Request for Authorization to <u>Establish</u>
Bachelor of Science (BS) in Cybersecurity
CIP 11.1003
The University of North Carolina at Pembroke

I.   Program Highlights

- The University of North Carolina at Pembroke (UNCP) proposes the establishment of a Bachelor of Science in Cybersecurity.
- UNCP currently offers cybersecurity tracks within the existing BS in Computer Science and BS in Information Technology degree programs, which have shown significant growth since they were established, suggesting that student demand for cybersecurity programs is high.
- The BS in Cybersecurity program includes a solid foundation in mathematics and computer science that will prepare students for success in the cybersecurity curriculum.
- Through hands-on labs, real-world case studies, and undergraduate research, this program will prepare students for a variety of information security jobs across government, private, and non-profit sectors. To meet anticipated demand, the cybersecurity workforce needs to grow by 145 percent globally and by 62 percent within the United States, per the (ISC)² Cybersecurity Workforce Study, 2020.
- As a minority-serving institution, UNCP is uniquely positioned to address diversity needs within the field of cybersecurity by increasing regional access to a growing and lucrative career path.
- Although UNCP anticipates that many graduates will gravitate towards areas with significant cybersecurity opportunities, local industry partnerships will create a sustainable pipeline for cybersecurity talent in the region.

II.   Academic Program Planning Criteria (Section 400.1 of the UNC Policy Manual)

1. **Relation to Campus Distinctiveness and Mission.** This program will enhance the university's offerings in the STEM disciplines and provide an opportunity for the university's diverse student body to acquire the skillset needed to fill the demand for cybersecurity talent across North Carolina.

2. **Student Demand.** The university's enrollment in cybersecurity tracks within computer science and information technology has increased 119 percent since 2019 and 44 percent in the past year. When surveying regional high school students, 53 percent expressed interest in a cybersecurity program. Additionally, 90 percent of the college students within mathematics and computer science indicated that they would be interested in pursuing a BS in Cybersecurity.

3. **Employment Opportunities for Graduates.** The demand for cybersecurity training continues to grow as companies rely on technology for secure administration of services. According to cyberseek.org, there were 597,767 cybersecurity job openings in the United States from October 2020 through September 2021, including 21,010 jobs in North Carolina. North Carolina stands in sixth place among states with the highest demand for information security analysts. Information security analysts earn, on average, $119,980 in NC and $93,840 in the southeastern region of the state, according to information obtained in April 2022 from O*NET Online, a primary source of occupational information development under the sponsorship of the U.S. Department of Labor and North Carolina Department of Commerce.

4. **Impact on Access and Affordability.** As an NC Promise institution, UNCP provides a high-quality education while charging students a very low tuition rate. The median total debt for a student at UNCP after graduation is $22,000 and the expected monthly loan payment is $210. The expected monthly salary for a UNCP CS/IT graduate is $3,583, and cybersecurity graduates are expected to have an even higher earning potential. Receiving a degree in cybersecurity from an NC Promise institution will have a high return on investment.

   UNCP is not requesting any program-specific fees or tuition differentials for this program. Tuition and fees for the 2022-23 academic year full-time (12+/9+ credit hour) rates are as follows:

   2022-23 Full-Time Undergraduate Tuition and Fees per Year (In Dollars)

Category	Resident	Non-Resident
Tuition	NC Promise Tuition $1,000	NC Promise Tuition $5,000
Tuition Differential	--	--
Mandatory Fees (Athletics, Student Activities, Health Services, Educational & Technology, Campus Security, Debt Service, ASG)	$2,490	$2,490
Special Fees	--	--

5. **Expected Quality.** The program will consist of 120 semester credit hours, including 44 credit hours of university college core curriculum, 40 credit hours in foundational courses in computer science and mathematics, 25 credit hours in cybersecurity specialized courses, and 11 elective hours. Hands-on labs, real-world case studies, and undergraduate research will be integral parts of this curriculum. The department is in the process of applying for a designation of academic excellence from the Center for Academic Excellence in Cyber Defense Education (CAE-CDE) for the department's two existing cybersecurity tracks. The department will apply for the same designation for the BS in Cybersecurity in the second year of the program. The program is based on ABET accreditation requirements, but an application for ABET accreditation cannot be submitted until students have graduated from the program.

