

Grand Challenge Scholars Program Proposal



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North Carolina State University Grand Challenge Scholar Program

VISION:

The vision of the Grand Challenge Scholar Program (GCSP) at North Carolina State University is to maintain the College of Engineering's global reputation for excellence and to be a world-class leader and international model for facilitating intellectual property and technology transfer. We plan to address the fourteen complex issues, established by the National Academy of Engineering's Grand Challenges, by providing diverse educational possibilities, global-scale research alternatives, and numerous entrepreneurial or service learning opportunities for our students. The GCSP will progressively expand the capabilities of its members, both personally and professionally, by broadening their outlook on societal concerns and promoting social responsibility and lifelong involvement in the problems facing the world in the 21st century. Presently, the College is actively engaged in the five curricular components represented by the program; however, GCSP students, in cooperation with faculty mentors, industry, and government, will begin leading the expansion of the tenets of the Grand Challenges through discoveries, recognized scholarly publications, and information exchange. With the formal implementation of the program, we envision a world-class facility for interdisciplinary research and education, attracting a diverse set of students, faculty, and staff, who will embrace innovation and collaboration in the best solutions to the world's problems.

MISSION:

The College of Engineering's mission is to lead discovery, learning, and innovation by creating and disseminating knowledge, empowering significant advances in technology, and driving economic development, for the welfare of the state, the nation, and the world. The Grand Challenge Scholars Program will exemplify this mission by increasing the awareness of our future engineers in the challenges that face our world today. Paraphrasing our core values and guiding principles: we believe that a student empowered with a quality education has confidence, is able to take risks, finds innovative solutions to problems, and ultimately will have the ability to make the world a better place.

STUDENT SELECTION:

Students interested in the Grand Challenge Scholar Program must have quality grades (minimum 3.4 GPA) to apply as academic achievement is an important predictor of success

in the program. However, the student's response on the proposed GC Portfolio and evidence of a sustained early commitment to the program will be major factors in considering prospective applicants. To apply for the Grand Challenge Scholar Program at NC State, each student must:

1. Be a student in the College of Engineering with a least four semesters remaining until graduation,
2. Complete an application form,
3. Submit a letter of commitment from the student's GC Mentor, and
4. Propose a GC Portfolio (Appendix A) encompassing the required five components.

The application and proposed portfolio must be submitted to the GC Director no later than September 1 of the Fall Semester. The GC Portfolio must address the student's GC Focus Area, Research Component (a plan or prospectus), a budget plan for component expenses, summits, etc., and any other letters of support the student wishes to include. Appendix A is the outline for the topics to be covered in the required portfolio. The GC Oversight Committee will review all applications and recommend students for admission to the program based on available space. Successful candidates will be notified of their acceptance to the program prior to the 1st of October. The GCSP expects to maintain 20-25 students in the initial few years following activation.

To remain in the program GC Scholars must:

1. Meet at least once a semester with their GC Mentor,
2. Submit a progress report (by April 1 of each academic year) to their GC Mentor, to be forwarded to the GC Director, outlining their accomplishments for the past academic year and detailing their plan for the upcoming academic year,
3. Network with other GC Scholars, government and corporate leaders by attending a local or regional Grand Challenge Summit in their junior year, and
4. Present their research project at a summit, research symposium or at the National GC Summit preferably during their senior year of school. Note: Travel costs for attending a summit must be included in the proposal budget.

Near the completion of the program, GC Scholars must:

1. Submit a final report to the GC Committee verifying the completion of the Plan,
2. Forward a letter of completion from their GC Mentor to the GC Director, and
3. Schedule a capstone presentation to share their experiences and information about the Grand Challenge Program.

The final report should define the completion of each of the five curricular requirements of their plan and the overall focus of their work, describe the breadth and depth of their specific program, and address any highlights or weaknesses that would contribute to future success of the program. The GC Capstone presentation must be completed within the last two semesters of the student's remaining time in school. This presentation should summarize the completion of the requirements, the research component, and the student's experiences while in the program. It is expected that GC Scholars will present their work in NC State GC-related activities to network with other scholars and to provide information to interested underclassmen. Also, GC Scholars should plan to present their work at the one of the local or regional GC Summits or research symposia in order to network with GC Scholars from other engineering schools. The final GC Portfolio or completion checklist must be completed by the close of the semester in which the student graduates.

