



Office of Academic Affairs

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April 22, 2020

Dr. Kimberly van Noort
Vice President for Academic Programs and Instructional Strategy
University of North Carolina
Post Office Box 2688
Chapel Hill, North Carolina 27515-2688

Dear Kim,

The University of North Carolina at Charlotte would like to request a change to the Classification of Instruction Programs (CIP) code and the name for the following program:

<u>Current Program Name:</u>	Construction & Facilities Management
<u>New Program Name:</u>	Construction & Facilities Engineering
<u>Current CIP Code:</u>	15.999 Engineering Technologies and Engineering-Related Fields, Other
<u>New CIP Code:</u>	14.3301 Construction Engineering

These changes more accurately reflect the STEM curriculum, resulting in the removal of obstacles including those for professional licensure. Enclosed please find a detailed request from The William States Lee College of Engineering. I would be pleased to respond to any questions that you may have regarding this request.

Sincerely,

Joan F. Lorden
Provost and Vice Chancellor for Academic Affairs

Attachment

cc: Philip L. Dubois, Chancellor
Bob Johnson, Dean, The William States Lee College of Engineering
Steve Coppola, Assistant Provost for Institutional Research
Joel Avrin, President, Faculty Council
Tom Reynolds, Dean, The Graduate School



UNC CHARLOTTE

The WILLIAM STATES LEE COLLEGE of ENGINEERING

Department of Engineering Technology & Construction Management

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Memorandum

To: Dr. Robert Johnson, Dean
William States Lee College of Engineering

From: Anthony L. Brizendine, Chair
Department of Engineering Technology & Construction Management (ETCM)

Date: April 20, 2020

Re: CIP Code and Program Name Change for the MS Construction & Facilities program

Per the unanimous vote of the ETCM Faculty, please find a request for a CIP code and Name Change for the MS Construction & Facilities Management to MS Construction & Facilities Engineering (Request Effective Date: Fall 2020)

Table 1 provides a summary of the request. Description of the requested changes and rationale are provided after the summary table. The CIP code and name change is requested to 2) better align our program with stakeholder interest and actual program direction, 2) afford our graduates a clear STEM engineering degree aligned with curriculum being delivered, 3) potentially remove obstacles for professional licensure, and 4) provide a more understandable, recognizable field of study, level, and CIP code name match for USCIS review of alumni seeking work permits.

Table 1. Summary of Requested CIP Code and Program Name Change

Current Program Name	Current CIP Code	Requested Program Name	Requested CIP Code
MS Construction & Facilities Management	15.9999 Engineering Technologies and Engineering-Related Fields, Other	MS Construction & Facilities Engineering	14.3301 Construction Engineering. Definition: A program that prepares individuals to apply scientific, mathematical, and management principles to the planning, design, and building of facilities and structures. Includes instruction in civil engineering, structural principles, site analysis, computer-assisted design, geology, evaluation and testing, materials, contracting, project management, graphic communications, and applicable laws and regulations.

Detail for CIP Code 15.9999 Title: Engineering Technologies and Engineering-Related Fields, Other. **Definition:** Any instructional program in engineering technologies and engineering-related fields not listed above.

Detail for CIP Code 14.3301 Title: Construction Engineering. **Definition:** A program that prepares individuals to apply scientific, mathematical, and management principles to the planning, design, and building of facilities and structures. Includes instruction in civil engineering, structural principles, site analysis, computer-assisted design, geology, evaluation and testing, materials, contracting, project management, graphic communications, and applicable laws and regulations.

Discussion of UNC Charlotte Program and Societal / Regional Implications:

The CIP code change to our graduate construction & facilities program aligns the program with expectations of our industry partners looking to employ alumni of the program. The Master of Science in Construction & Facilities program is a technical program designed to provide the construction education necessary to work across all areas of the construction industry (residential, commercial, industrial sectors, infrastructure, and heavy horizontal construction) and related careers such as real estate and land development, infrastructure development, code enforcement, and insurance, among others. The technical focus of the program prepares students to participate across the spectrum of construction engineering design, operations, and management. The degree prepares graduates to design construction operations; specify materials, means and methods; evaluate engineering alternatives/propose value engineering solutions; estimate costs; exercise cost control; develop and manage technical schedules; provide quality assurance/quality control oversight; participate in commissioning; and operate and manage facilities during the

lifecycle of the projects. The program is a technically-oriented, STEM degree program which requires an understanding of mathematics, science, engineering, advanced technologies and construction principles and practices.

Construction continues to be a major industry within the US economy. The industry as a whole produces approximately \$1.3 trillion annually, which accounts for 4.3 percent of GDP [BEA], and employs 6.7 million people [BLS]. The industry has experienced a strong and rapid recovery from the Great Recession, and is forecast to continue to grow at 5 to 7 percent annually in the coming years. Growth in the southeastern region, and Charlotte in particular, is forecast to be higher than average. Charlotte is the nation's "busiest submarket" for multi-family housing construction, and construction in the Charlotte metropolitan service area (MSA) is forecast to grow at 8 percent, which places it in the top 20 MSAs nationally for construction growth. This growth, coupled with the increased complexity of projects and the systems through which they are procured, results in the need for an educated professional workforce to manage and deliver design, construction, and facility operations and maintenance services. The construction market in the Greater Charlotte and surrounding regions are robust and can utilize this program.

Currently, the Master of Science in Construction and Facilities program expects to enroll approximately 47 students in fall 2020. The projected enrollment for fall 2020 includes 35 international students of which 86% (30/35) hold an undergraduate engineering degree. Similarly, 67% of domestic students (8/12) in fall 2020 hold an undergraduate engineering degree. The requested change in CIP code status will allow us to recruit additional construction students specifically seeking a graduate degree in construction engineering, and is expected to produce an increase in enrollment in subsequent years.

The Construction & Facilities Management faculty is comprised of engineers and construction professionals who have many years of design and construction experience in industry, construction and consulting environments. The faculty delivering the program also delivers the undergraduate Construction Management program. Faculty size and qualifications are outstanding to support the program. Faculty members in Construction include: Dr. Nicole Barclay, Dr. Anthony Brizendine, Dr. Tara Cavalline, Dr. Don Chen, Dr. Tina Chen, Dr. Tom Nicholas, Dr. Claudia Martins, Dr. Glenda Mayo, Dr. Carlos Orozco, Dr. Stephanie Pilkington, Dr. Jocelyn Rice-Boayue, Dr. Alison Sears, Dr. Rachael Sherman, Dr. Omid Shoghli, Dr. Jake Smithwick, and Dr. Wiemin Wang. The following non-tenure track teaching faculty also contribute to the undergraduate construction program: Mr. Thomas Beggs, Mr. Ben Smith, Mr. Ron Graham, Mr. Wayne Goff, Mr. Dallas Schwerin, and Mr. David Yarbrough. Our Construction engineering and management faculty is well qualified, current, and professionally engaged with many faculty holding professional licensure or certifications such as PE, LEED AP, CDT, PMP, or similar.

The Charlotte regional construction industry currently aggressively recruits both our BS and MS Construction graduates. Our Construction Career & Internship Fair has been overbooked the past three years with companies (60+ companies) recruiting our students. Our industry partners and our Construction Industry Advisory Board support the change requested in this memorandum.