

<b>Fiscal Unit/Academic Org</b>	Geography - D0733
<b>Administering College/Academic Group</b>	Social And Behavioral Sciences
<b>Co-administering College/Academic Group</b>	
<b>Semester Conversion Designation</b>	Converted with minimal changes to program goals and/or curricular requirements (e.g., sub-plan/specialization name changes, changes in electives and/or prerequisites, minimal changes in overall structure of program, minimal or no changes in program goals or content)
<b>Current Program/Plan Name</b>	Geography
<b>Proposed Program/Plan Name</b>	Atmospheric Sciences
<b>Program/Plan Code Abbreviation</b>	GEOG-BS
<b>Current Degree Title</b>	Bachelor of Science

## Credit Hour Explanation

Program credit hour requirements		A) Number of credit hours in current program (Quarter credit hours)	B) Calculated result for 2/3rds of current (Semester credit hours)	C) Number of credit hours required for proposed program (Semester credit hours)	D) Change in credit hours
Total minimum credit hours required for completion of program		48	32.0	32	0.0
Required credit hours offered by the unit	Minimum	39	26.0	26	0.0
	Maximum	48	32.0	32	0.0
Required credit hours offered outside of the unit	Minimum	0	0.0	0	0.0
	Maximum	9	6.0	6	0.0
Required prerequisite credit hours not included above	Minimum	57	38.0	38	0.0
	Maximum	57	38.0	38	0.0

## Program Learning Goals

Note: these are required for all undergraduate degree programs and majors now, and will be required for all graduate and professional degree programs in 2012. Nonetheless, all programs are encouraged to complete these now.

<b>Program Learning Goals</b>	<ul style="list-style-type: none"> <li>• Students acquire the theoretical basis for fundamental atmospheric processes and systems</li> <li>• Students are familiar with computational and other forms of technology used in the atmospheric sciences</li> <li>• Students can communicate atmospheric science concepts and methods orally, visually, or in writing</li> <li>• Students can solve problems faced by atmospheric scientists.</li> </ul>
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## Assessment

Assessment plan includes student learning goals, how those goals are evaluated, and how the information collected is used to improve student learning. An assessment plan is required for undergraduate majors and degrees. Graduate and professional degree programs are encouraged to complete this now, but will not be required to do so until 2012.

**Is this a degree program (undergraduate, graduate, or professional) or major proposal? Yes**

**Does the degree program or major have an assessment plan on file with the university Office of Academic Affairs? Yes**

**Summarize how the program's current quarter-based assessment practices will be modified, if necessary, to fit the semester calendar.**

For our assessment, we use a variety of direct and indirect methods, none of which depend upon whether the program is run under quarters or semesters. As a result, we do not anticipate any changes to our assessment practices under the semester system.

## Program Specializations/Sub-Plans

If you do not specify a program specialization/sub-plan it will be assumed you are submitting this program for all program specializations/sub-plans.

## Pre-Major

Does this Program have a Pre-Major? No

## Attachments

- Attachment 3\_Undergrad AS\_110210.docx: Attachment 3  
*(Curricular Map(s). Owner: Pernik, Juliana Christine)*
- Division Cover Letter for Geography.doc: Attachment 1  
*(Letter from the College to OAA. Owner: Mumy, Gene Elwood)*
- Sciences CCI Chair--Cover Letter for Geography Majors.doc: CCI Subcommittee Chair letter  
*(Other Supporting Documentation. Owner: Vankeerbergen, Bernadette Chantal)*
- Attachment 2\_Undergrad AS\_121010.docx: Attachment 2  
*(Program Proposal. Owner: Pernik, Juliana Christine)*

