Rowan University

College of Engineering
2001-2002 Annual Report

ROWAN
UNIVERSITY

Contents

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Location, Location, Location

Rowan University maintains strong ties to industry and government research centers, creating collaborative partnerships that benefit our professional partners, students and faculty. Our Delaware Valley location, with its small town charm, easy access to suburban neighborhoods, shopping malls and major highways, as well as our proximity to the New Jersey shore and Pinelands region offers the Rowan community a quality of life without equal.

Rowan University – The College of Engineering

From the modest Glassboro Normal School begun nearly 80 years ago, Rowan University has evolved from a humble teacher training institution to a comprehensive university with a history of extraordinary firsts. Rowan University:

- Hosted a Summit Conference between President Lyndon Johnson and Soviet Premier Aleksei Kosygin June 23 and 25, 1967, in a meeting that led to a thaw in the Cold War
- In 1992, became the recipient of a $100 million gift, the largest then-ever presented to a public institution. To honor the benefactors, Henry and Betty Rowan, the school's name was changed from Glassboro State College to Rowan College of New Jersey
- Established a College of Engineering and created Partners with Rowan in Developing Engineers (PRIDE), a revolutionary program that provided full scholarships to every member of the College's first class of engineers in 1996
- Achieved university status in 1997 and became known as Rowan University.

The College of Engineering – Mission Statement

The mission of the College of Engineering is to provide programs that are effectively responsive to regional aspirations and that address the needs and changing characteristics of the leading-edge engineers of the future. The College aims to educate students prepared to apply technology for the betterment of society and to serve as change agents for the future. Rowan University also recognizes that the College of Engineering will aid in the economic and cultural development of southern New Jersey, while generating opportunities for its diverse graduates in local and national industries.

Fast Facts:

2001-2002 Enrollment

Undergraduate 436
Graduate 21
Student: Faculty Ratio..... 10:1
Average Class Size 15

Student Profiles

Average high school class rank:..top 17%
Average SATI score:.....1214
Number of applicants: 539

Past, Present, Future...

Ten years ago, New Jersey industrialist and engineer Henry Rowan made international news when he announced his unprecedented $100 million dollar gift to establish a revolutionary, state-of-the-art engineering school at the former Glassboro State College. Join with us in ***Celebrating the present:*** the highlights, strengths and accomplishments of an institution dedicated to innovative, hands-on, minds-on education. The Rowan College of Engineering.

A Letter from the Dean

The men and women whose unique vision gave birth to the Rowan College of Engineering recognized the need for a school that would spur and sustain economic development. They anticipated an institution that would provide a living and thriving environment, one continually moving forward in the development of technologies that would have a positive impact on the region as well as the world.

They understood the importance of establishing an exceptional institution here in southern New Jersey to accommodate young people desiring to pursue a local engineering education and busy engineering professionals wanting to enhance their careers through graduate study. They also recognized that a vibrant engineering institution would help provide the area's technology sector with assistance, support, and future talent.

Since its beginning, the Rowan College of Engineering has been meeting these challenges and more-developing a reputation as a superior institution for engineering education, and as a prime force in the technical community. The national reputation of our faculty, the high caliber of the students we've attracted even before the opening of our magnificent engineering building, Rowan Hall and the satisfying 100 percent career placement of our graduates with top notch employers and noted graduate schools, make us proud that the vision of our benefactor and founders is a reality.

The heart and soul of Rowan Engineering lies in talented faculty who are truly interested in teaching. As well as being proficient in their fields, they are dedicated to their students. To a person, they have a commitment to education; they have chosen to be at an institution that values teaching and learning above all else.

In this environment, Rowan students are able to transform theory into reality to think with their heads, and work with their hands. Not only do they understand engineering principles and engineering design; they create, build, and market the ideas and applications they envision.

Walk into an engineering classroom at Rowan, and you'll see faculty members with their heads bent in discussion with an individual or groups of students. They're connecting, talking, gesturing, and obviously enjoying themselves while teaching and learning. You can feel the energy. Even more exciting are the assessments we receive from our industrial partners that tell us—we are preparing our students well, that Rowan engineers are knowledgeable, capable, and prized as employees.

