

THE UNIVERSITY OF NORTH CAROLINA AT ASHEVILLE
FACULTY SENATE

Senate Document Number 6813S

Date of Senate Approval 4/11/13

Statement of Faculty Senate Action:

**APC Document 59: Add Certificate in Climate Change and Society to the
Master of Liberal Arts entry in the catalog**

Effective Date: Fall 2013

The Master of Liberal Arts Program requests the establishment of a graduate Certificate in Climate Change and Society. The Institutional Development Committee of the Faculty Senate has reviewed the Request to Establish a Graduate Certificate Program in Climate Change and Society, which provided information as required in the new program and certificate approval process, as outlined in SD0512F, Institutional Development Committee Statement on Planning and Approval of New Degree and Certificate Programs at UNC Asheville. IDC unanimously approved moving the request to establish the certificate program in CCS to APC; following this, APC unanimously approved this request, moving the document forward to the Senate.

1. Add: On page 221, after the paragraph under **Graduate Special Students:**

Climate Change and Society Certificate Program

The four-course Climate Change and Society program will train students to be the intermediary between scientists and government, business and community organizations by having the knowledge to understand research and the communication skills to translate data for the general public.

The Certificate in Climate Change and Society is awarded to students who successfully complete the following courses, with an average grade-point-average of 3.0 in the four courses:

- CCS 560, Seminar on Climate Change and Society—Fundamentals of Climate Change Science
- CCS 560, Seminar in Climate Change and Society—Tools for Climate Change Information and Decision-Making
- CCS 560, Seminar on Climate Change and Society—Decision Modeling and Statistics
- CCS 560, Seminar on Climate Change and Society—Communicating Science

The completion of the requirements for the certificate will be noted on the student's academic transcript.

Impact:

As noted above, SACS has determined that UNC Asheville has the faculty, research and assessment resources needed to offer the Certificate in Climate Change and Society. (See **Appendix A: Letter from the Southern Association of Colleges and Schools, Approving the Offering of a Graduate Certificate in Climate Change and Society**) Currently, the MLA Program is offering the four courses with a cohort model: the four courses are offered one each semester, over a two-year period.

The CCS prefix carries with it a Category III designation in the UNC-system funding model, as opposed to the MLA prefix, which is in Category II. Category III courses generate an instructional position for every 186.23 new student SCH, whereas Category II courses generate a position for every 303.93 new student SCH. In 2011-12, CCS prefix courses generated 76 SCH. At that level of SCH generated, CCS SCH provided funding for the equivalent of .408 FTE, or \$32,010 in instructional salary (at a 2011-12 average salary rate of \$78,436 for a full position); and \$14,369 in other academic costs, such as salary benefits, classroom supplies, etc., for a total of \$46,379 in total direct academic support. Moreover, it also provides \$5,324 for Library resources and \$25,068 for general institutional support, including ITS, classroom maintenance, utilities and similar support items. The total funds provided by these SCH comes to \$76,771. Of this amount, \$15,542 comes from student tuition and the balance of \$61,229 comes from state appropriations. In contrast, the same 76 SCH in MLA prefix courses generates only .250 instructional positions and \$47,040 in total institutional support, \$15,542 of which come from tuition and \$31,498 of which come from state appropriations. CCS-prefix courses generate both faculty positions and state appropriations at an advantageous rate over the MLA-prefix courses.

The program intends to continue offering the courses, so there are no additional resources needed at this point. CCS 560, Tools for Climate Change Information and Decision-Making, formerly taught by Todd Pierce in NEMAC, is now taught by Derek Morgan, also of NEMAC: the MLA program provides funds for adjunct salary for Dr. Morgan, which costs the program \$4200 for three credit hours, every two years. In addition, the MLA and the Asheville Graduate Center have funds to provide adjuncts, when needed, to departments whose faculty teach in the MLA program, including these CCS courses. An adjunct to backfill an undergraduate course in a department would run \$840 at the Assistant Professor rate, or \$2520 for a 3 credit-hour course. To date, this has not been necessary. In the event that this becomes necessary, these costs will be offset as student contact hours in CCS and MLA increase. The MLA program also allocates a small amount of its budget to advertise the degree and courses each semester so as to attract new students: the Certificate in Climate Change and Society (not just the courses themselves) would be part of this marketing. There would not, however, be an increase in allocation of funds for this, as the program is already advertising in a variety of venues.

Rationale:

This program is designed for individuals currently employed in or interested in employment in climate and environmental fields, or in fields—such as land use planning, government, transportation, insurance, and other industries—in which climate and climate change

represent a substantive issue and challenge. There is agreement among experts in climate change science and adaptation that there is a profound need for programs that bridge the gap between the generators of information on climate change science, impacts, and control strategies and the users of that information at local, state and national levels. Currently, no similar climate change program exists in the southeast. The CCS Certificate represents a step toward meeting this need. The program design—four courses offered to students in cohorts—is intended to be attractive to both full-time and part-time students.

Asheville is a center of climate change data collection and activity. UNC Asheville's co-location with the National Climatic Data Center uniquely positions us to play an important contributing role in climate education, research, and decision-making. This opportunity is enhanced with the recently established Cooperative Institute for Climate and Satellites (CICS), located in downtown Asheville, adding to the resources offered by NCDC. CICS is a consortium that includes NC State University and University of Maryland, College Park, and brings with it resources from the National Oceanic and Atmospheric Administration (NOAA) and its many services and programs. The proximity of these organizations provides rich opportunities for our students and faculty to benefit from an array of research and educational collaborations.

As climate variability and climate change continue to present larger challenges to local, state and regional communities, there will be a growing demand for knowledge of climate change science, and for skills with the technological tools for engaging in meaningful decision-making and communication about it. Therefore, this request is being made to allow the Master of Liberal Arts Program to offer a graduate Certificate in Climate Change and Society. This certificate would be established and conducted through the enrollment of students into courses already offered through the University, in the MLA Program. This approach would also enable those individuals who do not as yet possess a masters degree to apply the credit obtained through the successful completion of these courses toward an MLA degree if they wish to continue their education beyond the Certificate. Successful completion requires a grade of 3.0 overall in the four courses.

Through adhering to the values of an interdisciplinary liberal arts education at the graduate level, the chief goal of the program is to educate students to understand and address the impacts of climate change on society and the environment through the incorporation of materials from multiple disciplines. Our objectives for the program include training our Certificate graduates to be knowledgeable in the following areas:

- The interaction of earth systems that function to cause regional and global climate change.
- Past climates their use to understand that feedback systems between the earth, atmosphere, biosphere, and cryosphere that drive natural climate change.
- The use of theory, modern observations, and computer projections based on human activities, to predict future climates, their impacts and uncertainties.
- The use of technologies and datasets for projecting, visualizing, and analyzing climate change
- The use of technologies and tools, such as geographic information systems and others, for climate change decision-making.

- The use of statistical inference, including regression analysis, correlation, classification, filtering and smoothing, for the analysis of climate data.
- Effective modes of communication about climate change science to bridge the gap between scientific findings and their understanding by the general public, as well as by targeted audiences.
- An understanding of the psychological and sociological foundations of decision-making from scientific information.