Proposed Curriculum Revisions in the Atmospheric Science B.S. and Environmental Science B.S.

Department of Atmospheric and Environmental Sciences
October 24, 2011

Proposed changes to the Atmospheric Science B.S.

The Atmospheric Science B.S. curriculum is designed such that students take each course in the same sequence. Currently, the sequence has students taking the dynamics "core" (ATM 410 and 411) during their senior year, along with the electives Synoptic Meteorology I and II (ATM 400 and 401, respectively), which are taken by a large majority of ATM B.S. students. After reviewing feedback from ATM B.S. graduates, and after several in-depth meetings among DAES faculty about the pros and cons of the current curriculum, we have decided that the dynamics core should be moved up one full year, thus beginning during the fall semester of a student's junior year. The benefits of this proposed curriculum change are as follows:

1) With the dynamics core moved up one semester, students will already have a solid foundation in the major with which to build upon when they take elective courses such as Synoptic Meteorology I and II (ATM 400 and 401), Tropical Meteorology (ATM 421), and Climate Variability and Change (ATM 306). Currently, some dynamics is taught in these courses in order to make up for material that students haven't yet learned, and moving the dynamics sequence up one full year will allow more material to be taught in the aforementioned courses.

2) There is currently a one-semester gap between ATM 315 and the current dynamics core (ATM 410 and 411). ATM 315 covers introductory dynamics and quantitative methods, but with the lengthy gap between this course and Dynamics I (ATM 410) in the current curriculum, material that was covered in ATM 315 needs to be covered again, since many students have forgotten some of the core concepts covered in ATM 315.

3) The change allows a third course in the dynamics sequence to be offered (ATM 418) during a student's senior year, which will cover mesoscale dynamics, material that hasn't been offered at the undergraduate level at Albany before but is covered in other universities' atmospheric science programs. A detailed syllabus for the proposed course is presented within this document.

In addition to introducing a new course to the curriculum (see #3 above), we propose to remove PHY 240 as a core course in the ATM B.S. major. Quantum theory makes up a large part of the content in PHY 240, and doesn't relate to material in the atmospheric science major. Any thermodynamics covered in PHY 240 will be taught more in depth, and more applicable to atmospheric science, in ATM 210 and ATM 320. Students will still be encouraged to take additional physics courses through advisement. Note that the three credits removed in the ATM B.S. curriculum are gained back through the addition of ATM 418.

A new course, Environmental Statistics (the *new* ATM 315), required for both the Atmospheric Science B.S. *and* the Environmental Science B.S. core is also proposed. Concepts covered in both majors require a certain amount of background knowledge in statistics and statistical research methods. Skills acquired in such a course would be highly valuable for students in rounding out their major, and preparing them for careers or graduate work in either field. Further information is detailed in the Environmental Science curriculum revision narrative, and additionally, a course syllabus is included in this document.

Finally, it is proposed that ATM 350 include a one credit lab (ATM 355). Since ATM 350 was introduced to the curriculum three years ago, it has been apparent that lab time would be a valuable addition to the course. It is proposed that ATM 355 will be an S/U graded course that consists of lab time to work on coursework assigned in ATM 350, as well as a final presentation using the tools learned in the course.

Summary of Atmospheric Science B.S. Changes

Current Curriculum	**Proposed Changes**
A MAT 111/112/118, 113, 214, 311	" "
A PHY 140, 145, 150, 240	A PHY 140, 145, 150, ~~240~~
A CHM 120	" "
A ATM 209	" "
A ATM 210/210Z	" "
A ATM 211	" "
A ATM 315	Becomes a new course, remains as A ATM 315
A ATM 320	" "
A ATM 321	A ATM 404 (same course, taken senior year)
A ATM 350	A ATM 350 + lab component, ATM 355
A ATM 410, 411 (Dynamics)	A ATM 316, 317, 418 (begins jr. year, three courses)
12 upper-level electives	" "

Atmospheric Science B.S. MAP with proposed curriculum revisions
****ONLY required courses are listed****

Fall 1	**Spring 1**
A MAT 112	A MAT 113
A PHY 140, 145	A PHY 150
A CHM 120	
Fall 2	**Spring 2**
A MAT 214	A MAT 311
A ATM 209	A ATM 211
A ATM 210/Z	
Fall 3	**Spring 3**
A ATM 315	A ATM 317
A ATM 316	A ATM 320
	A ATM 350, 355
Fall 4	**Spring 4**
A ATM 400	A ATM 401
A ATM 418	A ATM 404

Total credits in the major = 66

Proposed changes to the Environmental Science B.S.

The Environmental Sciences B.S. curriculum consists of a core program required of all ENV students and four different concentrations: Climate, Geography, Biology and Geology. With the retirement and departure of our remaining Geology professors, Linsley, Kidd and Delano, we have no faculty member left in our department with expertise in Geology/Earth Science. We therefore have no other choice than to close out the Geology concentration and eliminate all remaining Geology courses from the Undergraduate Bulletin, except for some cross- listed courses (GEO/ENV) and one introductory course (AGEO 221) which will remain a required course for all ENV majors and which will be taught by instructor and geochemist Steve Howe.

