

Fiscal Unit/Academic Org	Geography - D0733
Administering College/Academic Group	Social And Behavioral Sciences
Co-administering College/Academic Group	
Semester Conversion Designation	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)
Current Program/Plan Name	Geography
Proposed Program/Plan Name	Atmospheric Sciences
Program/Plan Code Abbreviation	GEOG-BS
Current Degree Title	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.

Program Learning Goals	<ul style="list-style-type: none"> • Students acquire the theoretical basis for fundamental atmospheric processes and systems • Students are familiar with computational and other forms of technology used in the atmospheric sciences • Students can communicate atmospheric science concepts and methods orally, visually, or in writing • Students can solve problems faced by atmospheric scientists.
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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 2_Undergrad AS_110210.docx: Attachment 2

(Program Proposal. Owner: Pernik, Juliana Christine)

- Attachment 3_Undergrad AS_110210.docx: Attachment 3

(Curricular Map(s). 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	Murny, 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
Pending Approval	Hanlin, Deborah Kay Vankeerbergen, Bernadette Chantal Meyers, Catherine Anne Jenkins, Mary Ellen Bigler Nolen, Dawn	11/02/2010 11:22 AM	ASCCAO Approval

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

Undergrad AS Semester Proposal – Attachment 2

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

The omission of a matching minor for the two new majors (5-6 above) was a technical oversight and we plan to correct this once the majors themselves are approved. Even without that correction, a student wishing to minor in areas related to atmospheric science or geographic information science has similar options in cognate fields (items 2 & 3: Climatology and Physical Geography Specialization (BS) and Spatial Analysis (BS) respectively).

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)

Undergrad AS Semester Proposal – Attachment 2

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 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
Required Prerequisites			
	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
Core Requirements. (26 hours)			
	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
Major Electives (Choose two courses from the list below; 6 hours)			
	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
Required Prerequisites or Supplements to the Major			
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	
Core Requirements. (26 hours)			
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	
Major Electives (Choose two courses from the list below; 6 hours)			
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	
	Total Program Hours		
	Minimum Program Hours	32	
	Prerequisite Hours	38	
Advisor Signature and Date:			
Name:			
Major/Specialization:			
Campus ID:			

Quarter Advising Sheet

Atmospheric Science BS Advising Sheet QUARTERS			
Segment of Major Program and Course Number	Quarter course name	Credit hours	Grade
Required Prerequisites or Supplements to the Major			
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	
Core Requirements. (43 hours)			
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	
Major Electives (Choose two courses from the list below; 8-10 hours)			
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	
	Total Program Hours		
	Minimum Program Hours (including prereqs)	51-53	
	Prerequisite Hours	50	
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
Prerequisites; Successors to:				
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
Required core:				
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
Electives:				
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.