

APPENDIX O

Request for Authorization to Establish a Joint Bachelor of Science Degree in Engineering (with a Mechatronics Concentration) at North Carolina State University and University of North Carolina Asheville

Introduction

North Carolina State University and the University of North Carolina Asheville notified the UNC Office of the President of their intent to plan a joint Bachelor of Science in Engineering (with a concentration in Mechatronics) (14.0101) in February 2004. The institutions seek authorization to establish the joint degree program effective August 2004.

Program Description

North Carolina State University and the University of North Carolina at Asheville currently cooperate in the delivery of the NCSU Mechatronics program on the UNCA campus. Mechatronics is an interdisciplinary field of engineering that includes the study of mechanical, electrical and computer engineering. The general structure for this proposed joint degree program is already in place. NCSU and UNCA serve approximately 100 students annually in the Mechatronic program and other 2+2 engineering programs. NCSU is nationally known for its high-quality undergraduate and graduate engineering programs. UNCA is known for its high-quality liberal studies program. Graduates will benefit from the strong foundation in liberal arts and rigorous studies in engineering disciplines. By engaging the strengths of each institution, the proposed program hopes to capitalize on a synergistic educational opportunity to produce highly trained and qualified engineers who consider and address social, ethnical, and cultural implication of the engineering discipline and extend that capacity for lifelong learning and development. Students will satisfy NCSU requirements for the engineering core (64 credits) and UNCA requirements for the Integrative Liberal Studies program (30 credits). One of the educational goals of the program is to establish an educational environment in which students participate in interdisciplinary activities, improve professional interaction skills, and learn to work in an integrated team environment.

The NCSU-UNCA Mechatronics degree program will be jointly administered by NCSU and UNCA. The currently existing Director of NCSU Engineering Programs (at UNCA) and the Associate Director will provide NCSU support. UNCA will provide support through a new position, a second Associate Director. The UNCA Associate Director will report to the NCSU Director. An External Advisory Board composed of industry and academic representatives, will provide input and feedback to the Director. An NCSU Engineering Programs office will continue to be housed and supported on the UNCA campus. The core engineering courses for the joint Engineering degree program will be delivered from the Raleigh campus to the UNCA campus (through teleconference), and required core science, mathematics and general education courses will be delivered by UNCA. Students will apply directly to UNCA. Professional review of the program by the Accreditation Board for Engineering and Technology is slated. SACS has determined that this program is not a substantive change for either campus.

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Program Need

The proposed joint Bachelor of Science program will meet engineering needs in western North Carolina. The Mechatronics concentration was developed to meet needs specific to the interests of the industries and communities in western North Carolina. Cooperation between NCSU and UNCA has enabled the provision of a much needed resource at the most appropriate location. As is evidenced by the student enrollment in the 2+2 programs, there are students ready to pursue this degree program.

Resources

The North Carolina General Assembly has made a one-time allocation of \$300,000 for start up costs associated with the proposed joint Engineering degree program. The joint engineering program will use the faculty, facilities, and laboratory resources from the College of Engineering at NCSU and from many departments at UNCA. At present, NCSU's Office of Engineering Programs occupies space on UNCA campus; these offices, computer laboratory and teleconference facilities will be available for use in the joint program. UNCA Library will support the needs of engineering students with local resources and remotely accessed resources provided through the NCSU Libraries. Distance learning services are supported by NCREN. As the program continues to expand, additional space will be needed.

Recommendation

It is recommended that the Board of Governors approve the request from NCSU and UNCA for a joint Bachelor of Science degree in Engineering (with a Mechatronics concentration) effective August 2004.