CHANGE IN CURRICULUM

COLLEGE OF GEO SCIENCES
DEPARTMENT OF GEOLOGY AND GEOPHYSICS
BS IN METEOROLOGY AND MS IN OCEANOGRAPHY 3+2
Texas A&M University
Request for a Change in Curriculum
Undergraduate • Graduate • Professional

1. Program request type:
   - [ ] Undergraduate
   - [ ] Graduate
   - [ ] First Professional (e.g., DVM, JD, MD, etc.)

2. Request change for:
   - [ ] Degree Program
   - [ ] Minor
   - [ ] Certificate

3. Request submitted by (Department or Program Name):

4. Program Designation and Name
   (e.g., B.A. in History, Minor in History, Certificate in European Union):
   Oceanography
   Meteorology - 5-Year Bachelor of Science/Master of Science in Oceanography

5. Brief description of change:
   Adjust the catalog program requirements to match the degree evaluation and clarify options for students
   Includes change to GR program (attached). sw

6. Rationale for change:
   There were errors associated with the entering of the program requirements into the new electronic catalog. These need to be corrected.

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

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? [ ] Yes [ ] No

http://www.thecb.state.tx.us/index.cfm?objectid=A0F9F7FA-9A92-4F11-2756AD3B8F01D60

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-UCC/GC, 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:
Deborah Thomas
Department Head or Program Chair (Type Name & Sign) Date

Chris Houser
Chair, College Review Committee Date

Kate Miller
Dean of College 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

[Stamp: RECEIVED NOV 06 2015]
23 November 2015

MEMORANDUM

To:  Dr. Chris Houser, Associate Dean, Undergraduate and Faculty Affairs, College of Geosciences

To:  Dr. Eric Riggs, Assistant Dean, Graduate Affairs and Diversity, College of Geosciences

From:  Dr. Debbie Thomas, Department Head, Oceanography
        Dr. Ping Yang, Department Head, Atmospheric Sciences
        Dr. Michael Pope, Department Head, Geology and Geophysics
        Dr. Christian Brannstrom, Director Environmental Programs, College of Geosciences

RE: Revisions to the BS-METR-GOC, BS-GEOL-GOC, BA-GEOL-GOC and BS-ENGS-GOC programs.

We are requesting revisions to the 3+2 programs combining the non-thesis MS in Oceanography with the undergraduate METR, GEOL and ENGS degrees. They have been modified to swap out the non-thesis MS in Oceanography with the newly approved non-thesis Master of Ocean Science and Technology. This is simply a swap in the designation of the non thesis Master's degree.

The degree plans remain as modified in the by the corrections recently submitted for approval.

If you have any questions, please contact the assistant department head, Dr. Shari Yvon-Lewis (979-458-1816; syvon-lewis@tamu.edu).
Meteorology - 5-Year Bachelor of Science/Master of Science in Oceanography

The Fast Track Program offers motivated and exceptional students the opportunity to achieve aspirations in an efficient program at Texas A&M, completing the Bachelor of Science degree in the Department of Atmospheric Sciences Meteorology Program and the Oceanography non-thesis M.S. degree in 5 years. There will be only two courses used for dual credit in this program. There is a total of 150 hours of coursework. The concurrent degree program will enable these motivated students to coordinate the required B.S. coursework (12 credit undergraduate hours and 12 dual credit graduate hours) and non-thesis M.S. coursework (36 credit hours including the 6 dual credit graduate courses) to complete the required credit hours for each degree without diminishing scope or quality of work and within 5 years.

Application and Eligibility

- Applications to the Fast Track program will be submitted by July 1 after the completion of the student's junior year. Applications submitted after that time will be evaluated on a case by case basis.
- Applicants must have a minimum undergraduate GPR of 3.0. Applicants must also earn a C- or better in all Chemistry, Calculus and Physics courses. Once admitted to the program, students must maintain a minimum 3.0 GPR.
- A faculty advisor will be assigned to each student. Students may seek additional mentors, but a formal committee is not required.
- Students admitted into the Fast Track program must finish the entire 150 credit hours to obtain both the Bachelor's and Master's degrees. These students will be conferred with two degrees once they complete the 5th year of the concurrent program.
- Students admitted to the program will change from U4 to G7 status when they are admitted having completed at least 99 hours (end of spring semester, year 3).
- Students not accepted or not allowed to continue with the Fast Track Program will complete the 120 hour Bachelor's degree under the standard 4 year curriculum. These students may still apply to the traditional graduate program.
- Students will graduate at the completion of the 5th year in the Fast Track Program coursework (150 credit hours) with both Bachelor's and Master's degrees. Students will complete the coursework in May of the 5th year.