GC MENTOR:

Each applicant must select a GC Mentor (i.e., engineering faculty member) who will guide them through the entire GC Scholars program. The mentor will review the student's initial portfolio and submit a letter of commitment with the student's application to the Oversight Committee. Scholars are required to meet with their mentors every semester to provide progress updates on their present program and to plan for the next semester's goals. Upon conclusion of the program, the GC Mentor must write a letter of completion to the GC Oversight Committee in support of the GC Scholar's application to be named an NC State College of Engineering Grand Challenge Scholar. Once identified, all prospective GC Mentors will be given guidance on the Grand Challenges and the GC Scholars Program prior to submitting the letter of commitment.

GC PROGRAM COMPONENTS:

The importance of a student's experience in the program is based upon the completion of the five Grand Challenge curricular components. Scholars will be required to undertake requirements in each of the following components: Research, Interdisciplinary Curriculum, Entrepreneurship, Global Awareness, and Service Learning. In addition, GCSP students will be expected to gain both breadth and depth in the GC program. For depth, scholars will be expected to complete multiple assignments in three of the listed curricular components, with Research and Interdisciplinary Curriculum being mandatory for all students. For this third depth component, students choosing to complete more than one undertaking in any of the three remaining components (Entrepreneurship, Global Awareness, or Service Learning), will complete the obligation. To add breadth to their program, all remaining components must be addressed by completing at least one task accentuating their focus area (Appendix A

for outline of Portfolio). The curricular components and their individual requirements are addressed below:

☐ Research

Each GC Scholar must prepare to help solve the engineering grand challenges that this nation and world face. Each GC Scholar **MUST** complete a GC Capstone experience and take advantage of one or more of the following:

- Engaging in a minimum of one semester of undergraduate research in an approved team or individual research or design project with a university faculty member, focusing the research on one of the grand challenge themes. The students can register for an independent study course, directed by the instructor, or perform the research for pure hands-on experience. Prior to conducting the research, the students will provide a written scope of the work to be performed during the semester(s). The prospective work must be approved by the instructor/researcher, the student, and the student's GC Mentor. In addition, the students will be required to present their findings in a poster exhibition at one of the university's undergraduate research symposiums:
<http://www.ncsu.edu/undergrad-research/>
- Completion of an Entrepreneurial Initiative project approved by the instructor, the student, and the student's GC Mentor focusing on a grand challenge theme. The students will also be required to present their findings in a poster exhibition at one of the university's undergraduate research symposiums.
- Completion of an Independent Study project approved by the instructor, the student, and the student's GC Mentor focusing on a grand challenge theme. The students will also be required to present their findings in a poster exhibition at one of the university's undergraduate research symposiums.
- Work experience, for a minimum of one summer or one semester, as a research or laboratory assistant under the direction of a university faculty member. The students will also be required to present their findings in either a paper or poster approved by the faculty member and the GC mentor.
- Member of the University Honors Program required to perform research/project assignment: <http://www.ncsu.edu/honors/index.html>

☐ Interdisciplinary Curriculum

Each GC Scholar must prepare to work at the overlap of public policy, business, law, ethics, human behavior, medicine, and risk as well as other sciences. Each GC Scholar **MUST** take advantage of one or more of the following:

- Approved interdisciplinary programs <http://ids.chass.ncsu.edu/undergraduate.php>
- Internship with an interdisciplinary focus (approved by GC Mentor)
- Research experience with an interdisciplinary focus (see research section above)
- Course(s) relating to a Grand Challenge theme (i.e., non-engineering) (see Appendix B)

❑ Entrepreneurship

Each GC Scholar must be capable of translating invention and innovation into market ventures and possibly global solutions required for the public's interest. Each GC Scholar MUST take advantage of one or more of the following:

- Approved entrepreneurial experiences (approved by GC Mentor)
- Internship with a significant entrepreneurial focus (approved by GC Mentor)
- Research experience with a significant entrepreneurial focus (see research section above)
- Course(s) which focus on entrepreneurship (see Appendix B)
- Engineering Entrepreneurs Program, <http://www.engr.ncsu.edu/eep/>
- Entrepreneurship Initiative, <http://ei.ncsu.edu/>.

