

**The College at Brockport, State University of New York
Department of Computer Science**

Software Development Track of the Computer Science Major

Program Educational Objectives

The objectives of the undergraduate degree program in Computer Science (Software Development Track) are to produce graduates:

1. Capable of productive employment in computer software development fields, with job designations such as Computer Applications Programmer, Computer Applications Analyst, Database Administrator, Internet Programmer, Network Administrator, Software Developer, Software Tester, and Web Programmer, perhaps combining knowledge and skills gained through an exposure to another discipline as an associate degree holder or as a double major,
2. Equipped to adapt and grow as work conditions and responsibilities change with technology and globalization, and
3. Prepared to pursue advanced graduate studies in computing or other disciplines.

These objectives are accomplished by providing:

- a. A broad-based education in core areas of Computer Science, including algorithms and data structures, software methodologies, and computer hardware, with an appropriate blend of theory and practice,
- b. Opportunities to specialize in a variety of areas of software development through a selection of elective courses,
- c. Opportunities to broaden educational experiences through independent studies, theses, internships, career exploration experiences, and study abroad programs, and
- d. A deep foundation in professional ethics and communication skills.

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Student Outcomes

- A. An ability to apply fundamental principles of computing and mathematics as appropriate to software development.
- B. An ability to analyze a problem and model it as a computer software system using appropriate methodologies, and to identify the computing requirements necessary to meet the desired needs.
- C. An ability to design, implement and test a computer software system, and to evaluate and compare the efficiencies of alternative solutions.
- D. An ability to use current techniques, skills, and tools appropriate for immediate employment in computer software development fields.
- E. An ability to function effectively on teams to accomplish a common goal.
- F. An ability to communicate effectively, both orally and in writing, using accepted standards of the profession.
- G. An ability to analyze the social and human context of computing as it impacts individuals, organizations, and society, including ethical, legal, security, and global policy issues.
- H. An ability to work and learn independently and an appreciation of the importance of continuing education and professional growth over the course of a lifetime.