

**From:** [Blackwell, Marilyn](#)  
**To:** [Soave, Melissa](#)  
**Subject:** FW: Atmospheric Sciences proposals  
**Date:** Wednesday, July 27, 2011 12:15:37 PM

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Dear Melissa:

I looked at the Atmospheric Sciences proposals and didn't find Jay's new material. So I am now going to send you the two letters I wrote him asking for changes and then the two responses to those letters he sent me. So this is the first of four.

Marilyn

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**From:** Blackwell, Marilyn  
**Sent:** Monday, July 25, 2011 12:32 PM  
**To:** Hobgood, Jay  
**Cc:** Cogdell, James; blackwell.4@osu.edu  
**Subject:** Atmospheric Sciences proposals

Dear Jay:

Below are the only concerns Subcommittee B has about the Atmospheric Sciences MS and Phd. If you were willing to respond with

- 1) a statement that you will correct the language discrepancy on P. 8 of the PhD proposal and
- 2) a response to the Graduate School language issue

we'd be happy to forward this to CAA.

If you could get this material to me by Wednesday morning, I can send it to Melissa for the Thursday agenda.

Thanks for your help,

Marilyn

MS – Atmospheric Sciences

On page 8 the program is referred to as an Interdisciplinary Graduate Program – if this is the case, is the program interdisciplinary because coursework is required from geography and atmospheric sciences, and if so, do we need a letter of support/concurrence from the geography program?

Maybe not – the OSU website states

“Unlike the undergraduate program, the Atmospheric Science Program at the graduate level is separate from the Geography Program and involves a separate application process with an independent graduate studies committee and curriculum.”

[http://asp1.sbs.ohio-state.edu/main.php?pageloc=osu\\_asp](http://asp1.sbs.ohio-state.edu/main.php?pageloc=osu_asp)

PhD – Atmospheric Sciences

Two comments – on page one the program is called “ converted” but on page 8 it is referred to as “re-envisioned with significant changes”. This is inconsistent. Upon review the former seems correct, so maybe page 8 needs to be corrected.

The comment regarding an Interdisciplinary Graduate Program concerning the MS is relevant here as well.

**From:** [Blackwell, Marilyn](#)  
**To:** [Soave, Melissa](#)  
**Subject:** FW: Atmospheric Sciences proposals  
**Date:** Wednesday, July 27, 2011 12:15:59 PM  
**Attachments:** [ASPPhDSemesterconversionV3.docx](#)

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Number two.

-----Original Message-----

From: Jay Hobgood [<mailto:hobgood.1@osu.edu>]  
Sent: Monday, July 25, 2011 6:56 PM  
To: Blackwell, Marilyn  
Cc: Cogdell, James; Blackwell, Marilyn  
Subject: Re: Atmospheric Sciences proposals

Dear Marilyn,

I am attaching a MSWord file that contains a revised version of the Ph.D. proposal with the language corrected as you requested.

The answer to the question about why the Atmospheric Sciences Program (ASP) is an Interdisciplinary Graduate Program (IGP) is a little more involved. The ASP was created over 35 years ago as an IGP under the auspices of the Graduate School and the Office of Research. The first Director was Tom Seliga, who was actually an Electrical Engineer and who did work on weather radar among other things. The program was truly interdisciplinary in the sense that the affiliated faculty and graduate students came from a number of departments, including geography. Unfortunately, the program went through some lean years and Dr. Seliga left the university. Eventually in the mid 1980s, John Rayner, who was also Chair of Geography at the time, became the Director of ASP. ASP became co-located with Geography at that time, but it maintained its identity as an IGP with its own Graduate Studies Committee and distinct requirements for the M.S. and Ph.D. A tenure line position was created in the Department of Geography for someone to work full time for the ASP and I was hired in that job in 1987. I took over as Director of the ASP in 1995. As director I have tried to maintain the interdisciplinary nature of the program and to recruit affiliated faculty from different colleges. At the same time, the number of faculty in Geography who do work in the atmospheric sciences has grown from three to eight, while some other departments have cut back on positions closely aligned with atmospheric sciences. So, a much higher percentage of the affiliated faculty is from geography now than was the case in the past.

I wrote both the semester conversion proposals for the M.S. and Ph.D. in my role as director. Since the cover letter is supposed to come from the head of the unit, and ASP is an IGP and not a department, Morton O'Kelly, who was chair of Geography, wrote it instead. Although letter of concurrence is probably not required, Morton's letter as chair of Geography should probably suffice in any case.

I hope this satisfactorily answers your concerns. Please let me know if you have any other questions.

Jay

'  
At 12:31 PM 7/25/2011, Blackwell, Marilyn wrote:

>Dear Jay:

>

>Below are the only concerns Subcommittee B has about the Atmospheric

>Sciences MS and Phd. If you were willing to respond with

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- >The comment regarding an Interdisciplinary Graduate Program concerning
- >the MS is relevant here as well.