The second proposed change includes the introduction of a new course, AATM 315 (Environmental Statistics), taught by Prof. Roundy, which would replace AENV 105 (Introduction to Environmental Science) in the core curriculum. We feel that our ENV students do not receive sufficient training in the statistical analysis of environmental data, required in today's job market. AENV105 on the other hand was a course that was offered at the Gen-Ed level and our students often complained that is was overcrowded with students who showed a lack of interest and was based on repetitive material that they were exposed to in other courses as well. We feel that this substitution will increase the rigor of our ENV B.S. degree program.

The third proposed change concerns the climate concentration where with the addition of a new faculty member, Prof. Zhou we have attained new expertise in the area of Hydrology and Remote Sensing. This allows us to reintroduce a Hydrology course (AATM 301 – Surface Hydrology and Hydrometeorology) as a required course in the climate concentration. This is an already existing course, but it was never taught after the departure of Prof. Mohr and is currently listed only as an elective in the Climate concentration. This course will replace AGOG 304 (Climatology), which will remain an elective in the Climate concentration.

Summary of Environmental Sciences B.S. Changes

CORE

Current Curriculum	**Proposed Changes**
A MAT 111/112/118/, 113/119	" "
A PHY 140/141, 150/151/202	" "
A CHM 120/130, 121/131	" "
A BIO 120	" "
A ENV 105	Replaced by new course, A ATM 315
A ENV 201	" "
A ATM 210	" "
A GEO 221	" "
A ENV 250	" "
A ENV 327	" "
A ENV 490	" "

CLIMATE CONCENTRATION

Current Curriculum	**Proposed Changes**
Required courses:	
A GOG 304	Replaced by A ATM 301
A ATM 306	“ “
A ENV 450	“ ”
Electives	
(“at least 3 credits from following list”)	
A ATM 301	Replaced by A GOG 304
A ATM 304, 307, 335, 414	“”
ENV/GEO 435	Replaced by A ENV/GEO 350
A MAT 308	“”

(“at least 12 elective credits must be taken from the combination of the previous elective list and”):

A CHM 220, 221	“”
A ENV 496,	“”
A MAT 214, 311,	“”
A PHY 150 OR 151 OR T PHY 151,	“”
APHY 202,	“”
APHY240,	“”
I CSI 201	“”

GEOLOGY CONCENTRATION

This concentration will be closed. This requires eliminating, without substitution, the following courses from the Bulletin;

A ENV/GEO 435 (Geohydrology)
A GEO 223 (Introductory Field Geology)
A GEO 330 (Structural Geology)
A GEO 331 (Field excursions in Structural Geology)
A GEO 332 (Structural Geology Laboratory)
A ENV/GEO 466 (Marine and Estuary Systems)
A GEO 470 (Tectonics)

BIOLOGY CONCENTRATION

No changes

GEOGRPAHY CONCENTRATION

No changes

New Course Syllabi

ATM/ENV 315 Environmental Statistics, Catalog#xxxxx Fall 2012

Professor: Dr. Paul E. Roundy ES339A 442-4476
Office hour 1:30-2:30 p.m. Tuesday or by appointment
roundy@atmos.albany.edu

Graduate Student Assistant: To be announced
Meeting Time: TH AM?. Classroom TBA

Students must purchase the student version of MATLAB, as the in-class and project exercises will be prosecuted via this software (no additional toolboxes are required). Pre-reqs: ATM210; MAT113. Recommended Course: MAT220.

GRADING: Class Exams (2), 30% each. Participation and quizzes, 40%. Participation includes brief project reports in which the students explain what they did and interpret the results physically. Some assignments may be distributed by e-mail.

90-93 A-, 94-100 A, 80-83 B-, 83-87 B, 87-89 B+, etc.

Improvement greater than 15% from the first exam to the last yields 3% added to final grade.

PURPOSE: This course is designed to prepare students from various backgrounds to succeed in applying statistical methods for operational and research activities with a particular emphasis on *physical interpretation* of the results.

The class will include a brief introduction to MATLAB. Course content also will include:

1. Characterization and interpretation of atmospheric and environmental data sets, going beyond the basics of mean, median, range, standard deviation, variance, etc.
2. Spatial statistics of environmental data (correlation, autocorrelation, scaling, sampling)
3. Hypothesis testing
4. Understanding and communicating forecast probabilities for Weather or Climate events
5. Basic vector and matrix methods for discrete environmental data and a simple empirical orthogonal function (EOF) analysis
6. Statistical modeling and forecasting of environmental data (e.g., representing Mona Loa CO_2, MOS (Model Output Statistics) temperature forecasting, SHIPS hurricane intensity forecasting) and assessing forecast skill
7. Basic power spectrum analysis

and related topics, developed in the context of *real* atmospheric/environmental datasets and associated problems.

ATM 418: Dynamic Meteorology III
Fall Semester 2011 (3 credits), Class Number ?????

