 hours)</b>
Business
ACC 520: Management Accounting Control Systems
BUS 572: Managing Enterprise Information Technology
ECO 561: The Global Economy

Political Science – Administration
POL 515: Principles of Problems in Public Administration
POL 516: Administrative and Organizational Theory
POL 517: Public Personnel Administration and Strategic Human Resource Management
POL 518: Budgeting and Decision Making
POL 571: Nonprofit Organizational Management

Elective(s)
Elective:
Elective:
Elective: