

Academic Program Review
Department of Geography
East Carolina University

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PROGRAM OVERVIEW

From the beginning, East Carolina University's leaders saw a need for instruction in geography. Its first president, on his first day in office in 1909, made a geographer his very first faculty hire. At that time, the institution was called East Carolina Teachers' Training School (ECTTS). Its students all took geography courses, which enabled them to provide instruction in the subject in North Carolina's public schools.

When ECTTS became a four-year school in 1921, it created a Department of Geography, the first in the state. After the University of Tennessee, it was the second geography department in the southeastern states. The department offered its first major for non-teachers and an MEd in 1943. In 1948, it offered a BA degree for non-teachers and BS degree for high-school teachers. Its first non-teaching graduate degree (MA) appeared in 1962.

The department began growing dramatically in the 1950s, and eventually it reached a peak of about 130 majors by the late 1960s. At that time, total enrollments in geography placed East Carolina College (ECC) in the top five nationally, trailing only flagship institutions. In 1965, the U.S. government selected ECC as a depository of all federally-produced map products, which was unusual for an institution of its kind.

The department received approval for an undergraduate planning major in 1974, and added a planning concentration to the MS in geography in the same year. The latter attracted working professionals back to campus for graduate work. The changes helped to reshape the identity of the department, leading to its renaming as the Department of Geography and Planning in 1980. Around the same time, the faculty began to receive external funding for research, instruction, and service, but the department's role in teacher education diminished, resulting in the elimination of teaching-oriented degrees.

The emergence of new information technologies (remote sensing, computer cartography, geographic information systems) led to the creation of a BS degree in applied geography in 1991. The new program expanded the employment opportunities for geography majors. At the same time, the physical geographers began offering courses in natural hazards, fluvial geomorphology, and terrain analysis, while human geographers created courses in landscape imagery, cultural geography, and gender issues. Amid this expansion of the discipline, planning received departmental status in 1994 and separated from Geography.

For the faculty who remained, the 1990s were productive years, with external funding reaching nearly \$2 million. They were active in regional and national conferences within the discipline, and their work appeared frequently in scholarly journals. Indeed, some of the most active drew the attention of geography departments at other institutions. From the mid-1990s through the early 2000s, the department chair and key faculty moved to UNC-Chapel Hill, Texas A&M, Northern Iowa, and Texas Christian, the first three for department chair positions, leaving the department with too few senior members to fill its tenure and promotion committees.

Under the leadership of a new department chair, new faculty members were hired, who have since established their reputations in the discipline. In 2005, the planning program returned to the department. In 2010, under the leadership of a different chair, the department introduced new BS degree programs in Applied Atmospheric Science and Geographic Information Science and Technology in an attempt to attract new majors. The faculty hired to support these programs brought even more diversity to a department that was already one of the most diverse on campus, combining natural science, social science, and professional faculty.

STRENGTHS

Research and Scholarship:

- **Publication and presentations** – The Geography Department has highly productive faculty. They publish an average of two refereed journal articles or book chapters annually, and the outlets for their publications include the most prestigious in geography and related sub-disciplines. During the past several years, faculty members have presented an average of two papers at professional conferences each year. Many faculty members participate in the annual meetings of the Association of American Geographers (AAG) each spring, and the Southeast Division of the AAG, each fall. Most attend at least one other specialty meeting or other large national meetings, such as those hosted by the American Meteorological Society and the American Geophysical Union. Their level of scholarship compares with most PhD-granting geography departments nationally. It has led to internal university and professional society awards for seven different faculty members during the past five years.
- **Active grant activity** – The department's grant activity is very strong for an MS-level department. Faculty members have received awards from the National Science Foundation, the National Oceanic and Atmospheric Administration, and other federal and state agencies. A number of very large proposals have been submitted in recent years. Given the number of junior faculty members, the interdisciplinary nature of geography, and grant opportunities in well-represented specialties (e.g., GIScience and Earth/Atmospheric Science), there is great potential for future contracts and grants.
- **Relevant research themes** – Faculty research has contributed to salient regional and national issues. For example, theoretical research on physical processes in riparian and coastal environments has led to better understanding of hazards in these locations and applying this understanding can foster better management of these resources. Research on cultural identity has addressed issues relevant to eastern North Carolina, the South in general, and the nation about diversity and the politics of belonging. In addition to its contributions to scholarly literature, this work has practical implications for the campus's initiatives in sustainable tourism and concerns related to economic development and the geography of poverty. Research applying geographic information science technology to physical and human systems addresses questions relevant to economic development, landscape change, coastal hazards, and human health. The atmospheric science group contributes significantly to research on atmospheric-land surface interaction, interannual climate variability, and longer-term climate change. The theoretical and applied research contributions extend more broadly than those listed here, and have relevance to the coastal Carolina region and to national-level research agendas.

