SD1724S: APC 20 (MSCR):

THE UNIVERSITY OF NORTH CAROLINA SYSTEM

New Academic Degree Program Request to Establish

Institution: UNC Asheville

Degree Program Title (e.g., M.A. in Biology): M.S. in Climate Resilience

Reviewed and Approved By (Provide Name and title only. No signature required in this section.)

Review	Name	Title
Faculty Senate Chair (Or appropriate body)	Dee Eggers	Associate Professor, Faculty Senate Chair
Graduate Council (If applicable)	n/a	
Graduate/Undergraduate Dean (If applicable)	Lei Han	Interim Dean of Special and Graduate Programs
Academic College/School Dean	n/a	
Department Head/Chair	n/a	
Program Director/Coordinator	tbd	

New Academic Program Process

New academic programs are initiated and developed by faculty members. The Request to Establish a New Academic Degree Program must be reviewed and approved by the appropriate individuals listed above before submission to the UNC System Office for review.

Please provide a succinct, yet thorough response to each section. Obtain signatures from the Chancellor, Provost, and Chief Financial Officer, and submit the proposal via the PREP system to the UNC System Vice President for Academic Program, Faculty, and Research, for review and approval by the UNC System Office. If the Request to Establish is approved by UNC System Office staff, it will be submitted the proposal for review and approval by the UNC Board of Governors.

UNC Institution Name	UNC Asheville
Joint Degree Program (Yes or No)? If so, list partner.	No
Degree Program Title (e.g., M.A. in Biology)	M.S. in Climate Resilience
CIP Code and CIP Title (May be found at National Center for Education Statistics)	03.0103
Require UNC Teacher Licensure Specialty Area Code (Yes or No). If yes, list suggested UNC Specialty Area Code(s).	No
Proposed Delivery Mode (campus, online, or site-based distance education). Add maximum % online, if applicable.	Campus
Will this program be offered through an Online Program Manager (OPM)? If yes, list the OPM.	No
If requesting site-based delivery, indicate address(es), city, county, state, and maximum % offered at site.	n/a
Proposed Term to Enroll First Students (e.g., Fall 2023)	Fall 2025

Do the following sections of your previously submitted and approved Request for Preliminary Authorization to Develop a New Academic Degree Program document require any change or updated information? If yes, note the items and explain.

Category	Yes or No	Explanation (if applicable)
SACSCOC Liaison Statement	No	
Review Status (campus bodies that reviewed and commented on Letter of Intent)	No	
Program Summary	No	
Student Demand	No	
Access and Affordability	No	
Societal and Labor Market Demand	Yes	Additional Lightcast data on Climate Resilience as a desirable skill; see Section XIII below
Doctoral Specific Questions	n/a	

I. Program Summary

a. Describe the proposed program, including the overall rationale for its development. Include a discussion of how this program supports the specific mission of the institution and of the broader UNC System. Why is this program a necessary addition for the institution?

b. What are the key objectives of the program? What are the expected benefits for the student who graduates from the program? What are the expected public benefits (at the local, regional, state, or national level) of this program?

Description of the program

The goal of the UNC Asheville M.S. in Climate Resilience (MSCR) program is to develop trained practitioners who will help our communities become more resilient to climate change. Through coursework and an applied capstone project, MSCR students will gain foundational knowledge and practical skills, uniquely preparing them for jobs in a growing sector. The program will draw on faculty expertise from across the disciplines and work closely with the National Environmental Modeling and Analysis Center (NEMAC), building on its already strong connection with UNC Asheville. A current UNC Asheville faculty member will be appointed by the Provost to serve as the MSCR program director. In addition to normal administrative responsibilities, the director will be expected to teach in the program and oversee recruitment efforts.

We anticipate a cohort size of 12-15 students each year who should have completed three prerequisite introductory courses in their undergraduate education: a relevant natural sciences course (i.e., atmospheric science, chemistry, environmental science/studies, or physics), economics, and statistics. Each cohort of students will complete 30 credit hours in a Fall-Spring-Summer sequence, including an applied research capstone project. Students will learn the MSCR conceptual framework in the Fall, build their applied skills and begin working with a community partner in the Spring, and complete a capstone project designed according to the specific needs of their community partner during the Summer. The student, working with a community partner, will identify unique and potentially disruptive vulnerabilities to climate impacts and propose policies and improvements to increase resilience to such impacts.

The curriculum detailed below emphasizes practical skills. MSCR students will learn to understand and analyze complex data sets that integrate ecological and socioeconomic measures using both statistical and spatial analysis. Students will see examples of climate resilience and adaptation plans and, as their capstone project, create one of their own based on the needs of their community partners. The knowledge and skills developed in this curriculum align with current job postings for climate resilience analysts and specialists. In designing the curriculum, we consulted a framework document created by the American Society of Adaptation Professionals and a recently released practitioner's guide for resilience developed by the National Oceanic and Atmospheric Administration (NEMAC was a contributor). We also had several conversations with climate resilience experts, including Jim Fox, the former NEMAC Director.

How MSCR differs from other UNC System programs

The UNC Asheville MSCR program will be distinct from other UNC System programs. While there are 16 Master's programs in the UNC System with CIP 03 (Natural Resources and Conservation), none of these programs explicitly address climate resilience. Further, these programs are offered at UNC-Chapel Hill, NCSU and UNC Wilmington; ours would be the only advanced degree program west of the Research Triangle.

Currently, the UNC System has only one program with "climate" in its title – NCSU's Master's in Climate Change and Society (CCS). While some similarities exist between CCS and the proposed MSCR, there are several important differences. First, the MSCR capstone project is a 6-credit hour experience preceded by a 3-hr internship with a community partner. The expanded project and early relationship-building allows students to create detailed and relevant products. Second, the MSCR capstone project is a highly focused practicum during which students will create adaptation/resilience plans designed to mitigate harm from climate impacts. Third, MSCR will create working professionals that local and state governments need in order to plan for climate impacts and adaptation. This focus of the MSCR program on professional skills is narrower in scope than CCS.

In the recent past, associated with our MLAS program, UNC Asheville offered post-baccalaureate certificates in *Climate Change and Society* and in *Environmental and Cultural Sustainability*. Based on declining interest in the MLAS program, we made the decision to phase it out, admitting no new students after Spring 2019, and have now formally discontinued the program. We are also terminating the post-bac certificates because of their association with the program. We expect the MSCR to attract students interested in climate in ways that the certificate program could not because:

–MSCR provides a degree rather than a certificate, much more attractive to both students and employers;

–The certificate was buried within the MLAS program rather than having its own identity,

–The certificate was only intended to provide an option for local students and was never marketed to a broader audience, while the MSCR will be broadly advertised and promoted, both across North Carolina and beyond.