'The heart and soul of Rowan Engineering lies in talented faculty'

The growth and maturation of Rowan Engineering has proceeded steadily and deliberately, with continual recognition of the kinds of things we do and the way we offer engineering education. I think of our program as a splendid structure one sees in the distance; on approach it becomes larger, more tangible, and more detailed. Its foundation is the national recognition of our faculty for outstanding teaching excellence, Engineering Clinic activities, and continued funding for faculty scholarship.

The quality of our programs appears in the performance of our students on a national level: the SnoRhino project on page 13 is only one example, another is the successful undergraduate research experience sponsored during the summer, giving students from

Rowan University Campus Map

all over the U.S. opportunities to work with our exceptional faculty.

The future holds even more promise as we move forward in our partnership with the University's newest initiative, the South Jersey Technology Park. This is an opportunity for us to continue to develop and promote the Engineering Clinics we have pioneered, a learning environment that provides students with viable, marketable end products. In developing the tech park, our biggest challenge is to do what we ask our students to do: move into the business world and still maintain academic rigor. We are excited by this challenge and look forward to it.

Henry and Betty Rowan's gift helped us not only create an engineering school, but shape the kind of institution others may only imagine. The Rowan College of Engineering has a profound influence on the lives of students and faculty members, the region in which we live, and the field in which we work. We celebrate the Rowan gift each day by working side by side with engineering students, helping them prepare for the challenges of the present and the triumphs of the world of tomorrow.

Dianne Dorland,

Dianne Dorland

Dean
College of Engineering

Rowan Engineering Acheives Accreditation

Rowan Engineering achieves accreditation..
The Accreditation Board for Engineering and Technology (ABET) officially accredits all engineering programs in the United States. Accredited status signifies that an engineering program has met the defined quality standards, and that its graduates are preparing to begin professional practice. The review process is rigorous, requiring self-study documentation, assessment, and an on-campus visit by a review team.

The ABET review team's visit to the College of Engineering occurred between October 29-31, 2000, where the team verified the information in the institution's self-study, reviewed course materials and student work, and interviewed students, faculty and administrators. As a result of their findings, all Rowan engineering programs, chemical, civil, electrical/computer and mechanical, were found to meet the quality standards, and are retroactively accredited to October 1, 1999.

ABET accreditation also provides assurance to current students and alumni that their choice of Rowan, already accredited as an institution by the Middle States Association of Colleges and Schools, was commendable.

Our strength: 100% placement of graduating seniors. A Rowan engineering degree has opened the doors of professional employment or prestigious graduate schools for 100 percent of its 2000 and 2001 graduating classes, with every indication that the Class of 2002 will be no exception. Rowan Engineering graduates are sought after by large corporations such as Boeing, Sony, and Campbell Soup, U.S. government organizations such as the Naval Surface Warfare Center-Carderock Division, as well as smaller, cutting-edge firms such as the Cherry Hill, N.J.-based Remington and Vernick.

Internships:
Hands-on, Minds-on. Rowan offers students numerous and diverse internships with large publicly traded organizations, U.S. government facilities and private consulting firms, among them DuPont, Lockheed Martin, the U.S. Naval Air Warfare Center in Lakehurst, N.J., and the Delaware River and Bay Authority.

"We've had a very positive experience with Rowan engineers," said Richard J. DiCintio, a department head for the Naval Surface Warfare Center (NSWC) in Philadelphia. DiCintio recruits Rowan interns and graduates to work with the Center's 4,000 professionals charged with developing and maintaining the mechanical and electrical systems for the U.S. Navy's fleet of ships and submarines.

"The Rowan interns are very well rounded, have good communication skills, and aren't afraid to get their hands dirty. That's important here because we're a real hands-on organization. Our people wear a lot of hats. Over the course of a project, they may work in the lab with other engineers, put on their coveralls and get on a ship to deal with sailors, then come back and develop a professional presentation for an office setting. Finally, they may be called on to go to Washington and meet with high-level Navy officials to resolve funding issues," DiCintio said.

