



GRADUATE PROGRAMS IN ENGINEERING, COMPUTER SCIENCE AND SYSTEMS SCIENCE

WHAT MAKES WATSON UNIQUE?

MODERN FACILITIES

State of the art equipment and computing facilities, such as the Anechoic Chamber, 3D additive manufacturing labs and three-tiered Data Center, support all of our graduate programs.

TOP RANKING

The Thomas J. Watson School of Engineering and Applied Science is one of the fastest growing engineering schools in the northeastern U.S. and was named one of the top schools in the nation for computer science and computer engineering majors by The Princeton Review (2012). *Forbes* ranked Binghamton #15 among America's Best Value Colleges in 2016.

INDUSTRIAL CONNECTIONS

Our strong industry links translate into unique student cooperative education and internship opportunities with some of the most technically advanced corporations in the nation.

GLOBAL ENGAGEMENT

The business and academic worlds are much different today than even a generation ago. The Internet and other technology allow for worldwide interaction. Globalization opens up a world of possibilities but also presents challenges. The Watson School is providing ways for students, alumni and faculty to benefit from its international network.

EXCEPTIONAL FACULTY

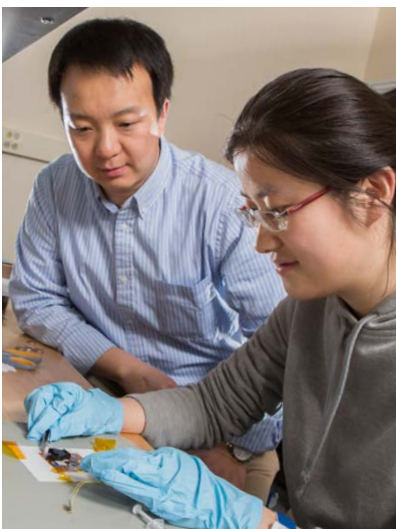
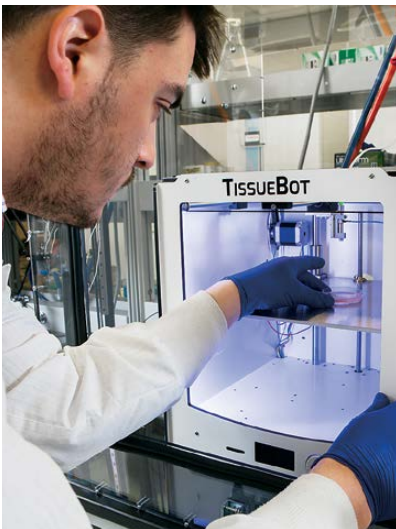
Watson students learn from and work with an outstanding and experienced faculty working in leading research areas. The Watson School is home to two IEEE Fellows and eight active SUNY distinguished faculty who have achieved national or international reputation.

CLUBS AND ORGANIZATIONS

The Watson School has several graduate student organizations, including Chinese, Indian and Iranian cultural groups among others. We offer something for everyone!

RESEARCH

Watson's research programs span academic departments and often integrate with campus-wide organized research centers and institutes of advanced studies. Multi-disciplinary labs and projects offer research in biomanufacturing; biomedical analysis; characterization and diagnosis of disease; computer security; health care systems engineering; information hiding and digital imagery; mechanical reliability and design; nanomedicine; power management; sensor design; solar cells and power engineering among others. In 2014-15, Watson faculty received nearly \$11M in new research awards.