Program Requirements

First Year

<table>
<thead>
<tr>
<th>Semester Credit Hours</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>ENGL 104</td>
<td>Composition and Rhetoric</td>
</tr>
<tr>
<td></td>
<td>CENG 101</td>
<td>Introduction to the Engineering Elective</td>
</tr>
<tr>
<td></td>
<td>ATMO 203</td>
<td>Weather Forecasting Laboratory</td>
</tr>
<tr>
<td></td>
<td>CHEM 102</td>
<td>Fundamentals of Chemistry II</td>
</tr>
<tr>
<td>&amp; CHEM 112</td>
<td></td>
<td>and Fundamentals of Chemistry Laboratory II</td>
</tr>
<tr>
<td></td>
<td>MATH 172</td>
<td>Calculus or Engineering Mathematics II</td>
</tr>
<tr>
<td></td>
<td>PHYS 218</td>
<td>Mechanics</td>
</tr>
<tr>
<td></td>
<td>American history elective or Government/political science elective</td>
<td></td>
</tr>
<tr>
<td></td>
<td>General Elective</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Term Semester Credit Hours</td>
<td>15</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Semester Credit Hours</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>ATMO 251</td>
<td>Weather Observation and Analysis</td>
</tr>
<tr>
<td></td>
<td>ATMO 353</td>
<td>Introduction to Atmospheric Chemistry and Air Pollution</td>
</tr>
<tr>
<td></td>
<td>MATH 251</td>
<td>Engineering Mathematics III</td>
</tr>
<tr>
<td></td>
<td>ATMO 321</td>
<td>Computer Applications in the Atmospheric Sciences</td>
</tr>
<tr>
<td></td>
<td>CSE 206</td>
<td>Structured Programming</td>
</tr>
<tr>
<td></td>
<td>American history elective or Government/political science elective</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social and behavioral sciences elective</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Term Semester Credit Hours</td>
<td>16</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Semester Credit Hours</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>ATMO 335</td>
<td>Atmospheric Thermodynamics</td>
</tr>
<tr>
<td></td>
<td>ATMO 336</td>
<td>Atmospheric Dynamics</td>
</tr>
<tr>
<td></td>
<td>STAT 211</td>
<td>Principles of Statistics</td>
</tr>
<tr>
<td></td>
<td>POL 207</td>
<td>Principles of Government</td>
</tr>
<tr>
<td></td>
<td>General Elective</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Term Semester Credit Hours</td>
<td>16</td>
</tr>
</tbody>
</table>

Spring

<table>
<thead>
<tr>
<th>Semester Credit Hours</th>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ATMO 435</td>
<td>Synoptic-Dynamic Meteorology</td>
</tr>
<tr>
<td></td>
<td>General Elective</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Term Semester Credit Hours</td>
<td>16</td>
</tr>
</tbody>
</table>