At the Center as in other organizations, senior engineers mentor the interns. Paul DiTaranto, NSWC section head, has been impressed with the Rowan interns he's supervised, particularly the talent of a first-year student he worked with this past year. "We've been pleased with the level of maturity and professionalism of this young woman, as well as her tremendous willingness to get involved in whatever we've asked. Although she's only entering her sophomore year, the

"The Rowan interns are very well rounded, have good communication skills, and aren't afraid to get their hands dirty."

hands-on training she received at Rowan is really showing," he said.

While not too many interns may have the chance to meet Navy officials in the nation's capital, the Center does send many of them traveling to truly understand the way the systems they work on operate. DiTaranto's intern, who had a chance to travel to Norfolk, Va., to visit a submarine, impressed senior-level personnel she met there.

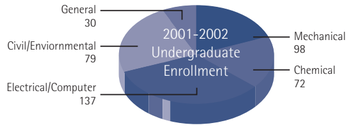
"Many interns become so interested in the projects they're working on at NSWC that they ask to continue them at school," DiCintio said. "Some of these have resulted in engineering clinic projects that are being sponsored by the Center, and worked on at Rowan by a team of students and faculty members."

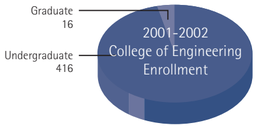
"We've been pleased with the level of maturity and professionalism of this young woman, as well as her tremendous willingness to get involved"

Rising stars:

The promise of an outstanding engineering institution to serve the southern New Jersey region has been fulfilled. Area residents have been among the largest percentage of the outstanding students choosing an engineering education at Rowan University. Through active recruiting by all engineering faculty, we have met our target enrollment of at least 120 freshmen for the past five years, with nearly half of those Merit Scholarship recipients.

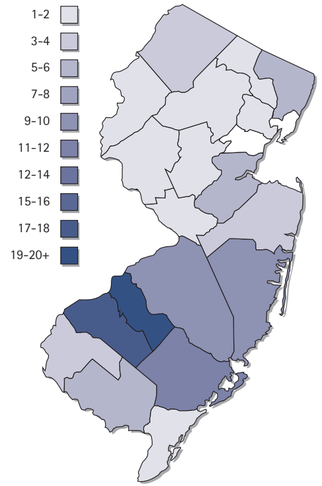
College of Engineering
2001-2002 Student Enrollment





Freshman 2001 Enrollment by county:

Atlantic	13	Middlesex	6
Bergen	5	Monmouth	4
Burlington	9	Morris	2
Camden	22	Ocean	9
Cape May	1	Passaic	1
Cumberland	5	Salem	4
Essex	2	Somerset	1
Gloucester	18	Sussex	3
Hunterdon	1	Warren	2
Mercer	2	Out-of-State	10



Patent Pending...

In addition to the SnoRhino, the Undergraduate Venture Capital Fund has sponsored 14 projects to date. Three companies have been created, and two patents are pending.

- Interdisciplinary teams of faculty guided 127 Clinic projects during the fall and spring semesters, with 353 projects to date.
- 120 students from 13 universities took part in the 2002 American Society of Mechanical Engineers (ASME) Regional Student Conference held at Rowan. Rowan students, Michael Resciniti and Joseph Plitz, won first prize in the design competition and will represent the College at the National Conference in New Orleans in November.
- Graduate Amip Shah, received the prestigious 2002 Charles T. Main Award from the American Society of Mechanical Engineers for achievement in service in a student chapter.
- A photograph by undergraduate Margaret Jacques was selected for the cover of the proceedings for the ASCE-EWRI 2003 Conference on Water Resources Planning and Management. She also received complimentary registration to the conference, hotel accommodations and travel expenses.

Student Success Stories.

Developing new products and services.