6. **Faculty Quality and Number.** The Department of Mathematics and Computer Science includes 13 tenured or tenure-track faculty members with terminal degrees, one of which is an endowed professor. Six faculty teach in the computer science and information technology areas and the department is currently hiring an additional assistant professor. The proposed program will require four new full-time core faculty, including the program coordinator, to be hired in a phased approach. A tenure-track faculty member has already been hired to serve as the coordinator for the proposed program beginning in fall 2022.

7. **Relevant Lower-level and Cognate Programs.** The Department of Mathematics and Computer Science offers Bachelor of Science degrees in Computer Science, Information Technology, and Mathematics. Cybersecurity concentrations are currently offered in computer science and information technology. The proposed program will be built on the fundamentals of computer science and mathematics and expand beyond what is offered in the concentrations. Aside from general education courses, all required courses for this program will be offered by the home department.

8. **Availability of Campus Resources (library, space, etc.)** A well-equipped, dedicated cybersecurity lab was established two years ago. The university plans to spend $45,000 for facility repair and renovation in the first five years of the program and, in the third and fourth years, the university has allocated $100,000 and $50,000 respectively to new facility construction or expansion. Funding will come from reallocation of existing resources in the first year, supplemented by tuition revenue in the second year. A combination of enrollment funding, tuition funding, and the reallocation of existing resources will provide funding in the third, fourth, and fifth years. The Mary Livermore Library provides sufficient resources for the two cybersecurity concentrations, including books, databases, eBooks, videos, and journals. The library also provides discipline-specific support upon request and shares in the inter-library loan reciprocal agreement with other UNC System libraries.

9. **Existing Programs (Number, Location, Mode of Delivery).** University of North Carolina Wilmington currently offers the only other BS in Cybersecurity program in the UNC System. The Board of Governors of the University of North Carolina System recently approved the degree program to begin admitting students in fall 2022, pending approval by the Southern Association of Colleges and Schools Commission on Colleges. This program will be offered face-to-face.

10. **Potential for Unnecessary Duplication.** The establishment of this program will not create unnecessary program duplication. The UNCP full-fledged undergraduate program in cybersecurity is built on solid computer science fundamentals, including foundational, technical, and non-technical core knowledge. The BS in Cybersecurity at UNCP will fulfill an unmet need, as the demand for cybersecurity professionals is high and the supply is insufficient.

11. **Feasibility of Collaborative Program**. The proposed cybersecurity program will be offered face-to-face. UNCP is collaborating with University of North Carolina at Charlotte, which offers a Master of Science in Cybersecurity and a BS in Computer Science with a concentration in cybersecurity. The goal is to develop a graduate pathway for UNCP students to enter the UNC Charlotte master's program. Additional meetings are planned to discuss grant proposal collaborations.

    UNCP is in close proximity to Fort Bragg, the largest U.S. Army installation and the home of the elite Military Special Operations Forces. The university has made a major commitment to providing higher education pathways for military-affiliated students through main campus programs, online learning, and offsite course offerings at partner institutions. The Office of Academic and Military Outreach serves as a liaison to provide opportunities for military-affiliated students.

III. **Summary of Review Processes**

1. **Campus Review Process and Feedback.** The program proposal was reviewed and approved by faculty in the Department of Mathematics and Computer Science, as well as the Dean of the College of Arts and Sciences, Curriculum Subcommittee of the Faculty Senate, Faculty Senate, Provost, Chief Financial Officer, and Chancellor.

2. **UNC System Office Review Process and Feedback.** Throughout the review process, UNCP provided relevant information pertaining to program requirements and resources. The institution submitted appropriate documentation and research to support the statements made.

IV.   **Recommendation**

It is recommended that the UNC Board of Governors approve University of North Carolina at Pembroke's request to establish the Bachelor of Science (BS) in Cybersecurity (CIP 11.1003) effective fall 2022.