While the MSCR is similar in some ways to the certificate, and builds on similar campus expertise in the relationship between climate science and public policy, we anticipate that it will have much more visibility and will be a much more desirable program for students interested in the field.

How MSCR supports UNC Asheville and UNC System Missions

The MSCR program supports the missions of both UNC Asheville and the UNC System. According to UNC Asheville's Mission Statement, a UNC Asheville education prepares students for "leadership and service" while emphasizing "applied research" and "community engagement." Additionally, UNC Asheville's graduate programs should "address the most pressing issues of our time." The MSCR program was designed to precisely support these components of UNC Asheville's mission statement. While UNC Asheville is and will continue to be primarily undergraduate, our mission statement and institutional revitalization plans incorporate carefully-selected graduate programs. As an explicitly interdisciplinary program, blending climate and data science with public policy, MSCR is very much in line with our public liberal arts mission. In addition, the Asheville community has a substantial climate community, particularly as the location of NOAA's Centers for Environmental Information (NCEI), which includes the National Climatic Data Center (NCDC). These community partners, along with NEMAC, and the explicitly interdisciplinary nature of the program make MSCR ideal to be the first new graduate program for UNC Asheville since the MLAS.

The UNC System Mission is to "discover, create, transmit, and apply knowledge to address the needs of individuals and society." MSCR graduates will play a key role in helping individuals and society prepare for and adapt to climate impacts. This essential work is grounded in the program's coursework and practicum, during which students will learn to transmit and apply their knowledge to the needs of their community partners. The MSCR program will also help the UNC System meet many of its goals outlined

in the 2022-2027 Strategic Plan. Specifically:

Goal 4: Increase graduate student success: UNC Asheville has experienced and dedicated faculty and staff who prioritize student success and effective instruction. Our small size, close relationships with students, and emphasis on multidisciplinary teaching is well-suited for the MSCR program
Goal 6: Increase affordability: The MSCR program is designed as a one-year program to decrease both the time to degree and overall cost.
Goal 7: Improve University productivity: The MSCR program will make use of existing resources (both personnel and infrastructure) at UNC Asheville and leverage long-standing community partnerships with local, state, and federal organizations. In addition, as a one-year program, the MSCR program should reduce Education and Related Expenses per degree for UNC Asheville.
Goal 8: Increase the System's contribution to the state's critical workforces: The MSCR program will create a new type of STEM professional critically needed at the local and state level. MSCR will be the only UNC System program designed with the climate resilience workforce in mind.

II. **Program Planning and Unnecessary Duplication**:

a. List all other public and private four-year institutions of higher education in North Carolina currently operating programs similar to the proposed new degree program, including their mode of delivery (use the 4-digit CIP as a guide). Show a four-year history of applications, acceptances, enrollments, and degrees awarded in similar programs offered at other UNC institutions (using the format below for each institution with a similar program). If data was not available, mark not available. Programs at UNC institutions may be found on the UNC System website.

While there are three programs with CIP 03.0103, two of them are wholly dissimilar from this program, being in Environmental Studies (UNCW) and Landscape Architecture (NCSU). As a result, we are reporting information only for NCSU's Master's program in Climate Change and Society, kindly provided to us by their program:

Institution	**North Carolina State University**			
Program Title	Climate Change and Society			
Academic Year	2020-21	2021-22	2022-23	Fall 2023
Applications	21	23	18	31
Acceptances	18	20	15	26
New Enrollment	9	12	6	10
Total Enrollment	10	14	13	18
Total Degrees Awarded	6	6	10	na

b. Describe what was learned in consultation with other programs regarding their experience with student demand and job placement. Indicate how their experiences influenced your enrollment projections.

We consulted with faculty at North Carolina State University who lead the Climate Change and Society program. Our team had a teleconference with Drs. Walt Robinson and Jay Levine, co-directors of the CCS program, and Dr. Roberta Mera, Associate Program Coordinator on November 1, 2023. This program is the only one in the UNC system that remotely resembles our proposed MSCR. This program, like ours, is not focused on research in climate science but instead on application to both the public and the private sector. We heard concerns about program duplication and competing for the same group of students, but we believe that the marked growth in demand for students with a Master's degree and skills in Climate Resilience (see below) suggests sufficient demand from both prospective students and potential employers to support these two programs. In addition, our conversation confirmed the substantive differences noted above, in addition to the facts of geography (our campuses are separated by over 200 miles).

A particular challenge cited by our colleagues at NCSU was the lack of scholarship support, common for applied rather than research-oriented graduate study. This too will be a challenge for us, but we believe that providing this degree in one year's time, along with the significant ROI discussed in our Request for Preliminary Authorization and the growth in demand for these skills, will make it an attractive program for students.

c. Identify opportunities for collaboration with institutions offering related degrees and discuss what steps have been or will be taken to actively pursue those opportunities where appropriate and advantageous.

We discussed the possibility of collaboration with NCSU's Climate Change and Society program in curriculum delivery. While our program is currently proposed to be delivered entirely in person, while CCS has a significant portion of the curriculum delivered online, it is entirely possible for us to enable our students to use an NCSU course as one of their electives. It is also possible for us to develop a collaborative course that taps into our relationships with the local climate community, particularly NEMAC, NCEI, and NCDC, discussed above.

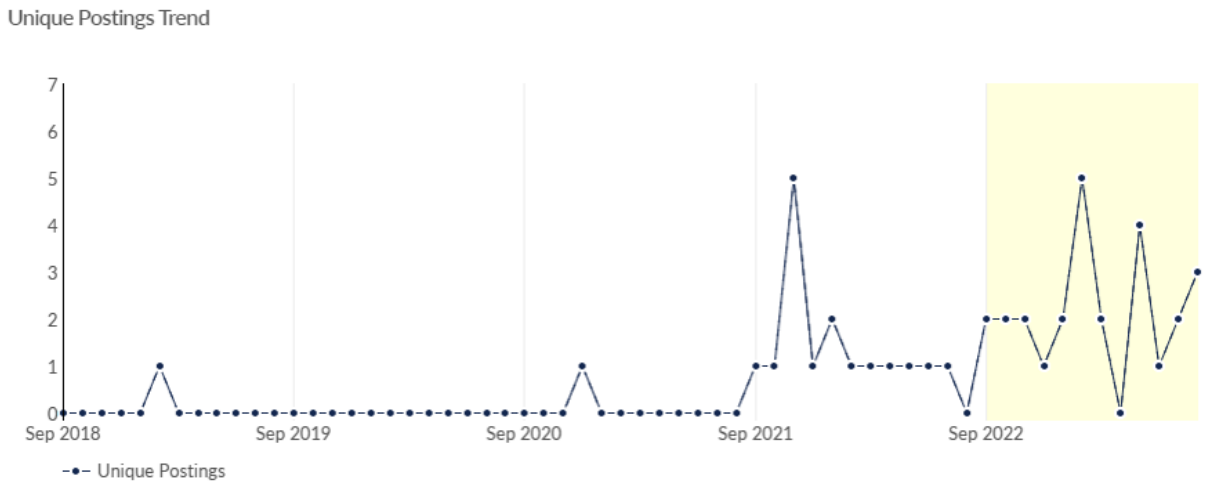
d. Present documentation that the establishment of this program would not create unnecessary program duplication. In cases where other UNC institutions provided similar online, site-based distance education, or off-campus programs, directly address how the proposed program meets unmet need.