By creating a revolutionary chairlift adapter to help ski resorts cater to their ever-increasing numbers of snowboarding riders, three Rowan engineering students have sent their careers soaring. Jeffrey Gladnick, an electrical/computer engineering major, and Matthew Eberhardt and Peter Boyle, mechanical engineering majors, have formed Uphill Enterprises and are now marketing their creation, the patent-pending SnoRhino (www.snorhino.com). Simple, but original, the idea was supported by faculty advisor Dr. Anthony Marchese who helped the students secure $2,500 from Rowan Engineering's Venture Capital Fund for their initial work, and $8,375 from the National Collegiate Inventors and Innovators Alliance (NCIIA) for the manufacturing and marketing of the SnoRhino.

The device, shaped like a rhino's horn, features rests that are perpendicular to existing ski rests, allowing snowboarders to comfortably insert their snowboards without colliding with skis or leaving their snowboards dangling uncomfortably and dangerously during long rides up the mountain. The trio, who presented the prototype to enthusiastic response at a National Ski Association trade show in Vermont, expects to market the device for about $50 this fall.

And new career directions.

Back in 1996, Peter Mark Jansson, PP, PE, MScEng, may have been typical of many southern New Jersey career engineers, too successful and too busy for graduate school. "Philadelphia was just too far to get to with my schedule", said Jansson, an MIT undergraduate who spent 20 years in power industry, holding a number of diverse technical and managerial positions, including serving as president of an international business start-up. When Rowan opened its masters program, Jansson jumped at the opportunity to become reacquainted with academic life. "To be in courses with full professors who not only gave their students their undivided attention, but were genuinely interested in my questions and ideas gave me a very different impression of what engineering education could be."

After completing his masters degree, Jansson decided that he wanted to teach. "It seemed that the things I loved most about my job, seeking out new knowledge, putting on presentations, mentoring interns and employees, were similar to what you do as a professor. I was at a place where I wanted to do something meaningful and challenging, and I saw teaching as an opportunity to give back bringing my technical knowledge as well as my experience with the way things work in industry."

Jansson spent more than two years at the University of Cambridge pursuing his doctoral degree and was invited to apply for a position at Rowan upon his return to the US to write his dissertation on innovation in electricity. "This was the position I wanted; at Rowan, professors put students first, preparing them for success in industry or academia," said Jansson.

"I couldn't have found a better working environment"

Besides being accessible to students, Rowan profs like Jansson make sure engineers not only learn the theory but also have a chance to apply it. Jansson and others work with students through hands-on clinic projects and help them turn these into publication projects by co-authoring papers with students and helping them seek a venue for their findings. "Publication expands a student's horizon geographically, professionally and socially. We make sure they have very good resumes when they leave.

I couldn't have found a better working environment; our faculty is selected not only for their excellence in their fields, but for their spirit of camaraderie, their ideas of collaborating, not competing, for excellence. They work at bringing a world-class engineering education close to home for these students."

Faculty Acclaim

An engineering faculty proving itself among the best in the nation, receiving awards from notable professional associations and prestigious organizations. The American Society for Engineering Education (ASEE) named **Dr. Stephanie Farrell, associate professor of chemical engineering,** as the 2002 recipient of the Ray W. Fahien Award for outstanding teaching and scholarship, and for showing vision and contribution to chemical engineering education. Dr. Farrell's growing list of awards includes a National Science Foundation (NSF) grant for her proposal to develop and integrate applied drug delivery coursework and experiments throughout the engineering curriculum. A 2001 Joseph J. Martin Best Paper Award recipient, she was recognized as an ASEE Rising Young Star 2001 and included in the Who's Who of Engineering Education. For the third consecutive year, Dr. Farrell will serve as ASEE's Mid-Atlantic Newsletter Editor.

Electrical/Computer Professors Peter Mark Jansson and Robi Polikar, Ph.D. were selected as part of a group of 30 professionals nationally as New Century Scholars, a National Science Foundation workshop at Stanford University. Designed to help new engineering faculty better understand learning and teaching practices to promote effective learning for all students, the workshop also addresses the multiple demands on faculty, assisting with issues such as technology in teaching, time and stress management, developing career strategies and balancing personal and professional lives.