Lecture: Tuesday & Thursday 8:45-10:05 in ES 232
http://www.atmos.albany.edu/daes/atmclasses/…

Instructor:

Professor Ryan Torn
Office: ES 229
Phone: 442.4560
Fax: 442.5825
torn@atmos.albany.edu
Office hours: Monday and Wednesday 11:00-12:00, and by appointment

Course Objective:

This course uses the governing equations of the atmosphere to understand mesoscale phenomena, including fronts, convection, flow over topography and boundary layer. In addition, students will learn how the governing equations are used to produce numerical weather model forecasts.

Prerequisites:

ATM 317, 320

Text:

An Introduction to Dynamic Meteorology by J. R. Holton

Supplementary reading:

Mid-Latitude Atmospheric Dynamics: A First Course, by J. E. Martin
Cloud Dynamics, by R. A. Houze

Course Requirements:

7 Homework assignments and Summary: 30%
2 In-class exams: 20% each
Final exam: 30%
Grading: A-E
Each student will be assigned a group that will be responsible for giving a summary of the previous lecture on a regular basis. At the end of the course, each group is assigned a grade based on the quality of the summary, with adjustments based on peer assessment. Late Homework and off-time exams are only allowed for University-recognized reasons.

Course Outline:

1. Fronts (3 Weeks)

- definition and properties of fronts (Martin 7.1)
- kinematic view of fronts (Martin 7.2)
- frontogenesis equations (Martin 7.2)
- application of Q vectors to fronts (Martin 7.2)

- upper-level fronts (Martin 7.4)

2. Topographic flow (2 weeks; course notes)
    - flow around topography
    - downslope winds
    - topographic kelvin waves
3. Dynamics of Convection (4 Weeks; course notes)
    - buoyancy and entrainment
    - squall lines and RKW theory
    - supercell dynamics
    - sea breezes and dry lines
4. Boundary Layer (3 Weeks)
    - mean and perturbation form of equations (Holton 5.1)
    - turbulent kinetic energy (Holton 5.2)
    - introduction to K methods (Holton 5.3)
    - Ekman solution and spin-down (Holton 5.3)
5. Numerical Weather Prediction (3 weeks; course notes)
    - finite differencing
    - time stepping algorithms
    - spectral techniques
    - microphysics, cumulus, boundary layer parameterizations
    - data assimilation and ensemble forecasting

Interdepartmental Support Letter for A ATM 315

Date: Thu, 27 Oct 2011 16:20:49 +0000
From: "Plotnick, Steven" <splotnick@albany.edu>
To: Paul E. Roundy <roundy@atmos.albany.edu>
Cc: "Zhu, Kehe" <kzhu@albany.edu>, "Newman, Stacy A" <snewman@albany.edu>
Subject: RE: environmental statistics course

Dear Prof. Roundy,

This note is to express our department's support for your proposed course in Environmental Statistics. Certainly, we are happy to see the use of linear algebra and statistics in analyzing real world data sets. (We fully expect that after your course has been taught for a few years, the TV weatherman will be much more reliable!)

We agree that your course should make only minor demands on our department's resources. Since you are not requiring linear algebra, we would expect only a few of your students to take that course each year, and some of them are already taking it as math minors. The same goes, only more so, for our applied statistics course, since it is a 400-level course, so we would expect only your best students to consider it.

Good luck with your new course.

Best,

Steven Plotnick
Director of Undergraduate Studies
Department of Mathematics

Course Action Forms

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University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No.** **1**

Please mark all that apply:

☐	New Course	Revision of: ☐	Number	☐	Description
☐	Cross-Listing	☐	Title	☐	Prerequisites
☐	Shared-Resources Course	☐	Credits		
☐	Deactivate / Activate Course (boldface & underline as appropriate)	X	Other (specify):	**Major Requirements**	

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A PHY 240** New: **-----** Credits: **3**

Course Title: **Physics III: Structure of Matter**

Course Description to appear in Bulletin:

Prerequisites statement to be appended to description in Bulletin:

If S/U is to be designated as the only grading system in the course, check here: ☐

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Eliminate as required for the Atmospheric Science B.S. degree (see curriculum revision narrative)

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No.** 2

Please mark all that apply:

[ ]	New Course	Revision of: [ ]	Number	[ ]	Description
[ ]	Cross-Listing	[ ]	Title	[X]	Prerequisites
[ ]	Shared-Resources Course	[ ]	Credits		
[ ]	Deactivate / Activate Course (boldface & underline as appropriate)	[X]	Other (specify):	**Major Requirements**	

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 301** New: **-----** Credits: **3**

Course Title: **Surface Hydrology and Hydrometeorology**

Course Description to appear in Bulletin:

A survey of the water cycle and its interactions with the earth and atmosphere, including the processes of precipitation, evaporation, and stream flow. Water resources and policy issues incorporated where applicable. Counts as upper level credit for the Atmospheric Science B.S. degree.

Prerequisites statement to be appended to description in Bulletin:

Pre-requisite: ATM 210 or 210Z.