## Comments

## Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Pernik, Juliana Christine	09/30/2010 02:40 PM	Submitted for Approval
Approved	Mansfield, Becky Kate	09/30/2010 03:21 PM	Unit Approval
Revision Requested	Mumy, Gene Elwood	10/14/2010 11:57 AM	College Approval
Submitted	Pernik, Juliana Christine	11/02/2010 11:20 AM	Submitted for Approval
Approved	Vanarsdale, Sonya Renee	11/02/2010 11:21 AM	Unit Approval
Approved	Vanarsdale, Sonya Renee	11/02/2010 11:22 AM	College Approval
Revision Requested	Vankeerbergen, Bernadette Chantal	11/12/2010 01:05 PM	ASCCAO Approval
Submitted	Pernik, Juliana Christine	11/15/2010 02:49 PM	Submitted for Approval
Approved	Mansfield, Becky Kate	11/15/2010 04:37 PM	Unit Approval
Approved	Mumy, Gene Elwood	11/15/2010 05:09 PM	College Approval
Revision Requested	Vankeerbergen, Bernadette Chantal	12/10/2010 01:58 PM	ASCCAO Approval
Submitted	Pernik, Juliana Christine	12/13/2010 03:46 PM	Submitted for Approval
Approved	Mansfield, Becky Kate	12/13/2010 03:58 PM	Unit Approval
Approved	Mumy, Gene Elwood	12/15/2010 08:14 AM	College Approval
Pending Approval	Nolen, Dawn Jenkins, Mary Ellen Bigler Meyers, Catherine Anne Vankeerbergen, Bernadette Chantal Hanlin, Deborah Kay	12/15/2010 08:14 AM	ASCCAO Approval



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November 10,

Professor Larry Krissek  
Chair, Arts and Sciences CCI

Dear Professor Krissek:

At the undergraduate level the Department of Geography has six major programs:

1. Environment and Society (BA)
2. Climatology and Physical Geography Specialization (BS)
3. Spatial Analysis (BS)
4. Urban, Regional and Global Studies (BA)
5. Geographic Information Science (BS) Tagged Major, pending
6. Atmospheric Science (BS) Tagged Major, pending

Atmospheric Science and Geographic Information Science are new degrees approved early this year at the University level but have not yet been given final approval by the Board of Regents. We are fairly confident that they will receive BOR approval and Geography has presented semester transition plans with only minor changes except for a reduction of sequences in the GIS major to eliminate possible transition programs in sequenced courses.

At the time the new degrees were being developed Geography also revised the entire Geography major and its specializations. These revisions were also approved by CAA early this year so the semester conversion plans contain minimal changes.

These conversion plans were reviewed by me and the Social Sciences Disciplinary Advisory Panel (SS DAP). The SS DAP and I support Geography's conversion plans and submit them to you for CCI's consideration.

Sincerely,

A handwritten signature in black ink that reads "Gene E. Mummy".

Gene E. Mummy  
Associate Dean of Arts and Sciences/Social and Behavioral Sciences



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November 23, 2010

Professor Larry Krissek  
Chair, Arts and Sciences CCI  
Re: Geography Majors

Dear Professor Krissek:

At the CCI's Sciences Subcommittee meeting of November 10, 2010 the semester conversion plans for the following six majors provided by the Department of Geography were reviewed:

1. Environment and Society (BA); 2. Climatology and Physical Geography Specialization (BS); 3. Spatial Analysis (BS); 4. Urban, Regional and Global Studies (BA); 5. Geographic Information Science (BS) Tagged Major, pending; 6. Atmospheric Science (BS) Tagged Major, pending.

The first four majors were in place when Geography decided to propose new Atmospheric Sciences and Geographic Information Science majors. To align the existing majors with the two new ones and to prevent overlap, the Department also substantially revised its four existing majors. The new majors and the revisions were all approved by CAA in January 2010. As a result there was no need to rethink the structure of any major for calendar conversion and all conversions are with minimal changes.

Actually about the only minimal change was to eliminate a sequence in the core courses of the GIS major to avoid transition problems and the need for bridge courses. Other than that all of the conversions are very direct. As a result the committee voted on November 10 to approve the Atmospheric Sciences (unanimously approved) and Geography Environment and Society BA. After receiving clarification on some minor points the committee approved the other four majors in an electronic ballot.