Dr. Anthony Marchese, associate professor of mechanical engineering, received national recognition in 2001 with a prestigious Pew Fellowship by the Carnegie Academy for Scholarship of Teaching and Learning. As a Carnegie Scholar, Dr. Marchese has joined a small, select group of individuals in diverse fields at institutions around the country who have spent the year inventing and sharing new conceptual models for teaching. He is also assisting in the strategic planning phase of one of the University's newest initiatives, the South Jersey Technology Park, being developed in part through a $ 6 million award from the New Jersey Economic Development Authority. Highly competitive, the grant was awarded to Rowan in large part because of the resources and expertise of the College of Engineering.

The Environmental Engineering Division of the American Society for Engineering Education presented **Dr. Joseph Orlins, assistant professor of civil and environment engineering,** with its Early Career Award. The honor, designed to encourage new university faculty to take part in the educational activities of the society, was based on his conference paper, "A Community-Based Hydrologic Design Project." ASEE selected it for its ability to positively impact engineering education. A licensed professional civil engineer, Dr. Orlins is a member of the board of supervisors of the Gloucester County Soil Conservation District, and is actively involved in water resources engineering education and research.

The American Society of Engineering Education (ASEE) awarded the Robert Quinn award to **Dr. Robert P. Hesketh, associate professor of chemical engineering.** This is a national Society-wide award sponsored by Agilent which recognizes distinguished accomplishments in experiential education. It is given in recognition of innovative approaches in laboratory-based engineering education.

Corporate and Governement Support

Advisory Council Chairperson's letter:
The Rowan College of Engineering is vibrant and fast moving, attracting first-rate students and faculty. It is quickly being recognized regionally and nationally as an excellent engineering school with a solid reputation for success.

As Chair of the Dean's Advisory Council, I find it exciting to be part of this academic community. Our members are supportive of the dean and her goals, and continually look for ways to assist Rowan in its continued growth.

This year, the members of the Advisory Council helped develop and launch the Henry M. Rowan Speakers Series. Our goal for the series is to feature prominent figures in engineering, technology and related fields, individuals who complement the work of our faculty and from whom the Rowan community may benefit from and exchange ideas. The first presentation of the series debuted in February, focusing on national safety in the wake of terrorism. Rowan students, faculty, and area residents all attended the presentation by homeland security expert Michael Scardaville of The Heritage Foundation, part of the national Homeland Security Task Force. A second presentation held in April focused on emerging transportation solutions with Federal Aviation Administration specialist Peter McHugh.

Members of the Advisory Council include corporate and government leaders, all of whom are pleased to assist in securing positions for Rowan interns, as well as in offering permanent employment for graduates. At Sony Music, our experience with the Rowan engineers we've worked with as interns, as well as those we've hired, has been extremely positive. Because of the Rowan approach, hands-on, minds-on practice, these engineers are well prepared for the realities of the workplace.

"The Rowan College of Engineering is an endeavor I am proud to be a part of".

All of us on the Advisory Council look forward to the future development of the College of Engineering, and support the multi-million dollar 10-year expansion plan for the University proposed by President Donald Farish. In particular, we are excited by the development of the South Jersey Technology Park at Rowan University funded in part through a $6 million competitive grant awarded to the University by the New Jersey Economic Development Authority. The tech park will attract a wide range of technology companies, offering them the benefits of the resources of the University. In turn, the nature of the businesses and professionals of the tech park will provide the College of Engineering even greater recognition as word of Rowan's excellence spreads. We are confident that this will help ensure Rowan's continued ability to attract top students and faculty, and strong financial support for the College's unique programs.

The Rowan College of Engineering is an endeavor I am proud to be a part of.

Chester W. Dawson

Director, Compact Disc Technology
Sony Music Corporation

Advisory Council Listing

With its distinguished representatives from industry and government, the Dean's Advisory Council provides the College with a pulse to the region's technological aspirations and needs. The members provide consultative advice to the College of Engineering. They are involved in the development of outreach activities, provide networking opportunities, and assist in identifying emerging areas of technology for the College of Engineering.