If S/U is to be designated as the only grading system in the course, check here: [ ]

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

With the anticipated annual teaching of ATM 301 and inability to offer ATM 408 as frequently, ATM 301 will now count as an upper-level elective for Atmospheric Science majors. The rigor of the course material will match that of other currently taught upper-level ATM electives. The updated bulletin will now read that courses ATM 301 or above will count as upper-level ATM electives, *with the exception of ATM 304*.

In addition, we also propose to change ATM 301 from elective to required course in the Climate concentration.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No.** 3

Please mark all that apply:

[ ]	New Course	Revision of: [ ]	Number	[ ]	Description
[ ]	Cross-Listing	[ ]	Title	[X]	Prerequisites
[ ]	Shared-Resources Course	[ ]	Credits		
[ ]	Deactivate / Activate Course (boldface & underline as appropriate)	[ ]	Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 305** New: **-----** Credits: **3**

Course Title: **Global Physical Climatology**

Course Description to appear in Bulletin:

Same as at present.

Prerequisites statement to be appended to description in Bulletin:

Co-requisites: A ATM 315, 316

If S/U is to be designated as the only grading system in the course, check here: [ ]

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Due to changes in the dynamics "core" (see curriculum revision narrative), the new appropriate co-requisite for ATM 305 is ATM 316: Dynamics I. This ensures that atmospheric science majors interested in taking ATM 305 already have a background in weather and forecasting and are at the very least taking Dynamics I concurrent with ATM 305. In addition, environmental statistics (ATM 315) is added as a co-requisite, as many concepts in global climatology can be taught using statistical methods discussed in ATM 315.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No.** 4

Please mark all that apply:

☐	New Course	Revision of: ☐	Number	☒	Description
☐	Cross-Listing	☐	Title	☐	Prerequisites
☐	Shared-Resources Course	☐	Credits		
☐	Deactivate / Activate Course (boldface & underline as appropriate)	☐	Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 211** New: **-----** Credits: **4**

Course Title: **Weather Analysis and Forecasting**

Course Description to appear in Bulletin:

An introduction to the use and interpretation of observed weather data, satellite and radar imagery, and atmospheric soundings; horizontal atmospheric forces and force balances; airmasses and fronts; extratropical cyclone development and structure; mid-latitude flow properties; temperature and precipitation forecasting. Offered Spring semester only.

Prerequisites statement to be appended to description in Bulletin:

Same as at present

If S/U is to be designated as the only grading system in the course, check here: ☐

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Minor update to course description

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No.** 5

Please mark all that apply:

[ ]	New Course	Revision of: [ ]	Number	[X]	Description
[ ]	Cross-Listing	[X]	Title	[ ]	Prerequisites
[ ]	Shared-Resources Course	[ ]	Credits		
[ ]	Deactivate / Activate Course (boldface & underline as appropriate)	[ ]	Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 311** New: **-----** Credits: **4**

Course Title: **Severe and Hazardous Weather and Forecasting**

Course Description to appear in Bulletin:

Continuation of ATM 211. Analysis and forecasting of various types and scales of severe weather, including tropical cyclones, thunderstorms and thunderstorm complexes, tornadoes, hail, lightning, lake-effect precipitation, blizzards, and ice storms. Once per week, students lead current and forecast weather discussions. Offered Fall semester only.

Prerequisites statement to be appended to description in Bulletin:

Same as at present

If S/U is to be designated as the only grading system in the course, check here: [ ]

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Minor update to course description and title

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 6**

Please mark all that apply:

X	New Course	Revision of:		Number	X Description
	Cross-Listing		X	Title	X Prerequisites
	Shared-Resources Course			Credits	
	Deactivate / Activate Course (boldface & underline as appropriate)			Other (specify):	

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 315** New: **-----** Credits: **3**

Course Title: **Environmental Statistics**

Course Description to appear in Bulletin:

Application of statistical methods to physical interpretation of signals in atmospheric and environmental datasets. Basic characterization of datasets, hypothesis testing, spatial statistics, assessment of forecast skill, and other topics to help analyze, understand, and communicate with others about the physical processes behind the signals and their relevance to stakeholders.

Prerequisites statement to be appended to description in Bulletin:

ATM 210 or 210Z, A MAT 113. Recommended: MAT 220

If S/U is to be designated as the only grading system in the course, check here: ☐

This course is (will be) cross listed with (i.e., CAS ###): **A ENV 315**

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

A new course covering statistical methods in atmospheric and environmental sciences. Having our students learn such methods for their major is highly beneficial in research and other career paths in both fields. The course will now be required for *both* atmospheric and environmental science majors. For additional explanation, please refer to the introductory narrative, course syllabus, and inter-departmental support letter, all embedded within this document.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

See support letter from the math department.

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No.** 7

Please mark all that apply:

☐	New Course	Revision of: ☐	Number	☐	Description
☐	Cross-Listing	☐	Title	X	Prerequisites
☐	Shared-Resources Course	☐	Credits		
☐	Deactivate / Activate Course (boldface & underline as appropriate)	☐	Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 320** New: **-----** Credits: **3**

Course Title: **Atmospheric Thermodynamics**

Course Description to appear in Bulletin:

Same as at present

Prerequisites statement to be appended to description in Bulletin:

A ATM 316; A PHY 150 or 151 or T PHY 151.