As noted above, there is only one other program in the UNC system that remotely resembles this program, NC State's Climate Change and Society program. Despite relatively low application numbers for that program, we believe that this program does not create unnecessary program duplication because demand for skills in climate resilience at the Master's level is growing significantly, both in North Carolina and nationally, and there are advantages to locating a program of this kind in Asheville.

After consulting with Lightcast, we discovered that they have recently added "climate resilience" as a skill in their analysis of job postings. In North Carolina alone, from September 2022 to August 2023 there were 26 unique job postings requiring or recommending a master's degree and the skill of "climate resilience," with a median salary of $93,400. This is a recent phenomenon increasing in scale, as the

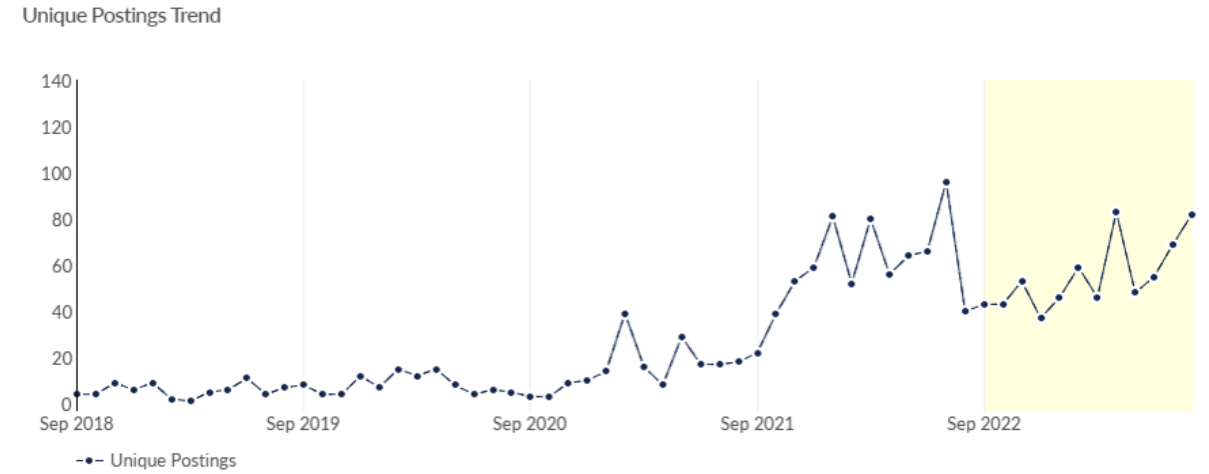
following chart of postings in North Carolina over time noting this skill, built in Lightcast, shows:

Job postings in North Carolina requiring/recommending a Master's degree and the skill "Climate Resilience":



Similarly, for the United States, there were 664 unique job postings requiring or recommending a master's degree and the skill of "climate resilience," with a median salary of $87,300, and an even sharper increase in postings over the last two years:

Job postings in the United States requiring/recommending a Master's degree and the skill "Climate Resilience":



Clearly, climate resilience is a skill that is more and more desirable in the labor market, increasing acutely over the last two years. This proposed program is ahead of the curve in meeting this growing demand.

In addition, Asheville has solidified its reputation as a prominent center for climate expertise within North Carolina, hosting a cluster of institutions that spearhead cutting-edge climate research and services. At its core lies the NOAA's National Center for Environmental Information, renowned for its role as a key repository of environmental and climatic data, significantly advancing our comprehension of

Earth's evolving climate. Complementing this is the North Carolina Institute for Climate Studies (NCSU), which stands as another cornerstone of this climate-focused community, actively contributing to research and knowledge dissemination of climate data. Moreover, within the downtown federal building, several members of NOAA's Climate Program Office staff lead research programs aimed at applying climate science to bolster resilience and adaptation efforts.

What sets Asheville apart is the broader array of climate expertise beyond federal agencies, including a dynamic network of private and public partners. Organizations such as the Southeast Sustainability Directors Network (SSDN) and the Urban Sustainability Directors Network (USDN), alongside firms like Fernleaf and CASE International, have chosen Asheville as their operational base, further enriching the local climate landscape, each with a strong emphasis on community resilience and adaptation. In conjunction with these private entities, the City of Asheville and regional councils like the Land of Sky Regional Council and the Southwest Regional Council actively participate in climate resilience initiatives, offering a distinctive opportunity for collaboration between the academic and public sectors. The co-location of these diverse stakeholders creates a unique environment, particularly beneficial for the Masters in Climate Resilience (MSCR) program, that can facilitate connections between MSCR students and community partners for the purpose of the summer practicum course.

e. Admission. List the following:
    i. Admissions requirements for proposed programs (indicate minimum requirements and general requirements).

- Completed Bachelor's degree in any field, with a minimum undergraduate GPA of 2.5; strongest applicants will have at least 3.0.
- At least one course in Economics, one course in Statistics, and one course in Atmospheric Sciences, Environmental Studies, Chemistry, or Physics.

    ii. Documents to be submitted for admission (listing)

- Personal statement
- Curriculum Vitae
- Two letters of recommendation
- Undergraduate transcripts

f. Degree requirements. List the following:
    i. Total hours required. State requirements for Major, Minor, General Education, etc.

Thirty hours required, typically completed in one year (Fall-Summer).

    ii. Other requirements (e.g., residence, comprehensive exams, thesis, dissertation, clinical or field experience, "second major," etc.).

Successful completion of a capstone project with a community partner in CLIM 599.

g. Enrollment. Estimate the total number of students that would be enrolled in the program during the first year of operation and in each delivery mode (campus, online, site, etc.)

	Campus	Online	Site	Full-Time	Part-Time
Year 1	10			10	
Year 3	12			12	
Year 5	15			15	

h. For graduate programs only, please also answer the following:

Grades required	
Amount of transfer credit accepted	None
Language and/or research requirements	None
Any time limits for completion	Two years

i. For all programs, provide a degree plan showing the sequence of courses to be taken each year. List courses by title and number and indicate those that are required. Include an explanation of numbering system. Indicate new courses proposed. A possible format is offered below as an example. If your institution uses a different format that provides the required information, it may be submitted instead.

