



QEP 2016

Improving student success in the sciences ...here and beyond

FREQUENTLY ASKED QUESTIONS

WHAT IS QEP? “QEP” stands for Quality Enhancement Plan and is a crucial component of the University’s regular reaccreditation process through SACS (Southern Association of Colleges and Schools). QEP is a proposal of new initiatives to be implemented over a five-year period addressing a well-defined and focused topic/issue that:

- makes a major, measurable improvement of student learning at the University
- is aligned with and evolves from the University’s mission, strategic priorities and planning/evaluation efforts
- involves broad-based campus participation.

WHAT IS THE FOCUS OF THE QEP? The current QEP’s intent is to improve learning in the sciences (with sciences being broadly defined, including disciplines traditionally associated with the social sciences).

WHY THE FOCUS ON SCIENCES? The Provost’s office, in consultation with the Deans Council, chose this topic based on data showing increased interest by UNC students in declaring science as a major, as well as areas for improved pedagogy and student access to specific opportunities.

WHAT WAS THE PLANNING AND EVALUATION PROCESS? Several efforts informed the QEP choice, including the University’s 2011 Academic Plan and 2010 Undergraduate Retention Study, the Board of Trustees’ 2013 21st Century Vision Committees, the UNC system’s strategic plan and the College of Arts and Sciences’ 2013 Task Force on Large Lecture Courses.

WHAT ABOUT THE ARTS, HUMANITIES AND SOCIAL SCIENCES? The linkages between the humanities, the arts and the sciences are not always obvious to students.

The QEP will leverage the excellence Carolina has in the humanities and arts to integrate them into the QEP to improve science education. This may take many forms, such as first-year seminars integrating art and science, more writing and communications courses focusing on science, and bringing scientists and artists together to brainstorm and build things in campus MakerSpaces.

WHAT ARE THE QEP’S OVERARCHING GOALS? Our QEP aims to equip our students with the ability to apply science skills and knowledge to better solve real-world problems in the face of changing societal contexts.

We aim to foster awareness of what is currently missing from our curricular and extracurricular offerings to students, and to fill this void.

We aim to identify the achievements that are possible with evidence-based teaching methods focused on high-structure active learning both inside and outside the classroom.

WHAT WILL BE INCLUDED IN THE QEP? The QEP Steering Committee has focused on increasing opportunities for undergraduate students in five **high-impact practices or transformative experiences**:

- high-structure active learning courses
- research-exposure opportunities
- integrated first-year seminars
- study abroad opportunities
- innovation and entrepreneurship opportunities

There has been a 60% increase in intended or declared majors in the sciences since 2004.

HIGH-IMPACT PRACTICES

High-Structure Active Learning Courses

- Expand large lecture classes in the sciences that use active learning techniques that have shown to be effective at closing the achievement gap for underrepresented minorities and first-generation students.
- Redesign course-based laboratory experiences to include more inquiry and CURE (Course Undergraduate Research Experiences).



Active learning in a large lecture class

Research Exposure Opportunities

- Provide more opportunities for research experiences that provide course credit, both on campus and abroad. These include faculty mentored/directed research and industry-sponsored internships.
- Expand Carolina Research Scholars Learning Communities.
- Stimulate innovations in Science, Technology, Engineering Arts and Math (STEAM).



Fluid Lab experiment in Chapman Hall

Integrated First-Year Seminars

- Increase first-year seminars that incorporate a STEAM theme.
- Provide opportunities for professional school faculty to teach first-year seminars.
- Create a science writing seminar.
- Develop CreatorSpace/MakerSpace courses.



*Students in Mark McCombs' first-year seminar
Math, Art and the Human Experience*

Study Abroad Opportunities

Science majors are less likely to travel abroad than other groups due to curricular demands.

- Increase opportunities for students to take science courses abroad.
- Increase opportunities for students to conduct research abroad.



Geology undergraduates in Chile

Innovation and entrepreneurship opportunities

- Create opportunities to merge sciences with arts, humanities and social sciences.
- Develop an Entrepreneur in Residence Program.
- Use UNC campus CreatorSpaces to generate new ideas.
- Leverage local launch incubators such as 1789 Venture Lab.



*Biomedical engineering major Jeff Powell used
a UNC 3-D printer to make a prosthetic hand*

QEP Steering Committee

Co-Chairs: *Leslie Parise, Professor and Chair, School of Medicine; Kevin Guskiewicz, Senior Associate Dean, Natural Sciences, College of Arts and Sciences.* Abigail Panter (Psychology); Krista Perreira (Public Policy); Kelly Hogan (Biology); Pat Parker (Communication Studies); Cedric Bright (Medicine); Anna Maria Siega Riz (Public Health); Adam Persky (Pharmacy); Peter Mucha (Mathematics); Jane Thrailkill (English); Andrew Powell (Student Body President); Kyle Villemain (Student Body Vice President); Emil Kang (Executive Director of the Arts); Bruce Cairns (Medicine and Chair of the Faculty); Jan Yopp (JOMC); Mike Crimmins (Chemistry); Kevin Jeffay (Computer Science); Cary Levine (Art); Stephen Barber (Committee Staff, Office of the Provost); Ron Strauss (Liaison, Office of the Provost); Lynn Williford (Institutional Research, SACS Liaison).