

#### ABOUT THE COLLEGE OF COMPUTING SCIENCES

The College of Computing Sciences (CCS) was established in 2001, but NJIT has been teaching and researching in computing sciences since the mid-1970s. More than 50 faculty members engage in innovative teaching and research. The program includes classes, internships, co-ops and a required senior capstone program that has students work directly with industry partners to solve real problems. CCS is one of only three programs in the U.S. ranked among the top producers of computer science graduates at the undergraduate, master's and PhD levels, according to a recent survey by Computing Research Association.

#### DEGREE PROGRAMS

CCS programs include:

- Computer Science (BS and BA)
- Web and Information Systems (BS)
- Information Systems (BA)
- Information Technology (BS)
- Computing and Business (BS)
- Business and Information Systems (BS)
- Bioinformatics (BS)

Double majors are available with mathematical sciences and applied physics. An accelerated BS/MS degree program allows you to take six credits of graduate courses in your senior year that count toward both degrees. NJIT also offers MS degrees in computer science, information systems, computing and business, business and information systems, software engineering, IT administration and security, and cybersecurity and privacy, and PhDs in computer science and information systems.

#### NJIT AT A GLANCE

- New Jersey's Science and Technology University, founded in 1881.
- Nearly 9,000 students, including 6,103 undergraduates.
- NJIT's six colleges offer small-college intimacy (13:1 student-faculty ratio) with big-university resources.
- 45-acre campus features \$83 million in recent construction and improvements, including the new Campus Center.
- A *Princeton Review* "Best College."
- Ranked by *U.S. News & World Report* among the nation's top universities, NJIT is ranked 7th in the nation in diversity.

#### ADMISSION REQUIREMENTS

We consider your academic record, particularly your grades in math, science and English, and your standardized test scores. Your high school curriculum should include at least four units of English; two units of lab science (chemistry and physics preferred); four units of mathematics, including algebra, geometry and trigonometry; and six units of some combination of social studies, foreign language, math and science. We consider your overall GPA, individual course grades and the level of your academic curriculum, plus involvement and leadership in activities. The average combined SAT score (critical reading plus math) for regular incoming freshmen in fall 2010 was 1070-1250.

#### HOW TO APPLY

Choose one of these ways to apply:

- Apply online at [www.njit.edu/admissions/applyonline.php](http://www.njit.edu/admissions/applyonline.php).
- Download a PDF of the application to print out and mail in at [www.njit.edu/admissions/applyonline.php](http://www.njit.edu/admissions/applyonline.php).

#### DEADLINES FOR APPLYING

- For fall semester: April 1
- For spring semester: November 15

NJIT uses rolling admissions. You should hear from us two to three weeks from the date that your file is complete. You can check your application status online at [www.njit.edu/admissions/check-status.php](http://www.njit.edu/admissions/check-status.php).

#### FOR MORE INFORMATION

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To contact the NJIT Admissions Office,  
go to [www.njit.edu/admissions](http://www.njit.edu/admissions) or e-mail  
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## COLLEGE OF COMPUTING SCIENCES



**NJIT'S COLLEGE OF COMPUTING SCIENCES (CCS) GIVES YOU THE EDGE**

**DYNAMIC LEARNING:**

The College of Computing Sciences keeps classes small—usually about 20 students. The curriculum is flexible, responding to and anticipating the world's changing needs with classes that explore the latest topics such as networking, security, data mining and computer gaming. One of our newest programs is in bioinformatics, an area that is revolutionizing medicine through the use of computing.

**PIONEERING FACULTY:**

Our more than 50 faculty members, some of whom have been entrepreneurs or have held leading roles in technology companies, are involved with new and emerging technologies such as mobile computing, bioinformatics, face recognition, search engines and emergency management. Their research shapes the future and keeps you ahead of the curve.

**REAL-WORLD EXPERIENCE:**

Through classes, internships, co-op experiences and senior capstone projects that pull together all of your learning, you'll gain the kind of hands-on experience that makes you invaluable to employers—and often leads to higher salaries and better positions.

**EXCITING FUTURES:**

Employers from major corporations to innovative start-ups tell us that CCS graduates bring the kind of skills, knowledge and experience they're looking for. It's no wonder our graduating seniors receive phenomenal job offers.