❑ Global Awareness

Each GC Scholar must develop the perspective necessary to address challenges that are inherently global as well as to lead innovation in a global economy. Each GC Scholar MUST take advantage of one or more of the following:

- Approved international experiences or internship (approved by GC Mentor)
- Co-op with a significant global focus, http://www.ncsu.edu/co-op_ed/
- Research experience with a significant global focus (see research section above)
- Course(s) which focus on global issues (see Appendix B)
- NC State Study Abroad Programs, <http://studyabroad.ncsu.edu/>
- Global Partner Centers, <http://www.freedm.ncsu.edu/index.php?s=5&p=77#ie>

❑ Service Learning

GC Scholars must develop and deepen their social awareness and demonstrate motivation to bring technical expertise to bear on societal problems. Each GC Scholar MUST take advantage of one or more of the following:

- Approved service learning programs (see Appendix C)
- Volunteer experience with a service-learning focus (approved by GC Mentor)
- Research experience with community focus (see research section above)
- Center for Student Leadership, Ethics, and Public Service,
<http://www.ncsu.edu/csleps/>
- Student Organization Resource Center, <http://ncsu.orgsync.com/>

EARLY STUDENT ENGAGEMENT:

To promote early student engagement, all incoming engineering students will be introduced to the principles of the Grand Challenges at the New Student Orientation prior to the beginning of classes in the fall. The GCSP will be advertised to all freshman engineering majors through the required first year engineering course, Introduction to Engineering and Problem Solving, taught in the first semester. Recruiting and marketing materials will be distributed in class and the context of the program integrated into class discussions. Students may also incorporate any of these principles in the required classroom group presentation at the end of the semester. Additional information on the GCSP will be disseminated under the College's website: <http://www.engr.ncsu.edu/grandchallenge/>

PROGRAM SEQUENCE:

The Grand Challenge Scholars Program at NC State allows students to choose the path most desirable to their academic needs. There is no specific sequence for completing the program; however, a typical model for successfully carrying out all the requirements is shown below:

First Year:

- Grand Challenges are introduced at Freshman Orientation and then detailed during the freshman course E101: Introduction to Engineering.
- Interested students are encouraged to investigate the concepts, appropriate classes, and additional resources (see Appendix C and D) in preparation for the next year.
- Possibly take appropriate class in one of the Grand Challenge components.

Second Year:

- Interested students are encouraged to find a mentor and prepare portfolio (see Appendix A for outline).
- Investigate Service Learning organizations.
- Begin first CO-OP rotation (if scheduled).
- Explore research projects, study abroad assignments, (depending upon curriculum constraints), or Entrepreneurial Projects.

- Take appropriate class(s) in one of the Grand Challenge components.

Third Year:

- Scholars are encouraged to begin research projects, study abroad assignments, (depending upon curriculum constraints), or Entrepreneurial Projects.
- Perform second and summer CO-OP rotation (if scheduled).
- Attend a local or regional summit.
- Take appropriate class(s) in one of the Grand Challenge components.

Fourth Year:

- Complete research project and present findings.
- Study abroad assignment (depending upon curriculum constraints).
- Submit final report(s).
- Attend National Summit (if possible).
- Prepare and present capstone presentation.
- Complete appropriate class(s) in one of the Grand Challenge components.

ADMINISTRATION AND ASSESSMENT:

To maintain the high standards expected from a quality program, assessment and success of our Grand Challenge Scholar Program will be the responsibility of everyone involved. To lead this charge, the Assistant Dean for Academic Affairs will serve as the Director of the GCSP. The Director will be required to participate in the electronic community for the exchange of GCSP best practices, attend workshops and summits, and prepare an annual report of programmatic accomplishments for the GCSP.

The administration and supervision of the program will be performed by an Oversight Committee comprising faculty members selected from within the College of Engineering. From the list of distinguished faculty, an NAE member will serve as the Chair of the GC Oversight Committee. The Program Director, along with the Oversight Chair, will select the members of the Oversight Committee. The GC Oversight Committee will be responsible for the following:

1. Select students and monitor their progress (along with the GC Mentor),
2. Verify and document the program objectives,
3. Approve portfolios that successfully integrate the GC Components,
4. Compile the names and accomplishments of GC Scholars
5. Convey all information to the Oversight Committee Chair and GC Director as part of the required annual report,

6. Assist with longitudinal tracking of GC Scholars Program in cooperation with the Grand Challenge Steering Committee and the NAE, and
7. Continually improve upon GC Scholars Program experiences.