At UNC Asheville, any courses numbered 500 and above are at the graduate level. In this numbering scheme, 50x are required Fall courses, 51x required Spring courses, 52x electives, and 599 the summer capstone practicum.

Year 1	Course No.	Course Title	Required (Y/N)	New (Y/N)	Brief Description (If New Course)
Fall	**CLIM 501**	**Introduction to Climate Science**	Y	Y	An introduction to what is known about Earth's climate system and how we know it. Topics could include radiation budgets, global warming potential, El Niño-Southern Oscillation, and global temperature records.
Fall	**CLIM 502**	**Economics of Climate Resilience**	Y	Y	An Introduction to the economics of climate resilience. Course covers theory, methods, and data necessary for identifying distributional impacts of climate change and climate resilience policies. Topics include poverty and vulnerability, cost-benefit analysis,

					distributional analysis, and resilience metrics.
Fall	**CLIM 503**	**Introduction to Geographic Information System Technologies**	Y	Y	An introduction to GIS software and data sets. Topics could include GIS data structures and collection, principles of map design, and characteristics of spatial data.
Fall	**CLIM 504**	**Climate Resilience Foundations: Theory and Practice**	Y	Y	This course leverages the U.S. Climate Resilience Toolkit's Steps to Resilience framework. Students will acquire a thorough comprehension of principles and strategies to effectively navigate the challenges presented by climate change. Students will focus on the components of equity-centered community resilience plans.
Spring	**CLIM 511**	**Using and Communicating Models of Hazards, Risk, and Vulnerability**	Y	Y	Students will assess, interpret, and convey data and information for the purpose of decision-making and resilience. Topics include evaluating exposure to climate-related hazards, identifying the vulnerability of community assets by enumerating qualities of sensitivity and adaptive capacity, and understanding and communicating risk.
Spring	**CLIM 512**	**Internship with Community Partner and Project Proposal Development**	Y	Y	Students will identify a community partner organization and design a proposal for a climate resilience plan.
Spring	**CLIM 513**	**Advanced Geographic Information System Technologies**	Y	Y	Building on CLIM 503, topics could include spatial concepts of vulnerability, exposure, and risk using a variety of hazard data.
Spring	**CLIM 521**	**Communicating Climate Change**	N	Y	A survey of climate information campaigns and research-based strategies for interpreting and addressing claims about climate. Topics could include behavioral economics, inoculation theory, and media literacy.
Summer	**CLIM 599**	**Applied Climate Resilience Practicum**	Y	Y	Development of a capstone project in close consultation with a community partner organization.

III. Faculty

a. (For undergraduate and master's programs) List the names, ranks and home department of faculty members who will be directly involved in the proposed program. The official roster forms approved by SACSCOC may be submitted. For master's programs, state or attach the criteria that faculty must meet in order to be eligible to teach graduate level courses at your institution.

UNC Asheville follows SACSCOC standards for credentialing faculty, which for graduate courses includes an earned doctorate or terminal degree in the teaching discipline or a related discipline. With approval of a dean and the provost, faculty without an earned doctorate may also be justified in teaching by documenting other qualifications, including professional expertise and prior teaching experience. The following current faculty and staff have either been involved in the planning of this program or indicated interest in delivering courses in the curriculum at some point:

NAME	RANK	DEPARTMENT
Dr. Evan Couzo	Associate Professor	Atmospheric Sciences
Dr. Kathleen Lawlor	Associate Professor	Economics
Karin Rogers	Director (no faculty rank)	National Environmental Modeling and Analysis Center (NEMAC)
Greg Dobson, GISP	Director of Geospatial Technology (no faculty rank)	National Environmental Modeling and Analysis Center (NEMAC)
Dr. Grace Campbell	Assistant Professor	Philosophy
Dr. Muhammed Nawaz	Assistant Professor	Economics
Dr. Dee Eggers	Associate Professor	Environmental Studies

For faculty members expected to teach in the first year of the program, the SACSCOC roster is included in Section XII (Additional Information).

b. (For doctoral programs) List the names, ranks, and home department of each faculty member who will be directly involved in the proposed program. The official roster forms approved by SACSCOC may be submitted. Provide complete information on each faculty member's education, teaching and research experience, research funding, publications, and experience directing student research including the number of theses and dissertations directed.

N/A

c. Estimate the need for new faculty for the proposed program over the first four years. If the teaching responsibilities for the proposed program will be absorbed in part or in whole by the present faculty, explain how this will be done without weakening existing programs, and how the current teaching responsibilities of those faculty will be covered.

The program will not require hiring additional faculty, but will utilize existing faculty and staff. One faculty member will become the program director with 0.5 FTE devoted to administration and 0.5 to course delivery in both the home department and the program. In addition, one other faculty member will regularly deliver one course per semester (0.25 FTE), and our GIS specialist in NEMAC will deliver one GIS course per semester. An additional faculty member, on a rotating basis, will deliver one course per year, and the NEMAC director will deliver the spring/summer internship courses, working with community partners. Any course releases to regular faculty to deliver these courses will be covered by either reducing total undergraduate course offerings by consolidating sections or by adjunct replacement.

d. Explain how the program will affect faculty activity, including course load, public service activity, and scholarly research.

As noted above, some faculty will have their course delivery redirected to this program while continuing to teach undergraduate courses. Overall course load will remain unchanged other than reassigned time for program direction. We expect that the focus of this program on community partnerships and collaboration with local climate resources will lead to a deepening of our service contributions to the community, state, and nation, and that new scholarly directions may develop through the delivery of this program.

IV. Delivery Considerations. Provide assurances of the following (not to exceed 250 words per lettered item):

a. *Access* (online, site-based distance education, and off-campus programs). Students have access to academic support services comparable to services provided to on-campus students and appropriate to support the program, including admissions, financial aid, academic advising, delivery of course materials, and placement and counseling.

b. *Curriculum delivery* (online and site-based distance education only). The distance education technology to be used is appropriate to the nature and objectives of the program. The content, methods and technology for each online course provide for adequate interaction between instructor and students and among students. What is the impact of online delivery on student access to the program, and what strategies are in place to support students who have internet limitations?

c. *Faculty development* (online and site-based distance education only). Faculty engaged in program delivery receive training appropriate to the distance education technologies and techniques used.

d. *Security* (online and site-based distance education only). The institution authenticates and verifies the identity of students and their work to assure academic honesty/integrity. The institution assures the security of personal/private information of students enrolled in online courses.

Because this program is entirely on-site, this section is inapplicable.

