20. Change in Curriculum

**College of Geosciences**

Minor in Climate Change
CHANGE IN CURRICULA
CHANGE IN CURRICULUM
COLLEGE OF GEOSCIENCES
MINOR IN CLIMATE CHANGE
Texas A&M University
Request for a Change in Curriculum
Undergraduate • Graduate • Professional

1. Program request type:
   ✔ Undergraduate  □ Graduate  □ First Professional (ex, DVM, JD, MD, etc.)

2. Request change for:
   □ Degree Program  ✔ Minor  □ Certificate

3. Request submitted by (Department or Program Name):
   Environmental Programs in Geosciences

4. Program Designation and Name:
   (e.g., B.A. in History, Minor in History, Certificate in European Union):
   Minor in Climate Change

5. Brief description of change:
   add ATMO 324 as one option among several; add restriction "ENGS students may not select this minor"

6. Rationale for change:
   ATMO 324 is relevant to the content of this minor; ENGS students may select a Climate Change track in their degree program.

Use the checkboxes below to make sure that all information is included.

7. a. Proposed curriculum attached.  ✔ Yes  □ No
    b. Current catalog curriculum with handwritten edits attached.  ✔ Yes  □ No
    c. Current Howdy degree evaluation with handwritten edits attached.  ✔ Yes  □ No
       Please make sure the attached proposed curriculum, catalog and Howdy degree evaluation match.

8. a. Will degree program hours change (increase/decrease) due to the proposed curriculum changes?  □ Yes  ✔ No
    b. If yes, degree program hours will change from: ________ to: ________
    c. If yes, is the Texas Higher Education Coordinating Board form attached?
       http://www.thecb.state.tx.us/index.cfm?objectid=A0F9F7FA-9A92-4F11-2756AD3B9FF01D60  □ Yes  □ No

9. If proposed changes affect other unit(s), are letters of support attached?  □ Yes  ✔ No

IMPORTANT NOTE: Curriculum changes submitted through the approval process and fully approved by February (December-UCCGC, January-Faculty Senate, February-President) will be effective in the next academic year. Changes requiring approval beyond the University should complete the internal approval process early in the fall semester whenever possible in order to ensure timely implementation.

Approval recommended by:
Christian Brannstrom  
Department Head or Program Chair (Type Name & Sign) Date

Dean of College Date

Chair, College Review Committee Date

Chair, GC or UCC Date

Questions regarding this form should be directed to Curricular Services at 845-8201 or sandra.williams@tamu.edu
Curricular Services – 04/14
15 September 2015

MEMORANDUM

TO: Dr. Chris Houser, Undergraduate and Faculty Affairs, College of Geosciences
FROM: Dr. Christian Brannstrom, Director of Environmental Programs in Geosciences
SUBJECT: Curricular Changes to ENVP minors

We request the following changes to the Climate Change minor:

- ATMO 324 should be added;

- Environmental Geosciences students may not select this minor
Freshmen entering the program take a first year seminar, GEOS 101. The choice is not restricted. Students transferring or changing majors into the program, who have not taken GEOS 101, are required to take GEOS 481 in their junior or senior year.

2. It is recommended to select a course that also fulfills an International and Cultural Diversity requirement.

3. Select from course list below. If students use nine credits of allowed OCNG courses (e.g. OCNG 401, OCNG 350, OCNG 451, OCNG 485) as Coastal and Marine Environments theme electives, they will receive an OCNG minor with their BS in ENGS degree. If one of the Introductory Geoscience course and associated labs listed in Year Two is OCNG 251 with OCNG 222, then only two (six credits) of the theme electives needs to be from OCNG to still get the minor.

4. Students will not be permitted to receive credit for both the 400- and 600-level versions of certain courses because the content and learning outcomes are too similar (e.g. OCNG 440/OCNG 640; GEOS 470/OCNG 657).

5. These two graduate courses will be taken for dual undergraduate/graduate credit and will contribute to the minor.

Coastal and Marine Environments Theme List

- GEOG 370/ MARS 370 Coastal Processes 3
- OCNG 401 Interdisciplinary Oceanography 3

Select the remaining courses from the following:

- GEOG 331 Geomorphology 3
- GEOG 360 Natural Hazards 3
- GEOL 306 Sedimentology and Stratigraphy 4
- GEOL 440 Engineering Geology 3
- GEOS 444 The Science and Politics of Global Climate Change 3
- GEOS 484 Internship 0-6
- OCNG 350 Marine Pollution 3
- OCNG 410 Introduction to Physical Oceanography 3
- OCNG 420 Introduction to Biological Oceanography 3
- OCNG 425 Microbial Oceanography 3
- OCNG 430 Introduction to Geological Oceanography 3
- OCNG 440 Introduction to Chemical Oceanography 3
- WFSC 418 Ecology of the Coastal Zone 3
- WFSC 425 Marine Fisheries 3
- WFSC 428 Wetland Ecosystem Management 4

Two courses in the degree plan must be writing intensive courses designated by the Environmental Programs in the schedule of classes. Also, international and cultural diversity electives (12 hours) must be incorporated into the degree.

