As the world continues to change at a dizzying pace, North Carolina State University is helping to shape the future by focusing on our global society’s overarching issues:

Education. The way in which we educate current and future generations of students must undergo a fundamental transition. We must move decisively away from a content-focused model to a capacity-building model that produces adaptable, critical, globally aware, creative thinkers and workers. NC State will lead this transformation, both in the education of our own students and in K-12 education in North Carolina.

The economy. Because our country must compete in a global marketplace, NC State will continually anticipate and serve the needs for job creation and business development in North Carolina and in the United States.

The effects of science and technology. NC State will lead in examining the effects of science on individuals and on society, with particular emphasis on equity. We must work to help ensure that all people, not just the more privileged, benefit from scientific and technological advancements.

Energy and sustainability. For at least the next generation, energy will be the most crucial issue facing the country. NC State will strategically choose and deploy its resources to address aspects of this issue where we can continue to make real contributions.

The environment and health. NC State’s collection of colleges establishes it as a leader in areas of bio-agro security, one health across human and animal populations, biomedical research and engineering, and other areas of human/environmental health.

Our university’s history is one of listening to the needs of North Carolina and responding with real-world applications that solve real-world problems. Our university’s future is to use knowledge, collaboration and creativity to impact the economic, human, environmental and social concerns of all of society. Today and, even more importantly, tomorrow.

Chancellor James L. Oblinger
College students today are facing a very different world than the one faced by students even a decade ago. Global climate change and environmental degradation, an accelerating need for alternative energies, worldwide communications at the grassroots level made even faster by computer and engineering advancements, medical and pharmaceutical breakthroughs without the means to make them universally available, new forms of bioterrorism – the list is nearly endless.

NC State is preparing citizens to face these issues, work on resolving them and anticipate those that are likely to arise. We are, in fact, singularly skilled and exceptionally capable of helping to shape the world’s direction with a unique approach centered around our major strengths.

- **Innovation.** In recent years, NC State has emerged as a national leader in cutting-edge technology. We foster a culture of innovation that encourages and rewards intellectual leadership on the part of both faculty and students, and we are pioneering new methods of instruction, highly relevant curricula and in a multidisciplinary academic approach.

- **Research.** We are research focused and deeply engaged in knowledge discovery and application through discipline-guided inquiry. Every day, we apply research to unlock the secrets of science and to develop technology that will enable the peoples of the world to solve problems not yet known and enjoy opportunities not yet imagined.

- **Partnerships.** We have active and unique partnerships with business, government, community, other universities and schools. By leveraging these partnerships, along with our own Centennial Campus and our proximity to and association with the world-famous Research Triangle Park, we have created a dynamic and rewarding learning environment.

NC State is in an enviable and unusual position to prepare students, citizens and businesses for the rigors of the 21st century. We are making the best possible use of that position.
The Friday Institute

The new William and Ida Friday Institute for Educational Innovation prepares future teachers, counselors, school administrators and college faculty to challenge students, solve complex problems and lead the way for education in the 21st century.

NC State's reputation for scholarship that meets the needs of the 21st century can be attributed to a number of carefully cultivated and distinct approaches.

One of these approaches is our emphasis on providing students with a real-world education, enabling them to apply their knowledge to real-world challenges and opportunities. Our engineering students design working prototypes for NASA, for example, and our business students collaborate with corporate partners to generate innovative solutions for actual business problems.

Another way in which NC State is producing adaptable, well-rounded graduates is through a focus on interdisciplinary education. For instance, the American Home Project brings together students in both the College of Natural Resources and the College of Design to create solutions for housing problems, including the incorporation of sustainable resources in home construction. Or the university’s new BioPharma Management Initiative, led by the College of Management and College of Agriculture and Life Sciences, provides students with skills needed to be effective managers in the biotech and pharmaceuticals industries.

Our array of academic disciplines and constellation of colleges are by design, especially well suited to the changing world. We provide a comprehensive education that offers depth in fields that are essential to the future along with the breadth of knowledge that an excellent undergraduate education should provide.

Finally, there is NC State's outstanding faculty. Leaders in their fields, they have earned more than 85 NSF career/presidential awards in the past 10 years. They ignite imaginations and inspire students to achieve the knowledge and skills that will conquer the challenges of the world today and tomorrow.

Undergraduates Jyothi Abraham and Jordan Massey conduct research on biodegradable plates that help bones heal in young dogs and children.
As a major research university, NC State has the power – and the responsibility – to advance knowledge, transfer technology, and discover and develop innovations that solve some of the world’s most daunting problems and improve the quality of life for people around the globe.

To that end, NC State’s research programs total more than $300 million annually, with almost 70 percent of faculty engaged in sponsored research and approximately 2,500 graduate students supported on research grants. NC State is ranked second among all public universities (without medical schools) in industry-sponsored research expenditures.

