

## Minor in Computer Science

The Minor in Computer Science will allow students from a variety of programs to gain basic knowledge of software development and computational algorithms, thereby enhancing their ability to perform in the economy of the future.

**Administered by:** Department of Computer Science

**Exclusions:** This minor is not available to students in the following programs:

- Computer Science
- Mathematics and Its Applications (Computer Science Option)

To receive this Minor, students must complete **six (6) courses** from the following curriculum:

**Required courses (2):**

CPS 109 Computer Science I

CPS 209 Computer Science II

**Plus four (4) of the following:**

[CPS 213 - Computer Organization I](#)

[CPS 305 - Data Structures and Algorithms](#)

[CPS 310 - Computer Organization II](#)

[CPS 393 - Introduction to C and UNIX](#)

[CPS 406 - Introduction to Software Engineering](#) :

[CPS 420 - Discrete Structures](#) :

[CPS 501 - Bioinformatics \(or BME501\)](#)

[CPS 506 - Comparative Programming Languages](#)

[CPS 510 - Database Systems I](#)

[CPS 511 - Computer Graphics](#)

[CPS 530 - Web Systems Development](#)

[CPS 590 - Operating Systems I](#)

[CPS 606 - Advanced Computer Organization](#)

[CPS 607 - Autonomous Mobile Robotics](#)

[CPS 610 - Database Systems II](#)

[CPS 613 - Human-Computer Interaction](#)

[CPS 615 - Theory of Computation](#)

[CPS 616 - Algorithms](#)

[CPS 621 - Introduction to Multimedia Systems](#)

[CPS 630 - Web Applications](#)

[CPS 633 - Computer Security](#)

[CPS 706 - Computer Networks I](#)

[CPS 707 - Software Verification and Validation](#)

[CPS 710 - Compilers and Interpreters](#)

[CPS 713 - Applied Cryptography](#)

[CPS 714 - Software Project Management](#)

[CPS 716 - Computer Networks II](#)

[CPS 721 - Artificial Intelligence I](#)

[CPS 730 - Web Technology and Performance Measurement](#)

[CPS 731 - Software Engineering I](#)

[CPS 750 - Telecomm Networks](#)

[CPS 752 - Parallel Computer Systems](#)

[CPS 801 - Operating Systems II](#)

[CPS 811 - Distributed Systems and Networks](#)

[CPS 813 - Human Robot Interaction](#)

[CPS 815 - Topics in Algorithms](#)

[CPS 822 - Artificial Intelligence II](#)

[CPS 832 - Mainframe Systems](#)

[CPS 842 - Information Retrieval and Web Search](#)

[CPS 843 - Introduction to Computer Vision 820](#)

[CPS 844 - Data Mining](#)

[CPS 845 - Extreme Programming and Agile Processes](#)

[CPS 847 - Software Tools for Startups](#)

[CPS 853 - Creating Big Data Systems](#)

Some example streams (all implicitly containing CPS 109 and CPS 209) are listed below to facilitate an informed choice. The prerequisite structure must be followed. Prerequisites of courses within a stream are also in the same stream, with the exception that CPS 420 has a prerequisite of MTH 110, which is not part of the minor. The completion of a specific stream is not a requirement for the Minor, and the stream designation will not appear on the student's transcript, even if completed.

**Stream 1: Hardware and Software**

CPS 213

CPS 310

CPS 305

CPS 406

**Stream 2: Computer Organization**

CPS 213

CPS 310

CPS 606

CPS 607

**Stream 3: Software Engineering**

CPS 406  
CPS 613 or CPS 847  
CPS 714 or CPS 845  
CPS 731 or CPS 853

**Stream 4: Database Systems**

CPS 393  
CPS 305  
CPS 510  
CPS 610

**Stream 5: Data Mining**

CPS 305  
CPS 510  
CPS 842  
CPS 844

**Stream 6: Robotics**

CPS 213  
CPS 310  
CPS 607  
CPS 813

**Stream 7: Operating Systems**

CPS 393  
CPS 305  
CPS 590  
CPS 801

**Stream 8: Web Development**

CPS 393  
CPS 530  
CPS 621  
CPS 630 or CPS 730

**Stream 9: Languages**

CPS 393  
CPS 305  
CPS 506  
CPS 510

**Stream 10: Artificial Intelligence**

CPS 393  
CPS 305  
CPS 420 (*requires MTH110*)  
CPS 721

**Stream 11: Algorithms**

CPS 305

CPS 420 (*requires MTH110*)

CPS 616

CPS 815

**Stream 12: Cryptography**

CPS 305

CPS 420 (*requires MTH110*)

CPS 615

CPS 713