

APPENDIX D

Request for Authorization to Establish a Master of Science Degree in Optics at The University of North Carolina at Charlotte

Introduction

UNC-Charlotte notified the UNC Office of the President of its intent to plan a Master of Science degree in Optics (CIP# 40.0807) on June 12, 2001. The university requests authorization to establish the program in January 2003.

Program Description

The proposed degree program is an interdisciplinary program involving six science and engineering departments (Physics and Optical Science, Chemistry, Mathematics, Electrical and Computer Engineering, Mechanical Engineering and Engineering Science, and Computer Science), the Center for Optoelectronics and Optical Communications, and the Center for Precision Metrology. Administered through the Department of Physics and Optical Science, the program will educate scientists and engineers to lead advances in optical technology. Two major initiatives at UNCC support establishment of this program: The Charlotte Institute for Technology Innovation and The Center for Optoelectronics and Optical Communications, and implementation of the proposed degree program is regarded as crucial to the success of these initiatives

Program Need

During the last decade, UNCC has been building infrastructure that allows it to take advantage of emerging optical technologies. A 1998 report by the National Research Council states that optics is rapidly becoming an important focus for new business in the global economy. Optics-related companies in the U.S., now totaling more than 5,000, have a net financial impact that exceeds \$50 billion annually. A ten-fold growth in the optical communication industry is predicted over the next five years. The region served by UNCC is rapidly becoming a world center for optical fiber technology. Currently, 33 faculty and approximately 50 graduate students in six academic departments work in areas of applied optical science and technology. It is anticipated that by the fourth year of the program, 25 full-time and 6 part-time students would be enrolled.

Resources

Administration of the program will be through an existing department. For more than a decade UNCC has been building infrastructure needed to implement the proposed program. Association with the recently established Center for Optoelectronics and Optical Communications further reduces the need for startup funding. Current faculty are sufficient to teach program courses. New funding will consist of enrollment increase funds, external grants, and internal reallocations; no other state funds are requested.

Recommendation

It is recommended that the Board of Governors approve the request to establish a Master of Science in Optics degree at The University of North Carolina at Charlotte effective January 2003.