Note: The courses marked with an asterisk (*) indicate dual credit courses.
<table>
<thead>
<tr>
<th>Term</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fourth Year Fall</td>
<td>18</td>
</tr>
<tr>
<td>ATMO 446</td>
<td>Physical Meteorology</td>
</tr>
<tr>
<td>ATMO 446</td>
<td>Physical Meteorology and Remote Sensing</td>
</tr>
<tr>
<td>ATMO 443</td>
<td>or Geophysical Meteorology</td>
</tr>
<tr>
<td>OCNG 604</td>
<td>Ocean Observing Systems</td>
</tr>
<tr>
<td>OCNG 608</td>
<td>Physical Oceanography</td>
</tr>
<tr>
<td>Select one of the following:</td>
<td>3</td>
</tr>
<tr>
<td>OCNG 620</td>
<td>Biological Oceanography</td>
</tr>
<tr>
<td>OCNG 630</td>
<td>Geological Oceanography</td>
</tr>
<tr>
<td>OCNG 640</td>
<td>Chemical Oceanography</td>
</tr>
<tr>
<td>Spring</td>
<td>15</td>
</tr>
<tr>
<td>ATMO or technical elective</td>
<td>6</td>
</tr>
<tr>
<td>General elective</td>
<td>3</td>
</tr>
<tr>
<td>OCNG 657</td>
<td>Data Methods and Graphical Representation in Oceanography</td>
</tr>
<tr>
<td>Select one of the following:</td>
<td>3</td>
</tr>
<tr>
<td>OCNG 620</td>
<td>Biological Oceanography</td>
</tr>
<tr>
<td>OCNG 640</td>
<td>Chemical Oceanography</td>
</tr>
<tr>
<td>OCNG 630</td>
<td>Geological Oceanography</td>
</tr>
<tr>
<td>OCNG 603</td>
<td>Communicating Ocean Science</td>
</tr>
<tr>
<td>Total Semester Credit Hours:</td>
<td>46</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fifth Year Fall</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced specialized OCNG graduate course</td>
<td>9</td>
</tr>
<tr>
<td>Term Semester Credit Hours</td>
<td>9</td>
</tr>
<tr>
<td>Spring</td>
<td>9</td>
</tr>
<tr>
<td>Advanced specialized OCNG graduate course</td>
<td>6</td>
</tr>
<tr>
<td>Capstone Experience II</td>
<td>3</td>
</tr>
<tr>
<td>Total Semester Credit Hours:</td>
<td>18</td>
</tr>
</tbody>
</table>

Any of the required courses may be taken during the Summer Sessions to diminish the heavy semester loads during years Two and Three.

If students use nine credits of allowed OCNG courses (e.g. OCNG 251 or OCNG 401, OCNG 262, OCNG 350, OCNG 451, OCNG 485) as technical electives and general electives, they will receive an OCNG minor with their BS in METR degree.

Graduate courses will be taken for dual undergraduate/graduate credit and will contribute to the minor and technical electives.
THIS IS NOT an official evaluation.

Other Course Information

Overall GPA:
Program GPA:
Total Required:

Met Course:

Credits

Term: Fall 2015 - College Station
Catalog Term: 

Required Used Required Used

Course

Credits

Met Requirements:

Department:

Remarks: Atmospheric Sciences

Instructions:

Limitation: This is NOT an official evaluation.

For Degree Evaluation

Roxanna R. Russell
Oct 16, 2015 10:56 am
Select any course with the Language, Philosophy and Culture attribute (XLP). 

Term Subject Course Title Attribute Credits Required Credits 

Area: Language, Philosophy & Culture (12000 credits) - Not met 

Total Credits and GPA 0.00

Meet Condition Rule Subject Attribute Low High Required Credits Required Credits 

Term Subject Course Title Attribute Credits Required Credits 

Area: Life and Physical Sciences (12000 credits) - Not met 

Total Credits and GPA 0.00

Meet Condition Rule Subject Attribute Low High Required Credits Required Credits 

Term Subject Course Title Attribute Credits Required Credits 

Area: Major (12000 credits)

Total Credits and GPA 0.00

Meet Condition Rule Subject Attribute Low High Required Credits Required Credits 

Term Subject Course Title Attribute Credits Required Credits 

Area: Required Core Courses (12000 credits)

Total Credits and GPA 0.00
<table>
<thead>
<tr>
<th>Description</th>
<th>Course Name</th>
<th>Credits</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirement 1</td>
<td>Course 1</td>
<td>3.000</td>
<td>A</td>
</tr>
<tr>
<td>Requirement 2</td>
<td>Course 2</td>
<td>3.000</td>
<td>B</td>
</tr>
<tr>
<td>Requirement 3</td>
<td>Course 3</td>
<td>3.000</td>
<td>C</td>
</tr>
</tbody>
</table>

Total Credits and GPA: 9.000

- **Total Credits and GPA:** 9.000
- **Area:** Foreign Language - Not Met
MEMORANDUM

To: Dr. Chris Houser, Associate Dean, Undergraduate and Faculty Affairs, College of Geosciences

To: Dr. Eric Riggs, Assistant Dean, Graduate Affairs and Diversity, College of Geosciences

From: Dr. Debbie Thomas, Department Head, Oceanography
       Dr. Ping Yang, Department Head, Atmospheric Sciences

RE: Revisions to catalog degree requirements for the Joint degree program between Oceanography and Atmospheric Sciences Meteorology program

I have attached a revision to the Fast Track 3+2 program for METR and the non-thesis MS in Oceanography. It has been modified to fix the errors in the catalog degree requirements. The degree evaluation remains the same.

