

THE UNIVERSITY OF NORTH CAROLINA AT ASHEVILLE
FACULTY SENATE

Senate Document Number 8016S
Date of Senate Approval 04/14/16

Statement of Faculty Senate Action:

**IDC 3 / APC 68 (MLAS): Request to Establish a Graduate Certificate Program
in Environmental and Cultural Sustainability**

The Master of Liberal Arts and Sciences Program requests the establishment of a graduate Certificate in Environmental and Cultural Sustainability (ECS). As required by [SD 0512F](#), the program is providing the following information to bring this Certificate Program into alignment with the review requirements of the Faculty Senate:

1. Consultation with Academic Administration, Alignment with University Mission, and General Resource Requirements

Consultation with Academic Administration: The study of the human condition and how it is affected by creativity, cultural values, and scientific investigation are what form the intellectual backbone of the Master of Liberal Arts and Sciences Program (MLAS) since its inception in 1988.

The history of the development of the concept and design of the ECS Certificate demonstrates the planners' consultation with appropriate faculty, Academic Deans and the Provost.

In May 2013, Stamats released the results of a graduate education survey they conducted while under contract with UNC Asheville. Current students, alumni, faculty, and staff were queried on their interest in and support for future graduate programs in general, and for specific programs. Sustainability Studies ranked third among those programs suggested to survey participants. (The Stamat report can be found on the UNC Asheville Academic Affairs website at https://academicaffairs.unca.edu/sites/default/files/STAMATS_Graduate_Survey_Environmental_Scan_.pdf.)

In September of 2013, Associate Provost Edward Katz asked the UNC Asheville Graduate Council to consider the possibility of a certificate Environmental and Cultural Sustainability through classes taught in the MLAS Program. Faculty reviewed past sustainability-related courses as to their appropriateness and comprehensiveness regarding the suggested certificate curriculum. Former and current MLAS students were queried regarding the value of the sustainability courses they had taken, and which they thought may be value moving forward.

Through an 18-month process of discussion, review, and editing by MLAS staff and Graduate Council members, a program of study was developed. It is with Graduate Council concurrence and approval that this document is submitted to the Institutional Development Committee for review.

Basic Concept and Alignment with University Mission: The basic concept of the ECS certificate program is to leverage UNC Asheville's expertise in interdisciplinary teaching. This will include disciplines from across the campus: economics to environmental studies, history to health, and philosophy to political science. UNC Asheville is a leader in sustainability in higher education, its application to campus infrastructure, and applied research through the National Environmental Modeling and Analysis Center (NEMAC). UNC Asheville is the UNC system's designated liberal arts university, at which the arts and sciences are connected to one another through interdisciplinary studies and approaches to teaching and learning. Central to this educational philosophy and approach is the development of students of broad perspective, who think critically and creatively, communicate effectively, and participate actively in their communities. The ECS certificate, within our MLAS Program, exemplifies this ideal at the graduate level.

This concept aligns with the University's Mission, as articulated in the Mission Statement:

At UNC Asheville, we respond to the conditions and concerns of the contemporary world both as individuals and as a university. We incorporate economic, social and environmental sustainability into our institutional practices and curriculum. With a range of associated centers, partnerships, and initiatives, we fulfill our public responsibility to address the needs of our community through a continuum of learning.

Definitions of sustainability vary greatly, and mean different things to different people depending on the context. In this document, and in discussions regarding curriculum in the MLAS, the term "sustainability" will be used in the context of its social, cultural, economic, and environmental connotations. The term "environmental and cultural" in the title of this program is used for the sake of brevity to encompass the four meanings. By that we mean each term has its own meaning, but for our needs, we will make use of the overlap in definitions as found in *Webster's New World Dictionary*:

Social: of or having to do with human beings living together as a group or in a situation in which their dealings with one another affect their common welfare

Cultural: the ideas, customs, skills, arts, etc. of a people or group, that are transferred, communicated, or passed along, as in or to succeeding generations

Economic: of or having to do with the production, distribution, and consumption of wealth

Environment: all the conditions, circumstances, and influences surrounding and affecting the development of, and organism or group of organisms

Thus illuminating the final term, sustainability. Again relying on *Webster's New World Dictionary*, we find two definitions of the term, both of which apply:

Sustainable: 1. to keep in existence; keep up; maintain or prolong. 2. to provide for the support of; specifically, to provide sustenance or nourishment for

The MLAS has been home to many courses focusing on cultural, social, economic, and environmental sustainability. This has been especially so during the past decade (see Table 1).