WATSON SCHOOL PROGRAMS

GRADUATE PROGRAMS AND REQUIREMENTS

PROGRAM	GPA	GRE
Biomedical Engineering (MS, PhD)	3.0	No minimum Q; entire application considered
Computer Science (MS, PhD)	3.0	Q = high 150s + courses, work experience
Electrical and Computer Engineering (MS, PhD)	3.0	Q = typically 155; entire application considered
Industrial Engineering (MEng)	3.0	Q = 155; Q + V = 300-305
Industrial and Systems Engineering (MS, PhD)	3.0	Q = 155; Q + V = 300-305
Industrial and Systems Engineering Executive MS in Health Systems	3.0	Q = 155; Q + V = 300-305
Materials Science and Engineering (MS, PhD)	3.0	Q = 156; V = 150 or other credentials
Mechanical Engineering (MEng, MS, PhD)	3.3	Q = 158-162; math, physics, chemistry and relevant engineering courses
Systems Engineering (MEng)	3.0	Q = 155; Q + V = 300-305
Systems Science (MS, PhD)	3.0	Q = 155; Q + V = 300-305
Systems Science Executive MS in Health Systems	3.0	Q = 155; Q + V = 300-305

Minimum English language scores: TOEFL, 80; IELTS, 6.5

COSTS, FUNDING OPPORTUNITIES, STARTING SALARIES

ANNUAL COSTS 2015-16*

	Tuition	Fees	Total
In State	\$10,870	\$2,045	\$12,855
Out of State	\$22,210	\$2,045	\$24,255

*Costs are approximate, housing not included; contact ISE Department for Executive MS in Health Systems

APPROXIMATE COST BY DEGREE*

MS	1.5 years	\$36,383
MS	2 years	\$48,510
PhD	3 years	\$72,765
PhD	5 years	\$121,275

*Examples based on out-of-state rate

FUNDING OPPORTUNITIES

Research Assistants	125-150 positions / year
Teaching Assistants	100-120 positions / year
SPiR* (Industry)	15-20 positions / year

*Strategic Partnership for Industrial Resurgence

AVERAGE STARTING SALARY

Master's Computer Science	\$71,140
Master's Engineering	\$69,698
PhD Computer Science	\$94,000
PhD Engineering	\$88,397

Source: National Association of Colleges and Employers (NACE) Spring 2015 survey

WATSON GRADUATE ADVISING

For graduate students, department faculty and/or the graduate director will provide guidance on programs and courses. A student completing a thesis or dissertation will also work on research with a faculty member who is focused on the area of research the student is exploring. In addition, the Watson School's coordinator of graduate programs, Ellen Tilden, provides special insight into some of the unique experiences of being a graduate student. The Watson School coordinator of graduate programs provides:

- assistance with admission and funding
- general advising for prospective and current graduate students
- distribution of all graduate forms
- processing and certification of final degree completion
- information about campus resources

Ellen Tilden is available by e-mail at etilden@binghamton.edu, by phone (607)777-2873 or by visiting her in the Engineering Building (M-10) or the Engineering and Science Building (ES-1010). Learn more at binghamton.edu/watson/student-services/advising/graduate.

WATSON CAREER AND ALUMNI CONNECTIONS

The Watson Career and Alumni Connections office provides tailored tools and guidance to mold graduate students' engineering and computer science backgrounds to increase their marketability. They provide career advice, interviewing help, and résumé and cover letter review via walk-in hours, appointment, or e-mail. Learn more at binghamton.edu/watson/student-services/career.

WATSON SCHOOL GRADUATE PROGRAMS

BIOMEDICAL ENGINEERING

A biomedical engineer's primary objective is to improve human health through advances in healthcare and medicine. At Binghamton, our focus is on advancing the understanding of prevention, diagnosis and treatment of human injury, disease and the health complications associated with physiologic and sociologic factors such as aging, environment and diet. Our graduate program trains students for leadership positions in biomedical research, education and entrepreneurship for success in a global environment. Visit binghamton.edu/bme

COMPUTER SCIENCE

If you like solving puzzles, investigating technology and approaching problems from unusual directions, the graduate program in computer science might be just right for you. The CS graduate program at Binghamton focuses on the design and application of computing systems, ranging from hardware and software components to networking, intelligent systems and multimedia. We offer students access to world-class researchers and can tailor a graduate program to suit individual interests and goals. Visit binghamton.edu/cs