Any of the required courses may be taken during the summer sessions to diminish the heavy semester loads during Years 2 and 3.

Climate Change - Minor

The College of Geosciences offers a minor in Climate Change. For specific program information, please reference the program requirements.

Program Requirements

- GEOS 210 Climate Change 3

Select the remaining courses from the following: 13

ATMO 201 Weather and Climate or GEOS 390 Introduction to Environmental Geoscience 105
GEOL 309 Geography of Energy
GEOL 324 Global Climatic Regions
GEOS 442 Past Climates 442
GEOS 401 Polar Regions of the Earth: Science, Society and Discovery
GEOS 410 Global Change
GEOS 444 The Science and Politics of Global Climate Change
GEOS 481 Seminar

Total Semester Credit Hours 16

Students choosing to complete a minor in Climate Change must meet the following requirements:

- A minimum of 6 hours must be taken in residence at either Texas A&M University/College Station or Galveston.
- A minimum cumulative GPR of 2.0 must be achieved for all courses in the minor.
- Take a minimum of 16 hours of coursework, of which 3 hours of GEOS 210 Climate Change are required.
- The remaining 13 hours must include at least 3 hours of 400-level coursework and another 3 hours of upper-level (300- or 400-level) coursework from the list.
- Students with majors in the College of Geosciences must select only courses outside of their home department.

Earth Sciences - Minor

The purpose of the Earth Sciences minor is to study the different physical earth processes and systems.

Students choosing to complete a minor in Earth Sciences must meet the following requirements:

- A minimum of 6 hours must be taken in residence at either Texas A&M University/College Station or Galveston.
- A minimum cumulative GPR of 2.0 must be achieved for all courses in the minor.
- Take a minimum of 15 hours of coursework in the College of Geosciences.
- The 15 hours must include at least 3 hours of 400-level coursework and another 3 hours of upper-level (300- or 400-level) coursework from the list.
- Students with majors in the College of Geosciences must select only courses outside of their home department.

Program Requirements

Select courses from at least three of the following five groups:

Group 1
- ATMO 201 Weather and Climate
- ATMO 202 Weather and Climate Laboratory
- ATMO 324 Physical and Regional Climatology
- ATMO 441 Satellite Meteorology and Remote Sensing
unofficial evaluation

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<thead>
<tr>
<th>Area</th>
<th>Work Not Applied - Met</th>
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<tr>
<td>Description</td>
<td>See advisor for acceptable substitutions.</td>
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<tr>
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unofficial evaluation

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<tr>
<td>Description</td>
<td>Minimum of 6 hours at 300-400 level. Minimum 3 hours of 400 level coursework. Minimum 2.0 cumulative GPA. Geosciences Majors must select courses outside their home department.</td>
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<tr>
<td>No</td>
<td>A. GECS 210 3hrs</td>
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<tr>
<td>No AND</td>
<td>B. Technical Electives 13hrs</td>
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<tr>
<td>Select 13 hours from the following courses:</td>
<td>ATMO 201 or GECS 105; GEOS 309, 324; GEOS 401, 410; GEOD/GEOS 442, GECS 444, 481 Add ATMO 324</td>
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<th>Area</th>
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<td>No</td>
<td>A. Writing Requirement</td>
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<td>Two courses required. Only sections of ATMO 456, 459, 463, 491; GEOG 309, 324, 360, 404, 430, 415, 476, 491; GEOX 301, 311-312, 410 420, 440, 491; GEOP 491; GEOS 405, 491; UCST 491 with the Writing attribute [UWRT] may be used to satisfy this requirement.</td>
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<th>Int'l &amp; Cult Diversity - Not Met:</th>
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<td>No</td>
<td>A. Int'l &amp; Cultural Diversity 6hr</td>
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<td>Select from courses with the International and Cultural Diversity attribute [UCD] (except sections of BUSR 289 with the UWRT attribute).</td>
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Total Credits and GPA   0.000       .00