Atmospheric Sciences Program Ph.D.. Semester Conversion

1. Fiscal Unit/Academic Organization  
Geography – D0733
2. Administering College/Academic Group  
Social and Behavioral Sciences
3. Co-administering College/Academic Group  
None
4. Semester Conversion Designation  
Converted with minimal changes to programs goals and/or curricular requirements  
*(e.g. degree names changes, changes in program goals, changes in core requirements, structural changes to specialization/sub-plans)*
5. Current Program/Plan Name  
Atmospheric Sciences Program
6. Type of Program/Plan  
Graduate Degree Program
7. Program Plan Code  
ATMOSSC-PH
8. Degree Title  
Doctor of Philosophy
9. Does this program have any associated Specializations/Subplans  
No
10. Program Learning Goals  
Not Applicable at this time

11. List of Semester Courses – Required\*

Geography 5900	Climatology	3 cr. hrs.
Geography 5921	Microclimatology: Boundary Layer Climatology	3 cr. hrs.
Geography 5941	Synoptic Meteorology: Synoptic Analysis and Forecasting	3 cr. hrs.
Atmospheric Sciences 5950	Atmospheric Thermodynamics	3 cr. hrs.
Atmospheric Sciences 5951	Dynamic Meteorology I	3 cr. hrs.
Atmospheric Sciences 5952	Dynamic Meteorology II	3 cr. hrs.
One 8000 – level seminar in Atmospheric Sciences or Geography/Climatology		3 cr. hrs.
Total of specific requirements		21 cr. hrs.
Electives/Thesis Research hours (may be chosen from the following options		29 cr. hrs.
.Geography 5940	Synoptic Meteorology Laboratory	2 cr. hrs.
Geography 5922	Microclimatology: Microclimatological Measurements	3 cr. hrs.
Geography 5942	Synoptic Meteorology: Severe Storm Forecasting by Radar and Satellite	3 cr. hrs.
Geography 8901	Seminar: Problems in Climatology	3 cr. hrs.
Geography 8902	Applied Climatology	3 cr. hrs.
Geography 8920	Microclimatology	3 cr. hrs.
Geography 8950	Dynamic Climatology	3 cr. hrs.
Geography 8960	Seminar: Problems in Physical Geography	3 cr. hrs.
Atmospheric Sciences 5901	Climate Systems Modeling: Basics and Applications	3 cr. hrs.
Atmospheric Sciences 8900	Atmospheric Sciences Seminar	3 cr. hrs.
Atmospheric Sciences 8999	Research in Atmospheric Sciences	3 cr. hrs.

\*\*Hours transferred from Masters degree 30 cr. hrs.

Total required hours 80 cr. hrs.

Additional Requirements:

Satisfactory completion of a Candidacy Examination, a written dissertation, and a Final two hour Oral Examination.

\*Students who have taken any of the specific required courses at another university may petition the Graduate Studies Committee to substitute another three credit graduate course for any of those courses.

\*\* If the 30 credit hours transferred from the Masters degree includes any courses in the list of required courses, then other elective courses must be taken in place of the courses during a student's work toward their Ph.D.

## 12. Program Rationale

Atmospheric Sciences is an Interdisciplinary Graduate Program (IGP) co-located with the Department of Geography. Faculty and students conduct research on phenomena that occur on a wide range of spatial and temporal scales. Topics include fluxes at the Earth's surface which can change in a matter of seconds and long term climate change which happens over millennia. Research is also conducted on conditions within the Earth's boundary layer which may exhibit steep gradients where significant changes occurs over a few meters, and atmospheric teleconnections which may link processes occurring in one location to effects that happen thousands of kilometers away.

Since Atmospheric Sciences is an IGP, its philosophy has always been to try to keep specific requirements to a minimum and permit significant flexibility in order to accommodate the wide range of interests of students and faculty. Students who enter the Ph.D. program in Atmospheric Sciences tend to have either a B.S./M.S. in atmospheric

sciences/ meteorology or a B.S./M.S. in another field of science or engineering. Students who enter with a B.S. in atmospheric sciences sometimes have already taken some or all of the required courses and are allowed to petition the Graduate Studies Committee to substitute other relevant courses for those requirements. Students who enter with a B.S./M.S. in some other field must complete the required courses in order to acquire the necessary foundation for research in atmospheric sciences. However, Atmospheric Sciences has traditionally been flexible in terms of which years students take the required courses. For example, if a new student was supported on a Graduate Research Associateship which required course in geochemistry in order to complete their research commitment, then those courses could be scheduled during the first year, and some of the required courses moved to the second year.

Most of the required courses are straight conversions of their quarter versions. That can be seen in Table 1. The one exception is the addition of Geography 5941 (Synoptic Meteorology: Synoptic Analysis and Forecasting) as a required course. This addition is necessary due changes to the faculty in the Department of Geography and resulting changes that have occurred in the content of Geography 520. When it was originally included as a required course, Geography 520 included content on large scale atmospheric features (e.g. things like jet streams) that determine the weather patterns. Over the years, that content has been dropped from the course and replaced with more more discussion of climate change and climate prediction. That material is clearly relevant and in a sense makes the course title more accurately reflect its content. However, it also means that most students who did not have a similar course before they entered Atmospheric Sciences are taking Geography 623.01, which is the quarter based version of Geography 5941. After discussions with students and faculty it seemed reasonable to include Geography 5941 as a required course. As is currently the case, students may



petition the Graduate Studies Committee to substitute another course if they have taken the course previously.

Table 1

Semester Course	Quarter Equivalent
Geography 5900 (3 cr.)	Geography 520 (5 cr.)
Geography 5921 (3 cr.)	Geography 622.01 (5 cr.)
Atmospheric Sciences 5950 (3 cr.)	Atmospheric Sciences 631 (5 cr.)
Atmospheric Sciences 5951 (3 cr.)	Atmospheric Sciences 637 (5 cr.)
Atmospheric Sciences 5952 (3 cr.)	Atmospheric Sciences 638 (5 cr.)