APPENDIX A: GC Portfolio Outline

GC Scholar:
Major:
GC Focus:
GC Mentor:
GC Capstone:

<i>Components</i>	Explanation of Depth	Explanation of Breadth
<i>Research</i>	<ul style="list-style-type: none"> ➤ Approved team (or individual) research (or design) project ➤ REU – Research Experience for Undergraduates ➤ Work experience for a summer or semester (e.g., Research Assistant) ➤ Course(s) or independent study relating to a Grand Challenge theme ➤ University Honors Program, Undergraduate Research Symposium, etc. 	
<i>Interdisciplinary</i>	<ul style="list-style-type: none"> ➤ Approved interdisciplinary programs ➤ Internship with an interdisciplinary focus ➤ Research experience with an interdisciplinary focus ➤ Course(s) relating to a Grand Challenge theme (e.g., non-engineering) 	
<i>Entrepreneurship</i>	<p>Note:</p> <p>Entrepreneurship OR Global OR Service Learning (one of the three components must also be pursued in depth)</p>	<ul style="list-style-type: none"> ➤ Approved entrepreneurial experiences ➤ Internship with a significant entrepreneurial focus ➤ Research experience with a significant entrepreneurial focus ➤ Course(s) which focus on entrepreneurship Engineering Entrepreneurs Program , Entrepreneurship Initiative, etc.
<i>Global</i>		<ul style="list-style-type: none"> ➤ Approved international experiences ➤ Co-op or internship with a significant global focus ➤ Research experience with a significant global focus ➤ Course(s) which focus on global issues ➤ NC State Study Abroad Programs, Global Partner Centers, etc.
<i>Service Learning</i>		<ul style="list-style-type: none"> ➤ Approved service learning programs ➤ Volunteer experience with a significant service-learning focus ➤ Research experience with a significant community focus ➤ Course(s) which focus on service and/or community-related issues ➤ Center for Student Leadership, Ethics, and Public Service; SORC, etc.

APPENDIX B: Acceptable Courses

Interdisciplinary Curriculum

Requirements can be fulfilled by taking one or more of these courses. Courses not listed must be approved by the student's GC mentor.

AEE/ANS/PB 208	Ag Biotechnology: Issues & Implications
ANT/SOC 261	Technology in Society & Culture
ARE/EC 336	Introduction to Resource and Environmental Economics
CS 224	Seed, Biotechnology & Societies
CS 230	Introduction to Agroecology
ES 200	Climate Change & Sustainability
ES 300	Energy & the Environment
ET 410	Toxic Substance and Society
HON 361	Eco-Realism: Human Nature, Politics, and Ecological Constraints
HON 362	Information Technology, Society, and Academic Research
HON 343	Philosophical Ethics
HON 371	Environmental Science & Technology
IDS 201	Environmental Ethics
IDS/NR 303	Humans and the Environment
PCC 401	Manufacturing and its Impact on Safety, the Environment, and Society
PHI/STS 325	Bio-Medical Ethics: An Interdisciplinary Inquiry
PHI 375	Ethics
PHI 376	History of Ethics
PHI 415	Life Science Ethics
PHI 422	Philosophical Issues in Environmental Ethics
PHI 445	Philosophy of Biology
PO 411	Agrosecurity
SOC/ANT 261	Technology in Society & Culture
SOC 381	Sociology of Medicine
SOC 450	Environmental Sociology
STS/WGS 210	Women & Gender in Science and Technology
STS 214	Technology and Values
STS 302	Contemporary Science, Technology and Human Values
STS 304	Ethical Dimensions of Progress
STS 322	Technological Catastrophes
STS 323	World Population and Food Prospects
STS/PHI 325	Bio-Medical Ethics: An Interdisciplinary Inquiry
STS 402	Peace and War in the Nuclear Age
STS 405	Technology and American Culture

Global Dimension

Requirements can be fulfilled by taking one or more of these courses. Courses not listed must be approved by the student's GC mentor.

