



UNC CHARLOTTE

Office of Academic Affairs

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December 5, 2013

Dr. Eddy Souffrant
Faculty President

Dear Eddy:

In accordance with the procedure concerning degree name changes, I am forwarding a request from the College of Liberal Arts & Sciences to change the names of the BA and BS in Earth Sciences; the BA would become a BA in Environmental Studies and the BS would become a BS in Earth and Environmental Sciences.

The justifications for the name changes are attached. In accordance with the procedure (<http://provost.uncc.edu/policies/degree-name-changes>) I ask that you consult with the Undergraduate Course and Curriculum Committee as appropriate and that the name changes be considered for faculty approval at the next Faculty Executive Committee and Faculty Council meetings.

Sincerely,

Joan F. Lorden
Provost and Vice Chancellor for Academic Affairs

Attachments

cc: Nancy Gutierrez, Dean, College of Liberal Arts & Sciences



UNC CHARLOTTE
College of Liberal Arts & Sciences

Office of the Dean

MEMORANDUM

TO: Joan F. Lorden
Provost and Vice Chancellor

FROM: Nancy A. Gutierrez *Nancy A. Gutierrez*
Dean, College of Liberal Arts and Sciences

DATE: November 19, 2013

SUBJECT: Recommendation to Rename the BA and BS degrees in Earth Sciences

Attached please find a request from the Department of Geography and Earth Sciences to rename their existing BA and BS Earth Science degrees. The BA degree would become BA Environmental Studies and the BS degree would become BS Earth and Environmental Sciences.

The proposed name changes represent the culmination of several years of work in the department that began with their self-study in 2007 and a move to create a greater environmental focus in these programs. The department has previously created an interdisciplinary environmental science minor and has made substantial revisions to the undergraduate Earth Science curriculum to reflect this enhanced emphasis on environmental issues. I believe that this move to focus the curriculum more directly on the interactions between humans and the natural environment responds to an important gap in our curriculum and is consistent with the theme of sustainability that is a feature of the CLAS strategic plan. Therefore, I fully support the request to change the names of these programs.

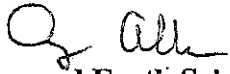
MEMORANDUM

RECEIVED

OCT 07 2013

College of Liberal
Arts and Sciences

To: Nancy Gutierrez
Dean, College of Liberal Arts and Sciences

From: Craig Allan, Chair 
Department of Geography and Earth Sciences

Date: October 3, 2013

RE: Request for Degree Name Changes

The Department of Geography and Earth Sciences requests authorization for degree name changes for its current BA and BS Earth Sciences Degrees. Since its last self study in 2007 the Department has been reshaping its curriculum through new course offerings and new faculty hires towards a more environmental focus. The lack of any formal undergraduate degree program dedicated to studying the interactions between humans and the natural environment beyond some aspects of the BS in Civil and Environmental Engineering degree and limited ecology centered coursework within the B.S. Biology degree has long represented a significant gap in the undergraduate curriculum at UNC Charlotte. Towards this the Department initiated the establishment of the interdisciplinary Environmental Sciences minor in 2011 and has reshaped its current BA and BS Earth Sciences degrees to incorporate coursework in Urban Ecology, Landscape Ecology, Global Change and Resource Management amongst others. These changes were guided by faculty reviews of curriculums from well regarded Environmental Science and Environmental Studies programs in the U.S. Revisions to the two Earth Science curriculums were formally approved by faculty council during spring 2013 and those revisions are reflected in the new spring 2014 undergraduate catalog (copies attached). We are requesting authorization to change the name of the BS Earth Sciences Degree to BS Earth and Environmental Sciences and to change the name of the BA Earth Sciences degree to BA Environmental Studies to better reflect the course content of these revised degree programs. The proposed degree name changes have the unanimous support of the Department's faculty.

cc GES Associate Chair Harrison Campbell

Bachelor of Arts in Earth Sciences

A Major in Earth Sciences leading to a B.A. degree consists of a minimum of 53 hours of required Earth Science (ESCI), Geology (GEOL), Geography (GEOG), and out-of-department courses, and 16 hours of elective coursework. Students are responsible for meeting the course prerequisites for all out-of-department coursework.