13. Quarters curriculum advising sheet of requirements for the program, formatted to meet the unit's standards (only required if an existing program/plan).

Sample Advising Sheet – Quarters

Required Courses

Geography 520 (Climatology)	5 cr.
Geography 622.01 (Microclimatology: Boundary Layer Climatology)	5 cr.
Atmospheric Sciences 631 (Atmospheric Thermodynamics)	5 cr.
Atmospheric Thermodynamics 637 (Dynamic Meteorology I)	5 cr.
Atmospheric Thermodynamics 638 (Dynamic Meteorology II)	5 cr.
One 800 level seminar	5 cr.
Total required courses	30 cr
*Electives/research hours	105 cr.
Total required hours	105 cr.

\* This may include 45 hours transferred from the M.S. degree. However, if any of those 30 hours include courses from the required list, then appropriate courses must be substituted from the list of electives.

Sample Curriculum Under Quarters (assumes student did not previously take any required courses and 45 hours transferred from M.S. degree. This would most likely occur if a student entered the Ph.D. program with a M.S. in a different field of science or engineering.)

Year one – Autumn Quarter

*Geography 520 (Climatology)	5 cr.
Geography 620 (Synoptic Meteorology Laboratory)	3 cr.
*Atmospheric Sciences 631 (Atmospheric Thermodynamics)	5 cr.

Year one – Winter Quarter

*Geography 622.01 (Microclimatology: Boundary Layer Climatology)	5 cr.
Geography 623.01 (Synoptic Meteorology: Synoptic Analysis and Forecasting)	5 cr.
*Atmospheric Sciences 637 (Dynamic Meteorology I)	5 cr.

Year one – Spring Quarter

Geography 623.02 (Synoptic Meteorology II: Severe Storm Forecasting by Radar and Satellite)	5 cr.
*Atmospheric Sciences 638 (Dynamic Meteorology II)	5 cr.
Elective course related to thesis research topic	5 cr.

Year two – Autumn Quarter

**Geography 823 (Seminar in Applied Climatology)	5 cr.
Other elective courses	7 cr.

Year two – Winter Quarter

Other elective courses	12 cr.
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Year two – Spring Quarter

Other elective courses	12 cr.
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Successful completion of Ph.D. Candidacy examination

Year three – Autumn Quarter

Atmospheric Sciences 999 (Research in Atmospheric Sciences)	3 cr.
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Year three - Winter Quarter

Atmospheric Sciences 999 (Research in Atmospheric Sciences) 3 cr.

Year three – Spring Quarter

Atmospheric Sciences 999 (Research in Atmospheric Sciences) 3 cr.

Year four – Autumn Quarter

Atmospheric Sciences 999 (Research in Atmospheric Sciences) 3 cr.

Year four - Winter Quarter

Atmospheric Sciences 999 (Research in Atmospheric Sciences) 3 cr.

Year four – Spring Quarter

Atmospheric Sciences 999 (Research in Atmospheric Sciences) 3 cr

14. Semesters curriculum advising sheet of requirements for the program, formatted to meet the unit's standards.

Sample Advising Sheet – Semesters

Required Courses

Geography 5900 (Climatology) 3 cr.

Geography 5921 (Microclimatology: Boundary Layer Climatology) 3 cr.

Geography 5941 (Synoptic Meteorology: Synoptic Analysis and Forecasting) 3 cr.

Atmospheric Sciences 5950 (Atmospheric Thermodynamics) 3 cr.

Atmospheric Thermodynamics 5951 (Dynamic Meteorology I) 3 cr.

Atmospheric Thermodynamics 5952 (Dynamic Meteorology II) 3 cr.

One 8000 level seminar 3 cr.

Total required courses 21 cr

\*Electives/research hours 59 cr.

Total required hours 80 cr.

\* This may include 30 hours transferred from the M.S. degree. However, if any of those 30 hours include courses from the required list, then appropriate courses must be substituted from the list of electives.

Sample Curriculum Under Semesters (assumes student did not previously take any of the required courses and 30 hours transferred from M.S. degree. This would most like occur if a student entered the Ph.D. program with a M.S. in another field of science and engineering.)

Year one – Autumn Semester

*Geography 5900 (Climatology)	3 cr.
Geography 5940 (Synoptic Meteorology Laboratory)	2 cr.
*Geography 5941 (Synoptic Meteorology: Synoptic Analysis and Forecasting)	3 cr.
*Atmospheric Sciences 5950 (Atmospheric Thermodynamics)	3 cr.

Year one – Spring Semester

*Geography 5921 (Microclimatology: Boundary Layer Climatology)	3 cr.
Geography 5942 (Synoptic Meteorology: Severe Storm Forecasting by Radar and Satellite)	3 cr.
*Atmospheric Sciences 5951 (Dynamic Meteorology I)	3 cr.

Year two – Autumn Semester

*Atmospheric Sciences 5952 (Dynamic Meteorology II)	3 cr.
**Geography 8902 (Seminar in Applied Climatology)	3 cr.
Other elective courses	3 cr.

