

CHANGE IN CURRICULUM

COLLEGE OF GEOSCIENCES

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 (ex., DVM, JD, MD, etc.)
2. Request change for: Degree Program Minor Certificate
3. Request submitted by (Department or Program Name): Oceanography
4. Program Designation and Name
 (e.g., B.A. in History, Minor in History, Certificate in European Union): 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.

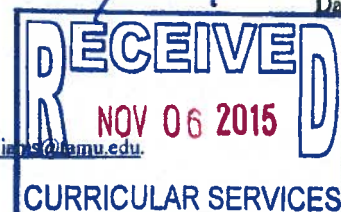
Use the checkboxes below to make sure that all information is included.

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? Yes No
- <http://www.theccb.state.tx.us/index.cfm?objectid=A0F9F7FA-9A92-4F11-2756AD3BBFF01D60>
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 _____ 10/30/2015 _____ 1/27/16 Chair, GC or UCC Date
--	---





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 P.Y.
Dr. Michael Pope, Department Head, Geology and Geophysics McP
Dr. Christian Brannstrom, Director Environmental Programs, College of Geosciences Clomitz

Replacing graduate program (ms in oceanography) with master of ocean science and technology (all 3+2 programs)

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 (120 undergraduate credit hours ¹²⁰ and non-thesis M.S. coursework (36 credit hours including the 6 dual credit graduate ⁶ 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

Fall

ATMO 201	Weather and Climate
CHEM 101 & CHEM 111	Fundamentals of Chemistry I and Fundamentals of Chemistry Laboratory I
MATH 171	Analytic Geometry and Calculus ^{or}

or MATH 151	<i>Engineering Mathematics I</i>	
ENGL 104	Composition and Rhetoric	
GEOS 401	Introduction to the Geosciences	<i>Technical Elective 3</i>
Term Semester Credit Hours		15

Spring		
ATMO 203	Weather Forecasting Laboratory	1
CHEM 102 & CHEM 112	Fundamentals of Chemistry II and Fundamentals of Chemistry Laboratory II	4
MATH 172	Calculus ^{or}	4
or MATH 152	<i>Engineering Mathematics II</i>	
PHYS 218	Mechanics	4
American history elective	<i>or Government/Political Science Elective</i>	3
Term Semester Credit Hours		16

Second Year

Fall

ATMO 251	Weather Observation and Analysis	3
ATMO 363	Introduction to Atmospheric Chemistry and Air Pollution	3
MATH 251	Engineering Mathematics III ¹	3
ATMO 321 ^{or}	Computer Applications in the Atmospheric Sciences ^{or Structured Programming in C}	3
CSCE 206	American History or Government/Political Science	3
AMNH 206	American National Government	3
General elective ^{2,4}		3
Term Semester Credit Hours		18

Spring

ATMO 324	Physical and Regional Climatology	3
MATH 308	Differential Equations ¹	3
PHYS 208	Electricity and Optics	4
American history elective	<i>or Government/Political Science Elective</i>	3
Social and behavioral sciences ^{Elective}		3
Term Semester Credit Hours		16

Third Year

Fall

ATMO 335	Atmospheric Thermodynamics ⁺⁵	3
ATMO 336	Atmospheric Dynamics ⁺⁵	4
STAT 211	Principles of Statistics I	3
POLS 207	American History or Government/Political Science	3
	State and Local Government	
General Elective ^{2,4}		3
Term Semester Credit Hours		16

Spring

ATMO 435	Synoptic-Dynamic Meteorology	3
<i>Atmospheric Sciences</i>	<i>or technical electives</i>	6
COMM 203 ^{or}	<i>public speaking or communication</i>	3
COMM 205	<i>for Technical Professions</i>	

Semester Credit Hours

Language, philosophy and culture elective	3
Creative arts elective	3
Term Semester Credit Hours	18

Fourth Year

Fall	
ATMO 446 Physical Meteorology	3
ATMO 443 of Radar Meteorology	3
ATMO 443 or technical elective	3
OCNG 604 Ocean Observing Systems	3
OCNG 608 Physical Oceanography	3
Select one of the following:	3
OCNG 620 Biological Oceanography	3
OCNG 630 Geological Oceanography	3
OCNG 640 Chemical Oceanography	3
Term Semester Credit Hours	18