If S/U is to be designated as the only grading system in the course, check here: ☐

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Update to prerequisites to reflect changes to the ATM curriculum: 1) PHY 240 is no longer required, so it is removed as a prerequisite and is replaced by PHY 150; 2) The dynamics core begins fall of junior year with ATM 316, which should be the semester before a student takes ATM 320; 3) ATM 321 will now be taken during a student's senior year, so it is removed as a co-requisite.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 8**

Please mark all that apply:

[ ]	New Course	Revision of: [X]	Number	[ ]	Description
[ ]	Cross-Listing	[ ]	Title	[X]	Prerequisites
[ ]	Shared-Resources Course	[ ]	Credits		
[ ]	Deactivate / Activate Course (boldface & underline as appropriate)	[ ]	Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 321Y** New: **A ATM 404Y** Credits: **4**

Course Title: **Physical Meteorology**

Course Description to appear in Bulletin:

Same as at present

Prerequisites statement to be appended to description in Bulletin:

A ATM 316; A PHY 150 or 151 or T PHY 151. Co-requisite: A ATM 320

If S/U is to be designated as the only grading system in the course, check here: [ ]

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Update to prerequisites to reflect changes to the ATM curriculum: 1) PHY 240 is no longer required, so it is removed as a prerequisite and is replaced by PHY 150; 2) The dynamics core begins fall of junior year with ATM 316.

The change in course number is to bring it to a 400+ level, since in the ATM MAP, it will now be suggested to be taken during the spring semester of a student's senior year. ATM 404 matches the graduate course with the same name, ATM 504.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 9**

Please mark all that apply:

[ ]	New Course	Revision of: [ ]	Number	[ ]	Description
[ ]	Cross-Listing	[ ]	Title	[X]	Prerequisites
[ ]	Shared-Resources Course	[ ]	Credits		
[ ]	Deactivate / Activate Course (boldface & underline as appropriate)	[X]	Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 350** New: _____ Credits: **1**

Course Title: **Meteorological Datasets and Numerical Computation**

Course Description to appear in Bulletin:

Same as at present

Prerequisites statement to be appended to description in Bulletin:

A ATM 211, 316

If S/U is to be designated as the only grading system in the course, check here: [ ]

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Update to prerequisites to reflect changes to the ATM curriculum: 1) The dynamics core begins fall of junior year with ATM 316, as ATM 315 is now a statistics course.

In addition, the course now has a mandatory 1-credit lab component (ATM 355: See CAF #10), which brings the ATM B.S. major up to 66 credits.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 10**

Please mark all that apply:

X	New Course	Revision of:		Number		Description
	Cross-Listing			Title		Prerequisites
	Shared-Resources Course			Credits		
	Deactivate / Activate Course (boldface & underline as appropriate)		X	Other (specify):	**Major Requirements**	

Department: **Atmos. and Environmental Sci.**

To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 355** New: _____ Credits: **1**

Course Title: **Meteorological Datasets and Numerical Computation Lab**

Course Description to appear in Bulletin:

Lab component of A ATM 350. One laboratory period per week.

Prerequisites statement to be appended to description in Bulletin:

Must be taken in conjunction with A ATM 350.

If S/U is to be designated as the only grading system in the course, check here: X

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

It was decided that students would benefit from having a lab component of ATM 350 (see narrative), and one additional credit would bring the ATM B.S. major up to the maximum of 66 credits. The lab will be designed so that students have time to use software and programming tools learned in the lecture portion of the course. A final presentation will enable students to use a majority of the tools learned over the course of the semester.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 11**

Please mark all that apply:

[ ]	New Course	Revision of: [ ]	Number	[X]	Description
[ ]	Cross-Listing	[ ]	Title	[X]	Prerequisites
[ ]	Shared-Resources Course	[ ]	Credits		
[ ]	Deactivate / Activate Course (boldface & underline as appropriate)	[ ]	Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 400** New: _____ Credits: **3**

Course Title: **Synoptic Meteorology I**

Course Description to appear in Bulletin:

Investigation of multi-scale weather phenomena through application of fundamental thermodynamic and dynamic principles; exploration of the connections between observational and theoretical descriptions of atmospheric motions; use of operational weather prediction models and products for weather forecasting; scientific issues in weather forecasting. Two joint lecture-laboratory periods each week.