Table 1. List of sustainability-related courses taught in MLAS since 2006.

Course	Instructor	Semester and Year
Violence in Contemporary American Culture	Melissa Burchard	Spring 2006
Climate and Society	Gerard Voos	Fall 2007, Fall 2009
American Documentary Tradition: Where Art and Politics Meet	Holly Iglesias	Spring 2008
A Sustainable Culture	Gerard Voos	Fall 2008, 2010, & 2012
Astronomy and Cosmology	Randy Booker	Sp 2009 & 2011, Fall 2013 & 2015
Environmental Literature and Media	Gerard Voos	Spring 2009, Fall 2011 & 2013
Globalization and its Critics	Surain Subramaniam	Summer 2009
The Great Depression	Pamela Nickless	Fall 2009
Roots of the American Documentary Tradition	Holly Iglesias	Spring 2010
Religion, Ethnicity, and Politics, in the Middle East	Tom Sanders	Fall 2010
Fundamentals of Climate Change Science	Chris Hennon	Fall 2010, 2012, & 2014
Psychology of Communication	Melissa Smith	Fall 2010
Tools for Climate Change Information and Decision-making	Todd Pierce/Derek Morgan	Spring 2011, 2013, & 2015
The Case for Vegetarianism	Kitti Reynolds	Spring 2011
The United States and China	Jim Lenburg	Spring 2011
Decision Modeling and Statistics	Steve Patch	Fall 2011, 2013, & 2015
Images of Upheaval: Where Art Meets Politics in 20 th Century America	Holly Iglesias	Fall 2011
Communicating Science	Mike Neelon	Spring 2012 & 2014
Consumerism and the Environment	Gerard Voos	Spring 2012, Fall 2014
US Health Promotion & Healthcare Policy: Problems, Possibilities, & Politics	Ameena Batada	Fall 2012
Cultivating Food Justice: Food Politics and Nutrition Policy	Amy Lanou	Spring 2013
World Agriculture	Gerard Voos	Spring 2013
Walking with Others: Global Health Challenges & Opportunities	Ameena Batada	Fall 2013
Policy & Environmental Change for Health Equity	Rebecca Reeve	Spring 2014
Environmental Solutions and their Impacts	Gerard Voos	Spring 2014
Environmental Law	John Noor	Spring 2015
Environ. Decision & Risk Analysis	Ana Pinheiro Privette	Fall 2015

These courses represent the range that the term “sustainability” encompasses. The certificate program can’t replicate all these classes, nor the talent of the faculty who have taught them. It will provide a framework of scholarship and understanding on these topics on which the student can build according to his or her interests and goals. UNC Asheville’s history of interdisciplinarity provides the ideal lens through which to explore the complex intersections of these multiple dimensions within which and through which sustainability will have impact on our community, our region and our

nation. Our Strategic Plan states that the University will “Furnish North Carolina’s economy with highly accomplished thinkers, negotiators, planners, collaborators, and problem-solvers,” and that we “Share responsibilities with the greater Asheville community for collaborations on issues of mutual concern, benefit, and accomplishment.” Our interdisciplinarity, our commitment to serve Asheville and North Carolina, and our focus on sustainability in its many forms—all featured in our Strategic Plan—align with the concept and intent of the Environmental and Cultural Sustainability certificate.