Year two – Spring Semester

Other elective courses	9 cr.
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Successful completion of Candidacy Examination

Year three – Autumn Semester

Atmospheric Sciences 8999 (Research in Atmospheric Sciences)	3 cr.
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Year three – Spring Semester

Atmospheric Sciences 8999 (Research in Atmospheric Sciences) 3 cr.

Year four – Autumn Semester

Atmospheric Sciences 8999 (Research in Atmospheric Sciences) 3 cr.

Year four – Spring Semester

Atmospheric Sciences 8999 (Research in Atmospheric Sciences) 3 cr.

\* Denotes required courses

\*\* Any other appropriate 8000 level seminar may be used in place of this example

Courses not identified with \* or \*\* are electives and any other course from the elective list may be used in their places.

15. Curricular Map that shows how,, and at what level (e.g. beginning, intermediate, advanced) the program’s courses facilitate students’ attainment of program learning goals.

Not required

16. Will this program have an associated pre-major or are of interest? (Yes/No)

No

17. Provide a table to aid the Council on Academic Affairs reviewers as they check for credit hours changes. The table should include the following information:

Provide credit hour Requirements	Number of credit hours in current program	Calculated result for 2/3rds of current quarter credit hours	Number of credit hours required for proposed program	Change in credit hours
Total minimum credit hours	120	80	80	0

required for  
completion of  
program

Required	Min.	36	24	21	3
credit	Max.	120	80	80	0

hours offered  
by the unit

Required	Min.	0	0	0	0
credit	Max.	84	56	59	3

hours offered  
outside of  
the unit

Required	Min.	0	0	0	0
prerequisite	Max.	0	0	0	0

credit hours  
not included  
above

18. If the difference (column D) is more than 4 semester credit hours between the values listed in columns B and C for any row in the table above, provide a rationale for the change in credit hours.

all changes are less than 4 semester hours

19. Transition policy statement that assures those students who began their degrees under quarters that the transition policy to semesters will not delay their graduation nor disrupt progress toward a degree. This may include a description of a preliminary program transition plan, how individual students advising plans will be developed, and possible use

of bridge courses. It should address students in the program and students taking service courses offered by the department/unit.

Students who began their degree under quarters will not be penalized as we move to semesters, either in terms of progress toward their degree or their expected date of graduation. Current students and new students who will begin in Autumn quarter 2011 are being and will continue to be advised about the conversion to semesters in June of 2012.

Most students complete most of the required courses during their first year and spend their second years taking graduate seminars and working on their thesis. Students are being advised of the inclusion of Geography 5941 as a required course. Nearly all of the current students have completed that course. In cases where completion of the course would pose an undue hardship on a student's progress toward their degree, the student may petition the Graduate Studies Committee to substitute another course for Geography 5941. The Graduate Studies Committee has always recognized the interdisciplinary nature of the Atmospheric Sciences IGP and has been willing to approve substitutions that are in the best interests of students. This policy will continue and should make it possible to deal with any transition issues on an individual basis.

20. Is this a degree program (undergraduate, graduate or professional) or major? (Yes/No)

Yes

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

No.

**From:** [Blackwell, Marilyn](#)  
**To:** [Soave, Melissa](#)  
**Subject:** FW: Atmospheric Sciences MS and PhD  
**Date:** Wednesday, July 27, 2011 12:16:26 PM

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Number three.

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**From:** Blackwell, Marilyn  
**Sent:** Tuesday, July 26, 2011 10:37 AM  
**To:** Hobgood, Jay  
**Cc:** Blackwell, Marilyn  
**Subject:** FW: Atmospheric Sciences MS and PhD

Dear Jay:

I am *\*very\** sorry to be coming at you with one more request concerning you Atm Sci proposals. Caroline Breitenberger who is a curricular voice to be reckoned with, so to speak, just sent me this last night. Could I ask you to accommodate the concern enumerated in the paragraph that begins "I am surprised..."? A simple cover letter will do at this point.

I *\*am\** sorry to ask you of this at such a late date, but we are all struggling to get things on the Thursday agenda and I'd like your proposals to be among them.

Apologetically,

Marilyn

Marilyn Johns Blackwell  
Vorman-Anderson Professor of Scandinavian Studies  
Department of Germanic Languages and Literatures  
1775 College Road  
Ohio State University  
Columbus OH 43210  
office phone: 614 449-8760  
[blackwell.4@osu.edu](mailto:blackwell.4@osu.edu)

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**From:** Breitenberger, Caroline  
**Sent:** Monday, July 25, 2011 6:03 PM  
**To:** Blackwell, Marilyn; [CMontalto@ehe.osu.edu](mailto:CMontalto@ehe.osu.edu)  
**Subject:** Atmospheric Sciences MS and PhD

Hi Marilyn:  
Sorry to be so late getting these comments to you...

Atmospheric Sciences PhD and MS:

I am surprised that these programs are not more interdisciplinary (only Geography and Atmospheric Sciences courses are listed under required and elective courses, whereas it seems to me that Earth Sciences, Physics, Environmental Sciences, and Engineering might have relevant courses as well). My guess is they do allow courses outside Geog/Atm Sci to count toward the elective hours. Although a comprehensive list of allowed courses is most likely impossible, they should include a sentence stating that courses in other departments may count as electives also,



upon approval of the Graduate Studies Committee.