**Smaller. Faster. More powerful. Every day, technology and computers evolve to help us better streamline business, improve our lives, unravel mysteries of the universe, entertain ourselves and more. As computing technology advances everything from supercomputers to toothbrushes, professionals who can navigate this constantly changing computational world are in greater demand than ever. In NJIT's College of Computing Sciences (CCS), you'll learn programming skills and much more. You'll learn to harness the potential of computational power to create innovative solutions in fields from engineering to the arts to business to education.**

**GREETINGS FROM CCS DEAN NARAIN GEHANI**

Technological change is the engine that reshapes our society and economy. Computing has never been more vibrant than it is today, embedded in every aspect of our lives, facilitating remarkable new discoveries in biological and physical sciences. Computers are everywhere, often invisibly embedded in devices from cell phones and iPods to microwave ovens, cars, airplanes and satellites.

The College of Computing Sciences is a bit different from traditional computing colleges. We emphasize the breadth of the computing disciplines, ranging from computer science to information systems to information technology, and the central role that they will play in our lives in this new century.

Our mission is to bring education in a broad range of computing disciplines to students on campus and at a distance, to carry out cutting-edge computing research and to work closely with industry.

We invite you to join us.



Narain Gehani

Computer science is among the five majors nationwide drawing the highest starting salaries for new graduates, an average of \$60,000 in 2010, according to the National Association of Colleges and Employers.

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**MAJOR:** INFORMATION SYSTEMS (HONORS)

**HOMETOWN:** ANAMBRA STATE, NIGERIA

**FUTURE PLANS:** EMPLOYMENT, TRAVEL AND GRADUATE STUDY



**WHY NJIT?** I chose NJIT because I found it to be an affordable school with a very strong College of Computing Sciences.

**WHAT DO YOU LIKE BEST ABOUT YOUR NJIT EXPERIENCE?** Success to me means being knowledgeable and able to share that knowledge with others by being a leader and a learner. NJIT has given me many opportunities to share what I'm learning and help my peers. I'm a teaching assistant in math and for the EOP Summer Program, as well as a tutor at NJIT's Center for Academic and Personal Enrichment, a coordinator for Connections Miniversity, and a counselor for the Honors College Freshman Retreat.

**ARE YOU INVOLVED IN CLUBS OR ACTIVITIES?** I represent my college in the NJIT Student Senate, and I also belong to the Association

of Computing Machinery, Honors Ambassadors Committee, National Society of Black Engineers, and African Students Association.

**PLANS AFTER GRADUATION?** After graduation, I hope to work for a year and travel the world. During this time, I hope to study how people, in different fields and cultures, currently use computer systems and what their expectations are of a computer. I hope to use the knowledge I gather as I pursue a master's degree in artificial intelligence or a related field.

**HOW IS NJIT HELPING YOU ACHIEVE YOUR GOALS?** NJIT prepares its students for the challenges of the real world. It exposes students to a diverse academic environment and encourages social interaction. NJIT pushes students to be leaders, and provides them with opportunities and support for success.

# the edge . . . in Hands-On Learning

NJIT has been at the forefront of computing since the 1970s. Today, CCS has the largest concentration of computing students among all research universities in the New York/New Jersey metropolitan area. This is where the concept of distance learning first began. Our faculty members continue to break new ground with innovative learning approaches, including hybrid learning (combining face-to-face and distance learning) and team-based learning (working in teams that communicate with each other online)—all on a campus that's long been known for its sophisticated technological resources.

## STRONG CURRICULUM, SMALL CLASSES

CCS offers undergraduate programs in bioinformatics, business and information systems, computer science, computing and business, information technology, and web and information systems. Because computing is such a rapidly changing field, NJIT instills the basics of design methods and concepts that transcend a specific platform so you can tackle any computer application regardless of changes in the industry. At the same time, through classes in the sciences and humanities, along with involvement in real-world projects, you'll develop the problem-solving, communication and teamwork skills that will serve you well throughout your career (or, more likely, careers).

Faculty members bring a sense of energy to the small classes that CCS is known for. You'll have the opportunity to get involved in faculty research projects that range from wearable technology to hypermedia to NJIT's campus-wide communication system.

In addition, you'll be able to work closely with NJIT's growing number of industry partners, from international corporations to entrepreneurial ventures, such as those in NJIT's Enterprise Development Center, the state's largest high-tech business incubator program.