Carl Bannar,
Vice President, Technical Operations,
Naval Electronics and Surveillance System,
Lockheed Martin Corporation

Tirupathi R. Chandrupatla,
Chairperson, Mechanical Engineering,
College of Engineering,
Rowan University

Steven H. Chin,
Associate Dean, College of Engineering,
Rowan University

Robert G. Carullo,
Executive Director,
MARC, Office of Naval Research

Capt. Dwight Cousins,
Commanding Officer,
NAES Lakehurst

Chester W. Dawson,
Director, Compact Disc Technology,
Sony Music

Dianne Dorland,
Dean, College of Engineering,
Rowan University

Jess Everett,
Chairperson, Civil & Environmental Engineering
College of Engineering,
Rowan University

Oleg Fishman,
Vice President,
Inductotherm Corporation

Albert A. Fralinger, Jr.,
President,
Fralinger Engineers

Anne Harlan,
Director,
Federal Aviation Administration
William J. Hughes Technical Center

John R. Jones,
Director of Engineering,
Delaware River & Bay Authority

Richard J. Libutti,
Laboratory Manager,
Research & Development, DuPont

J. David McCann,
President
Strategic Management Services, Ltd.

John H. Mortimer,
Chairman & CEO,
Inductotherm Corporation

John L. Schmalzel,
Chairperson, Electrical & Computer Engineering,
College of Engineering,
Rowan University

C. Stewart Slater,
Chairperson, Chemical Engineering,
College of Engineering,
Rowan University

Thomas Stein,
General Manager,
Products Research & Technology
ExxonMobil Research and Engineering Company

DRPA Grant

The nation's first major span to be named for a woman, the Betsy Ross Bridge, which opened in 1967 linking Northeast Philadelphia to Pennsauken, N.J., is the focus of the largest research grant received by the College. The three and a half year, $1 million Delaware River Port Authority (DRPA) project is analyzing the potential effects of earthquakes on each component of the bridge, and involves superstructure computer modeling and field measurements. A team of faculty and students, led by a nationally recognized bridge expert Dr. Ralph Dusseau, chair of the civil/environmental engineering department, is developing computer models for each aspect of the bridge as well as conducting field measurements that provide for vibration, structural and soil analysis of and around the bridge.

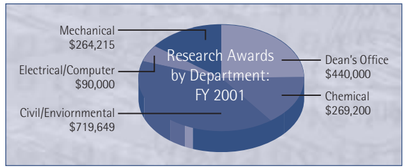
Assisting Dusseau are Drs. Beena Sukumaran, Doug Cleary, civil/environmental engineering professors, and Drs. Robi Polikar and Ravi Ramachandran, electrical/computer professors. Three electrical/computer engineering and four civil/environemntal engineering students have also been involved in the hands-on study. The team is also performing field measurements on the region's other two major, high-traffic bridges, the Ben Franklin and Walt Whitman, laying the groundwork for larger, more in-depth studies by the DRPA.

The National Science Foundation Grant

The College received a boost for undergraduate and graduate students: a $400,000 National Science Foundation grant to provide scholarships for those enrolled in engineering or computer science. The grant will help us prepare more students to meet the growing need for engineers and computer scientists in emerging high-tech fields both in our region and nationwide.

Faculty Grant Proposals and Awards

In FY 2001, the College submitted 34 proposals and received 13 awards totaling $1,783,064. During FY 2002, engineering faculty submitted 47 proposals for $7,091,278



Industrial Affiliates

Rowan Engineering is committed to establishing partnerships with corporations and entrepreneurs that invigorate economic development here in southern New Jersey and elsewhere. Some of these activities include the establishment of local consortia, joint ventures in our Engineering Clinic projects, research and development collaborations, establishing student scholarships, and the development of customized training programs and workshops. Among our corporate partners are Boeing, Campbell Soup Company, ExxonMobil, Federal Aviation Administration (FAA), Inductotherm, Johnson Matthey, L3 Communications, Mannington Mills, Naval Surface Warfare Center-Carderock Division, Naval Air Warfare Center Aircraft Division-Lakehurst, New Jersey Department of Transportation, PSEG and Sony Music.