Prerequisites statement to be appended to description in Bulletin:

Prerequisites: A ATM 311, 317, 350

If S/U is to be designated as the only grading system in the course, check here: [ ]

This course is (will be) cross listed with (i.e., CAS ###): _____

This course is (will be) a shared-resources course with (i.e., CAS ###): _____

Explanation of proposal:

Update to prerequisites, since the new Dynamics II (ATM 317) should be taken prior to ATM 400. It was decided that students should have sufficient knowledge of dynamics prior to taking synoptic meteorology. The course description was also updated to reflect recent minor changes to the course material.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 12**

Please mark all that apply:

[ ]	New Course	Revision of: [ ]	Number	[X]	Description
[ ]	Cross-Listing	[ ]	Title	[X]	Prerequisites
[ ]	Shared-Resources Course	[ ]	Credits		
[ ]	Deactivate / Activate Course (boldface & underline as appropriate)	[ ]	Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 401** New: _____ Credits: **3**

Course Title: **Synoptic Meteorology II**

Course Description to appear in Bulletin:

Application of advanced fundamental thermodynamic and dynamic concepts to the investigation of multi-scale weather phenomena; exploitation of ensemble and probabilistic forecasting techniques and remote sensing radar and satellite technologies in weather analysis and forecasting; application of fundamental synoptic and mesoscale concepts to a real-time severe weather and heavy precipitation forecasting exercise.

Prerequisites statement to be appended to description in Bulletin:

Prerequisites: A ATM 400, 418

If S/U is to be designated as the only grading system in the course, check here: [ ]

This course is (will be) cross listed with (i.e., CAS ###): _____

This course is (will be) a shared-resources course with (i.e., CAS ###): _____

Explanation of proposal:

Update to prerequisites, since the new course, A ATM 418 (Dynamics III) should be taken prior to ATM 401. The course description was also updated to reflect recent minor changes to the course material.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 13**

Please mark all that apply:

[ ]	New Course	Revision of: [ ]	Number	[ ]	Description
[ ]	Cross-Listing	[ ]	Title	[X]	Prerequisites
[ ]	Shared-Resources Course	[ ]	Credits		
[ ]	Deactivate / Activate Course (boldface & underline as appropriate)	[ ]	Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 409** New: _____ Credits: **3**

Course Title: **Atmospheric Precipitation Processes**

Course Description to appear in Bulletin:

Same as at present

Prerequisites statement to be appended to description in Bulletin:

A ATM 316, 320; A MAT 311

If S/U is to be designated as the only grading system in the course, check here: [ ]

This course is (will be) cross listed with (i.e., CAS ###): _____

This course is (will be) a shared-resources course with (i.e., CAS ###): _____

Explanation of proposal:

Change of prerequisites to reflect the change in the dynamics sequence.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 14**

Please mark all that apply:

[ ]	New Course	Revision of: [X]	Number	[X]	Description
[ ]	Cross-Listing	[ ]	Title	[X]	Prerequisites
[ ]	Shared-Resources Course	[ ]	Credits		
[ ]	Deactivate / Activate Course (boldface & underline as appropriate)	[ ]	Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 410** New: **A ATM 316** Credits: **3**

Course Title: **Dynamic Meteorology I**

Course Description to appear in Bulletin:

Equations and concepts that provide the basis for describing and understanding atmospheric motion systems on planetary and synoptic scales; review of mathematical concepts and tools; kinematics of horizontal flows; fundamental and apparent forces; basic conservation laws; elementary applications of the equations of motion.

Prerequisites statement to be appended to description in Bulletin:

Prerequisites: A ATM 211, A PHY 150, A MAT 214, 311 (the latter acceptable as a corequisite)

If S/U is to be designated as the only grading system in the course, check here: [ ]

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

The change in course number to 300-level reflects changes in the ATM B.S. curriculum described in the narrative (the dynamics core, beginning with this course, now should be taken junior year). As a result, prerequisites change as indicated. In addition, a slight change to the course description is proposed.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 15**

Please mark all that apply:

[ ]	New Course	Revision of: [X]	Number	[X]	Description
[ ]	Cross-Listing	[ ]	Title	[X]	Prerequisites
[ ]	Shared-Resources Course	[ ]	Credits		
[ ]	Deactivate / Activate Course (boldface & underline as appropriate)	[ ]	Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 411** New: **A ATM 317** Credits: **3**

Course Title: **Dynamic Meteorology II**

Course Description to appear in Bulletin:

Application of the governing equations to describe and understand synoptic to planetary scale phenomena, including vertical motion, jet streaks, and the frontal cyclone; introduction of the concepts of vorticity and potential vorticity.

Prerequisites statement to be appended to description in Bulletin:

Prerequisites: A ATM 316

If S/U is to be designated as the only grading system in the course, check here: [ ]

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

The change in course number to 300-level reflects changes in the ATM B.S. curriculum described in the narrative (the dynamics core now should be taken junior year). As a result, prerequisites change as indicated. The course description has also been updated.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 16**

Please mark all that apply:

X	New Course	Revision of:		Number		Description
	Cross-Listing			Title		Prerequisites
	Shared-Resources Course			Credits		
	Deactivate / Activate Course (boldface & underline as appropriate)		X	Other (specify):	**Major Requirements**	

Department: **Atmos. and Environmental Sci.**

To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 418** New: _____ Credits: **3**

Course Title: **Dynamic Meteorology III**

Course Description to appear in Bulletin:

Application of the governing equations to describe and understand synoptic to planetary scale phenomena, including vertical motion, jet streaks, and the frontal cyclone; introduction of the concepts of vorticity and potential vorticity.