V. Library

a. Provide a statement as to the adequacy of present library holdings for the proposed program to support the instructional and research needs of this program (this should be developed in consultation with the University Librarian).

b. If applicable, state how the library will be improved to meet new program requirements for the next four years. The explanation should discuss the need for books, periodicals, reference material, primary source material, etc. What additional library support must be added to areas supporting the proposed program?

c. Discuss the use of other institutional libraries (outside of your institution) in delivery of the program.

d. For doctoral programs, provide a systematic needs assessment of the current holdings to meet the needs of the program.

Existing resources available to students in the UNC Asheville library and through the interinstitutional Western North Carolina Library Network are sufficient to support this program.

VI. Facilities and Equipment

a. Describe the effect of this new program on existing facilities and indicate whether they will be adequate, in year one, five, and ten of the program's operation.
    i. Will any new square footage be required at any point in the first ten years of the program's operation? If so, please provide an overview of requirements, timeline, projected costs, and projected funding sources.
    ii. Will any existing square footage require repair, renovation, or retrofit? If so, please provide an overview of requirements, timeline, projected costs, and projected funding sources.

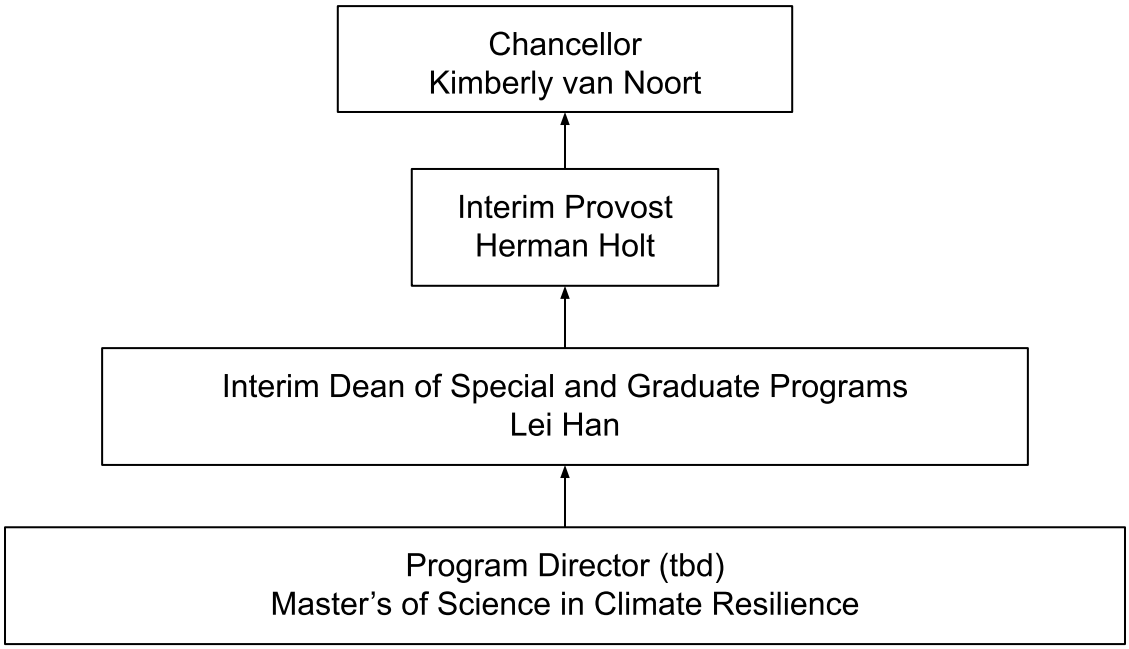
We do not expect the program to require any new square footage or significant renovation or retrofit. While space has not immediately been identified, we will allocate at least two offices to the program for the program director and administrative support, perhaps as part of a suite if other graduate programs are developed so they can be administered together.

b. Describe the effect of this new program on existing technology, information technology, and services and indicate whether they will be adequate, in year one, five, and ten of the program's operation.

As noted in section XII.a, the MSCR space will be equipped with student workstations, large screens, and peripheral equipment. In addition to the director's office, the MSCR space will have a conference room and computer lab for students. This equipment is expected to fullfill program needs for the first ten years of its operation.

VII. Administration

a. Describe how the proposed program will be administered, giving the responsibilities of each department, division, school, or college. Explain any inter-departmental or inter-unit administrative plans. Include an organizational chart showing the "location" of the proposed new program.



Day-to-day management of the MSCR program will be the responsibility of a Program Director who will report to the Dean of Special and Graduate Programs rather than be housed in a department. Affiliated faculty will maintain appointments in their own home departments, each of which is assigned to one of three program area deans. This interdisciplinary model is consistent with our organization of other interdisciplinary undergraduate programs.

b. For joint programs only, include documentation that, at minimum, the fundamental elements of the following institutional processes have been agreed to by the partners:
    i. Admission process
    ii. Registration and enrollment process for students
    iii. Committee process for graduate students
    iv. Plan for charging and distributing tuition and fees
    v. Management of transcripts and permanent records
    vi. Participation in graduation
    vii. Design of diploma

Not applicable because this is not a joint program.

VIII. Additional Program Support

a. Will additional administrative staff, new master's program graduate student assistantships, etc. be required that were not previously identified in the Request for Preliminary Authorization? If so, please describe each item, state the estimated new dollars required at steady state after four years, and state the source of the new funding and resources required.

None in addition to the administrative support described in the Request for Preliminary Authorization.

IX. Accreditation and Licensure

a. Where appropriate, describe how all licensure or professional accreditation standards will be met, including required practica, internships, and supervised clinical experiences.

N/A

b. Indicate the names of all accrediting agencies normally concerned with programs similar to the one proposed. Describe plans to request professional accreditation.

N/A

c. If the new degree program meets the SACSCOC definition for a substantive change, what campus actions need to be completed by what date in order to ensure that the substantive change is reported to SACSCOC on time?

UNC Asheville will submit a Substantive Change prospectus to SACSCOC no later than June 30, 2024. SACSCOC will request revisions and approve the new program no later than December 31, 2024.

d. If recipients of the proposed degree will require licensure to practice, explain how program curricula and title are aligned with requirements to "sit" for the licensure exam. List what state(s) the institution has determined the program meets professional licensure requirements for and how that information will be communicated to students and prospective students.

N/A

X. Evaluation Plans

a. What student learning outcomes will be met by the proposed program and how will student proficiency be measured? These items may be updated as necessary to meet student and program needs.