General Resource Requirements: The resources required by the Certificate in Environmental and Cultural Sustainability include qualified faculty, library and research materials, and an assessment plan to help us develop and improve learning outcomes. Faculty for this course of study may include:

- **Randy Booker**, Professor of Physics; PhD, Duke University (ECS 560, Energy Systems)
- **Keya Maitra**, Chair and Professor of Philosophy; PhD, University of Connecticut, and University of Hyderabad (ECS 520/540, Sustainable Cultures)
- **Kathleen Lawlor**, Assistant Professor of Economics; PhD, University of North Carolina at Chapel Hill (ECS 540, The Economics of Sustainability)

UNC Asheville faculty will teach several of the proposed elective courses, two of which students will choose as the fourth and fifth courses in the certificate sequence. In addition, personnel with PhD-level training from the National Centers for Environmental Information (NCEI) of the National Oceanic and Atmospheric Administration, the USDA Forest Service, the Center for Climate and Satellites from North Carolina State University, and those in the private sector, may be involved as adjunct instructors of elective courses (e.g., John Noor, JD, Environmental Law; Ana Pinheiro Privette, PhD, Environmental Decision and Risk Analysis).

Library resources for the program include thousands of texts, e-books, and journals on sustainability-related disciplines. Our library research tools include access to Science Direct, Proquest Central, Project Muse, Philosopher’s Index, Sage Journals Online, Proquest Environmental Science Package, and Science In Context. In addition, UNC Asheville is a part of the ABC Express, which adds to the resources available to students and faculty.

In regard to assessment, all MLAS focus areas, including ECS, are required to satisfy two Student Learning Outcomes, which are shaped to align the program and its courses with our University’s institution-wide student learning outcomes. These are:

1. Students should gain a broad overview of the intellectual connections among the natural sciences, social sciences and humanities.
2. Students should master the skills of interdisciplinary research, analysis and writing.

2. The Certificate in Environmental and Cultural Sustainability—Rationale, Objectives, Expected Pros and Cons, Expected Resource Implications

The Certificate in Environmental and Cultural Sustainability would be awarded to those students enrolled in the program who successfully complete the three core courses and two elective courses for a total of fifteen credit hours. The courses will follow the MLAS interdisciplinary seminar numbering as follows: 520: Humanities, 540: Social Science and/or Globalization, and 560: Science and Human Values. The three core courses are:

1. **Sustainable Cultures (ECS 520)**—This course will cover the importance of diversity among the world's cultures and the potential for homogenization resulting from the globalization of many human activities. Literature from a variety of authors concerning international environmental themes will be read and discussed throughout the course.
2. **The Economics of Sustainability (ECS 540)**—This course investigates the challenges and opportunities facing environmental sustainability in the modern era. This course draws on environmental and natural resource economics as well as political economy to understand contemporary sustainability issues including climate change, ecosystem services, and the greening of global supply chains.
3. **Energy Systems (ECS 560)**—This course will include the study of current energy uses and demands. Energy resources, including: carbon-based, water-based, geothermal, and nuclear energy will be discussed. Renewable methods of energy generation, and potential future sources of energy will be reviewed.

The following is a list of electives for the fourth and fifth courses. These include (but are not limited to):

1. **Environmental Literature and Media (MLAS 520)**—An introduction into environmental literature through the reading and discussion of the works of authors such as Henry Thoreau, Edward Abbey, Annie Dillard, Wendell Berry, and Aldo Leopold. The media portion of the course includes documentary and mainstream films, video clips, still photography, paintings, and other artistic media dealing. (last offered Fall 2013)
2. **Environmental Law (MLAS 540)**—The study of laws that protect and/or negatively affect the environment, including the study of extending ethics beyond humans to include the environment. (Environmental Law was offered Spring 2015)
3. **Cultivating Food Justice: Food Politics & Nutrition Policy (MLAS 540)**—An examination of the intersections of food and nutrition policy with human rights, ethics, food security, dietary pattern-related illness, poverty, and consumer choice. The course explores how corporate, governmental, community and consumer interests impact nutrition, food and health policy and how individuals and organization can influence nutrition and health policy to promote consumer health. (last offered Spring 2013)
4. **Environmental Decision and Risk Analysis (MLAS 560)**—The study of methods and tools for decision-making and evaluating environmental risk. (offered Fall 2015)