Prerequisites statement to be appended to description in Bulletin:

Prerequisites: A ATM 317, 320

If S/U is to be designated as the only grading system in the course, check here: ☐

This course is (will be) cross listed with (i.e., CAS ###): _____

This course is (will be) a shared-resources course with (i.e., CAS ###): _____

Explanation of proposal:

This course will introduce mesoscale meteorology (for topics, see course syllabus) into the undergraduate curriculum, and will be required for the ATM B.S. It is the third course in the dynamics sequence, and should be taken the fall semester of a student's senior year (400-level).

In adding a 400-level, course, and making ATM 321 a 400-level course (see CAF #8), the major will continue to have the same number of 400-level courses required, since Dynamics I and Dynamics II have become 300-level courses (see CAF #14, #15).

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft C Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)** Date	Dean of College **(PRINT NAME/SIGN)** Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)** Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)** Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 17**

Please mark all that apply:

[ ]	New Course	Revision of: [ ]	Number	[ ]	Description
[ ]	Cross-Listing	[ ]	Title	[X]	Prerequisites
[ ]	Shared-Resources Course	[ ]	Credits		
[ ]	Deactivate / Activate Course (boldface & underline as appropriate)	[ ]	Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 421** New: _____ Credits: **3**

Course Title: **Tropical Meteorology**

Course Description to appear in Bulletin:

Same as at present

Prerequisites statement to be appended to description in Bulletin:

Prerequisites: A ATM 316

If S/U is to be designated as the only grading system in the course, check here: [ ]

This course is (will be) cross listed with (i.e., CAS ###): _____

This course is (will be) a shared-resources course with (i.e., CAS ###): _____

Explanation of proposal:

Due to changes in the dynamics sequence (316, 317, 418), the new prerequisite for ATM 421 is ATM 316, Dynamics I.

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 18**

Please mark all that apply:

[ ]	New Course	Revision of: [ ]	Number	[ ]	Description
[ ]	Cross-Listing	[ ]	Title	[X]	Prerequisites
[ ]	Shared-Resources Course	[ ]	Credits		
[ ]	Deactivate / Activate Course (boldface & underline as appropriate)	[ ]	Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 424** New: _____ Credits: **3**

Course Title: **Fundamentals of Atmospheric Electricity**

Course Description to appear in Bulletin:

Same as at present

Prerequisites statement to be appended to description in Bulletin:

Prerequisites: A ATM 321; A MAT 214

If S/U is to be designated as the only grading system in the course, check here: [ ]

This course is (will be) cross listed with (i.e., CAS ###): _____

This course is (will be) a shared-resources course with (i.e., CAS ###): _____

Explanation of proposal:

PHY 240 (Physics III) is removed as a prerequisite, since it is no longer required for the major (see curriculum revision narrative).

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 19**

Please mark all that apply:

[ ]	New Course	Revision of: [ ]	Number	[ ]	Description
[ ]	Cross-Listing	[ ]	Title	[X]	Prerequisites
[ ]	Shared-Resources Course	[ ]	Credits		
[ ]	Deactivate / Activate Course (boldface & underline as appropriate)	[ ]	Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ATM 450** New: _____ Credits: **3**

Course Title: **Computer Applications in Atmospheric Science**

Course Description to appear in Bulletin:

Same as at present

Prerequisites statement to be appended to description in Bulletin:

Prerequisites: A ATM 316, 350

If S/U is to be designated as the only grading system in the course, check here: [ ]

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Simple change of prerequisites to match the new dynamics sequence and the recent introduction of A ATM 350 to the curriculum

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 20**

Please mark all that apply:

	New Course	Revision of:		Number	Description
	Cross-Listing			Title	Prerequisites
	Shared-Resources Course			Credits	
X	**Deactivate** / Activate Course (boldface & underline as appropriate)			Other (specify):	

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ENV/GEO 435** New: **-----** Credits: **3**

Course Title: **Geohydrology**

Course Description to appear in Bulletin:

Prerequisites statement to be appended to description in Bulletin:

If S/U is to be designated as the only grading system in the course, check here: ☐

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Deactivate course (see curriculum revision narrative)

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 21**

Please mark all that apply:

	New Course	Revision of:		Number		Description
	Cross-Listing			Title		Prerequisites
	Shared-Resources Course			Credits		
X	**Deactivate** / Activate Course (boldface & underline as appropriate)			Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A GEO 223/223Z** New: **-----** Credits: **1**

Course Title: **Introductory Field Geology**

Course Description to appear in Bulletin:

Prerequisites statement to be appended to description in Bulletin:

If S/U is to be designated as the only grading system in the course, check here: ☐

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Deactivate course (see curriculum revision narrative)

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 22**

Please mark all that apply:

	New Course	Revision of:		Number		Description
	Cross-Listing			Title		Prerequisites
	Shared-Resources Course			Credits		
X	**Deactivate** / Activate Course (boldface & underline as appropriate)			Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A GEO 330** New: **-----** Credits: **3**