I vote to approve and forward the Atmospheric Sciences PhD and MS to CAA, with the correction of the “significant changes” typo and the addition of a statement indicating that courses from other departments may count as electives (on CAA pp 9-10 of 17 in the MS, and on CAA p 9 of 18 in the PhD). I think that we can just add those changes as friendly amendments, and not necessarily require the corrected version for CAA approval.

Speech and Hearing Science PhD:

Typos include “20 semester hours disturbed as follows...” several times on CAA pp. 8-9 of 12. (Ah, the joys of spell-check – I’ll bet “distributed” was spelled incorrectly and corrected by Microsoft to “disturbed.”)

The quarter advising sheet was not included in the packet, but fortunately SHS has a good web site, and I confirmed that the requirements are the same under quarters and semesters.

I vote to approve the SHS PhD proposal and forward on to CAA.

p.s. I hope you had a good soccer weekend, Cathy!

*Caroline A. Breitenberger, Ph.D.*  
Director, Center for Life Sciences Education  
Ohio State University  
260 Jennings Hall  
1735 Neil Ave.  
Columbus, OH 43210  
292-6945 (telephone)  
292-4390 (fax)

**From:** [Blackwell, Marilyn](#)  
**To:** [Soave, Melissa](#)  
**Subject:** FW: FW: Atmospheric Sciences MS and PhD  
**Date:** Wednesday, July 27, 2011 12:17:17 PM  
**Attachments:** [ASPSemesterconversioncovletter02.docx](#)

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Number four.

**From:** Jay Hobgood [mailto:hobgood.1@osu.edu]  
**Sent:** Tuesday, July 26, 2011 5:05 PM  
**To:** Blackwell, Marilyn  
**Subject:** Re: FW: Atmospheric Sciences MS and PhD

Dear Marilyn,

I am attaching a short MSWord file that contains a cover letter stating that Atmospheric Sciences does allow students to take courses from other departments and use them as electives. I included a short list of some of the most popular electives from other departments. I hope this is satisfactory.

Please let me know if you need anything else.

Jay

----- Original Message -----

**From:** "Blackwell, Marilyn" <blackwell.4@osu.edu>  
**Date:** Tuesday, July 26, 2011 10:37 am  
**Subject:** FW: Atmospheric Sciences MS and PhD  
**To:** "Hobgood, Jay" <hobgood.1@osu.edu>  
**Cc:** "Blackwell, Marilyn" <blackwell.4@osu.edu>

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> Marilyn Johns Blackwell  
> Vorman-Anderson Professor of Scandinavian Studies  
> Department of Germanic Languages and Literatures

> 1775 College Road  
> Ohio State University  
> Columbus OH 43210  
> office phone: 614 449-8760  
> [blackwell.4@osu.edu](mailto:blackwell.4@osu.edu)

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> **Subject:** Atmospheric Sciences MS and PhD

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> I vote to approve and forward the Atmospheric Sciences PhD and MS to CAA, with the correction of the “significant changes” typo and the addition of a statement indicating that courses from other departments may count as electives (on CAA pp 9-10 of 17 in the MS, and on CAA p 9 of 18 in the PhD). I think that we can just add those changes as friendly amendments, and not necessarily require the corrected version for CAA approval.

> Speech and Hearing Science PhD:

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> I vote to approve the SHS PhD proposal and forward on to CAA.

> p.s. I hope you had a good soccer weekend, Cathy!

> *Caroline A. Breitenberger, Ph.D.*  
> Director, Center for Life Sciences Education  
> Ohio State University

- > 260 Jennings Hall
- > 1735 Neil Ave.
- > Columbus, OH 43210
- > 292-6945 (telephone)
- > 292-4390 (fax)

July 26, 2011

Marilyn Blackwell  
Chair  
CAA Subcommittee B

Dear Marilyn:

I am writing to confirm that graduate students in the Atmospheric Sciences Program can and do take courses from outside Atmospheric Sciences and Geography as part of their electives. In recent years some of the most popular electives include Civil Engineering 603 (Remote Sensing of the Environment), Civil Engineering 613 (Applied Hydrology), Earth Sciences 750 (Paleoclimatology) and Earth Sciences 851 (Seminar in Hydrogeology and Oceanography). In addition students may take courses from Statistics or other departments depending on the techniques required to do their research.

I hope this answers your subcommittee concerns about this issue. Please feel free to contact me if you have further questions.

Respectfully,

Jay S. Hobgood  
Associate Professor  
Director  
Atmospheric Sciences Program

Status: PENDING

**PROGRAM REQUEST**  
Atmospheric Sciences

Last Updated: Myers, Dena Elizabeth  
07/20/2011

<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>	Atmospheric Sciences
<b>Proposed Program/Plan Name</b>	Atmospheric Sciences
<b>Program/Plan Code Abbreviation</b>	ATMOSSC-PH
<b>Current Degree Title</b>	Doctor of Philosophy

**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		120	80.0	80	0.0
Required credit hours offered by the unit	Minimum	36	24.0	21	3.0
	Maximum	120	80.0	80	0.0
Required credit hours offered outside of the unit	Minimum	0	0.0	0	0.0
	Maximum	84	56.0	59	3.0
Required prerequisite credit hours not included above	Minimum	0	0.0	0	0.0
	Maximum	0	0.0	0	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** •

**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?** No

**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**

- ASPPHDSemesterconversionV2.docx: Attachment 2  
*(Program Proposal. Owner: Pernik,Juliana Christine)*
- Division Cover Letter for Geography.doc: Division Letter  
*(Letter from the College to OAA. Owner: Mumy,Gene Elwood)*

