Computer science is an exciting and challenging field in which to study and work. A tremendous demand exists for information professionals in a wide range of specializations. In fact, half of the nation’s top 10 fastest-growing jobs involve computer science. Those top jobs involving computer science and their ranking are: network systems and data communications analyst (1), computer software engineers/applications (3), computer software engineers/systems software (6), network and computer systems administrators (7) and database administrator (8).

The undergraduate program in computer science at Fairleigh Dickinson’s College at Florham in Madison, N.J. is offered through the Department of Mathematics, Computer Science and Physics, part of Becton College of Arts and Sciences. It is designed to give students a broad knowledge of the theoretical as well as practical aspects of computer science. The program prepares students for productive careers and for graduate study, and is geared toward educating professionals to become leaders in various areas of computer science, such as software design, database systems, systems analysis and electronic commerce systems. The program of study conforms to the recommendations of the Association for Computing Machinery.

Prerequisites for study in the department include elementary and intermediate algebra, plane geometry, trigonometry and two units of science. Average class size for computer science majors is between 15 and 20 students.

COMBINED B.S./M.S. IN COMPUTER SCIENCE PROGRAM
The University offers a five-year accelerated program that allows qualified students to obtain both a B.S. and M.S. in computer science. Interested students must register for this program by their junior year and must have achieved a 3.0 cumulative grade point average.

CAREER OPPORTUNITIES
According to the U.S. Department of Labor, computer science is still one of the fastest-growing occupations in the world, and job prospects in the field continue to be excellent. Many students begin working in the field before graduation – some as part of a supervised internship or in a paid co-operative education program. Graduates of the program traditionally receive several job offers and excellent starting salaries. Fairleigh Dickinson University’s graduates are prepared to function well in almost every computing environment. They are familiar with a spectrum of fundamental principles and have been encouraged to approach problems with creativity.

Employers of recent graduates include:
- Bell Laboratories
- Duff & Phelps
- eClinical works
- Honeywell
- Intel
- Lockheed Martin
- Lucent Technology
- Novartis
- Pfizer
- U.S. Defense Academy

continued
COURSE WORK
Students entering the program must complete 41 credits of course work in the area of computer science (including a senior project or computer science internship), 17 credits in mathematics and 8 credits in physics.

In addition to the basic programming courses, the computer science requirements include, computer organization, data structures and software design. Four elective computer science courses also are required. Popular electives to choose from include artificial intelligence, client/server computing and distributed database systems as well as Web-related courses on Internet and Java programming.

CYBERSECURITY CONCENTRATION
This curriculum gives students a solid foundation in computer science and mathematics and incorporates carefully chosen courses in network and data security. Courses cover such topics as computer security, fingerprinting, key management, cipher techniques, copyright and digital rights management.

Students in the program also gain practical experience in the field through internships. Our campus location in the dynamic New York/New Jersey corridor gives our students access to internships at some of the leading computer science and information technology companies in the world.

GAME DEVELOPMENT CONCENTRATION
Game developers are now in demand by a variety of industries including entertainment, education, government, the military and consumer products. The curriculum for the concentration gives students a solid foundation in computer science and mathematics and incorporates carefully selected courses offered by the Department of Visual and Performing Arts. By incorporating courses in computer science, mathematics and animation, the program gives students the technical skills needed to succeed in this fast-growing field.

The concentration is designed based on guidelines provided by the International Game Developers Association (IGDA).

INTERNSHIPS: PAVING THE WAY TO THE FUTURE
The department encourages students to take advantage of internships to gain hands-on professional experience. Recent placements include Lockheed Martin, the Department of Defense, Hi-tech Health and The Realm National Insurance Co. Students work closely with faculty members who mentor and support them during the internship experience. Students can also earn credits for internships.

FACULTY
Faculty areas of interest include theoretical foundations, computational complexity, computer security, computer graphics, algorithms and computer architecture. Members of the faculty publish widely in their fields. Their recent publications include:

- Capability, Progress and Cooperative Strategies: A Framework for Sustainability
- Software Architecture for the Any Media Broadband Access System
- An Adaptive Probabilistic Reasoning Approach to Data Integration
- Computation Trees: The Rightmost Accepting Path
- A Novel Watermarking Technique for Digital Images based on Adaptive Segmentation
- Learner-Interface Interaction for Technology-Enhanced Active Learning in Computer Science
- A New Digital Rights Management Platform for Digital Images

STUDENTS
Students with an aptitude for mathematics, logic, music, puzzles and other activities that require logic and discipline typically excel in the program. They are exposed to a broad range of fundamental concepts in such areas as software engineering, computer organization, database systems, management information systems and operating systems, as well as a wide variety of computer applications.

Students are encouraged to conduct research in various computer science fields. In recent years, students working closely with department faculty members participated in a variety of research and writing projects as part the University Honors Program or as a Senior Project. Those projects included:

- Database Systems and Network Protocols
- Chess over the Web
- Java, Applets and the Real World
- Artificial Intelligence: A Historical Perspective
- Capability and Maturity Model in Software Engineering
- Digital Watermarking

SPECIAL FEATURES
- The Computer Science Department recently received a grant from Hewlett Packard to create a computer lab for Tablet PCs.
- Use of specialized software and small class sizes, enables us to actively engage our students in the learning process with hands-on and collaborative problem solving activities.
- A number of our students participate in service learning activities that involve mentoring youth from disadvantaged backgrounds and providing them guidance to excel in science and math.