ELECTRICAL AND COMPUTER ENGINEERING

Mathematics, science and engineering are the foundation of the electrical and computer engineering graduate program at Binghamton. The specializations offered include cyber-, information-, multimedia- and network-security, renewable energy, power systems, steganography, photonics and optoelectronics, speech communication and signal processing, among others. The integration of electrical engineering and computer science lends itself to transdisciplinary areas of research that offers our students a superior graduate education with broad employment opportunities. Visit binghamton.edu/ece

MATERIALS SCIENCE AND ENGINEERING

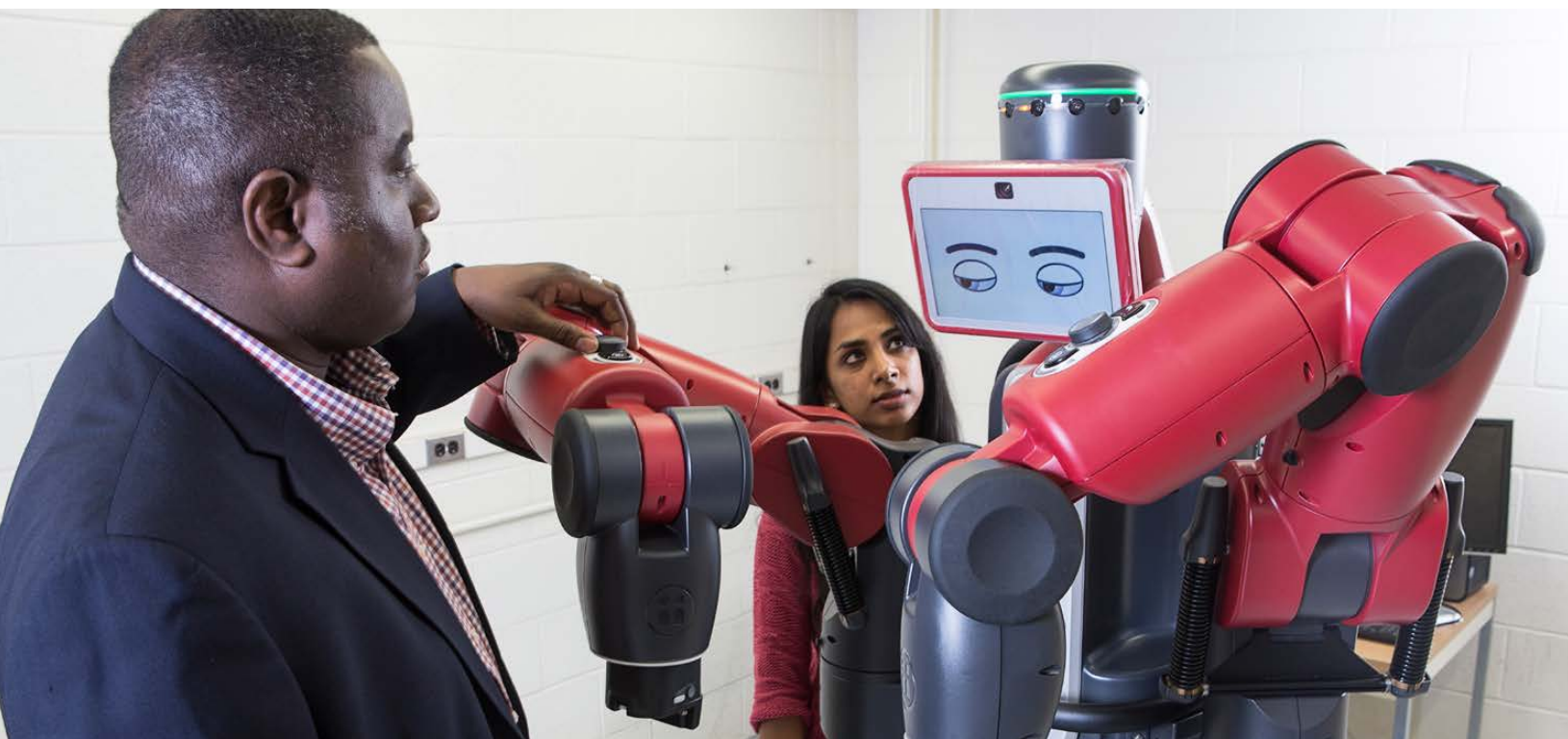
Materials Science is an interdisciplinary field that studies solid matter and brings chemistry, physics and engineering together to look at how materials can be used to advance our energy independence, medical devices and electronic devices. Students can work with the departments of Chemistry, Geological Sciences and Physics as well as all of the departments in the Watson School to investigate scientific issues and take their findings to the next level. Visit binghamton.edu/mse