**Comments**

**Workflow Information**

Status	User(s)	Date/Time	Step
Submitted	Pernik,Juliana Christine	06/23/2011 11:11 AM	Submitted for Approval
Approved	O'Kelly,Morton Edward	06/27/2011 01:10 PM	Unit Approval
Approved	Mumy,Gene Elwood	06/27/2011 02:01 PM	College Approval
Revision Requested	Myers,Dena Elizabeth	06/28/2011 11:32 AM	GradSchool Approval
Submitted	Pernik,Juliana Christine	07/05/2011 10:23 AM	Submitted for Approval
Revision Requested	O'Kelly,Morton Edward	07/11/2011 09:15 AM	Unit Approval
Submitted	Pernik,Juliana Christine	07/11/2011 10:04 AM	Submitted for Approval
Approved	Vanarsdale,Sonya Renee	07/18/2011 12:57 PM	Unit Approval
Approved	Mumy,Gene Elwood	07/18/2011 01:02 PM	College Approval
Approved	Myers,Dena Elizabeth	07/20/2011 03:45 PM	GradSchool Approval
Pending Approval	Cameron,Erin Marie Soave,Melissa A	07/20/2011 03:45 PM	CAA Approval



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June 29, 2011

Chairs of Arts and Sciences CCI and CAA

Dear Chairs:

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.

At the undergraduate level the Department also has a Geography Minor. Currently the minor requires a choice of five courses in one of four tracks. As detailed in the program rationale, students interested in the minor often have interests that cross the boundaries of the tracks leading to a host of exceptions being made to the requirement of staying in a track. As a result, the semester conversion plan allows a student to take five courses of interest in any area of Geography and Atmospheric Sciences but adds a depth requirement by adding the condition that no more than two courses can be at the 2000-level and at least one must be at the 4000-level or higher; and the program must be approved by the undergraduate advisor.

The SS DAP and I think this is a positive change to the minor and have approved it. I therefore submit it to you for CCI's approval.

At the graduate level Geography offers the following degrees:

1. M.A. in Geography
2. Ph.D. in Geography
3. M.S. in Atmospheric Science
4. Ph.D. in Atmospheric Science



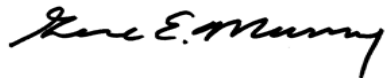
In his letter, Department Chair O'Kelly describes the process for converting the programs and explains that all of them are being converted with minimal changes.

The approval process for all Ph.D. and MA programs in SBS was that all of them were first examined and discussed for feedback and improvement by the SBS Graduate Committee, which is made up of the graduate directors. When ready for final consideration in the Division they move to the Social Sciences Disciplinary Advisory Panel (SS DAP).

The SS DAP has approved the Geography Ph.D. and MA programs after some changes were made. I endorse those approvals and now submit the programs to CAA and the Graduate School for their consideration.

After approving the Geography Ph.D. and MA programs the SS DAP reviewed the Ph.D. and MS programs in Atmospheric Sciences. The SS DAP approved the conversion programs contingent on some changes being made. Those changes have now been made I endorse the SS DAP's approval and submit the programs to CAA and the Graduate School for their consideration.

Sincerely,

A handwritten signature in black ink that reads "Gene E. Mumy". The signature is written in a cursive style with a large, sweeping initial "G".

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

To: OAA

Date: 7/7/2011

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.

A geography minor can be attained in any of the four specializations (1-4 above). A geography minor requires five courses from the appropriate specialization. The geography minor flier outlines the classes from which students can customize their minor 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)

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

Atmospheric Sciences Program Ph.D.. Semester Conversion

1. Fiscal Unit/Academic Organization  
Geography – D0733
2. Administering College/Academic Group  
Social and Behavioral Sciences
3. Co-administering College/Academic Group  
None
4. Semester Conversion Designation  
Re-envision with significant changes to program goals and/or curricular requirements  
*(e.g. degree names changes, changes in program goals, changes in core requirements, structural changes to specialization/sub-plans)*
5. Current Program/Plan Name  
Atmospheric Sciences Program
6. Type of Program/Plan  
Graduate Degree Program
7. Program Plan Code  
ATMOSSC-PH
8. Degree Title  
Doctor of Philosophy
9. Does this program have any associated Specializations/Subplans  
No
10. Program Learning Goals  
Not Applicable at this time

11. List of Semester Courses – Required\*

Geography 5900	Climatology	3 cr. hrs.
Geography 5921	Microclimatology: Boundary Layer Climatology	3 cr. hrs.
Geography 5941	Synoptic Meteorology: Synoptic Analysis and Forecasting	3 cr. hrs.
Atmospheric Sciences 5950	Atmospheric Thermodynamics	3 cr. hrs.
Atmospheric Sciences 5951	Dynamic Meteorology I	3 cr. hrs.
Atmospheric Sciences 5952	Dynamic Meteorology II	3 cr. hrs.
One 8000 – level seminar in Atmospheric Sciences or Geography/Climatology		3 cr. hrs.
Total of specific requirements		21 cr. hrs.
Electives/Thesis Research hours (may be chosen from the following options		29 cr. hrs.
.Geography 5940	Synoptic Meteorology Laboratory	2 cr. hrs.
Geography 5922	Microclimatology: Microlimatological Measurements	3 cr. hrs.
Geography 5942	Synoptic Meteorology: Severe Storm Forecasting by Radar and Satellite	3 cr. hrs.
Geography 8901	Seminar: Problems in Climatology	3 cr. hrs.
Geography 8902	Applied Climatology	3 cr. hrs.
Geography 8920	Microclimatology	3 cr. hrs.
Geography 8950	Dynamic Climatology	3 cr. hrs.
Geography 8960	Seminar: Problems in Physical Geography	3 cr. hrs.
Atmospheric Sciences 5901	Climate Systems Modeling: Basics and Applications	3 cr. hrs.
Atmospheric Sciences 8900	Atmospheric Sciences Seminar	3 cr. hrs.
Atmospheric Sciences 8999	Research in Atmospheric Sciences	3 cr. hrs.