Centennial Campus offers a collaborative venue for cutting-edge research where industry and government partners work alongside faculty, staff, post-docs and students. The campus is organized in R&D neighborhoods with multidisciplinary themes based on the university’s strengths in areas such as information and communication technologies, biosciences and biotechnology, advanced materials and education.

NC State operates 13 off-campus regional research and extension centers, nine field laboratories and 15 shared research stations, and is involved in multiple institutes and initiatives, totaling nearly 75 research and service centers that include every college at NC State as well as industries and national and international corporations. Examples include:

- The Dole-NC State Institute for Advanced Fruit and Vegetable Science, part of a multi-million dollar research “biopolis,” will lead efforts to enhance the nutritional content of fruits and vegetables, increase agricultural production to create a sustainable food supply, and provide scientific ideas and technologies that will contribute to North Carolina’s economic growth.

- The Mid-Atlantic Systems Biology Initiative, a regional collaboration with universities in North Carolina, Virginia and Maryland seeks to better understand the role of systems biology in diseases such as cancer, diabetes and Alzheimer’s.

- The new School of Public and International Affairs in the College of Humanities and Social Sciences will provide an intellectual center for strengthening and promoting public policy and international programs across the university, the state and the nation.

In the lab today. In your life tomorrow.

Dr. Benham Pourdeyhimi is working on ultralight tent fabrics to help our soldiers move faster. Next up: medical fabrics that prevent infection and even help grow bone, skin and organ tissue.
Biomanufacturing Training and Education Center (BTEC)

The 90,000-plus square foot Biomanufacturing Training and Education Center will open on Centennial Campus in early 2007, and will become one of the nation’s largest university-based facilities in support of the fast-growing biomanufacturing and biopharmaceutical industries.

Extension, engagement and economic development are key components of our mandate as one of America’s foremost land-grant universities. NC State faculty, staff and students work with business, industry, government, other universities, individuals, and groups to extend knowledge resources in order to enrich lives and drive the engines of global economic development, as well as to improve the economy and quality of life within the borders of North Carolina.

The Cooperative Extension Service (CES), a joint effort with NC AT&T State University, provides unbiased, research-based information to more than 2.2 million citizens throughout the state each year. Similarly, the Industrial Extension Service (IES) has returned nearly $540 million in direct annual gain to the state over the past five years by helping businesses increase efficiency, productivity and quality through the use of the latest technologies and best practices in engineering and business management.

And the university’s engagement programs have a broad reach as well. For instance, the Science House program, which partners with K-12 teachers to emphasize the use of hands-on learning activities in math and science, reaches more than 2,000 teachers and 20,000 students annually.

With core strengths in math, science and technology and a culture of entrepreneurship prevalent throughout the university, NC State is especially well positioned to deliver a significant and positive impact on today’s global economy. NC State has launched more than 60 companies, including SAS Institute, the largest privately held software company in the world. The NC State Technology Incubator supports entrepreneurs who are working with products ranging from specialized mold cultures to telecommunications applications. More than 13,000 jobs have been created through spin-off companies, and there will be more to come from the incubator companies that are growing on Centennial Campus. Recently, Mead Westvaco, a leading global packaging company, announced the opening of a new Center for Packaging Innovation on Centennial Campus. The center will bring 200 additional jobs to the campus and an initial investment of $14 million.

As a faculty member at NC State, Dr. Jim Otvos developed Nuclear Magnetic Resonance technology to diagnose cholesterol particle size and heart disease risk. With help from NC State’s College of Management, he brought his idea to market founding LipoScience, a multi-million dollar company with nearly 150 employees.

Ends up helping the world.

And the university's engagement programs have a broad reach as well. For instance, the Science House program, which partners with K-12 teachers to emphasize the use of hands-on learning activities in math and science, reaches more than 2,000 teachers and 20,000 students annually.

With core strengths in math, science and technology and a culture of entrepreneurship prevalent throughout the university, NC State is especially well positioned to deliver a significant and positive impact on today's global economy. NC State has launched more than 60 companies, including SAS Institute, the largest privately held software company in the world. The NC State Technology Incubator supports entrepreneurs who are working with products ranging from specialized mold cultures to telecommunications applications. More than 13,000 jobs have been created through spin-off companies, and there will be more to come from the incubator companies that are growing on Centennial Campus. Recently, Mead Westvaco, a leading global packaging company, announced the opening of a new Center for Packaging Innovation on Centennial Campus. The center will bring 200 additional jobs to the campus and an initial investment of $14 million.

As a faculty member at NC State, Dr. Jim Otvos developed Nuclear Magnetic Resonance technology to diagnose cholesterol particle size and heart disease risk. With help from NC State's College of Management, he brought his idea to market founding LipoScience, a multi-million dollar company with nearly 150 employees.
Raleigh, Home of NC State

Nearly as important as NC State’s primary role of educating students is a commitment to develop well-rounded individuals with critical thinking skills and the confidence to take on leadership roles in society. Numerous programs promote leadership, ethics, diversity, critical thinking, creativity, social interaction and community. These include:

- The Center for Student Leadership, Ethics and Public Service, which offers 18 programs directed toward the growth and development of servant leaders.