ANT 371	Human Variation
COM 447	Communication and Globalization
ES 200	Climate Change & Sustainability
ES 300	Energy & the Environment
FOR 414	World Forestry
FW 465	African Ecology & Conservation
GEO/SOC 220	Cultural Geography
HI 465	Oil and Crisis in the Gulf
HSS/COM 392	International and Cross-cultural Communication
IDS 305	Peace in the Global Village
MSE 230	The Impact of Materials on Civilization
PS 231	Introduction to International Relations
PS 236	Issues in Global Politics
PS 336	Global Environmental Politics
PS 339	Politics of the World Economy
PS 431	The United Nations and Global Order
PS 433	Global Problems and Policies
SOC/GEO 220	Cultural Geography
SOC/ANT 261	Technology in Society and Culture
SOC 342	International Development
SOC 351	Population and Planning
STS 302	Contemporary Science, Technology and Human Values
STS 323	World Population and Food Prospects

Entrepreneurship

Requirements can be fulfilled by taking one or more of these courses. Courses not listed must be approved by the student's GC mentor.

EI 201	Exploring Interdisc. Entrepreneurial Thinking
EI 331	Interdisciplinary Entrep. Thinking I: Skills & Planning Basics
MIE 201	Introduction to Business Processes

APPENDIX C: Service Learning Organizations

Students are required to complete the service learning component by choosing to work with one or more of the listed organizations below. A student may choose to complete an individual community project with a non-listed organization but must have the approval of their GC Mentor prior to initiating the work. For assistance, the Center for Student Leadership, Ethics, and Public Service (CSLEP) is a major source for linking students with local and global volunteer opportunities in certain focus areas, i.e. animal protection, environmental concerns, elder issues, education, healthcare, hunger, and others.

- A Helping Hand (AHH)
- Amnesty International at NC State (AI)
- Blitz for Hunger (Blitz for Hunger)
- Bricks Breaking Boundaries (BBB)
- CARE at North Carolina State
- Circle K International (Circle K)
- Colleges Against Cancer (CA Cancer)
- Engineering World Health (EWH)
- Global Brigades (Global Brigades)
- Habitat for Humanity (Habitat)
- Hope for the Homeless (HH)
- Impact Leadership Village (ILV)
- Lemonade International (Lemonade)
- March of Dimes Collegiate Council (MDCC)
- Alternative Break (Spring or Fall)
- Outreach Ambassador
- Nourish International (NI)
- Operation NET (ON Campus)
- Pack A Thon (Pack A Thon)
- Reach Out And Touch (ROAT)
- Relay for Life (Relay for Life)
- Rotaract Club (RC)
- Satellite (Satellite)
- ShoeManity (ShoeManity)
- Triangle Youth Leadership Services (TYLS)
- Two Cents of Hope (Two Cents of Hope)
- Uplifting Athletes (UA)
- Wolfpack Rollerz (WLPK RLZ)