Degree Requirements

Required Courses (37 hours)

- ESCI 1101 Earth Science-Geography (3)
- ESCI 1101L Earth Science-Geography Lab (1)
- ESCI 2101 The Environmental Dilemma (3)
- ESCI 4600 Earth Sciences Seminar (1)
- GEOG 1105 The Location of Human Activity (3)
- GEOG 2103 Elements of GIScience & Technologies (4)
- GEOG 3215 Environmental Planning (3) (W)
- GEOG 4215 Urban Ecology (3)
- GEOL 1200 Physical Geology (3)
- GEOL 1200L Physical Geology Lab (1)
- GEOL 3190 Environmental Geology (3)

One of the following:

- ESCI 2210 Field Methods in the Earth Sciences (3) or
- GEOG 2110 Introduction to Geographic Research (3)

One of the following:

- ECON 4181 Energy and Environmental Economics (3)
- GEOG 3220 Renewable Energy and Regional Energy Markets (3)
- GEOL 3105 The Earth's Mineral Resources: Sustainability and the Environmental Impacts of Recovery (3)

And one statistics course:

- STAT 1220 Elements of Statistics I (BUSN) (3)
- STAT 1221 Elements of Statistics I (3)
- STAT 1222 Introduction to Statistics (3)

Elective Courses (16 hours)

Sixteen hours of elective coursework may be selected from additional ESCI, GEOL, and GEOG courses, plus any of the following out-of-department courses:

- BIOL 3144 Ecology (3)
- BIOL 3144L Ecology Laboratory (1) (W)
- PHIL 3520 Philosophy of Science (3)

- STAT 2223 Elements of Statistics II (3)

Bachelor of Science in Earth Sciences

A Major in Earth Sciences leading to a B.S. degree consists of a minimum of 64 hours of required and elective coursework. The General Degree consists of 22 hours of required Earth Science (ESCI), Geography (GEOG), and Geology (GEOL) courses, 18 hours of required extra-departmental coursework, and 24 hours of elective courses.

Concentrations in Atmospheric Sciences, Environmental Sciences, and Hydrologic Sciences are also available with their own individual degree requirements, as follows.

Students should consult the Department of Geography and Earth Sciences for suggested schedules to complete the B.S. degree with a Major in Earth Sciences or see the [department website](#) for further information.

Degree Requirements

Required Departmental Core Courses for General Degree (22 hours)

- ESCI 1101 Earth Science-Geography (3)
- ESCI 1101L Earth Science-Geography Lab (1)
- ESCI 2101 The Environmental Dilemma (3)
- ESCI 2210 Field Methods in the Earth Sciences (3)
- ESCI 3101 Global Environmental Change (3)
- ESCI 4600 Earth Sciences Seminar (1)
- GEOG 4120 Fundamentals of GIS (4)
- GEOL 1200 Physical Geology (3)
- GEOL 1200L Physical Geology Lab (1)

Required External Courses for General Degree (18 hours)

- CHEM 1251 Principles of Chemistry (3)
- CHEM 1251L Principles of Chemistry Lab (1)
- MATH 1241 Calculus I (3)
- PHYS 1101 Introductory Physics I (3)
- PHYS 1101L Introductory Physics I Lab (1)

One of the following mathematics or statistics courses:

- MATH 1242 Calculus II (3)
- STAT 1220 Elements of Statistics I (BUSN) (3)
- STAT 1221 Elements of Statistics I (3)
- STAT 1222 Introduction to Statistics (3)

One of the following science courses and related lab:

- CHEM 1252 Principles of Chemistry (3) and CHEM 1252L Principles of Chemistry Lab (1)
- PHYS 1102 Introductory Physics II (3) and PHYS 1102L Introductory Physics II Lab (1)

Elective Courses for General Degree (24 hours)

Students select 24 credit hours from the list of Earth and Environmental Sciences electives below or other required courses from the Concentrations in Atmospheric, Environmental, or Hydrological Sciences of the B.S. in Earth Sciences degree.