Teaching:

- **Recruitment and retention of graduate students** – The graduate masters program attracts some very good applicants from around the country. Many hear about ECU Geography from undergraduate advisers. They come with diverse interests, attracted to a wide range of well-known faculty at ECU. Once in the department, they seem very pleased with the level of challenging instruction, the opportunities for engaging research, and the feedback they receive on writing and research projects. Many express gratitude for extensive fieldwork opportunities; they all praise the one-on-one attention that they get from thesis advisers and the collegiality of the department. Encouraged by their advisers, most students participate actively in regional and national professional meetings.
- **Satisfaction of undergraduate majors** –At ECU, as at other universities, students declare geography as a major late, often wandering in from other departments. At least one new undergraduate program (the BS in Applied Atmospheric Sciences) is drawing a new pool of students to the department at rapid rates. Conversations with undergraduate majors revealed several common experiences. Many enthusiastically recounted how they found a major field of study that so closely embraced their academic and personal interests. Many talked about finding one or two professors that changed their academic paths, or who invited them to participate in research activities. Most are optimistically about their futures as professional geographers and how their education has prepared them for graduate school or the work place. They, too, are participating in some regional professional meetings.
- **Service courses** – Geography offers a variety of courses that fulfill ECU Foundations requirements in both Social Science and Natural Science. Such experiences have introduced some students to geography as a major, or for additional courses. Given the relationship between sister disciplines, these foundation courses are providing a wide array of students another way to look at physical landscapes and world cultures, as well as an opportunity to apply geospatial tools to address challenges close to home or across the world.

Service:

- **Citizenship at ECU** – Geographers make extraordinary contributions to other programs and centers on campus. Our meetings with internal and external constituents revealed the many groups that depend on geographers to prepare students through coursework, to collaborate on research projects, and to serve on committees. Representatives from the Institute for Coastal Science and Policy, the Center for Sustainable Tourism, International

Studies, the Coastal Resources Management Program, the Office of Engagement, Innovation, Economic Development, and others provide clear evidence of extensive collaborations with Geography. Constituents from these groups praised the department for its work on interdisciplinary research projects, for supporting graduate students on grants, and for providing teaching expertise in cross-disciplinary courses, such as those in international studies. Many individuals and units on campus rely heavily on the geographic information science component of the department. Faculty and staff collaborate on grants and train students in techniques that benefit projects around campus.

- **Service to the Discipline/Profession** – Several measures demonstrate active service to the profession. Faculty members currently serve, or recently served, as regional councilors or specialty group chairs for the national organization (AAG). Another is vice president of geography’s national honor society (Gamma Theta Upsilon). Others have held leadership roles in the Southeast Regional AAG and with the North Carolina Geographical Society. A third of the faculty has served as editor, associate editor, or editorial board member of national and international peer-reviewed journals.
- **Service to Eastern North Carolina** – Beyond the research projects focused on pressing issues in eastern North Carolina and the instruction provided to those joining the local workforce, Geography faculty serve the region by donating their time and talent to high schools, senior centers, advocacy groups, civic clubs, and city and county governments. They have taken leadership roles in most such activities. Through instruction, and by including students in local research, they have prepared future leaders to deal with issues in the community.

Integration of natural and social sciences – ECU Geography successfully integrates natural and social science. Research activities investigating the role of weather and climate on tourism, the impacts of sea-level rise on infrastructure, and societal vulnerability to flooding, illustrate the diversity of expertise within the Department and a willingness to collaborate within and across disciplines to investigate societal challenges. At the core of these collaborations, the faculty recognizes the impacts of the physical world on economic development and infrastructure. Department courses offer further evidence for the integration. Some courses have a clear physical science basis, others could be characterized as clearly humanities or social science courses. Some classes incorporate elements across this wide range and many geography careers required expertise that includes such diversity.