\*\*Hours transferred from Masters degree 30 cr. hrs.

Total required hours 80 cr. hrs.

Additional Requirements:

Satisfactory completion of a Candidacy Examination, a written dissertation, and a Final two hour Oral Examination.

\*Students who have taken any of the specific required courses at another university may petition the Graduate Studies Committee to substitute another three credit graduate course for any of those courses.

\*\* If the 30 credit hours transferred from the Masters degree includes any courses in the list of required courses, then other elective courses must be taken in place of the courses during a student's work toward their Ph.D.

## 12. Program Rationale

Atmospheric Sciences is an Interdisciplinary Graduate Program (IGP) co-located with the Department of Geography. Faculty and students conduct research on phenomena that occur on a wide range of spatial and temporal scales. Topics include fluxes at the Earth's surface which can change in a matter of seconds and long term climate change which happens over millennia. Research is also conducted on conditions within the Earth's boundary layer which may exhibit steep gradients where significant changes occurs over a few meters, and atmospheric teleconnections which may link processes occurring in one location to effects that happen thousands of kilometers away.

Since Atmospheric Sciences is an IGP, its philosophy has always been to try to keep specific requirements to a minimum and permit significant flexibility in order to accommodate the wide range of interests of students and faculty. Students who enter the Ph.D. program in Atmospheric Sciences tend to have either a B.S./M.S. in atmospheric

sciences/ meteorology or a B.S./M.S. in another field of science or engineering. Students who enter with a B.S. in atmospheric sciences sometimes have already taken some or all of the required courses and are allowed to petition the Graduate Studies Committee to substitute other relevant courses for those requirements. Students who enter with a B.S./M.S. in some other field must complete the required courses in order to acquire the necessary foundation for research in atmospheric sciences. However, Atmospheric Sciences has traditionally been flexible in terms of which years students take the required courses. For example, if a new student was supported on a Graduate Research Associateship which required course in geochemistry in order to complete their research commitment, then those courses could be scheduled during the first year, and some of the required courses moved to the second year.

Most of the required courses are straight conversions of their quarter versions. That can be seen in Table 1. The one exception is the addition of Geography 5941 (Synoptic Meteorology: Synoptic Analysis and Forecasting) as a required course. This addition is necessary due changes to the faculty in the Department of Geography and resulting changes that have occurred in the content of Geography 520. When it was originally included as a required course, Geography 520 included content on large scale atmospheric features (e.g. things like jet streams) that determine the weather patterns. Over the years, that content has been dropped from the course and replaced with more more discussion of climate change and climate prediction. That material is clearly relevant and in a sense makes the course title more accurately reflect its content. However, it also means that most students who did not have a similar course before they entered Atmospheric Sciences are taking Geography 623.01, which is the quarter based version of Geography 5941. After discussions with students and faculty it seemed reasonable to include Geography 5941 as a required course. As is currently the case, students may



petition the Graduate Studies Committee to substitute another course if they have taken the course previously.

Table 1

Semester Course	Quarter Equivalent
Geography 5900 (3 cr.)	Geography 520 (5 cr.)
Geography 5921 (3 cr.)	Geography 622.01 (5 cr.)
Atmospheric Sciences 5950 (3 cr.)	Atmospheric Sciences 631 (5 cr.)
Atmospheric Sciences 5951 (3 cr.)	Atmospheric Sciences 637 (5 cr.)
Atmospheric Sciences 5952 (3 cr.)	Atmospheric Sciences 638 (5 cr.)

13. Quarters curriculum advising sheet of requirements for the program, formatted to meet the unit's standards (only required if an existing program/plan).

Sample Advising Sheet – Quarters

Required Courses

Geography 520 (Climatology)	5 cr.
Geography 622.01 (Microclimatology: Boundary Layer Climatology)	5 cr.
Atmospheric Sciences 631 (Atmospheric Thermodynamics)	5 cr.
Atmospheric Thermodynamics 637 (Dynamic Meteorology I)	5 cr.
Atmospheric Thermodynamics 638 (Dynamic Meteorology II)	5 cr.
One 800 level seminar	5 cr.
Total required courses	30 cr
*Electives/research hours	105 cr.
Total required hours	105 cr.

\* This may include 45 hours transferred from the M.S. degree. However, if any of those 30 hours include courses from the required list, then appropriate courses must be substituted from the list of electives.

Sample Curriculum Under Quarters (assumes student did not previously take any required courses and 45 hours transferred from M.S. degree. This would most likely occur if a student entered the Ph.D. program with a M.S. in a different field of science or engineering.)