Earth and Environmental Sciences Electives*

- BIOL 3215 Economic Botany (3) (W)
- BIOL 4162 Environmental Biotechnology I (3)
- BIOL 4163 Environmental Biotechnology II (3)
- CEGR 3143 Hydraulics and Hydrology (3)
- ESCI 3170 Environmental Quality Management (3)
- ESCI 3180 Environmental Impact Analysis (3)
- ESCI 4160 Contaminant Transport (3)
- ESCI 4180 Digital Image Processing in Remote Sensing (4)
- ESCI 4210 Soil Science (4)
- ESCI 4233 Geoenvironmental Site Characterization (4)
- GEOG 3215 Environmental Planning (3) (W)
- GEOG 3250 World Food Problems (3)
- GEOG 4216 Landscape Ecology (3)
- GEOL 3120 Geochemistry (3)
- GEOL 3120L Geochemistry Lab (1)
- GEOL 3124 Sedimentology (4) (W)
- GEOL 4105 Geomorphology (3)
- GEOL 4105L Geomorphology Lab (1)
- GEOL 4120 Geologic Mapping and Interpretation (4)
- GEOL 4125 Geologic Summer Field Camp (6)
- GEOL 4140 Coastal Geology (3)
- GEOL 4165 Aqueous Geochemistry (4)
- GEOL 4410 Applied Soil Science
- METR 3250 Dynamic Meteorology (4)
- METR 3252 Weather Analysis Lab (1)
- METR 4150 Applied Climatology (3) (W)
- METR 4240 Boundary-Layer Meteorology (3)

**Students are responsible for meeting all required prerequisites for elective courses.*

Bachelor of Science in Earth Sciences with Concentration in Atmospheric Sciences

The B.S. in Earth Sciences with a Concentration in Atmospheric Sciences consists of a minimum of 39 hours of required Earth Science (ESCI), Geography (GEOG), Meteorology (METR) and Geology (GEOL) courses, 18 hours of

required extra-departmental coursework, and 7 hours of elective courses.

Degree Requirements

Required Departmental Core Courses (22 hours)

- ESCI 1101 Earth Science-Geography (3)
- ESCI 1101L Earth Science-Geography Lab (1)
- ESCI 2101 The Environmental Dilemma (3)
- ESCI 2210 Field Methods in the Earth Sciences (3)
- ESCI 3101 Global Environmental Change (3)
- ESCI 4600 Earth Sciences Seminar (1)
- GEOG 4120 Fundamentals of GIS (4)
- GEOL 1200 Physical Geology (3)
- GEOL 1200L Physical Geology Lab (1)

Required Departmental Concentration Courses (17 hours)

- ESCI 4170 Fundamentals of Remote Sensing (4)
- METR 3140 Introduction to Meteorology and Climatology (3)
- METR 3210 Atmospheric Thermodynamics (3)
- METR 3220 Physical Meteorology (3)
- METR 3245 Synoptic Meteorology (4)

Required External Courses (18 hours)

- CHEM 1251 Principles of Chemistry (3)
- CHEM 1251L Principles of Chemistry Lab (1)
- MATH 1241 Calculus I (3)
- MATH 1242 Calculus II (3)
- PHYS 1101 Introductory Physics I (3)
- PHYS 1101L Introductory Physics I Lab (1)

One of the following statistics courses:

- STAT 1220 Elements of Statistics I (BUSN) (3)
- STAT 1221 Elements of Statistics I (3)
- STAT 1222 Introduction to Statistics (3)

One of the following science courses and related lab:

- CHEM 1252 Principles of Chemistry (3) and CHEM 1252L Principles of Chemistry Lab (1)
- PHYS 1102 Introductory Physics II (3) and PHYS 1102L Introductory Physics II Lab (1)

Electives (7 hours)

Students select 7 credit hours from the Earth and Environmental Sciences electives list above or other required courses from the Concentrations in Environmental or Hydrological Sciences of the B.S. in Earth Sciences.

Bachelor of Science in Earth Sciences with Concentration in Environmental Sciences

The B.S. in Earth Sciences with a Concentration in Environmental Sciences consists of a minimum of 38 hours of required Earth Science (ESCI), Geography (GEOG), and Geology (GEOL) courses, 23 hours of required extra-departmental coursework, and 3 hours of elective courses.

Degree Requirements

Required Departmental Core Courses (22 hours)

- ESCI 1101 Earth Science-Geography (3)
- ESCI 1101L Earth Science-Geography Lab (1)
- ESCI 2101 The Environmental Dilemma (3)
- ESCI 2210 Field Methods in the Earth Sciences (3)
- ESCI 3101 Global Environmental Change (3)
- ESCI 4600 Earth Sciences Seminar (1)
- GEOG 4120 Fundamentals of GIS (4)
- GEOL 1200 Physical Geology (3)
- GEOL 1200L Physical Geology Lab (1)

Required Departmental Concentration Courses (16 hours)