5. **Do the Media Make Us Sick? An Exploration of the Intersection of Health, Mass Media & Society (MLAS 540)**— this course explores the dimensions of health and wellness, the history and theories of mass media in the USA, media effects research methods, and concepts and scientific evidence on the impact of mass media on people's health. (last offered Fall 2014)
6. **Fundamentals of Climate Change Science (CCS 560)**—Foundational examination of how earth systems interact to cause regional and global climate change. (offered every fourth semester; Fall 2014)
7. **Documentary Photography: Historical Context, Ethics of Representation and Studio Work (MLAS 520)**—Course includes field work and completion of a portfolio project. Conceptual development, with an emphasis on context and the ethics of representation, will be investigated through the portfolio, a research paper and short historical investigations that students will present to the class. Class discussions will ask why people photograph the things they do and what they intend to convey to the viewer, and challenges inherent in condensing a complicated world into static single images. (last offered Fall 2015)
8. **Environmental Justice (MLAS 540)**—An interdisciplinary seminar that focuses upon a variety of environmental justice issues and activism as represented in contemporary multicultural literature and documentary film, which will be analyzed within the context of background materials from a variety of fields. (offered Spring 2016)
9. **Walking with Others: Global Health Challenges and Opportunities (MLAS 540)**— this course explores the nature, challenges, and opportunities in global health facing us today. Students investigate the major measures of health and the prevalence and causes of morbidity and mortality internationally. Different types of health care systems, and the roles of national and international policies and globalization in influencing population health are also discussed. (last offered Fall 2013)
10. **Tools for Climate Change Information and Decision-Making (CCS 560)**— This course is a survey of climate observational datasets and the tools that are used to visualize and analyze them. It includes working with climate model output, using geographic information systems (GIS) for climate change decision-making and analyses of climate change impacts. (offered every fourth semester; Spring 2015)
11. **Decision Modeling and Statistics (CCS 560)**—The course includes the analysis of data to represent facts, guide decisions and test opinions in managing systems and processes. Basic statistical inference including regression analysis, correlation, classification, filtering and smoothing are studied. Special emphasis is placed on the analysis of climate data. (offered every fourth semester; Fall 2015)
12. **Locating Our Stories: A Creative Prose Workshop on Place (MLAS 520)** — This class explores place as an essential, inextricable part of storymaking. Students learn to think about place as not just backdrop or setting but as embodied emotional terrain. Place can become an essential source leading to our stories and deepening our revisions. Students will study published fiction and creative nonfiction informed by place and do exercises in class and out to

help discover their own short stories and personal essays shaped by the landscapes they carry within them. (last offered Spring 2013)

13. Policy & Environmental Change for Health Equity (MLAS 540)— This course reviews historical influences on public health policy, explore existing evidence-based and practice-tested health policy and practice strategies. The class discusses current opportunities and options as a way to determine how education, transportation, land use, housing, fiscal policy, and other public and organizational policies can be modified to promote health and eliminate health inequity. (last offered Spring 2014)

14. Communicating Science (CCS 560)—This course explores methods to bridge the gap between scientific findings and their understanding by the general public. Emphasis is placed on both theoretical and practical approaches to developing successful communication campaigns, including the use of focus groups to determine the best course of action. (offered every fourth semester; Spring 2016)

Rationale: This program is designed for individuals employed in or seeking employment in fields such as: land use planning, environmental non-profits, government, transportation, and insurance, in which sustainability concepts play an integral role. The multidisciplinary aspects of a sustainability-based curriculum are essential to understanding many of the problems facing today's world, and to provide the basis for the development of solutions. The program design—five courses offered to students—is intended to be attractive to both full-time and part-time students.

As the population of Western North Carolina grows, the demand for resources will increase, presenting larger challenges to local, state and regional communities. There has been a growing demand for knowledge of sustainability concepts, and for skills and the technological tools for engaging in meaningful decision-making and communication about it. Asheville's population is expected to increase by almost 20% by 2030. The Asheville Chamber of Commerce identified science and technology (which includes climate, sustainability, green building, and broadband technology) as one of its top business recruitment focus areas. The recent graduate education survey conducted by Stamats found that 75% of current students and 80% of alumni were in favor of graduate programming on campus. Sustainability was the second leading subject current students identified (third among alumni) when asked which academic programs they would like to see at UNC Asheville.