AREAS FOR IMPROVEMENT

Undergraduate Program:

- **Department's Identity/Perception of Major** – As is the case with many Geography Departments, ECU's program receives very few freshman majors. This trend can be explained by the limited exposure that many high school students have to geography course work and to the multi-disciplinary character of the field that results in some confusion as to whether it is related only to mapping and data management or even whether it is a social or natural science. Consequently, students tend to be attracted to the major only after they have taken a course that clarifies for them "what geography is" at the university level and what career opportunities are supported by the degree. *Ultimately, however, this affects the number of majors and the related SCH/FTE ratio, which is low for the department.*

The Geography faculty responded to this challenge recently by clarifying the major's potential through the development of several distinct undergraduate degrees, adding a BS in GIS & Technology and a BS in Applied Atmospheric Science to the existing BS Urban & Regional Planning, BS in Applied Geography, BA in Geography. Only the BA in Geography is not defined by its potential career application. *At this time, it is too early to evaluate the success of the BS in GIS & Technology or the BS in Atmospheric Science. Among these degrees, however, it is clear that the BA in Geography suffers from low enrollment. Despite the relatively low numbers, we believe that there is a significant place for the BA degree in Geography. This degree program most closely suits students with an international focus, which has become increasingly important in a globalized world. Many of the courses used to meet the requirements of this major are important, and well-enrolled and serve the broader university community.*

Recommendations:

- To clarify the offerings associated with the Geography Department, change its name to include (at least) an acknowledgment of the Planning program – that is, Department of Geography and Planning – and potentially use appropriate references to content such as "Environment." The department's own history includes a precedent (1980) for including the former. Including the latter may help to attract students who enjoyed AP Environmental courses in high school.
- To draw more students to the department's major early in their career at ECU, offer additional introductory-level courses that would acquaint students with both the content of the curriculum and the department's best researchers and teachers. Courses such as the Geography of Race in the United States and Population Geography provide examples.
- To clarify the curriculum and reinforce career opportunities, invite faculty members and external constituents to provide "cameo lectures" in introductory courses. Current foundational courses are well-subscribed so further developing students' exposure to applications of the discipline in these may serve to attract majors as well as additional students to upper-division courses.

- To recruit entering students, consider visiting AP Environmental classes at high schools in the region to discuss careers and curriculum in Geography. Some of the enthusiastic Geography majors we met already had a passion for environmental/conservation issues in high school, but it took them several years to discover that they could pursue that passion by majoring in Geography.
 - To boost enrollments, consider introducing an environmental minor to draw in students in other majors who have a passion for conservation and sustainability.
 - To track students from the declaration of a major to graduation use a spreadsheet. This information would allow the department to monitor “time to degree”.
- **Curriculum** – Despite its breadth, geographers identify certain shared elements of their discipline. These include a foundational knowledge in both human and physical geography and certain approaches to research that include spatial statistics and field methods as well cartographic and/or GIS skills. In addition to this core curriculum, students then acquire a specialization in one of a number of thematic areas within Geography that would correspond with the department’s specific undergraduate degrees. *Although the department follows this standard generally, there is no specific field methods course and the five distinct undergraduate degrees do not emphasize a core knowledge base.*

This lack of integration is exemplified by the Planning degree. Planning sits within the department but currently is not integrated with the Geography curriculum. Only one geography course is recommended to meet Planning’s core requirements. Although this undergraduate program must meet certain professional standards to receive accreditation, the opportunity to strengthen students’ preparation for employment by taking required or recommended courses within the geography curriculum appears obvious. This is particularly true given that the department’s planners have research and teaching interests that mesh well with those of the geographers. The two external constituents who are planners indicated that they valued the background provided by their undergraduate geography coursework and hoped that ECU’s students would similarly benefit from an integrated geography/planning program. One individual in particular mentioned that although he completed masters level work in planning, he benefitted regularly from the geography coursework that allowed him to communicate with engineers dealing with natural systems (for example, on topics such as storm-water management).

Recommendations:

- To clarify the interconnections within the department better, integrate the major requirements for the undergraduate degrees. Specify core requirements as well as courses required for the specific degrees. For example, planning students should

be required to take an introductory level physical geography course as well as urban geography, GIS and field methods/or a practicum.

- To more efficiently use instructors, explore better ways to provide GIS training to geography and planning students, rather than through separate GIS courses taught by geographers and planners.
- To assist in the development of geography majors' research abilities, add a field methods course requirement. This could take the form of a practicum that focuses student research on a theme that integrates several aspects of the department's curriculum, such as coastal resource management, sustainable tourism, and public response to hurricane conditions.
- To better communicate course requirements to prospective as well as current majors, develop advising sheets that explain the curriculum expectations rather than simply listing course numbers. (See the attachment for an example of alternative advising forms)
- To demonstrate the synergies between geographers and planners within the department, host a regional workshop that attracts regional planners from eastern North Carolina. Invite as speakers alumni who have benefitted from cross-training and the faculty who have provided it.
- To make clear the presence of planning in the department, feature it more prominently on the web site.