- ESCI 3205 Water Resources (3)
- GEOG 3190 Biogeography (3) W
- GEOG 4131 Environmental Modeling with GIS (4)
- GEOG 4215 Urban Ecology (3)
- GEOL 3105 The Earth's Mineral Resources: Sustainability and the Environmental Impacts of Recovery (3) or
- GEOL 3190 Environmental Geology (3)

Required External Courses (23 hours)

- BIOL 2120 General Biology I (3)
- BIOL 2130 General Biology II (3)
- BIOL 2130L General Biology II Laboratory (2)
- BIOL 3144 Ecology (3)
- BIOL 3144L Ecology Laboratory (1) (W)
- CHEM 1251 Principles of Chemistry (3)
- CHEM 1251L Principles of Chemistry Lab (1)
- CHEM 1252 Principles of Chemistry II (3)
- CHEM 1252L Principles of Chemistry II Lab (1)
- CHEM 2130 Survey of Organic Chemistry (3) or

- CHEM 2131 Organic Chemistry I (3)

Electives (3 hours)

Students select three hours from the Earth and Environmental Sciences electives list above or other required courses from the Concentrations in Atmospheric or Hydrological Sciences of the B.S. in Earth Sciences.

Bachelor of Science in Earth Sciences with Concentration in Hydrological Sciences

The B.S. in Earth Sciences with a Concentration in Hydrologic Sciences consists of a minimum of 43 hours of required Earth Science (ESCI), Geography (GEOG), Meteorology (METR), and Geology (GEOL) courses, 17 hours of required extra-departmental courses, and 4 hours of elective courses.

Degree Requirements

Required Departmental Core Courses (22 hours)

- ESCI 1101 Earth Science-Geography (3)
- ESCI 1101L Earth Science-Geography Lab (1)
- ESCI 2101 The Environmental Dilemma (3)
- ESCI 2210 Field Methods in the Earth Sciences (3)
- ESCI 3101 Global Environmental Change (3)
- ESCI 4600 Earth Sciences Seminar (1)
- GEOG 4120 Fundamentals of GIS (4)
- GEOL 1200 Physical Geology (3)
- GEOL 1200L Physical Geology Lab (1)

Required Departmental Concentration Courses (21 hours)

- ESCI 3105 Oceanography (3)
- ESCI 3205 Water Resources (3)
- ESCI 4140 Hydrologic Processes (4)
- ESCI 4155 Fluvial Processes (4)
- ESCI 4222 Watershed Science (3)
- GEOL 4145 Fundamentals of Hydrogeology (4) (W)

Required External Courses (17 hours)

- CHEM 1251 Principles of Chemistry (3)
- CHEM 1251L Principles of Chemistry Lab (1)
- MATH 1241 Calculus I (3)

One of the following statistics courses:

- STAT 1220 Elements of Statistics I (BUSN) (3)
- STAT 1221 Elements of Statistics I (3)
- STAT 1222 Introduction to Statistics (3)

One of the following mathematics or statistics courses:

- MATH 1242 Calculus II (3)
- STAT 2223 Elements of Statistics II (3)

One of the following science courses and related lab:

- CHEM 1252 Principles of Chemistry (3) and CHEM 1252L Principles of Chemistry Lab (1)
- PHYS 1101 Introductory Physics I (3) and PHYS 1101L Introductory Physics I Lab (1)
- PHYS 1102 Introductory Physics II (3) and PHYS 1102L Introductory Physics II Lab (1)

Electives (4 hours)

Students select four hours from the Earth and Environmental Sciences electives list above or other required courses from the Concentrations in Atmospheric or Environmental Sciences of the B.S. in Earth Sciences.

Minor in Earth Sciences

A Minor in Earth Sciences consists of 20 hours of Earth Sciences (ESCI) courses. Requirements include: ESCI 1101 and ESCI 1101L (Earth Sciences Geography) and GEOL 1200 and 1200L (Physical Geology), and 12 additional hours in Earth Sciences and Geology courses. The minor can be tailored to support a number of majors, such as education, engineering, biology, chemistry, or physics.

Required Courses (8 hours)

- ESCI 1101 Earth Sciences – Geography (3)
- ESCI 1101L Earth Sciences - Geography Lab (1)
- GEOL 1200 Physical Geology (3)
- GEOL 1200L Physical Geology Laboratory (1)

Recommended Elective Courses (Select 12 hours)

- ESCI 3105 Oceanography (3)
- ESCI 3170 Environmental Quality Management (3)
- ESCI 4140 Hydrologic Processes (4)
- ESCI 4155 Fluvial Processes (4)