

UNIVERSITY FACULTY SENATE FORMS

Academic Program Approval

This form is a routing document for the approval of new and revised academic programs. Proposing department should complete this form. For more information, call the Faculty Senate Office at 831-2921.

Submitted by: Brian Hanson phone number 8268
Department: Geography email address hanson@udel.edu

Action: Rename major

(Example: add major/minor/concentration, delete major/minor/concentration, revise major/minor/concentration, academic unit name change, request for permanent status, policy change, etc.)

Effective term 08F

(use format 04F, 05W)

Current degree PhD

(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

Proposed change leads to the degree of: PhD

(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

Proposed name: PhD in Geography

Proposed new name for revised or new major / minor / concentration / academic unit (if applicable)

Revising or Deleting:

Undergraduate major / Concentration: _____

(Example: Applied Music – Instrumental degree BMAS)

Undergraduate minor: _____

(Example: African Studies, Business Administration, English, Leadership, etc.)

Graduate Program Policy statement change: _____

(**Must attach** your Graduate Program Policy Statement)

Graduate Program of Study: PhD in Climatology

(Example: Animal Science: MS Animal Science: PHD Economics: MA Economics: PHD)

Graduate minor / concentration: _____

Note: all graduate studies proposals must include an electronic copy of the Graduate Program Policy Document, highlighting the changes made to the original policy document.

The Geography Department does not have a normative Graduate Program Policy Document for any of its graduate degrees. Our Graduate Guidelines document is of an informational or advisory nature, is explicitly labeled as such, and has no official approval status. (<http://www.udel.edu/Geography/gradprogguide.html>)

List new courses required for the new or revised curriculum. How do they support the

overall program objectives of the major/minor/concentrations)?

(Be aware that approval of the curriculum is dependent upon these courses successfully passing through the Course Challenge list. If there are no new courses enter “None”)

None

Explain, when appropriate, how this new/revised curriculum supports the 10 goals of undergraduate education: <http://www.ugs.udel.edu/gened/>

n/a/, PhD program

Identify other units affected by the proposed changes:

(Attach permission from the affected units. If no other unit is affected, enter “None”)

None

Describe the rationale for the proposed program change(s):

(Explain your reasons for creating, revising, or deleting the curriculum or program.)

Graduate education in Geography at UD began with the establishment of our masters programs in 1973. Since then we have graduated 23 MAs and 84 MSs. The Geography Department’s participation in a PhD program began in the early 1980s with the establishment of a major in Climatology within the PhD in Applied Sciences program. By the time that the first Climatology major in the Applied Science PhD was actually granted in 1986, the Applied Sciences program had been dismantled and its majors that were deemed viable, including Climatology, were returned to their departments as independent programs. Thus, the Climatology PhD at Delaware began under unique circumstances.

Following the first PhD in Climatology granted in 1986, the Department of Geography at UD has awarded 36 PhDs in Climatology and these have become the core of our reputation in American academic Geography. Of these PhDs, twenty obtained tenure-track or tenured professorships, and of these thirteen were at Category I PhD-granting departments with the remaining seven at graduate-degree-granting departments. An additional eight are in public-sector (government or university) positions directly related to their PhD training, three are in private sector employment related to climatology, two are in private sector employment for which high-end technical skills obtained in their graduate training are necessary. The remaining three left academia and employment to raise families, but two of these regularly teach for us on a part-time basis. We are extremely, unequivocally, righteously proud of the graduates of this PhD program.

Yet we now propose to change the name of this program. The naming of the PhD in Climatology has always been a fluke of UD academic history, as described above, and for most of the history of the program it has been at least partially a misnomer.

Physical geography contains within its traditional purview the fields of climatology, land-surface or geomorphic studies, and biogeography. The traditional domain of geography, dating back conceptually to the ancient Greeks and academically to Alexander von Humboldt in the late 18th century, is the integration of all natural processes that happen at a location, from climate down to the bedrock, with special focus on near-surface climatic processes down through the soil-moisture level. Geography at Delaware has in fact included this whole range of inquiry into its PhD programs from the inception. The deepest root of this department is in the late John R. Mather’s soil moisture studies which applied climatic forcing to subsurface processes for biological applications. In PhD projects, we have applied climatic information to permafrost active-layer depth, water flow in landfills, ice-stream and ice-shelf dynamics on Antarctica, development of insect vectors for disease propagation, and sea-ice dynamics around Antarctica, in addition to more traditionally atmospheric and climatological topics. Of the eight

faculty members engaged in advising our PhD students (six active and two retired—one deceased) six have advised a PhD dissertation that could better be called land-surface processes (in response to climatic forcing) than climatology. Of considerable importance is that two additional faculty members who are our assistant professors, with current PhD advisees but no completed PhDs, have all of their students in the category of land-surface processes or biogeography. The hiring of these assistant professors was in response to long-term departmental plans, especially including a 2000 Academic Program Review, and thus does not represent any accident but reflects deeply held goals to broaden the range of this department's programs into all of the traditional areas of physical geography.

The Geography Department proposes to change the name of the PhD in Climatology to the PhD in Geography, with no other changes in requirements. To properly characterize the graduate offerings available in this department, to maintain our distinctive character as a physical-geography-specialized department, and to pay homage to our traditional, internationally recognized strength in climatology, we propose that the PhD in Geography at Delaware should be organized into two concentrations: Climatology and Land-Surface Processes.