Details of changes include:

First Year Fall
- Adding the course title for MATH 151 and including new footnote #1
- Replacing the GEOS 101 Introduction to the Geosciences course with a free elective and including footnotes #2 showing a list of allowable general electives and #3 indicating that GEOS 101 is recommended for this 1 credit course.

First Year Spring
- Adding the title for MATH 152 and including new footnote #1
- Showing the American History elective correctly as ‘American History or Government/Political Science Elective’

Second Year Fall
- Including the alternative allowed for ATMO 321 – should include ‘or CSCE 206 Structural Programming in C’
- Replacing POLS 206 with ‘American History or Government/Political Science Elective’
- Correcting the footnote references for the general elective to new #2 and #4.

Second Year Spring
- Removing reference to old footnote #1 from ATMO 324 and PHYS 208
- Showing the American History elective correctly as ‘American History or Government/Political Science Elective’
- Adding the word elective for the social and behavioral sciences elective.

Third Year Fall
- Correcting the footnote number for ATMO 335 and ATMO 336 to footnote #5 in the revised footnote list.
- Replacing POLS 207 with ‘American History or Government/Political Science Elective’
• Correcting the footnote references for the general elective to new #2 and #4.

Third Year Spring
• Replacing the abbreviation ATMO with Atmospheric Sciences in the Atmospheric sciences or technical electives line and including the correct footnotes #6, #7 and #8 from the revised footnotes list
• Replacing communications elective with COMM 203 Public Speaking or COMM 205 Communication for Technical Professions
• Removing incorrect references to the old footnote #1.

Fourth Year Fall
• Replacing ATMO Remote Sensing elective with ATMO 441 Satellite Meteorology and Remote Sensing or ATMO 443 Radar Meteorology
• Replacing the abbreviation ATMO with Atmospheric Sciences in the Atmospheric sciences or technical electives line and including the correct footnotes #6, #7 and #8 from the revised footnotes list
• Correcting the footnotes to include #7, #8 and #9 on OCNG 604, OCNG 608 and the selection of a graduate fundamental course.

Fourth Year Spring
• Replacing the abbreviation ATMO with Atmospheric Sciences in the Atmospheric sciences or technical electives line and including the correct footnotes #6, #7 and #8 from the revised footnotes list.
• Removing the erroneous repeat of the line ‘Representation in Oceanography’ along with the incorrect 3 credits listed for it.
• Correcting the footnotes to include #8 and #9 on the selection of a graduate fundamental course.
• Correcting the total credits for this semester to 15

Total Four year hours
• Correcting the total credits for four years to 132

Fifth Year Fall
• Making the word course plural
• Correcting the Capstone Experience to the actual course ONG 661 Advanced Oceanographic Data Analysis and Communication

Correct footnotes are:

1 A grade of C or better is required.

2 General electives may not include CAEN 101-499; CAEX 101-499; DEVS 101-499; ENGL 103; KINE 198-199; MATH 102, MATH 131, MATH 141-142, MATH 150-152, MATH 171-172, MATH 221, MATH 251, MATH 253; PHYS 101, PHYS 201-202, PHYS 208, PHYS 218-219; AERS 100-499; MLSC 100-499; NVSC 100-499; SOMS 100-499

3 GEOS 101 is recommended

4 MLSC, NVSC and AERS courses can be used as general electives if a minor is completed in Military Science. See an academic advisor for more information.
5 All students enter as Lower Level Meteorology (METL) until completion of ATMO 335 and ATMO 336 and the associated prerequisite courses. Once students have completed these courses, their major will be changed to Upper Level Meteorology (METR), and they will be eligible to take upper-level electives. This change should occur following Fall of the junior year.

6 Select in consultation with faculty academic advisor.

7 If students use nine credits of allowed OCNG courses (e.g. OCNG 251 or OCNG 401, OCNG 252, OCNG 350, etc) as technical electives and general electives, they will receive an OCNG minor with their BS in METR degree.

8 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).

9 Two graduate courses will be taken for dual undergraduate/graduate credit and will contribute to the minor.

If you have any questions, please contact the assistant department head, Dr. Shari Yvon-Lewis (979-458-1816; syvon-lewis@tamu.edu).