Technology Park

The region's first cutting-edge research facility, designed to develop, test and market new products and services, as well as serve as a business incubator for fledgling enterprises, is being created at Rowan University.

The $15 million dollar South Jersey Technology Park at Rowan University will include cutting-edge research facilities, and affordable office and laboratory space for private firms. Designed with the assistance of the College, there is space planned for faculty and students to conduct federal- and state-funded research.

Rowan students already work on projects virtually every semester, and are particularly focused on industrial projects in their last two years in the Engineering Clinic Program. The availability of the tech park will give students additional opportunities for the Rowan hands-on, minds-on experience: the facilities to work on real projects, current and applicable to business.

Community Connections

Partnering with a growing talent pool: The Academy for the Engineering Sciences at the Williamstown High School in the Monroe Township, N.J. school district. Since 1998, the Rowan College of Engineering has joined with the Academy, providing curricular advice, technical consultation and summer study programs at the College for the Williamstown students.

The Academy's 80 students represent a cross-section of the 1,500-member student body. Its members also includes students from surrounding high schools who pay tuition for the opportunity to become involved in college-level academics, hands-on lab work and building projects. These are students determined to go the extra mile and take summer engineering seminars and field placements.

"The Academy is about aspiration and expectations,"

"The Academy is about aspiration and expectations," says Dr. Charles Ivory, superintendent of schools. "We know that in the career market today technology is a substantive driving force. We wanted to create an opportunity for our students to see themselves in a way they may not have seen themselves before. The preparation our students receive, taking the highest level math and science classes available will prepare them to enter into not only engineering, but for the level of technology required of fields such as medicine. "Rowan has been very involved with the planning, giving us access to the academics and their perspectives in the field. They've been very generous about inviting us in and helping us move forward."

Twenty-eight freshmen will enter the Academy this September, making it a full, four-year program. Graduating seniors who fulfill the Academy requirements and meet Rowan University criteria, including SAT scores of 1200 or better are offered acceptance through early admission.

Similar articulation agreements are under discussion with other area schools, including the Penns Grove (Salem County) District's Chemical Engineering Academy, Camden County College, and other institutions.

AWE conference program

Forget the make-up and clothes. To get a group of teenage girls excited these days, just tell them they're going to build and launch a rocket, take a trip to Sony Music and see CDs made, and maybe, create cosmetics. Nearly 100 seventh and eighth grade girls applied for the "Attracting Women Into Engineering," a week-long free program held at the College each July. The brain-child of Civil/Environmental Engineering Professor Kauser Jahan, the program seeks to help young women discover the possibilities available to them in science and math-oriented careers, and encourages them to continue their studies in these areas. That, Dr. Jahan says, is the most important aspect since young girls traditionally have turned away from the sciences as they hit middle school.

"It's a good time to enhance their self esteem and expose them to careers in science and engineering."

"Middle school years are an important time to reach out to young girls," says Dr. Jahan. "This is a time when many girls have access to advanced science and math classes, and it's also a time when girls undergo physical changes and face a lot of social pressure. Its a good time to enhance their self esteem and expose them to careers in science and engineering."

In addition to Dr. Jahan, professors Beena Sukumaran, Kathryn Hollar, Linda Head and Jennifer Kadlowec, all representing various engineering disciplines, and all members of the Society for Women Engineers, supervised the program's activities. Student mentors included Shira Perlis, Rosie Tortorice, Disha Seth and Margaret Jacques.

Dr. Jahan admits that it will take more than a one-week workshop to change the atmosphere in society and increase the number of women in the field. However, with far more applicants than AWE has room to accommodate, the program, now in its fourth year, is working.

Faculty and Areas of Specialization

Chemical Engineering

C. Stewart Slater, Chairperson, Membrane process research and development, pervaporation, reverse osmosis and ultra/microfiltration.

Kevin D. Dahm, Free-radical chemistry, kinetic modeling, process simulation

Dianne Dorland, Dean of Engineering, engineering education and hazardous waste processing

Stephanie Farrell, Development and modeling of controlled release systems, novel membrane separations, controlled drug delivery systems.