APPENDIX D: Additional Resources

- [Advanced Transportation Energy Center \(ATEC\)](http://www.freedm.ncsu.edu/index.php?s=15)
http://www.freedm.ncsu.edu/index.php?s=15
- [Analytical Instrumentation Facility \(AIF\)](http://www.ncsu.edu/aif/)
http://www.ncsu.edu/aif/
- [Applied Energy Research Laboratory \(AERL\)](http://legacy.mae.ncsu.edu/centers/aerl/index.htm)
http://legacy.mae.ncsu.edu/centers/aerl/index.htm
- [Bioinformatics Research Center \(BRC\) - Research, CALS and PAMS](http://bioinformatics.ncsu.edu/brcwebsite/summer_institute.php)
http://bioinformatics.ncsu.edu/brcwebsite/summer_institute.php
- [Center for Advanced Computing and Communication \(CACC\)](http://cacc.itng.ncsu.edu/)
http://cacc.itng.ncsu.edu/
- [Center for Applied Aquatic Ecology \(CAAE\)](http://www.ncsu.edu/wq/)
http://www.ncsu.edu/wq/
- [Center for Aseptic Processing and Packaging \(CAPPS\) \(w/ Ohio State University\)](http://www-fst.ag.ohio-state.edu/CAPPS/index.html)
http://www-fst.ag.ohio-state.edu/CAPPS/index.html
- [Center for Chemical Toxicology Research and Pharmacokinetics \(CCTRP\)](http://cvm.ncsu.edu/cctrp/)
http://cvm.ncsu.edu/cctrp/
- [Center for Developmental Science \(w/ UNC-Chapel Hill\)](http://www.cds.unc.edu/)
http://www.cds.unc.edu/
- [Center for Earth Observation \(CEO\)](http://gis.ncsu.edu/)
http://gis.ncsu.edu/
- [Center for Efficient, Scalable and Reliable Computing \(CESR\)](http://www.cesr.ncsu.edu/)
http://www.cesr.ncsu.edu/
- [Center for Engineering Applications of Radioisotopes \(CEAR\)](http://www.ne.ncsu.edu/cear/cear.html)
http://www.ne.ncsu.edu/cear/cear.html
- [Center for Environmental and Resource Economic Policy \(CEnREP\)](http://www.ncsu.edu/cenrep/)
http://www.ncsu.edu/cenrep/
- [Center For Family And Community Engagement \(CFACE\)](http://www.cfface.org/)
http://www.cfface.org/
- [Center for Marine Sciences and Technology \(CMAST\) - Research - CALS and PAMS](http://www.cmast.ncsu.edu/)
http://www.cmast.ncsu.edu/
- [Center for Nuclear Power Plant Structures, Equipment and Piping \(CNPPSEP\)](http://www.ncsu.edu/CIL/cnpps/index.html)
http://www.ncsu.edu/CIL/cnpps/index.html
- [Center for Quantitative Sciences in Biomedicine \(CQSB\)](http://www.ncsu.edu/cqsb/)
http://www.ncsu.edu/cqsb/
- [Center for Research on Textile Protection and Comfort \(TPACC\)](http://www.tx.ncsu.edu/tpacc/)
http://www.tx.ncsu.edu/tpacc/
- [Center for Robotics and Intelligent Machines \(CRIM\)](http://www.crim.ncsu.edu/)
http://www.crim.ncsu.edu/
- [Center for Student Leadership, Ethics, and Public Service \(CSLEPS\)](http://www.ncsu.edu/csleps/)
http://www.ncsu.edu/csleps/
- [Center for Transportation and the Environment \(CTE\)](http://www.ncsu.edu/cte/)
http://www.ncsu.edu/cte/

<http://www.itre.ncsu.edu/cte/>
-- [Center for Turfgrass Environmental Research and Education \(CTERE\)](http://www.turffiles.ncsu.edu/)
<http://www.turffiles.ncsu.edu/>
-- [Center for Urban Affairs and Community Services \(CUACS\)](http://www.cuacs.ncsu.edu/)
<http://www.cuacs.ncsu.edu/>
-- [Comparative Medicine and Translational Research \(CCMTR\)](http://cvm.ncsu.edu/ccmtr/)
<http://cvm.ncsu.edu/ccmtr/>
-- [Engineering Entrepreneurs Program \(EEP\)](http://www.engr.ncsu.edu/eep/)
<http://www.engr.ncsu.edu/eep/>
-- [\(The\) Ergonomics Center of North Carolina \(ECNC\)](http://www.theergonomicscenter.com/)
<http://www.theergonomicscenter.com/>
-- [Future Renewable Electric Energy Delivery and Management Systems Center](http://www.freedm.ncsu.edu/)
<http://www.freedm.ncsu.edu/>
-- [General H. Hugh Shelton Leadership Center \(Shelton Center\)](http://www.ncsu.edu/extension/sheltonleadership/)
<http://www.ncsu.edu/extension/sheltonleadership/>
-- [Highlands Biological Station \(w/ Western Carolina\)](http://www.hsrc.unc.edu/index.cfm)
<http://www.hsrc.unc.edu/index.cfm>
-- [Institute for Emerging Issues \(IEI\)](http://www.ncsu.edu/iei/)
<http://www.ncsu.edu/iei/>
-- [Institute for Maintenance Science and Technology \(IMST\)](http://www.mse.ncsu.edu/imst/)
<http://www.mse.ncsu.edu/imst/>
-- [Institute for Next Generation IT Systems \(ITng\)](http://www.itng.ncsu.edu/)
<http://www.itng.ncsu.edu/>
-- [Institute for Nonprofit Education, Research and Engagement \(INPREE\)](http://nonprofit.chass.ncsu.edu/)
<http://nonprofit.chass.ncsu.edu/>
-- [Institute for Transportation Research and Education \(ITRE\)](http://itre.ncsu.edu/)
<http://itre.ncsu.edu/>
-- [Institute of Nutrition \(w/ UNC Chapel Hill\)](http://coretest.ecu.edu/nuhm/Institute/main.htm)
<http://coretest.ecu.edu/nuhm/Institute/main.htm>
-- [Minerals Research Laboratory \(MRL\)](http://mrl.ies.ncsu.edu/)
<http://mrl.ies.ncsu.edu/>
-- [Nanofabrication Facility @ NCSU \(NNF\)](http://www.nnf.ncsu.edu/)
<http://www.nnf.ncsu.edu/>
-- [National Academy of Engineering \(Faculty Inducted\)](http://www.engr.ncsu.edu/news/about/nae.html)
<http://www.engr.ncsu.edu/news/about/nae.html>
-- [Nonwovens Institute \(NWI\)](http://www.thenonwovensinstitute.com/)
<http://www.thenonwovensinstitute.com/>
-- [North Carolina Sea Grant College Program](http://www.ncseagrant.org/)
<http://www.ncseagrant.org/>
-- [North Carolina Solar Center \(NCSC\)](http://www.ncsc.ncsu.edu/)
<http://www.ncsc.ncsu.edu/>
-- [Nuclear Reactor Program \(NRP\)](http://www.ne.ncsu.edu/nrp/index.html)
<http://www.ne.ncsu.edu/nrp/index.html>
-- [Power Semiconductor Research Center \(PSRC\)](http://www.psrc.ncsu.edu/)
<http://www.psrc.ncsu.edu/>