MECHANICAL ENGINEERING

Mechanical engineers really do it all, from modeling, analysis, design, and testing of the very large (aircraft carrier) to the very small (MEMS/NEMS devices.) The graduate program at Binghamton offers theoretical to applied topics in transport phenomena, micro/nanofluidics, sensor technology, acoustics, vibrations, reliability, CAD and biomechanics, among others. The outstanding faculty includes three SUNY distinguished professors, three NSF Career Awardees, an AFOSR Young Investigator recipient and an IEEE Fellow. Visit binghamton.edu/me

SYSTEMS SCIENCE AND INDUSTRIAL ENGINEERING

SSIE graduate programs focus on how people, equipment and materials work in industry and life. They study complex systems in industrial and manufacturing settings, healthcare environments and society and look at intelligent systems, supply chain management and human factors. SSIE is home to the Watson Institute for Systems Excellence (WISE), one of the campus' largest research centers, bringing together graduate students and industry to conduct innovative research that provides funding for graduate students. Visit binghamton.edu/ssie



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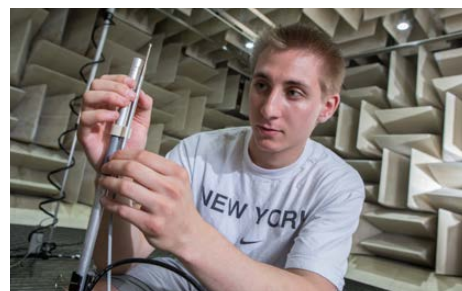
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BINGHAMTON UNIVERSITY AT A GLANCE

- Founded: 1946
- Highly selective, mid-size public university
- One of four research university centers within the State University of New York (SUNY) system
- Total enrollment: 16,900+
- Graduate students: 3,400+
- Academic colleges: 7
- Federally designated research centers: 4
- Master's programs: 60+
- Doctoral programs: 30+
- Accelerated degree programs: 50+
- Certificate programs: 15+
- Students of color: 29%
- International students: 16%
- Students come from all 50 U.S. states and 100+ countries

GREAT LOCATION

Located in the high-tech heart of New York state, the University sits on 930 acres in a beautiful hillside setting. Greater Binghamton is a friendly, affordable and safe community only hours from major metropolitan areas such as New York City, Boston, Philadelphia and Washington, D.C. A number of bus companies serve the area, including the Broome County Transit and Binghamton University's OCC Transport buses that offer transportation between home and campus, as well as to area businesses and downtown Binghamton free of charge.

ACADEMIC EXCELLENCE

- *Kiplinger's Personal Finance* ranks Binghamton University number 4 in value for out-of-state students and number 15 overall among the nation's public colleges
- *U.S. News & World Report* consistently ranks Binghamton University among the top 50 public universities
- The Princeton Review: Best Value Colleges for 2014 ranks Binghamton University the number 10 best value for public universities based on academics, cost of attendance and financial aid
- *Fiske Guide to Colleges* rates Binghamton University a best buy and one of the premier public universities in the Northeast: "With a four-year graduation rate that is among the highest of any public university, Binghamton has a reputation for an excellent education at a reasonable price"

BINGHAMTON
UNIVERSITY
STATE UNIVERSITY OF NEW YORK