Graduate Program/Students:

- **Attracting good graduate students** - Despite the impressive qualifications of the Geography Department faculty members, their access to good graduate students, particularly at the doctoral level, is limited. Several faculty members noted that, given the relatively low graduate-level support and the limited number of out-of-state tuition remissions provided by the Graduate School, their best opportunity to recruit masters students came from within the ranks of their undergraduate majors. This proves successful to the extent that students can develop their research skills for the usual two-year masters program before being "lost" to graduation.

Without a doctoral program in geography, the only other opportunity faculty members have to develop their own research with the assistance of graduate students is to participate in the Coastal Management and Conservation doctoral program.

Recommendations:

- To attract the quality of student that suits the profile of the department's faculty, out-of-state tuition remissions should regularly be provided for recruitment purposes.
- To better use the talents of the department's faculty and support their research capability, the Coastal Resource Management (CRM) doctoral program should be evaluated. In particular, the sense of exclusion felt by the physical geographers (less of a problem for the atmospheric scientists) invites investigation. Adding more policy courses in the CRM program might also provide opportunities for the geographers to contribute.
- To take advantage of the fact that some of the best graduate students come from within the ranks of the undergraduate students, focusing on improving the quantity and quality of the undergraduate pool will also pay dividends for the graduate program.
- **Student Concerns:** When given an opportunity to discuss their concerns, the geography graduate students requested a computer lab reserved for their use. A number of students cited frustration regarding the state of the department's computer labs, hardware, and their maintenance.

Recommendation:

- To facilitate the development of graduate students' technical and research skills, develop a computer lab appropriate to their coursework and reserve it for their use (see funding recommendations below).

Faculty:

Tenured Faculty – ECU is once again at risk of losing its most productive researchers to other institutions. It has received no funding for raises for several years, yet several of the geographers hired in the rebuilding phase for the department have now attained national reputations in the field. They will likely become recruiting targets for other institutions.

Recommendation:

- To avoid losing its most productive researchers, ECU should develop contingency plans for making some competitive counter-offers.
- **Untenured Faculty** – One-third of geography's faculty consists of untenured assistant professors. Several of those recently hired do not have their terminal degree in geography. Although the interdisciplinary nature of geography supports this practice, the need for mentoring becomes particularly acute in such circumstances. The new faculty members acknowledged informal mentoring arrangements within the department, university, and their field.

Recommendations:

- To support and retain untenured faculty members, provide formal mentors to each of them, acknowledging distinct expectations based on their area of specialization.
- Professional Development – Without access to sabbaticals and given limited adjustments to salaries, faculty members’ ability to pursue professional development - staying abreast of their field to developing their research projects – can be strained. Untenured faculty members have an even greater obligation to attend conferences to present research and develop necessary professional networks. Currently, funds for these activities are very limited.

Recommendation:

- To support professional development, in lieu of course reductions and/or adjustments to salaries, provide financial assistance to pursue professional development opportunities.
- **Fixed-term Employees** – The teaching staff members clearly serve an important role in the delivery of the Geography curriculum as well as contributing to a collegial atmosphere for the benefit of the department’s students. Heavy teaching loads and a need to stay abreast of developing knowledge (and software!) can take its toll, however. The threat of burn-out and/or falling behind professionally without some occasional adjustment to workloads exists.

Recommendations:

- To support the demands of changing technologies and literature, periodically reduce teaching loads to compensate for the time required to maintain quality teaching.
- To support professional development, in lieu of other course reductions and/or adjustments to salaries, provide financial assistance to pursue opportunities such as conference and workshop attendance.

Funding Issues:

- **Operating Budget** - The Geography Department’s operating budget has been reduced by \$20,000 since 2009. Members of the department acknowledge the need for a more aggressive and focused alumni donation program to support a range of necessary expenses related to faculty research and student recruitment and retention. Faculty morale would also benefit from the identification of new funding sources.

Recommendations:

- To meet these research and teaching-related needs pursue additional funding resources, including the use of online teaching fees to support professional development as well as a gift raising program. There are examples at other universities of dividing the fees raised for online courses between the college that administers the courses and the department that offers them.

- Funding for the GIS lab has recently fallen entirely on the department, yet the benefits of this lab extend to other departments and research centers across the campus. Find ways for the other users to contribute to the costs of providing the lab.