We perceive four major positive effects of this change. Firstly, American geography departments who are the dominant consumer of our PhD graduates will feel more comfortable with climatology graduates who are clearly being labeled as in the tradition of geographic climatology (as opposed to an atmospheric science or meteorology program). Secondly, departments considering our graduates in geomorphology or biogeography will not be concerned with our unusual label. Thirdly, the growing and very important emphasis on Geographic Information Science (GIS) as part of the toolkit of our students will be enhanced by an association with land-surface processes—an area with which it is much more strongly associated than with climatology. Finally, the simple fact of labeling our program in a manner that more closely reflects reality should be perceived as a positive step. Advertising for new students and recruitment of new faculty will all be facilitated by greater congruence between the name of our programs and the opportunities available within them.

Because we are proposing that the program be changed in name rather than in fact, we do not anticipate any incurred costs—we are already providing courses, advisement, and research opportunities across this range. Similarly, because this reflects our continued research and teaching in areas that we have covered for two decades, we do not anticipate that it affects other units of the University. The Geography Department underwent an Academic Program Review in 2006/2007 and we believe this revision is consistent with both the Department's aspirations and the advice and guidance we received from the outside committee and from all levels of the University administration.

Program Requirements:

(Show the new or revised curriculum as it should appear in the Course Catalog. If this is a revision, be sure to indicate the changes being made to the current curriculum and **include a side-by-side comparison** of the credit distribution before and after the proposed change.)

Edited Catalog Description, showing changes:

PROGRAM OVERVIEW

The department offers programs leading to the Master of Arts, and Master of Science and Doctor of Philosophy degrees in Geography and the PhD degree in climatology. The graduate program provides the opportunity for students to interact frequently with a staff whose interests touch upon one of two particular ~~three~~ themes: climatology, land-surface processes, and human geography. The climatology program emphasizes physical, synoptic, dynamic, and water budget climatology, ~~as well as glaciology and climatic geomorphology. Climate research is directed toward solving numerous human and environmental problems. .~~ The land-surface processes emphasis includes work on geomorphology, periglacial landforms, permafrost, and flows of water and trace chemicals through the biota and the soil. The human geography program covers a broad range of themes approached from cultural-historical, socio-economic and humanistic perspectives. ~~The study of landscapes, geographic ideas, perceptions and attitudes in a cross-cultural context (including philosophic and literary aspects) is another area of the program. All three subareas intersect for work in such areas as sea-ice dynamics and monitoring, glaciology, landscape evidence of climatic change, human influences on climate, climate and human health, and human interactions with the physical landscape.~~ Interdisciplinary work with other departments and colleges is encouraged.

RESEARCH CENTERS

~~A~~ The department houses the university's Center for Climatic Research has been established in the department, which also houses and the Office of the State Climatologist for Delaware. Facilities include laboratories for cartography, microclimatology, biogeography, Geographic Information Science, and computer analysis. ~~Graduate students have ready access to the University's Unix cluster with a variety of high-end machines. Departmental facilities include a smaller Unix cluster and PCs. Locally supported software includes: Desktop ArcGIS ArcInfo and ArcInfo workstation, GIS, and the McIDAS/Gempak weather analysis system. All of the department's computing facilities are fully integrated into the campus and worldwide networks. The department also is well-equipped with instrumentation for microclimatic studies and possesses an abundance of digitally stored weather and climate data, principally for large scale investigations. The department is well-equipped with microclimatic and other fieldwork instrumentation and workstations and related peripherals for GIS work, The department also maintains high-end Unix servers for modeling and data analysis, good connections to university-wide computing resources, and connections to SURA-Grid for supercomputing needs.~~

REQUIREMENTS FOR ADMISSION

... [unchanged]

FINANCIAL AID

... [unchanged]

REQUIREMENTS FOR THE MASTER'S DEGREES

... [unchanged]

REQUIREMENTS FOR THE PHD DEGREE

Applicants to the PhD program ~~in climatology concentrations in Climatology or Land-Surface Processes~~ are expected to have completed a master's degree in geography, geology, climatology, meteorology, or ~~another~~ related discipline. Students in ~~this program~~ these concentrations must also have completed mathematics through ordinary differential equations (MATH 302) and must demonstrate a knowledge of

at least one higher-level computer programming language. PhD students are expected to obtain an in-depth knowledge of two areas. One of these must be topical within the concentration such as bioclimatology, physical climatology, or urban climatology, or climate dynamics for the Climatology concentration, or land-surface measurement, surface process analysis, biogeochemistry, or geomorphology for the Land-Surface Processes concentration. ~~and the~~ The other area must be methodological, such as statistical methods, mathematical modeling, or computer Geographic Information Science. Students are also expected to ~~have a broad knowledge of climatology and to~~ demonstrate a high level of professional competence by passing a written qualifying examination, an oral examination, and an oral dissertation defense. A More description of the PhD program ~~in climatology~~ can be obtained by contacting the Geography Department.

ROUTING AND AUTHORIZATION: (Please do not remove supporting documentation.)

Department Chairperson _____ Date _____

Dean of College _____ Date _____

Chairperson, College Curriculum Committee _____ Date _____

Chairperson, Senate Com. on UG or GR Studies _____ Date _____

Chairperson, Senate Coordinating Com. _____ Date _____

Secretary, Faculty Senate _____ Date _____

Date of Senate Resolution _____ Date to be Effective _____

Registrar _____ Program Code _____ Date _____

Vice Provost for Academic Programs & Planning _____ Date _____

Provost _____ Date _____

Board of Trustee Notification _____ Date _____

Revised 5/02/06 /khs