Course Title: **Structural Geology**

Course Description to appear in Bulletin:

Prerequisites statement to be appended to description in Bulletin:

If S/U is to be designated as the only grading system in the course, check here: ☐

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Deactivate course (see curriculum revision narrative)

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 23**

Please mark all that apply:

	New Course	Revision of:		Number		Description
	Cross-Listing			Title		Prerequisites
	Shared-Resources Course			Credits		
X	**Deactivate** / Activate Course (boldface & underline as appropriate)			Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A GEO 331** New: **-----** Credits: **1**

Course Title: **Field excursions in Structural Geology**

Course Description to appear in Bulletin:

Prerequisites statement to be appended to description in Bulletin:

If S/U is to be designated as the only grading system in the course, check here: ☐

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Deactivate course (see curriculum revision narrative)

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 24**

Please mark all that apply:

	New Course	Revision of:		Number		Description
	Cross-Listing			Title		Prerequisites
	Shared-Resources Course			Credits		
X	**Deactivate** / Activate Course (boldface & underline as appropriate)			Other (specify):		

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A GEO 332** New: **-----** Credits: **1**

Course Title: **Structural Geology Laboratory**

Course Description to appear in Bulletin:

Prerequisites statement to be appended to description in Bulletin:

If S/U is to be designated as the only grading system in the course, check here: ☐

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Deactivate course (see curriculum revision narrative)

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No.** 25

Please mark all that apply:

	New Course	Revision of:		Number		Description
	Cross-Listing			Title		Prerequisites
	Shared-Resources Course			Credits		
X	**Deactivate** / Activate Course (boldface & underline as appropriate)			Other (specify):		

Department: **Atmos. and Environmental Sci.**

To be effective (semester/year): **Fall 2012**

Course Number Current: **A ENV/GEO 466** New: **-----** Credits: **3**

Course Title: **Marine and Estuary Systems**

Course Description to appear in Bulletin:

Prerequisites statement to be appended to description in Bulletin:

If S/U is to be designated as the only grading system in the course, check here: ☐

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Deactivate course (see curriculum revision narrative)

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 26**

Please mark all that apply:

	New Course	Revision of:		Number		Description
	Cross-Listing			Title		Prerequisites
	Shared-Resources Course			Credits		
X	**Deactivate** / Activate Course (boldface & underline as appropriate)			Other (specify):		

Department: **Atmos. and Environmental Sci.**

To be effective (semester/year): **Fall 2012**

Course Number Current: **A GEO 470** New: _____ Credits: **4**

Course Title: **Tectonics**

Course Description to appear in Bulletin:

Prerequisites statement to be appended to description in Bulletin:

If S/U is to be designated as the only grading system in the course, check here: ☐

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Deactivate course (see curriculum revision narrative)

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No.** 27

Please mark all that apply:

☐	New Course	Revision of:	☐ Number	☐	Description
☐	Cross-Listing		☐ Title	☐	Prerequisites
☐	Shared-Resources Course		☐ Credits		
☐	Deactivate / Activate Course (boldface & underline as appropriate)		X Other (specify):	**Major requirements**	

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A GOG 304** New: _____ Credits: **3**

Course Title: **Climatology**

Course Description to appear in Bulletin:

Prerequisites statement to be appended to description in Bulletin:

If S/U is to be designated as the only grading system in the course, check here: ☐

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Change from required course in Climate concentration to elective

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
Chair of Academic Programs Committee **(PRINT NAME/SIGN)**	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date

University at Albany – State University of New York

College of Arts and Sciences **Course Action Form** **Proposal No. 28**

Please mark all that apply:

☐	New Course	Revision of: ☐	Number	☐	Description
☐	Cross-Listing	☐	Title	☐	Prerequisites
☐	Shared-Resources Course	☐	Credits		
☐	Deactivate / Activate Course (boldface & underline as appropriate)	X	Other (specify):	**Major requirements**	

Department: **Atmos. and Environmental Sci.** To be effective (semester/year): **Fall 2012**

Course Number Current: **A ENV 105** New: _____ Credits: **3**

Course Title: **Introduction to Environmental Science**

Course Description to appear in Bulletin:

Prerequisites statement to be appended to description in Bulletin:

If S/U is to be designated as the only grading system in the course, check here: ☐

This course is (will be) cross listed with (i.e., CAS ###):

This course is (will be) a shared-resources course with (i.e., CAS ###):

Explanation of proposal:

Course should be removed from list of required courses in ENV B.S. degree (will be replaced by ATM 315; see ENV B.S. narrative)

Other departments or schools which offer similar or related courses and which have certified that this proposal does not overlap their offering:

Chair of Proposing Department **(TYPE NAME/SIGN)**	Date
Chris Thorncroft	10-24-2011

Approved by Chair(s) of Departments having cross-listed course(s) **(PRINT NAME/SIGN)**	Date	Dean of College **(PRINT NAME/SIGN)**	Date
PRINT NAME/SIGN)	Date	Dean of Graduate (Undergraduate) Studies **(PRINT NAME/SIGN)**	Date