Program Student Learning Outcomes	Measurement Instrument	Criteria for Proficiency (score, percentage, level of performance, etc.)
Our graduates will learn foundational concepts in climate science, resilience, and impacts.	Performance in CLIM 501, CLIM 502, and CLIM 504	80% pass rate with C (or equivalent) or better

Our graduates will be able to investigate complex problems by analyzing and manipulating GIS data.	Performance in CLIM 503 and CLIM 513, as well as a final GIS project in CLIM 513	80% pass rate with C (or equivalent) or better and GIS project rating of sufficient or better
Our graduates will develop the ability to communicate climate risk and potential adaptation strategies orally and through writing to a variety of audiences.	CLIM 599 capstone project	80% pass rate with C (or equivalent) or better and rating from community partner of satisfactory or better

b. The plan and schedule to evaluate the proposed new degree program prior to the completion of its fourth year of operation (to include types of measurement, frequency, and scope of program review).

The university is currently developing a standard procedure for program review to be implemented fully in the next two years; this program will be subject to the same program review procedures and frequency as others, with particular emphasis on meeting enrollment targets, job placement of graduates, and relationships with community partners.

XI. Supporting Fields

a. Discuss the number and quality of lower-level and cognate programs in operation at the institution for supporting the proposed degree program.

As an interdisciplinary program, we expect both faculty members teaching in the program and undergraduate students interested in enrolling in the program to come from multiple disciplines, but the most prominent are likely to be Atmospheric Sciences, Economics, and Environmental Studies.

Atmospheric Sciences is a department you might not expect to find on a liberal arts and sciences campus. Our program includes a concentration in climatology in addition to those in broadcast meteorology and weather forecasting, with particular strengths arising from our proximity to NOAA's National Centers for Environmental Information (NCEI), based in Asheville, which consolidated the National Climatic Data Center (NCDC) with the National Geophysical Data Center (NGDC) and the National Oceanographic Data Center (NODC) , and from our affiliation with the National Environmental Modeling and Analysis Center (NEMAC). These resources provide both access to data and to internship and career opportunities for our undergraduate students.

Economics at UNC Asheville has an applied orientation and strong support for undergraduate research; all majors are required to complete a senior thesis, usually applied rather than historical or theoretical. The department has particular strengths in environmental and natural resource economics.

Environmental Studies is one of the largest majors at UNC Asheville, consistently the second largest in either declared majors or graduates for the last several years. For fifteen consecutive years, the program has been identified as exceptional in preparing students for careers by the Fiske Guide to Colleges. The program has concentrations in Earth Sciences, Ecology and Environmental Biology, and Environmental Management and Policy. We expect the latter concentration to be one of the primary feeders for the MSCR program.

In addition to these degree programs, UNC Asheville hosts the McCullough Institute for Conservation, Land Use, and Environmental Resiliency, a competitive program for undergraduates to complete an applied research project in collaboration with a community partner. In addition to some of these students being outstanding candidates for the MSCR, our experience with the McCullough Institute has created community relationships which will also support the MSCR program.

We also offer an undergraduate certificate in Sustainability, an interdisciplinary credential which allows students from all disciplines to investigate the interface of social and ecological systems. We expect some interest in MSCR from students from all disciplines in this program as well.

Finally, for the past twenty-five years, we have hosted the Key Center for Service Learning, which facilitates both service learning and community-engaged learning by building relationships with community partners and connecting our curriculum to meeting the needs of the community. We are a campus with abundant experience in building relationships with community partners, an essential component of the MSCR program.

b. Are other subject-matter fields at the proposing institution necessary or valuable in support of the proposed program? Is there needed improvement or expansion of these fields? To what extent will such improvement or expansion be necessary for the proposed program?

No additional subject-matter fields are needed to be added or expanded.

XII. Costs, Funding, and Budget

Adding a new degree program will cost the institution some amount of money and will potentially generate new revenues. Calculating the costs and identifying the funding sources associated with implementation of a new program requires several institutional offices (e.g., academic affairs, finance, institutional research, enrollment management) to collaborate to present an accurate estimate.

a. Complete and attach the *UNC System Academic Program Planning Financial Worksheet* showing all costs required and revenues generated for each of the first five years of the program. Provide a budget narrative for each year addressing the following:
    i. UNC Academic Program Costs
    Faculty costs include all faculty assigned to the proposed program, including faculty serving as program directors, coordinators, department chairs, etc., funded in the 101 instructional budget code. If an existing faculty member is reassigned to the program, the salary is reflected as a reallocated cost. New faculty salaries need to be competitive for the discipline, and figures should include all applicable fringe (e.g., retirement, medical). If the proposed program will hire new faculty, it is a new cost.

    Graduate Assistant costs are identified either as new or reallocated, as appropriate, and should include all stipends, tuition remission, and benefits, as applicable.

    EHRA Non-Faculty positions include non-instructional academic support costs directly associated with running the program, including amounts associated with the Dean's office, research support, etc. This should include salaries and all applicable fringe.

SHRA Non-Faculty positions includes all positions specific costs associated with the new program. This includes the additional staff needed to organize applications, prepare for the proposed program, and for general administration of the proposed program. New staff or purchases of new equipment should be adequate to support the stated goals and enrollments for the proposed program. Other program costs identified in the proposal should be realistic.

Total costs over the first five years of the program are estimated to be $1,612,000. The largest program costs are personnel salaries. An existing faculty member will be reassigned as the MSCR Director with 75% of the director's salary considered to be a cost to the program since the director will continue to teach one class per semester in the home department. The director's responsibilities will include teaching, advising, recruiting, and building relationships with community partners. Our budget assumes half of each semester's courses will be taught by existing faculty, one of whom is the Director, while the other half will be taught by NEMAC staff and Professors of the Practice. NEMAC staff will also teach the summer practicum course. We have budgeted for one adjunct instructor per semester to cover an undergraduate course vacated by a faculty member teaching in the program, though this might not always be necessary. Regarding non-instructional personnel, the program will hire a new administrative assistant. This staff member will eventually serve other future graduate programs, but, until they are established, 100% of the salary will be borne by MSCR. Thus, this line item likely overestimates the cost to the program in the later years. Total personnel salaries and benefits are $280,400 per year and $1,402,000 over the first five years.

Some of our students may have to travel to meet with their community partners during the spring internship and summer practicum. We have budgeted for student travel grants each year to offset these additional costs to students; this may be an overestimate depending on how far students need to travel. We have also budgeted for small honoraria for our students' community partners. The total annual cost for travel grants and honoraria is $17,500.