Zenaida Otero Gephardt, Supercritical fluid extraction, electrophotographic particle flow and processing

Robert P. Hesketh, Reaction engineering, process engineering, combustion kinetics

Kathryn A. Hollar, Bioprocess engineering, expression of recombinant proteins in animal cell and bacterial cell cultures, analysis and design of bioreactors

James Newell, Polymers, silicon carbide fiber production, modeling of carbonization and graphitization kinetics

Mariano J. Savelski, Plant design and optimization

Civil & Environmental Engineering

Ralph A. Dusseau, Chairperson, Finite element modeling and analysis of bridges, highways, transit buses, and automobile engine racks under dynamic loads

Douglas B. Cleary, Structural analysis and design, reinforced concrete, anchorage of reinforcement.

Jess W. Everett, Solid and hazardous waste management and design, bioremediation of subsurface contamination, water and wastewater treatment.

Kauser Jahan, Water and wastewater treatment and membrane applications, bioremediation of petroleum hydrocarbons, fate and transport of contaminants in groundwater

Yusuf A. Mehta, Construction (pavement) materials, structural engineering, pavement design.

Joseph J. Orlins, Water resources engineering, environmental fluid mechanics

Beena Sukumaran, Geotechnical engineering, finite element analysis

Electrical & Computer Engineering

John L. Schmalzel, Chairperson, Biomedical instrumentation, instrumentation, product design.

Steven H. Chin, Associate Dean of Engineering, signal processing, image processing, communication systems.

Linda M. Head, VLSI reliability, noise theory

Peter M. Jansson, Power systems, electrical innovations, computer and information technology management

Robert R. Krchnavek, Nanoimprint lithography, MEMS, photonics

Shreekanth A. Mandayam, Nondestructive testing, digital signal/image processing, neural nets.

Robi Polikar, Signal and image processing, biomedical engineering, computational learning

Ravi P. Ramachandran, Speech processing, digital signal/image processing, communications

Mechanical Engineering

Tirupathi R. Chandrupatla, Chairperson, Design and manufacturing, finite element analysis, optimization.

John C. Chen, Heat transfer, fluids, combustion

Eric W. Constans, Acoustics and vibrations, machine design

Hampton C. Gabler, Car and aircraft crash safety, crash modeling and simulation, ITS.

Jennifer A. Kadlowec, Mechanics of materials, dynamics

Anthony J. Marchese, Product design and rapid prototyping, microgravity research, combustion modeling.

Paris R. von Lockette, Constitutive behavior of rubbery polymers, mechanics of materials, stress analysis.

Hong Zhang, Robot motion control, sensor based optimal motion planning of multiple robots, visual servo control and nonlinear control for dynamic systems as well as robotic surgery assistant

Engineering Support

Mary J. Fisher, Budget Coordinator

Melanie A. Basantis, Outreach Director

Kathleen M. Urbano, Outreach Assistant

Heidi Newell, Assessment Coordinator

John H. Robinson, Computer Specialist

Dennis A. DiPasquale, Computer Specialist

Engineering Technicians

Marvin L. Harris

Mark Showers

Chuck E. Linderman

John A. Zaruba

Engineering Secretaries

Catherine M. Barrett

Charla J. Newland

Kathryn M. Tansky

Loretta Brewer

Dorothy G. Stiles

Rowan University 2001-2002

Enrollment:
Undergraduate 8,300
Graduate 1,400
Total 9,700
Student: Faculty Ratio 14.5:1
Average Class Size 21

Admission:
Average high school class rank: .....top 25%
Average SAT I score:.....1,148
Total Number of applicants: 6,886
Accepted: 2,973 (43%)
Size of freshman class: 1,200

Tuition & Fees:
In-State $6,658
Out-of-state $11,608
Undergraduate $6,520
Graduate $12,184

Employees:
Faculty 558
Staff 758

"My pledge has given new purpose to my life and revitalized my work–I can envision a procession of bright, energetic young men and women moving out to create things of enduring value, to create and improve the world they live in"

– Henry Rowan,
The Fire Within

ROWAN UNIVERSITY

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