Spring	
ATMO or technical elective	3
General elective	3
OCNG 657 Data Methods and Graphical Representation in Oceanography	3
Select one of the following:	3
OCNG 620 Biological Oceanography	3
OCNG 640 Chemical Oceanography	3
OCNG 630 Geological Oceanography	3
OCNG 603 Communicating Ocean Science	3
Term Semester Credit Hours	15

Total Semester Credit Hours:	485
-------------------------------------	------------

Fifth Year

Fall	
Advanced specialized OCNG graduate course	9
Term Semester Credit Hours	9
Spring	
Advanced specialized OCNG graduate course	6
Capstone Experience - OCNG 661	3
Term Semester Credit Hours	9
Total Semester Credit Hours:	18

- 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).
- 5 A grade of C or better is required.
- 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.
- 5 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
- 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.

Total undergraduate credit hours: 120
 Total graduate credit hours: 36 (36 credits required for non-thesis MOST)
 Total credits actually taken: 150

15
132

Advanced Oceanographic Data Analysis and Communications

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

7 If students use nine credits of allowed OCNG courses (e.g. OCNG 251 or OCNG 401, OCNG 252, OCNG 350, OCNG 451, OCNG 485) as technical electives and general electives, they will receive an OCNG minor with their BS in METR degree.

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

3 Recommended GEOS 101

- No AND B. MATH Rqmt II 4hrs
Must make a grade of 'C' or better.
- No AND C. MATH 251
Select from MATH 152 or 172.
Must make a grade of 'C' or Better.
- No AND D. MATH 308
Must make a grade of 'C' or better.
- No AND E. STAT 211
Must make a grade of 'C' or better.

Total Credits and GPA 0.000 .00

Unofficial evaluation

Area : Life and Physical Sciences (16,000 credits) - Not Met

- | No | Met | Condition | Rule Subject | Attribute | Low High | Required Credits | Required Courses | Term Subject | Course Title | Attribute | Credits | Grade | Source |
|---|-----|-----------|--------------|------------------------|----------|------------------|------------------|--------------|--------------|-----------|---------|-------|--------|
| No | | | A. | PHYS 218 | | | | | | | | | |
| No | | | B. | PHYS 208 | | | | | | | | | |
| No | | | C. | Chemistry I Rqmt 4hrs | | | | | | | | | |
| Select one of the following: | | | | | | | | | | | | | |
| 1. 4 hours required. Take CHEM 101. | | | | | | | | | | | | | |
| 2. 4 hours required. Take CHEM 101 and 111. | | | | | | | | | | | | | |
| No | | | D. | Chemistry II Rqmt 4hrs | | | | | | | | | |
| Select from the following: | | | | | | | | | | | | | |
| 1. 4 hours required. Take CHEM 102. | | | | | | | | | | | | | |
| 2. 4 hours required. Take CHEM 102 and 112. | | | | | | | | | | | | | |

Total Credits and GPA 0.000 .00

Unofficial evaluation

Area : Language, Philosophy & Culture (3,000 credits) - Not Met

- | No | Met | Condition | Rule Subject | Attribute | Low High | Required Credits | Required Courses | Term Subject | Course Title | Attribute | Credits | Grade | Source |
|---|-----|-----------|--------------|-------------------------------|----------|------------------|------------------|--------------|--------------|-----------|---------|-------|--------|
| No | | | A. | Lang, Phil, Culture Rqmt 3hrs | | | | | | | | | |
| Select any course with the Language, Philosophy and Culture attribute [KLPC]. | | | | | | | | | | | | | |

Total Credits and GPA 0.000 .00

Unofficial evaluation

Area : Creative Arts (3,000 credits) - Not Met

Met Condition Rule Subject Attribute Low High Required Credits Required Courses Term Subject Course Title Attribute Credits Grade Source

No A. Creative Arts Requirement
Select three hours from any course with the Creative Arts attribute [KCRA].

Total Credits and GPA 0.000 .00

unofficial evaluation

Area : Social and Behavioral Sciences (3,000 credits) - Not Met

Met Condition Rule Subject Attribute Low High Required Credits Required Courses Term Subject Course Title Attribute Credits Grade Source

No A. Social Science Rqmt 3hrs
Select from courses with the Social and Behavioral Science attribute [KSOC].

Total Credits and GPA 0.000 .00

unofficial evaluation

Area : Citizenship (12,000 credits) - Not Met

Description : Completion of 4 semesters of Upper-Level ROTC may be substituted for 3 hours of American History and 3 hours of Political Science.