It is my pleasure to now submit these majors to you for the next step in the approval process.

Sincerely,

A handwritten signature in black ink that reads "Gene E. Mummy".

Gene E. Mummy  
Acting Subcommittee Chair for Nov. 10  
Associate Dean of Arts and Sciences/Social and Behavioral Sciences

## Undergrad AS Semester Proposal – Attachment 2

To: OAA

Date: 6/14/2010

### Cover Letter for Proposals from the Department of Geography

This is the transmittal cover letter to the Office of Academic Affairs that reflects the efforts by the Department of Geography under Quarter to Semester Conversion.

The department used a series of committee and special purpose task forces to review programs and courses. Having recently proposed substantial revisions to our majors, we were in relatively good position to begin the Q to S process.

There has been a tremendous effort to accomplish these planned changes, with commendable input from Professor Becky Mansfield (Undergraduate), Jay Hobgood (Atmospheric Science), and Darla Munroe (Graduate). The graduate level documents are still being finalized.

The department recommends approval of these changes, which by and large are converted with minimal changes to program goals and/or curricular requirements at the undergraduate level. A recently approved set of revisions to the Majors has been incorporated into our planned semester version. *[There are minimal name changes, changes in electives and/or prerequisites, minimal changes in overall structure of program, minimal or no changes in program goals or content.]*

The graduate courses are minimally changed, but there is expected to be a complete re-write of our graduate manual to organize these classes in a way that conveys greater advisor flexibility. The department will seek appropriate approval for any substantive track or programs changes built around our existing graduate courses.

### The following are the programs in the department:

#### a. Undergraduate bachelors degree programs and/or majors

1. Environment and Society (BA)
2. Climatology and Physical Geography Specialization (BS)
3. Spatial Analysis (BS)
4. Urban, Regional and Global Studies (BA)
5. Geographic Information Science (BS) Tagged Major, pending
6. Atmospheric Science (BS) Tagged Major, pending

#### b. Undergraduate minors

A minor in geography is available to any Arts and Sciences student who is not already majoring in geography.

## Undergrad AS Semester Proposal – Attachment 2

c. Undergraduate associate degree programs

n/a

d. Graduate degree programs

1. M.A. in Geography

2. Ph.D. in Geography

3. M.S. in Atmospheric Science

4. Ph.D. in Atmospheric Science

e. Graduate minors

n/a

f. Graduate certificate programs

n/a

g. Graduate interdisciplinary specializations

Graduate Interdisciplinary Specialization in Geo-Spatial Data Analysis.

Since the interdisciplinary specialization requires elements from many other degree programs, we plan to finalize these syllabi and arrangements after the initial round of graduate degree courses has been screened.

h. Professional degree programs

n/a

i. Combined programs (e.g., BS/MS, Ph.D./ MD)

n/a

For the record, no programs are being withdrawn. The details in the balance of the template are incorporated by reference, and are being revised to ensure technical compliance with the templates.

Thank you for attention to these proposals

Morton O'Kelly

Professor & Chair

Department of Geography

### Program Rationale Statement

This is a new major, in its last stages of approval (Board of Regents approval expected in the 2010-2011 Academic Year). Because it has not yet been approved and implemented, we made minimal changes. The current program proposals were developed by the Undergraduate Studies Committee with consultation with faculty. A consensus was achieved through discussion via email and at faculty meetings. The only change for semesters is that one course has been added to the list of electives.