## CAPSTONE EXPERIENCE

You'll put your learning to the test, gain valuable experience and make a difference for a business or organization through the senior capstone program that all CCS students take. This class provides a chance to draw on your years of learning at NJIT and apply them to an authentic need presented by one of NJIT's many industry partners. Through the capstone's entrepreneurship track, you can even start your own business. The more than 200 industry sponsors have included Microsoft, Johnson & Johnson, PSE&G, NASA and the National Science Foundation. Each team—four to six students from CCS and other majors throughout NJIT—designs and implements a solution to a real-world problem. You'll gain skills in problem solving, project management, leadership, team dynamics, presentation and communication. Recent examples:

- *Turnkey Properties*: Students developed an e-business solution—a scalable, automated, database-driven online presence—to help Turnkey's e-vacation rental referral business grow to become a nationwide provider. Using open source software, students created a Web site that collects user and payment information, notifies users when there's been a new transaction and updates a calendar.
- *CIT Group*: The student team designed a complex database system for this commercial and consumer finance company to help managers store, trace and access financial data to comply with rigorous auditing rules required under a new federal law. In addition to gaining the experience of applying their knowledge to a real situation, they saved the company hundreds of thousands of dollars.
- *ICG*: Students designed a secure evidence management system for this firm that investigates Internet crimes, digital piracy and other crimes. The system digitally documents the processes used by computer forensic investigators, producing reports that investigators present in court during trials. ICG ended up hiring one of the members of the student team.

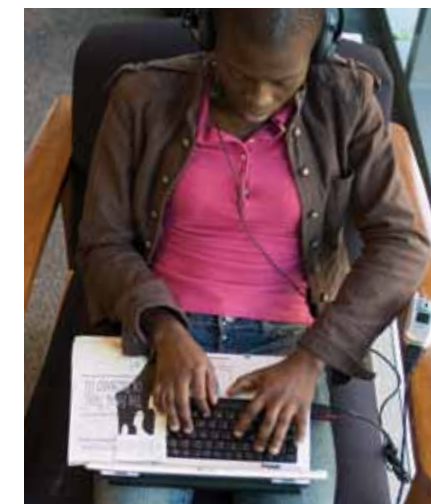
"The opportunity for NJIT students to integrate real-world experience into their academic experience through the capstone is invaluable to them and to us. We at CIT have been quite impressed with the students' abilities, insight and follow-through."

—Harold Olmstead, former VP Service Level Management, Systems and Technology Support, Global Infrastructure Services, CIT Group, Inc.

In NJIT's SmartCampus project, undergraduates are helping to develop a revolutionary, mobile, wireless campus community system. See the latest at [smartcampus.njit.edu](http://smartcampus.njit.edu).



CCS students have earned experience, academic credit and up to \$37,000 through co-ops.



## CO-OP PATH FOR CCS UNDERGRADUATES

CCS has a cooperative education path for its bachelor's degrees that allows you to substitute approved work experience for two general electives. Closely aligned with your major studies, the program improves your understanding of the relationship between classroom theory and practical application. Through the co-op path, you will:

- Gain real-world experience within a company.
- Develop professional and communication skills in a business environment.
- Establish professional connections with a co-op employer.
- Earn a salary that helps pay tuition.
- Improve interviewing skills by becoming familiar with an employer's expectations.
- Determine if the current major is a good match within CCS for your interests, skills and values.

Well prepared for the future, CCS graduates have embarked on careers with such employers as Conoco Phillips, IBM, MBNA, Pfizer and Telcordia.

# Computer Science, Web and Information Systems, Information Technology, and Bioinformatics

## COMPUTER SCIENCE

**How you make a difference:** Learn to design, analyze and implement computer algorithms and software systems in such fields as finance, pharmaceuticals, technology and management. You might manage network and computer security systems or databases, or write programs for computer gaming, mobile computing or cell phones. You could work with engineers or biologists to develop systems, or lead large software development project teams.

**Why at CCS:** The program is ABET-accredited. The BS provides a more technical exploration of computer science and is excellent if you plan to pursue advanced study in computer science. The BA program, offered in conjunction with Rutgers-Newark, is designed for students interested in liberal arts or management. New Jersey provides internship, co-op and job opportunities everywhere from banks to government organizations to pharmaceutical companies. Continue your studies at CCS with an MS or PhD in computer science.

## WEB AND INFORMATION SYSTEMS

**How you make a difference:** With the human, technological and organizational skills you'll gain, you could develop and manage applications and networks in such fields as science, accounting, marketing and healthcare delivery. While Management Information Systems (MIS) programs found at business schools support organizations, IS gives you the tools to support a wider range of disciplines, from engineering to the arts.