Request for Authorization to Establish
Master of Science (MSOT) in Occupational Therapy
CIP 51.2306
The University of North Carolina at Pembroke

I.　　Program Highlights

- The University of North Carolina at Pembroke (UNCP) proposes the establishment of a Master of Science in Occupational Therapy (MSOT).
- The program will focus on preparing healthcare professionals to practice in rural southeastern North Carolina, where there is a critical shortage of occupational therapy services. The program is intended to improve the supply of health professionals in the region, increase the racial and ethnic diversity of the healthcare workforce, and provide access to well-paying healthcare jobs. The degree program will also expand access to healthcare for an underserved population.
- Occupational therapy is focused on the capacity to participate in meaningful daily activity, with the goal of improving health and well-being. The proposed program aligns with the mission of the college and university to provide curricular content, learning activities, and scholarship opportunities designed to improve health and wellness outcomes and the quality of life for individuals, families, and communities, as well as enhance the intellectual, cultural, economic, and social life of the region.
- UNCP will be the only public institution in southeastern North Carolina offering a graduate degree in occupational therapy and would be able to offer students an occupational therapy program that is more affordable than programs at private institutions. Students seeking graduate degrees at UNCP are drawn overwhelmingly from the university's service region and largely follow a pattern of working in the region upon graduation.
- Occupational therapists practice in a variety of settings, including home healthcare agencies, rehabilitation centers, hospitals, medical centers, and long-term care facilities. Students graduating from the program are eligible to sit for the licensure examination offered through the National Board for Certification in Occupational Therapy (NBCOT) and to apply for a licensure to practice occupational therapy in all states, the District of Columbia, and Puerto Rico.

II.　　Academic Program Planning Criteria (Section 400.1 of the UNC Policy Manual)

1. **Relation to Campus Distinctiveness and Mission.**
   In 2017, the North Carolina State Legislature commissioned the University of North Carolina Board of Governors to study the feasibility of establishing a School of Health Sciences and Health Care at UNCP. Based upon the findings of this study, UNCP established the College of Health Sciences in 2018 and began the phased implementation of "a continuum of care designed to address the clear, present, and persistent health factors and outcomes which have become a generational plague on southeastern North Carolina". This included the planning and implementation of a program in occupational therapy and other health-related programs.

2. **Student Demand.**
   Information on applications, enrollment, and degrees awarded from similar programs at other public and private institutions in NC suggests that there is significant student demand for the MSOT across the state. In a 2019-2020 interest survey conducted among UNCP students, 87

percent of the approximately 200 respondents reported that they would be extremely likely or somewhat likely to apply to an occupational therapy program if offered by UNCP.

3. **Employment Opportunities for Graduates.**
    According to the U.S. Bureau of Labor Statistics, employment of occupational therapists is projected to increase 16 percent from 2019 to 2029, much faster than the average for all occupations. In 2021, there were 3,855 jobs for occupational therapists in NC, 576 more than the year before, with an increase of 14.9 percent. Median salary in NC was $80,741. The number of occupational therapists per 10,000 population in the counties which house and surround UNCP falls well below the state average, underscoring the need for additional occupational therapists in rural, southeastern NC.

4. **Impact on Access and Affordability.**
    UNCP has historically offered lower tuition for graduate education compared to other institutions within the UNC System and significantly lower tuition in comparison to private institutions. Based on current tuition, fees, and insurance rates at UNCP, a resident student who completes the MSOT in two years would incur a total cost of approximately $26,785. A student who completes the degree at a private institution would pay as much as five times more. If a new UNCP graduate borrowed the total cost and earned $72,667, ~90 percent of the median annual wage, the graduate following the traditional admissions pathway would have a back-end debt to income ratio of 37 percent. This is consistent with the benchmark of 35 percent for back-end debt to income ratio for student loans.

    UNCP is requesting a $2,000 tuition differential for this program. Tuition and fees for the 2022-2023 full-time (9+credit hour) rates are as follows:

    Full-Time 2022-2023 Master's Tuition and Fees per Year (In Dollars)

Category	Resident	Non-Resident
Tuition	$4,280.00	$17,339.00
Tuition Differential	$2,000.00	$2,000.00
Mandatory Fees (Athletics, Student Activities, Health Services, Educational & Technology, Campus Security, Debt Service, ASG)	$2,495.76	$2,495.76
Special Fees	--	--

5. **Expected Quality.**
    The MSOT at UNCP will require the completion of 78 semester credit hours of required coursework over five semesters and 15 semester credit hours of field experiences. There will be two routes of admission: a traditional bachelor's entry and a 3+2 accelerated-entry pathway. The proposed MSOT program will obtain specialty accreditation from the Accreditation Council for Occupational Therapy Education (ACOTE®).