### List of semester courses in the program

Segment of Program	Semester #	Semester course name	Units
<b>Required Prerequisites</b>			
	Math 1251	Calculus and Analytic Geometry I	5
	Math 1252	Calculus and Analytic Geometry II	5
	Math 2253	Calculus and Analytic Geometry III	5
	Math 2455	Differential Equations and Their Applications	5
	Physics 1250	Introductory Physics: Particles and Motion	5
	Physics 1251	Introductory Physics: Electricity and Magnetism	5
	Chemistry 1XXX	General Chemistry	5
	Statistics 2450	Introduction to Statistical Analysis	3
<b>Core Requirements. (26 hours)</b>			
	AS 2940 OR GEOG 5900	Basic Meteorology OR Climatolotgy	3
	AS/GEOG 5940	Synoptic Meteorology Laboratory	2
	5921	Boundary Layer Climatology	3
	5922	Microclimatological Measurements	3
	5941	Synoptic Analysis and Forecasting	3
	5942	Severe Storm Forecasting	3
	AS 5950	Atmospheric Thermodynamics	3
	AS 5951	Dynamic Meteorology I	3
	AS 5952	Dynamic Meteorology II	3
<b>Major Electives (Choose two courses from the list below; 6 hours)</b>			
	AS 5901	Climate System Modeling: Basics and Applications	3
	3901H OR 3900	Global Climate and Environmental Change OR Global Climate Change: Causes and Consequences	3
	3882	Integrated Earth Systems: Confronting Global Change	3
	5200	Elements of Cartography	3
	5220	Fundamentals of Geographic Information Systems	3
	5270	Geographic Applications of Remote Sensing	3
Successor to	ES	Principles of Oceanography	3
	CIVILEN 5130	Applied Hydrology	3
	CIVILEN 5420	Remote Sensing of the Environment	3

## Semester Advising Sheet

Atmospheric Science BS Advising Sheet SEMESTERS			
Segment of Major Program and Course Number	Course name	Credit hours	Grade
<b>Required Prerequisites or Supplements to the Major</b>			
Math 1251	Calculus and Analytic Geometry I	5	
Math 1252	Calculus and Analytic Geometry II	5	
Math 2253	Calculus and Analytic Geometry III	5	
Math 2455	Differential Equations and Their Applications	5	
Physics 1250	Introductory Physics: Particles and Motion	5	
Physics 1251	Introductory Physics: Electricity and Magnetism	5	
Chemistry 1XXX	General Chemistry	5	
Statistics 2450	Introduction to Statistical Analysis	3	
<b>Core Requirements. (26 hours)</b>			
AS 2940 OR GEOG 5900	Basic Meteorology OR Climatolotgy	3	
GEOG 5921	Boundary Layer Climatology	3	
GEOG 5922	Microclimatological Measurements	3	
AS/GEOG 5940	Synoptic Meteorology Laboratory	2	
GEOG 5941	Synoptic Analysis and Forecasting	3	
GEOG 5942	Severe Storm Forecasting	3	
AS 5950	Atmospheric Thermodynamics	3	
AS 5951	Dynamic Meteorology I	3	
AS 5952	Dynamic Meteorology II	3	
<b>Major Electives (Choose two courses from the list below; 6 hours)</b>			
AS 5901	Climate System Modeling: Basics and Applications	3	
GEOG 4901H OR 4900	Global Climate and Environmental Change OR Global Climate Change: Causes and Consequences	3	
GEOG 3882	Integrated Earth Systems: Confronting Global Change	3	
GEOG 5200	Elements of Cartography	3	
GEOG 5220	Fundamentals of Geographic Information Systems	3	
GEOG 5270	Geographic Applications of Remote Sensing	3	
Successor to ES	Principles of Oceanography	3	
CIVILEN 5130	Applied Hydrology	3	
CIVILEN 5420	Remote Sensing of the Environment	3	
	<b>Total Program Hours</b>		
	<b>Minimum Program Hours</b>	32	
	<b>Prerequisite Hours</b>	38	
Advisor Signature and Date:			
Name:			
Major/Specialization:			
Campus ID:			