- Park Scholarships, which provide enrichment opportunities such as community-building retreats and special grants for service projects.

- Pack Promise, a student-success project that guarantees our neediest students will have 100 percent of their financial aid requirements met.

- The Shelton Leadership Forum, an annual seminar series focusing on the importance of leadership development, with sessions ranging from creating cultures that promote globalization to team leadership during crises.

- The NC State Service-Learning Program, which promotes academic learning, civic responsibility, personal growth, critical thinking and the development of students and faculty as leaders and scholars by linking community experiences to the curriculum.

Students must compete in a global society, so we’ve put special emphasis on developing international partnerships. In the past year, nearly 700 students participated in study abroad programs in countries ranging from Prague to Ghana, and NC State signed academic exchange agreements with five Chinese universities, including the top three. These international agreements graduates to complete globally and provide North Carolina new opportunities for links to an emerging economy.

Finally, students have countless ways to enhance their physical, emotional and intellectual proclivities through art, theater and dance, varsity, intramural and club sports, Greek societies, service groups and student organizations. And NC State’s 23 varsity sports, competing in the Atlantic Coast Conference, add to the excitement of the Wolfpack Community.

NC State students come from all over the globe, bringing diverse interests, experiences and cultures. Vansana Nolintha (Chemical Engineering/Pre-Med-’08) and Nancy Zagbayou (Economics/Political Science/French-’06) discuss their experiences at NC State.
The College of Agriculture and Life Sciences discovers, teaches and applies knowledge and technology that help ensure a safe, affordable supply of food and fiber, a cleaner environment, and better health for animals and people. Academic programs cover multiple disciplines, ranging from agronomy to zoology.

The College of Design has a distinguished record of preparing designers to, in the broadest sense, shape the world. Good design requires attention and sensitivity to social, economic, political, cultural and behavioral issues. The aim of all curricula in the College of Design is to develop the designer’s perception, knowledge, skills and problem solving abilities. The college has graduates in diverse fields such as newspaper graphics, architecture, product design, water resource management, building and landscape design, animation, and textile design.

The College of Education prepares instructors, administrators, counselors, researchers and analysts for careers in education from K-12 through post-secondary. There is an emphasis on international/global cultural awareness, education for today’s global economy and the use of technology for enhancing learning.

The College of Engineering currently ranks fourth in the United States among all engineering colleges in the number of bachelor’s degrees awarded, and its graduate and research programs consistently rank among the best in the nation. The college is shaping not only the nation’s future engineers, but the future of engineering education itself.

The College of Humanities And Social Sciences, one of NC State’s three largest colleges, is not only providing education, research and extension in traditional disciplines such as literature and political science, but is focusing on public policy, global perspectives and rapidly emerging disciplines such as rhetoric and digital media.

The College of Management is recognized for its emphasis on the management of technology and for world-class programs in accounting, business management and economics. Its Centers and Initiatives, the first of their kind in the country, enable students to collaborate with faculty researchers and corporate partners to resolve actual business challenges.

The College of Natural Resources is a leading force in natural resource education, research and service, with three departments: Forestry and Environmental Resources, Parks, Recreation and Tourism Management, and Wood and Paper Science.

The College of Physical and Mathematical Sciences focuses on multidisciplinary collaboration that prepares students for the real world, creates innovation that transforms instruction, and makes discoveries that improve the human condition and fuel economic growth.

The College of Textiles is the leading college in the world for textile degrees. Undergraduate degrees in Textile Engineering, Polymer and Color Chemistry, Textile Management and Textile Technology are offered, as are numerous graduate degrees. Areas of study range from traditional manufacturing to medical textiles and nonwovens.

The College of Veterinary Medicine is ranked fourth among the nation’s 28 veterinary colleges by U.S. News and World Report. With its Veterinary Teaching Hospital, the college provides state-of-the-art veterinary medical services for both veterinarians and the animal-owning public.

The First-Year College provides a year of general study accompanied by major and career guidance, after which first-year students will be able to make careful yet confident decisions about their college future.

The Graduate School is the heart of the university’s research community, with programs in more than 100 areas plus numerous minors, certificate programs and interdisciplinary degree programs. With such broad offerings, many of which are ranked among the nation’s best, NC State graduate students benefit from dynamic research opportunities and collaboration among graduate departments.
North Carolina State University
Raleigh, NC  27695
(919) 515-2011

NC State University is dedicated to equality of opportunity. The University does not condone discrimination against students, employees, or applicants in any form. NC State commits itself to positive action to secure equal opportunity regardless of race, color, creed, national origin, religion, sex, age, or disability. In addition, NC State welcomes all persons without regard to sexual orientation. XX copies of this public document were printed at a cost of $X.XX per copy.