6. **Faculty Quality and Number.**
    Faculty must hold graduate faculty status to teach graduate level courses at UNCP. Graduate faculty in the MSOT program will be expected to engage in service activities and scholarly research. UNCP anticipates the hiring of eight additional full-time faculty members, including the

department chair/program coordinator and field coordinator, as well as several adjunct faculty members.

7. **Relevant Lower-level and Cognate Programs.**
Students pursuing the Pre-Physical/Occupational Therapy track within the BS degree in Biology or the Pre-Health Professions specialization within the BS degree in Chemistry can obtain two years of required college preparation for pursuing a degree in occupational therapy. UNCP also offers undergraduate and graduate degrees in other health science fields, including nursing, social work, and counseling.

8. **Availability of Campus Resources (library, space, etc.)**
The Weinstein Health Sciences facility (2012) is designed to house this program. Some renovation will be required to create appropriate lab space for clinical practice. In 2021, the NC State Legislature appropriated $91 million to UNCP for the construction of a new STEM/Health Sciences building, which may eventually house the MSOT program. The Mary Livermore Library has holdings that are adequate to support the instructional and research needs of the MSOT.

9. **Existing Programs (Number, Location, Mode of Delivery).**
Within the UNC System, the University of North Carolina at Chapel Hill, East Carolina University, and Winston-Salem State University offer the MSOT. The Board of Governors of the University of North Carolina System recently approved Appalachian State University to offer this degree. The MSOT is offered primarily as a face-to face program at the three UNC System institutions that currently enroll students.

10. **Potential for Unnecessary Duplication.**
UNCP will be the only public institution in southeastern NC to offer a graduate degree in occupational therapy. The proposed MSOT program at UNCP will distinguish itself from the other three UNC MSOT programs by recruiting, enrolling, and retaining an increased number of minority students, especially those from rural counties in NC.

11. **Feasibility of Collaborative Program**.
UNCP and Appalachian are proposing a collaboration to use resources more efficiently and provide students at both institutions with a broader array of experiences. This collaboration may include sharing faculty with complementary areas of expertise, collaboration on student research experiences, collaboration on inter-professional learning activities, sharing clinical opportunities, and continuing education or special programs/conferences.

III. **Summary of Review Processes**

1. **Campus Review Process and Feedback.**
All program proposals are approved through the university curriculum development and revision process, which includes review by the department faculty, department chair, dean, and provost. It also includes review by the Curriculum Subcommittee and Academic Affairs Committee of the Faculty Senate, as well as the Faculty Senate as a whole.

2. **UNC System Office Review Process and Feedback.** Throughout the review process, UNCP provided relevant information pertaining to program requirements and resources. The institution submitted appropriate documentation and research to support the statements made.

IV.   Recommendation

It is recommended that the UNC Board of Governors approve UNCP's request to establish the Master of Science in Occupational Therapy (CIP 51.2306) effective fall 2024.

Request for Authorization to <u>Discontinue</u>
Bachelor of Science (BS) in Neurodiagnostics and Sleep Science
(CIP 51.0999)
University of North Carolina at Charlotte

Overview: The Bachelor of Science in Neurodiagnostics and Sleep Science (51.0999) at the University of North Carolina at Charlotte will be <u>discontinued</u> effective fall 2023. The request to permanently discontinue the degree program was approved by the head of the program, appropriate institutional bodies, and the provost.

The program is being discontinued due to no longer being a priority for UNC Charlotte. Current students enrolled in the program can complete remaining required coursework by the spring 2023. There will be no impact on faculty or staff due to this discontinuation.

Recommendation: It is recommended that the Board of Governors of the University of North Carolina System approve the UNC Charlotte's request to discontinue the Bachelor of Science in Neurodiagnostics and Sleep Science (51.0999) effective fall 2023.