## Quarter Advising Sheet

<b>Atmospheric Science BS Advising Sheet QUARTERS</b>			
<b>Segment of Major Program and Course Number</b>	<b>Quarter course name</b>	<b>Credit hours</b>	<b>Grade</b>
<b>Required Prerequisites or Supplements to the Major</b>			
MATH 151	Calculus and Analytic Geometry I	5	
MATH 152	Calculus and Analytic Geometry II	5	
MATH 153	Calculus and Analytic Geometry III	5	
MATH 254	Calculus and Analytic Geometry IV	5	
MATH 255	Differential Equations and Their Applications	5	
PHYS 131	Introductory Physics: Particles and Motion	5	
PHYS 132	Introductory Physics: Electricity and Magnetism	5	
PHYS 133	Introductory Physics: Thermal Physics, Waves and Quantum Physics	5	
CHEM 121	General Chemistry	5	
STATS 245	Introduction to Statistical Analysis	5	
<b>Core Requirements. (43 hours)</b>			
AS 230 OR Geog 520	Basic Meteorology OR Climatology	5	
AS/Geog 620	Synoptic Meteorology Laboratory	3	
Geog 622.01	Boundary Layer Climatology	5	
Geog 622.02	Microclimatological Measurements	5	
Geog 623.01	Synoptic Analysis and Forecasting	5	
Geog 623.02	Severe Storm Forecasting	5	
AS 631	Atmospheric Thermodynamics	5	
AS 637	Dynamic Meteorology I	5	
AS 638	Dynamic Meteorology II	5	
<b>Major Electives (Choose two courses from the list below; 8-10 hours)</b>			
AS 629	Climate System Modeling: Basics and Applications	5	
Geog 410 (H) OR 420	Global Climate and Environmental Change OR Global Climate Change: Causes and Consequences	5	
Geog 597.02	Integrated earth Systems: Confronting Global Change	5	
Geog 607	Fundamentals of Geographic Information Systems	5	
Geog 684	Geographic Applications of Remote Sensing	5	
ES 206	ES Principles of Oceanography	5	
CE 603	CE Remote Sensing	4	
CE 613	CE Principles of Applied Hydrology	4	
<b>Total Program Hours</b>			
<b>Minimum Program Hours (including prereqs)</b>		<b>51-53</b>	
<b>Prerequisite Hours</b>		<b>50</b>	
Advisor Signature and Date:			
Name:			
Major/Specialization:			
Campus ID:			

**Transition policy**

Students who began their degree under quarters will not be penalized as we move to semesters, either in terms of progress towards their degree or their expected date of graduation. The sequence of classes in the major is largely very flexible. We do not see the need for any bridge courses in Atmospheric Sciences.

**Curriculum map, indicating how program goals are accomplished via specific courses**

KEY:	1=Beg.	2=Int.	3=Adv.	
	Learning outcome A	Learning outcome B	Learning outcome C	Learning outcome D
<b>Prerequisites; Successors to:</b>				
Math 1251				1
Math 1252				1
Math 2253				1
Math 2455				2
Physics 1250	1	1		
Physics 1251	1	1		
Chem 1 (1XXX)	1	1		
Stats 2450				1
<b>Required core:</b>				
AS 2940 OR GEOG 5900	1	1	1,2	1
AS/GEOG 5940	1	2	2	2
5921	3		2	
5922		3	3	3
5941	3	2	3	2
5942	3	2	3	3
AS 5950	2	2	2	2
AS 5951	3	2	2	2
AS 5952	3	2	2	3
<b>Electives:</b>				
AS 5901	2	3	2	
3901H OR 3900	2		3	
3882	1	2	1	
5200	1	1	2	1
5220	1	1		
5270	2	2		2
ES: Oceanography	1		1	
CIVILEN 5130	3	3		3
CIVILEN 5420	2	3		2

Learning Outcome A: Students acquire the theoretical basis for fundamental atmospheric processes and systems

Learning Outcome B: Students are familiar with computational and other forms of technology used in the atmospheric sciences.

Learning Outcome C: Students can communicate atmospheric science concepts and methods orally, visually, or in writing

Learning Outcome D: Students can solve problems faced by atmospheric scientists.