The remaining costs are primarily associated with program start-up and initial recruitment. The director and/or other MSCR representatives will travel to regional colleges and universities to recruit students for our first cohorts and establish future enrollment pipelines. Tabling at relevant professional and academic conferences will also be more frequent in the early years of the program. We will use existing space on campus and do not anticipate repairs or renovation. The major Equipment and Technology costs in Year 1 are to equip the MSCR space with student workstations, large screens, and peripheral equipment. In addition to the director's office, the MSCR space will have a conference room and computer lab for students. Supplies and Materials costs may include software licenses, reference texts, and professional dues.

ii. UNC Academic Program Revenues

Funding sources may include enrollment growth formula funding, other state appropriation, regular tuition, tuition differential, general fees, special fees, reallocation of existing resources, federal funding, and other funding (such as awarded grants or gifts). The total projected revenue from the above categories should allow the proposed program to become self-sufficient within five years.

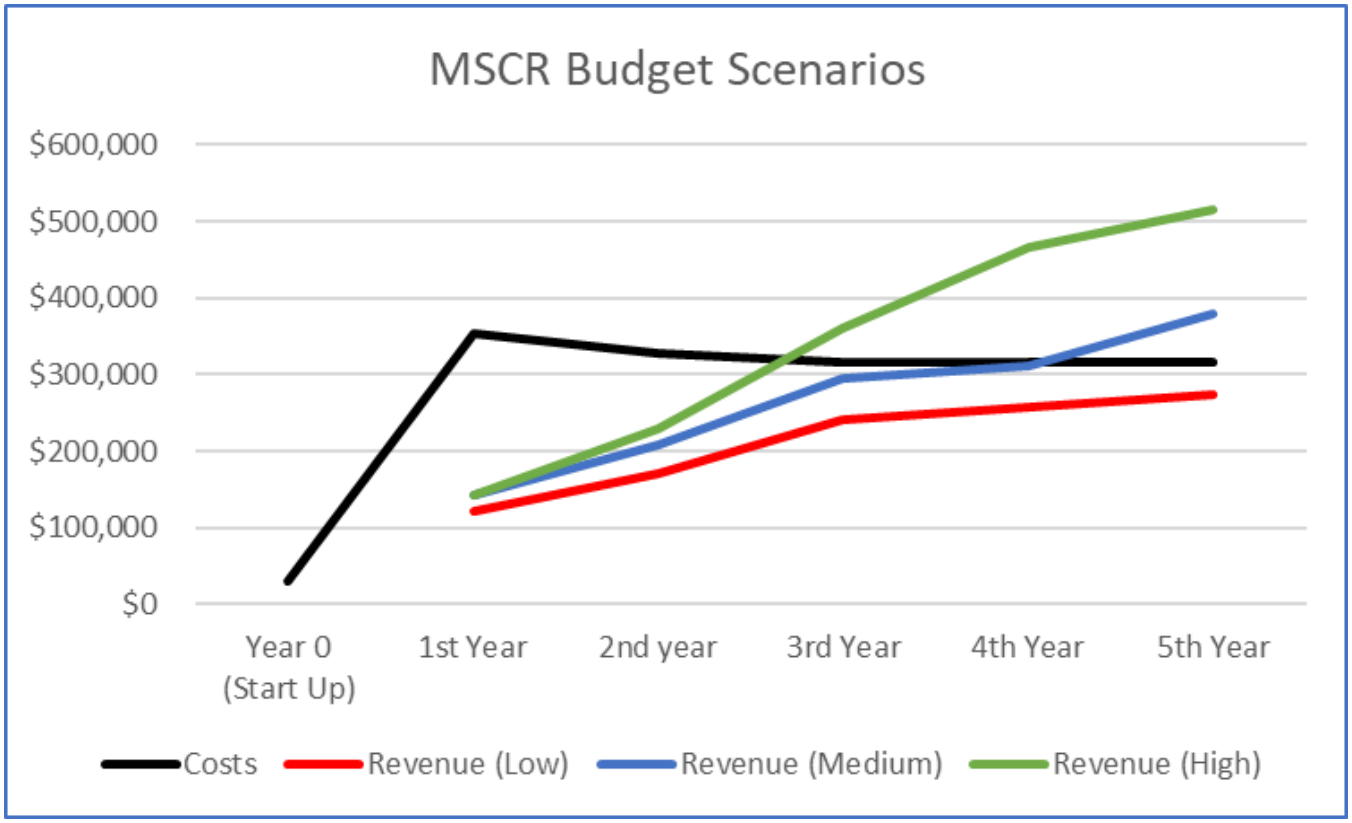
When estimating funding for new programs, institutions should take into account that students switching programs do not generate additional enrollment growth formula funds. For example, if a program projects enrollment of 20 students, by 12 of them

switched into the program from an existing program at the institution, then only 8 of the students would generate additional formula funding.

Reallocation of Existing Resources includes the salary of faculty reassigned who may be partially or wholly reallocated to the new program. Explain how the current teaching obligations of those faculty are reallocated and include any faculty replacement costs as program costs in the budget. If substantial funds are reallocated, explain how existing undergraduate and graduate programs will be affected.

Federal Funding (In-hand only) refers to federal monies from grants or other sources currently in hand. Do not include federal funding sought but not secured. If anticipated federal funding is obtained, at that time it can be substituted for funds designated in other funding categories. Make note within the text of the proposal of any anticipated federal funding. Provide evidence of sustainability after federal funds have been exhausted.

We calculated revenues for three different enrollment growth scenarios: Low, Medium, and High. The Medium growth scenario, used in the worksheet, is described above with 10 students in Years 1-2, 12 students in Years 3-4, and 15 students in Year 5. The Low growth scenario begins with eight students in Years 1-2, then grows to 10 students for Years 3-5. The High growth scenario assumes initial enrollment of 10 students in Year 1, 12 students in Year 2, 15 students in Year 3, and 20 students in Years 4-5. In each case, out-of-state students constitute no more than 25% of total enrollment. Figure 1 shows the revenue generated in each year, incorporating the delay in Enrollment Funding Appropriations. Self-sufficiency is reached by Year 3 in the High growth scenario and Year 5 in the Medium growth



scenario. The Low growth scenario does not reach self-sufficiency by Year 5, demonstrating that total enrollment greater than 10 students is necessary; in the long-term, annual enrollment of 12 students is necessary for the program to pay for itself.

Under the Medium growth scenario, total revenues during the first five years of the program are estimated to be $1,316,382. All revenues come from student tuition and Enrollment Funding Appropriations. Our revenue calculations assume 10 students in Years 1-2, 12 students in Years 3-4, and 15 students in Year 5. In each year, we assume 2-3 out-of-state students.

