COMPUTER SCIENCE

The Department of Computer Science offers a baccalaureate degree in computer science and also offers minors in computer science and data science.

The Bachelor of Science degree program in computer science is accredited by the Computing Accreditation Commission of ABET, www.abet.org (http://www.abet.org). The Bachelor of Science degree program in computer science has been recognized as a high-quality degree program that meets national standards for computer science education. Our B.S. degree program in computer science was the first computer science program in a Pennsylvania State System University to be accredited by ABET. The B.S. degree program in computer science is designed to provide students with a fundamental background in computer science as well as allow students to study advanced topics such as artificial intelligence, security, game development, computer graphics, web development, data mining, algorithms, computer networks, large-scale data analytics and visualization, and parallel programming. Graduates are well prepared to pursue graduate study or a career in the computing field. Opportunities for student research are available.

For admission as a major in computer science, a student is expected to have a sound preparation in high school academic mathematics: algebra I and II, plane geometry, trigonometry and analytic geometry. Students who have completed an AP course in high school are encouraged to take the College Board Advanced Placement Computer Science A exam and have their scores sent to Millersville University for evaluation. University credit for freshman-level computer science major courses will be offered to students with grades of 3 or higher. For further information, see Advanced Placement Examinations in this catalog. Please note that a score of 3 or higher on the Computer Science Principles exam can be used for general University credit but will not replace any courses within the computer science major. The cooperative education program allows students to gain valuable experience in a full-time professional position related to their career goals, adding practical relevance to their program of study as well as financial remuneration. Students may elect one or more cooperative education experiences.

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Millersville University's Computer Science program consists of two components: required courses that every student must take and elective courses from which each student selects those most relevant to their interests and career goals. The required courses prepare students for an immediate career and for lifelong learning by providing a solid foundation of computer science principles. In particular, the required curriculum includes coverage of discrete mathematical structures, computer programming, data structures and algorithm analysis, computer architecture, programming languages, mathematical models of computation, database systems, design of operating systems, and contemporary software engineering practices. The electives cover a wide variety of important application areas and more advanced versions of the fundamental topics. Popular elective topics include artificial intelligence, computer graphics, computer networks, computer security, data mining, video game development, and web application development. Graduates of the Computer Science program are well qualified for careers such as software engineer/developer, web developer, systems analyst, data scientist, and system administrator, as well as for graduate studies in computer science and related fields.

Information about the degree programs offered by the Department of Computer Science can be found on the web at www.millersville.edu/computerscience (http://www.millersville.edu/computerscience/).