Many current MLAS students and alumni are employed in sustainability-related occupations. The organizations employing them include: ASAP (Appalachian Sustainable Agriculture Project), MAHEC (Mountain Area Health Education Center), Warren Wilson College, Haywood County Chamber of Commerce (Buy Haywood), USDA Forest Service, National Environmental Modeling and Analysis Center, and the National Centers for Environmental Information (formerly NCDC). Several students are pursuing entrepreneurial roles in sustainability-related fields such as agriculture, health, energy, climate change, and environmental education.

Therefore, this request is being made to allow the Master of Liberal Arts and Sciences Program to offer a graduate Certificate in Environmental and Cultural Sustainability. This certificate would be established and conducted through the enrollment of

students into courses created from those already offered through the MLAS Program, or those that will be offered during future semesters. This approach would also enable those individuals who do not as yet possess a master's degree to apply the credit obtained through the successful completion of these courses toward an MLAS degree if they wish to continue their education beyond the Certificate. Successful completion requires a cumulative GPA of 3.0 in the five courses.

Objectives: The chief goal of the program is to educate students to understand and address the impacts of resource demand, globalization, economic growth, and energy depletion on society and the environment. Our objectives for the program include training our Certificate recipients to be knowledgeable in the following areas:

- the importance of diversity among the world's cultures and the value of maintaining the integrity of each
- the processing and production of agricultural products from local, regional, and international perspectives
- the various systems of trade used around the world to conduct transactions of products and services
- the importance of ecosystem services for human comfort and wellbeing, as well as their necessity to natural environments
- the sources of natural resources, the economic drivers behind our use of them, and the risks to their continued production
- the generation and uses of various forms of energy, and what alternatives may be available for upcoming generations

Expected Pros and Cons: The benefits of the certificate program in Environmental and Cultural Sustainability include:

- the creation of an opportunity to use the University's expertise in interdisciplinary teaching and learning to support graduate-level study of sustainability principles, their importance, and the impediments to successful implementation of sustainable practices
- the enhanced ability to collaborate with the numerous environmental-related entities in Asheville, in the Southeast, and across the nation. These include NEMAC, Land of Sky Regional Council, non-profit organizations such as the Western North Carolina Alliance, and Federal agencies such as NOAA, EPA, and the USDA-Forest Service
- the enhanced ability to attract funding to support educational and research activity for faculty and students in sustainability fields;
- extension of the University's ability to train students to participate in the area's emerging economic sectors devoted to sustainability, climate, and the environment, as well as sectors that must engage these issues;
- providing students with courses that can transfer into full master's programs in climate change science, environmental studies, and sustainability-related fields at other institutions; and
- the generation of student contact hours in this graduate-level certificate program, as provided for by the North Carolina Student Credit Hour Funding Model. Using the ECS prefix will permit us to generate instructional revenue and faculty FTE at a rate more advantageous than would be possible for

courses offered with the MLAS prefix. Moreover, because we do not distinguish between graduate- and undergraduate-level faculty, the rate at which we generate faculty FTE will allow us to generate positions that can be used through the entire curriculum. (See below.)

Expected Resource Implications: 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. Currently the MLAS Program is offering the four courses in a cohort model, one each semester, over a two-year period. There have been a total of 103 enrollments in CCS courses since its inception. That has generated 273 SCHs of graduate credit. Ten students have completed all four courses, and five are working towards it.

We are confident that SACS will arrive a similar determination when evaluating the Certificate in Environmental and Cultural Sustainability. The four core courses in the ECS program will likewise be offered in a cohort model, one class per semester. The elective course may be taken at any time a qualifying course is offered.

The ECS prefix carries with it a Category III designation in the UNC-system funding model, as opposed to the MLAS 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. ECS-prefix courses will generate both faculty positions and state appropriations at an advantageous rate over the MLAS-prefix courses. The Finance Department at UNC Asheville performed a study of MLAS financial performance during the past few years. Their conclusion was that the MLAS is self-supporting at current enrollment levels.

The MLAS and the Asheville Graduate Center (AGC) have funds to provide adjuncts, when needed, to departments whose faculty teach in the ECS certificate program, as has been done with courses offered in the CCS certificate program. The MLAS program also allocates funds from its operating budgets. Additional funds, as needed and appropriate, from Admissions, AGC and the Office of the Associate Provost might supplement the marketing allocation, as the program gets underway.