The National Science Foundation has awarded a grant of more than $625,000 to Western Carolina University for a project designed to boost the number of students pursuing degrees in engineering and technology fields as part of an effort to address a growing need for more American scientists and engineers.

The four-year grant in the amount of $625,179 will provide academic and financial support to engineering and engineering technology students at WCU through a project called Scholarship Program Initiative via Recruitment, Innovation and Transformation, or SPIRIT.

SPIRIT represents a focused approach to the recruitment, retention, education and placement of engineering and technology students who have demonstrated both academic talent and financial need, said Chip Ferguson, associate professor of engineering and technology and associate dean of WCU’s Kimmel School of Construction Management and Technology.

“This program will help develop domestic, workforce-ready engineers by providing scholarships that will assist qualified SPIRIT scholars to reduce their financial burden for obtaining an undergraduate education,” Ferguson said. “The project promotes diversity in science, technology, engineering and mathematics fields, specifically for lower-income students in those fields.”

Through the effort, 27 new and continuing students will be recruited and retained into cohorts that will be developed based upon the Kimmel School’s focus on project-based learning, with students not only studying theoretical aspects about engineering and technology, but also applying those theories in hands-on projects designed to help solve real problems faced by industry partners across Western North Carolina, under the oversight of faculty mentors.

The student cohorts will be integrated both horizontally, with same-year students from different disciplines (such as electrical engineering and mechanical engineering) collaborating in an environment that reflects how engineers work in the real world, and vertically, with different-year students working together on the various stages of a project.

“The objectives of the SPIRIT program will ensure an interdisciplinary environment that enhances mentorship and technical competency through learning outcomes that seek to improve critical skills such as intentional learning, problem solving, teamwork, management, interpersonal communications and leadership,” said Ferguson.

The NSF funding is the second major grant awarded to WCU’s Kimmel School for its engineering program this academic year. A previously announced $500,000 grant from the Golden LEAF Foundation will help expand engineering education across WNC through a partnership with regional community
colleges.

The Golden LEAF funding will support WCU’s efforts to ensure a seamless transition for community college students who want to earn four-year degrees in engineering through the implementation of engineering pathway courses at community colleges and the recruitment of qualified students into the program. Asheville-Buncombe Technical, Blue Ridge and Isothermal community colleges are initial partners in the effort, which will eventually include WNC community colleges from Rutherfordton to Murphy.

The latest grant comes as work continues to convert nearly 11,000 square feet of former retail space at Biltmore Park into classrooms and laboratory space to enable WCU to offer undergraduate engineering to students in the Asheville-Hendersonville area. The facility, located on the ground floor of the same building that houses WCU’s instructional site at Biltmore Park Town Square, is scheduled to open in August.

Expansion of WCU’s engineering degree to Biltmore Park was made possible through more than $1.4 million included in the state budget for the 2013-15 biennium. University officials have credited N.C. Sen. Tom Apodaca (R-Henderson) with ensuring that the state budget included funds to bring engineering education to help meet the needs of industry in the fast-growing Interstate 26 corridor.

For more information about engineering education at WCU, visit the website engineering.wcu.edu.