The total five-year revenues are estimated to be $340,618 less than the total costs, but we think the program will be a significant revenue generator for several reasons. First, the revenue *collected* in the first five years does not capture the total revenue *generated* in the first five years because of the delay in Enrollment Funding Appropriations. The total revenue generated in the first five years is estimated to be $1,612,824. Second, we project that revenues will grow over the first five years while costs will fall. This is due to projected enrollment growth while the initial costs associated with establishing the program are reduced. Third, on an annualized basis, collected revenues exceed costs by Year 5 meaning the program will reach self-sufficiency. Additionally, we are not accounting for additional revenue the MSCR program may indirectly lead to by potentially attracting new undergraduate enrollment. Here it is worth noting that the Economics Department is creating a three year undergraduate curriculum, which would allow students to earn a BA and MSCR in only four years. Additional benefits of the MSCR program include statewide and regional recognition that the university is producing graduates who solve important and relevant problems.

b. Based on the institutions' estimate of available existing resources or expected non-state financial resources that will support the proposed program (e.g., federal support, private sources, tuition revenue, etc.), please describe the following:

    i. How does the institution budget and allocate enrollment growth revenues? Is this program expected to generate new enrollment growth for the institution? If so, how will funds be allocated to the proposed program or be used to further other institutional priorities?

Enrollment growth revenues flow into the university's general fund and are allocated through our usual budget processes, which are consultative with a University Budget Committee but ultimately approved by senior leadership. While this program will generate only modest new enrollment growth revenue, as seen in the budget projection, we expect it to be sufficient to cover operating costs for delivery by Year 5. Any surplus revenues will be allocated by senior leadership to support the operation of the university in all areas, and not retained exclusively by this new program.

    ii. Will the institution seek other additional state appropriations (both one-time and recurring) to implement and sustain the proposed program? If so, please elaborate.

No

    iii. Will the institution require differential tuition supplements or program-specific fees? If so, please elaborate.
        1. State the amount of tuition differential or program-specific fees that will be requested.
        2. Describe specifically how the campus will spend the revenues generated.
        3. Describe the anticipated impact of the tuition differential or program-specific fee

are expected to impact student access.

We do not require differential tuition supplements or fees.

c. Provide a description of how the program can be implemented and sustained If enrollment increase funding, differential tuition, or other state appropriations noted in the budget templates are not forthcoming.

The program does not depend on differential tuition or other state appropriations. Further, all instructional staff are in place, and, other than a new administrative assistant, there are no additional personnel costs. The university's existing physical resources and infrastructure are largely sufficient to support the program. If enrollment does not meet the threshold needed to sustain the program, we might consider how to offer these courses to undergraduates interested in working towards a master's degree. This would provide opportunities for our current students as part of a 4+1 or 3+1 graduate degree program.

XIII. **Additional Information.** Include any additional information deemed pertinent to the review of this new degree program proposal.

With reference to Section III.A, here is a prospective SACSCOC faculty roster for faculty members who are expected to teach in the first year of the program:

Faculty Roster Form

Name of Institution: University of North Carolina at Asheville

Academic Term(s) Included: Fall 2025 | **Date Form Completed:** 12/31/202

1 **NAME (F, P)**	2 **COURSES TAUGHT Including Term, Course Number & Title, Credit Hours (D, UN, UT, UG, G)**	3 **ACADEMIC DEGREES & COURSEWORK Relevant to Courses Taught, Including Institution & Major List specific graduate coursework, if needed**	4 **OTHER QUALIFICATIONS & COMMENTS Related to Courses Taught**
Couzo, Evan (F)	**Fall 2025** CLIM 501: Introduction of Climate Science, 3 (G) **Spring 2026** CLIM 521: Communicating Climate Change, 3 (G)	Doctor of Philosophy: Environmental Science (Univ of NC at Chapel Hill, 2013) Master of Arts: Curriculum/Instruction (University of Mississippi, 2007) Master of Science: Environmental Science (Univ of NC at Chapel Hill, 2010)	Additional expertise in climate communication through prior delivery of undergraduate coursework.

		Bachelor of Arts: Physics (Williams College, 2005)	
Lawlor, Kathleen (F)	**Fall 2025** CLIM 504: Climate Resilience Foundations: Theory and Practice, 3, G **Spring 2026** CLIM 511: Using and Communicating Models of Hazards, Risk, and Vulnerability, 3 (G)	Doctor of Philosophy: Public Policy (Univ of NC at Chapel Hill, 2015) Master of Arts: Public Policy (Univ of NC at Chapel Hill, 2013) Master of Environmental Management: Environmental Economics and Policy (Duke University, 2006) Bachelor of Arts: Sociology (College of William and Mary, 2000)	
Nawaz, Muhammad (F)	**Fall 2025** CLIM 502: Economics of Climate Resilience, 3 (G)	Doctor of Philosophy: Economics (Texas Tech University, 2022) Master of Philosophy: Economics (Pakistan Institute of Development Economics (PIDE), 2011) Master of Science: Economics (Quad-i-Azam University, 2008) Bachelor of Arts: Economics (University of the Punjab, 2006)	Adaptation Finance Fellow, Research Track, The Adaptation Finance Fellowship Programme (AFFP), (Cohort I: 2017-2018)
Dobson, Greg (P)	**Fall 2025** CLIM 503: Introduction to Geographic Information Systems Technologies, 3 (G) **Spring 2026** CLIM 513: Advanced Geographic Information System Technologies, 3 (G)	Master of Arts: Geography, concentration in GIS (Appalachian State Univ, 2006) Bachelor of Science: Geography, concentration in GIS (East Tennessee State Univ, 2003)	Director of Geospatial Technology and Research Scientist, National Environmental Modeling and Analysis Center, Asheville N.C. GISP (GIS Professional) certificate from the GIS Certification Institute Extensive publication record
Rogers, Karin (P)	**Spring 2026** CLIM 512: Internship with Community Partner and Project Development Proposal, 3 (G) CLIM 599: Applied Climate Resilience Practicum, 6 (G)	Master of Science: Geology, concentration in fluvial geomorphology (Univ. of Georgia, 2003) Bachelor of Science: Geology (Union College, 1998)	Director and Research Scientist, National Environmental Modeling and Analysis Center, Asheville N.C. Extensive publication record and multiple certifications

Abbreviations: F, P: Full-time or Part-time; D, UN, UT, UG, G: Developmental, Undergraduate Nontransferable, Undergraduate Transferable, Undergraduate, Graduate; Dual: High School Dual Enrollment Course

XIV. **Attachments.** Attach *the UNC System Academic Program Planning Worksheet* as the first attachment following this document, the final approved Request for Preliminary Authorization as the second attachment, followed by any other relevant documents.

XV. **Signatures.** This proposal to establish a new program has been reviewed and approved by the appropriate campus committees and authorities and has my support.

Position Title	Signature	Date
Chancellor		
Provost		
Chief Financial Officer		

(Only complete below for partner institution if this is a joint degree program proposal)

Position Title	Signature	Date
Chancellor		
Provost		
Chief Financial Officer		