Met Condition Rule Subject Attribute Low High Required Credits Required Courses Term Subject Course Title Attribute Credits Grade Source

No A. American History Rqmt 6hrs
Select from any course with the [KHIS] attribute.
AND B. Political Science Rqmt 6hrs
Take POLS 206 and POLS 207.

Total Credits and GPA 0.000 .00

unofficial evaluation

Area General Electives (9,000 credits) - Not Met

Met Condition Rule Subject Attribute Low High Required Credits Required Courses Term Subject Course Title Attribute Credits Grade Source

No A. General Electives 9hrs
Select any course from 100-499 not used elsewhere. (Except AERS 100-499; BUSN 100; CAEN 100-499; CAEX 100-499; DEVS 100-499; ENGL 100, 103; KINE 198, 199; LBAR 201; MATH 102, 103, 131, 141, 142, 150, 151, 152, 166, 171, 172, 221, 251, 253; MLSC 100-499; NWSC 100-499; PHYS 101, 201, 202, 208, 218, 219; SOMS 100-499; STLC 100 -499.)

GEDS 101 is recommended

Total Credits and GPA 0.000 .00

unofficial evaluation

Area : **Work Not Applied - Met**

Description : See advisor for acceptable substitutions.

Met	Condition Rule Subject Attribute	Low	High	Required Credits	Required Courses	Term Subject	Course Title	Attribute	Credits	Grade	Source	
No	A.											
Courses not applied												
										Total Credits and GPA	0.000	.00

unofficial evaluation

Area **University Writing Requirement - Not Met**

Met	Condition Rule Subject Attribute	Low	High	Required Credits	Required Courses	Term Subject	Course Title	Attribute	Credits	Grade	Source	
No	A.											
Writing Requirement												
Two courses required.												
Only sections of ATMO 456, 459, 463; UGST 491 with the Writing attribute [UWRT] may be used to satisfy this requirement.												
										Total Credits and GPA	0.000	.00

unofficial evaluation

Area **Int'l & Cult Diversity - Not Met**

Met	Condition Rule Subject Attribute	Low	High	Required Credits	Required Courses	Term Subject	Course Title	Attribute	Credits	Grade	Source	
No	A.											
Int'l & Cultural Diversity Grt												
Select from courses with the International and Cultural Diversity attribute [IUCD] (except sections of BUSN 289 with the UWRT attribute).												
										Total Credits and GPA	0.000	.00

unofficial evaluation

Area : **Foreign Language - Not Met**

Met	Condition Rule Subject Attribute	Low	High	Required Credits	Required Courses	Term Subject	Course Title	Attribute	Credits	Grade	Source
No	A.										
Foreign Language Rqmt											

Complete one of the following:
 1. Two years of the same foreign language in High School.

2. A two semester sequence of the same foreign language for University credit.

Total Credits and GPA 0.000 .00

unofficial evaluation

Area : Residence Requirement - Not Met

Description : A minimum of 36 hours of 300-400 level coursework must be completed at Texas A&M University. 12 hours must be in the major field.

Met Condition Rule Subject Attribute Low High Required Credits Required Courses Term Subject Course Title Attribute Credits Grade Source

No A. Residence-Major 12hrs

Select from ATMO 300-499.

No AND B. Residence 300-499 24hrs

Select any 300 or 400 level courses.

Total Credits and GPA 0.000 .00

unofficial evaluation

Area : GPR-Major - Not Met

Met Condition Rule Subject Attribute Low High Required Credits Required Courses Term Subject Course Title Attribute Credits Grade Source

No A. Major GPR 25+hrs

Select from ATMO 100-499, GEOS 100-499.

Total Credits and GPA 0.000 .00

unofficial evaluation

3 Back to Display Options

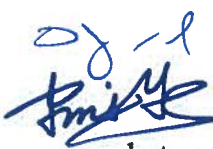
[Print](#)

23 October 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 

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

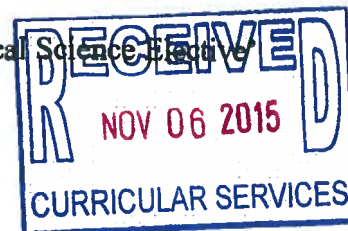
- Including the alternative allowed for ATMO 321 – should include 'or CSCE 206 Structural Programming in C'
- Replacing POLS 206 with 'American History or Government/Political Science Elective'
- Correcting the footnote references for the general elective to new #2 and #4.

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).