- [Renaissance Computing Institute \(RENCI; w/ UNC Chapel Hill\)](http://www.renci.org/)
http://www.renci.org/
- [Semiconductor Power Electronics Center \(SPEC\)](http://www.freedm.ncsu.edu/)
http://www.freedm.ncsu.edu/
- [Small Business and Technology Development Center \(SBTDC\)](http://www.sbtdc.org/)
http://www.sbtdc.org/
- [Southeast Dairy Foods Research Center \(SDFRC\)](http://www.cals.ncsu.edu/food_science/sdfrc/sdfrc.html)
http://www.cals.ncsu.edu/food_science/sdfrc/sdfrc.html
- [Southeastern Plant Environment Laboratories \(Phytotron\)](http://www.ncsu.edu/phytotron/)
http://www.ncsu.edu/phytotron/
- [State Climate Office of North Carolina \(SCO\)](http://www.nc-climate.ncsu.edu/)
http://www.nc-climate.ncsu.edu/
- [Student Organization Resource Center](http://ncsu.orgsync.com/)
http://ncsu.orgsync.com/
- [Study Abroad \(SAO\)](http://studyabroad.ncsu.edu/)
http://studyabroad.ncsu.edu/
- [Technology Incubator \(IES\)](http://techincubator.ncsu.edu/)
http://techincubator.ncsu.edu/
- [Triangle Universities Nuclear Laboratory \(w/ Duke University\)](http://www.tunl.duke.edu/)
http://www.tunl.duke.edu/
- [UNC Coastal Studies Institute \(w/ ECU\)](http://csi.northcarolina.edu/index.htm)
http://csi.northcarolina.edu/index.htm
- [Undergraduate Research \(DUAP\)](http://www.ncsu.edu/undergrad-research/)
http://www.ncsu.edu/undergrad-research/
- [University Honors Program \(UHP\)](http://www.ncsu.edu/honors/index.html)
http://www.ncsu.edu/honors/index.html
- [University of North Carolina Institute on Aging \(w/ UNC Chapel Hill\)](http://www.aging.unc.edu/)
http://www.aging.unc.edu/
- [University Scholars Program \(USP\)](http://www.ncsu.edu/univ_scholars/index.html)
http://www.ncsu.edu/univ_scholars/index.html
- [W. M. Keck Center for Behavioral Biology \(CBB\)](http://www.cals.ncsu.edu/beh_bio/index.html)
http://www.cals.ncsu.edu/beh_bio/index.html
- [Water Resources Research Institute \(WRII\)](http://www.ncsu.edu/wrri/)
http://www.ncsu.edu/wrri/