**Why at CCS:** The program's ABET accreditation has been earned by only 20 universities nationwide. Specializations require five courses in areas such as management, medical information systems, graphic design and multimedia, accounting or human-computer interaction. With the BA option, you'll be prepared for a system analysis position. With the BS, you'll master applications design and be prepared for advanced IS study, which you can do at CCS through the MS and PhD programs.

## INFORMATION TECHNOLOGY

**How you make a difference:** The world has an increasing need for professionals who can apply information technology to all aspects of life, and an IT degree can give you a central role in that enterprise. By gaining a broad understanding of how computers handle information—and the evolution, design, integration and management of systems—you could help build infrastructures at organizations that might one day play a key role in the global economy. IT professionals design, deploy and manage computing and telecommunications resources and services in a wide variety of fields, including network security, management, multimedia, Web applications, gaming, engineering, criminal justice and architecture.

**Why at CCS:** IT concentrations are jointly offered with departments in every college at NJIT and with Rutgers University-Newark. Courses are balanced among theory, individual research and practical applications to provide a solid understanding appropriate to a career in a continually changing field. IT students develop abilities to evaluate existing knowledge critically and extend it into original areas of inquiry and scholarship. Students have superb opportunities for internships and job opportunities in technology, science and business firms.

## BIOINFORMATICS

**How you make a difference:** Bioinformatics is at the forefront of revolutionizing medicine. Combining computer science and information technology with biology, it captures the power of computers and technology for medical and biological advances. You could analyze DNA sequences, proteins or other molecular structures to find better ways to detect cancer, discover new drugs and assist in the diagnosis and prevention of disease. Or you might design and maintain the kind of huge biodatabases increasingly used in genomics, genetics, drug development and other areas of medicine.

**Why at CCS:** One of NJIT's newest programs, bioinformatics draws on the university's strengths in computing, biology, chemistry and math. With the nation's largest concentration of pharmaceutical companies, New Jersey is the perfect place to study bioinformatics.

# Business and Information Systems, and Computing and Business



A computing and business major, William Barry worked last summer as a business systems analyst at Prudential Financial and hopes to continue there after graduation. "The greatest thing about NJIT are the opportunities the school creates to meet your specific needs and interests," he says.

## HUMAN-COMPUTER INTERACTION

**How you make a difference:** You can choose to specialize in cognitive psychology, game design and production, graphical arts design, or web and multimedia design, preparing for a career as an interaction designer, information architect and user experience engineer working with smart phones, intelligent tutoring systems, virtual worlds, wearable computers, emergency management applications and highly interactive web applications.

**Why at CCS:** A pioneer in digital communications and the application of new technologies as learning tools, NJIT has one of the most computing-intensive campuses in the world and educates one of the largest groups of computing students in the nation. Not coincidentally, New Jersey is a leading state for computing and high technology businesses and offers the highest median salary in the nation for information systems managers.

## BUSINESS AND INFORMATION SYSTEMS

**How you make a difference:** You'll learn concepts in both business and information systems and how they apply to business, government and nonprofit organizations. Besides learning about such information systems topics as databases, application development tools, Web design, software use and evaluation, management information and decision support systems, students learn about such business topics as accounting, finance, financial products, business operations and marketing.

**Why at CCS:** You'll get lots of opportunities for real-world experience through co-ops and internships, as well as exciting research assistantships. The BS in business and management is offered jointly by the College of Computing Sciences and the School of Management. The college's capstone program matches interdisciplinary teams of senior students with clients from industry, government and university programs to develop customized software and database applications, to design and test devices, or to analyze and diagnose a variety of business problems

## COMPUTING AND BUSINESS

**How you make a difference:** NJIT graduates with a BS in computing and business have a unique combination of business and computing knowledge that opens doors to numerous computing jobs in finance, insurance, marketing, telecommunications, consulting and the pharmaceutical industry, as well as many other areas.

**Why at CCS:** Drawing from the rich technological resources of New Jersey's Science and Technology University, the BS in computing and business is offered jointly by the College of Computing Sciences and the School of Management. Graduates gain the background to function effectively in designing, building, enhancing and maintaining software systems and applications in the context of business environments. Since NJIT is located in the New York metropolitan area, the financial capital of the world, the computing and business degree at NJIT is particularly well suited for those wanting to pursue a computing career in the financial world.