Year one – Autumn Quarter

\*Geography 520 (Climatology) 5 cr.

Geography 620 (Synoptic Meteorology Laboratory) 3 cr.

\*Atmospheric Sciences 631 (Atmospheric Thermodynamics) 5 cr.

Year one – Winter Quarter

\*Geography 622.01 (Microclimatology: Boundary Layer Climatology) 5 cr.

Geography 623.01 (Synoptic Meteorology: Synoptic Analysis and Forecasting) 5 cr.

\*Atmospheric Sciences 637 (Dynamic Meteorology I) 5 cr.

Year one – Spring Quarter

Geography 623.02 (Synoptic Meteorology II: Severe Storm Forecasting by  
Radar and Satellite) 5 cr.

\*Atmospheric Sciences 638 (Dynamic Meteorology II) 5 cr.

Elective course related to thesis research topic 5 cr.

Year two – Autumn Quarter

\*\*Geography 823 (Seminar in Applied Climatology) 5 cr.

Other elective courses 7 cr.

Year two – Winter Quarter

Other elective courses 12 cr.

Year two – Spring Quarter

Other elective courses 12 cr.

Successful completion of Ph.D. Candidacy examination

Year three – Autumn Quarter

Atmospheric Sciences 999 (Research in Atmospheric Sciences) 3 cr.

Year three - Winter Quarter

Atmospheric Sciences 999 (Research in Atmospheric Sciences) 3 cr.

Year three – Spring Quarter

Atmospheric Sciences 999 (Research in Atmospheric Sciences) 3 cr.

Year four – Autumn Quarter

Atmospheric Sciences 999 (Research in Atmospheric Sciences) 3 cr.

Year four - Winter Quarter

Atmospheric Sciences 999 (Research in Atmospheric Sciences) 3 cr.

Year four – Spring Quarter

Atmospheric Sciences 999 (Research in Atmospheric Sciences) 3 cr

14. Semesters curriculum advising sheet of requirements for the program, formatted to meet the unit’s standards.

Sample Advising Sheet – Semesters

Required Courses

Geography 5900 (Climatology) 3 cr.

Geography 5921 (Microclimatology: Boundary Layer Climatology) 3 cr.

Geography 5941 (Synoptic Meteorology: Synoptic Analysis and Forecasting) 3 cr.

Atmospheric Sciences 5950 (Atmospheric Thermodynamics) 3 cr.

Atmospheric Thermodynamics 5951 (Dynamic Meteorology I) 3 cr.

Atmospheric Thermodynamics 5952 (Dynamic Meteorology II) 3 cr.

One 8000 level seminar 3 cr.

Total required courses 21 cr

\*Electives/research hours 59 cr.

Total required hours 80 cr.

\* This may include 30 hours transferred from the M.S. degree. However, if any of those 30 hours include courses from the required list, then appropriate courses must be substituted from the list of electives.

Sample Curriculum Under Semesters (assumes student did not previously take any of the required courses and 30 hours transferred from M.S. degree. This would most like occur if a student entered the Ph.D. program with a M.S. in another field of science and engineering.)

Year one – Autumn Semester

*Geography 5900 (Climatology)	3 cr.
Geography 5940 (Synoptic Meteorology Laboratory)	2 cr.
*Geography 5941 (Synoptic Meteorology: Synoptic Analysis and Forecasting)	3 cr.
*Atmospheric Sciences 5950 (Atmospheric Thermodynamics)	3 cr.

Year one – Spring Semester

*Geography 5921 (Microclimatology: Boundary Layer Climatology)	3 cr.
Geography 5942 (Synoptic Meteorology: Severe Storm Forecasting by Radar and Satellite)	3 cr.
*Atmospheric Sciences 5951 (Dynamic Meteorology I)	3 cr.

Year two – Autumn Semester

*Atmospheric Sciences 5952 (Dynamic Meteorology II)	3 cr.
**Geography 8902 (Seminar in Applied Climatology)	3 cr.
Other elective courses	3 cr.

Year two – Spring Semester

Other elective courses	9 cr.
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Successful completion of Candidacy Examination

Year three – Autumn Semester

Atmospheric Sciences 8999 (Research in Atmospheric Sciences)	3 cr.
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Year three – Spring Semester

Atmospheric Sciences 8999 (Research in Atmospheric Sciences) 3 cr.

Year four – Autumn Semester

Atmospheric Sciences 8999 (Research in Atmospheric Sciences) 3 cr.

Year four – Spring Semester

Atmospheric Sciences 8999 (Research in Atmospheric Sciences) 3 cr.

\* Denotes required courses

\*\* Any other appropriate 8000 level seminar may be used in place of this example

Courses not identified with \* or \*\* are electives and any other course from the elective list may be used in their places.

15. Curricular Map that shows how,, and at what level (e.g. beginning, intermediate, advanced) the program’s courses facilitate students’ attainment of program learning goals.

Not required

16. Will this program have an associated pre-major or are of interest? (Yes/No)

No

17. Provide a table to aid the Council on Academic Affairs reviewers as they check for credit hours changes. The table should include the following information:

Provide credit hour Requirements	Number of credit hours in current program	Calculated result for 2/3rds of current quarter credit hours	Number of credit hours required for proposed program	Change in credit hours
Total minimum credit hours	120	80	80	0

required for  
completion of  
program

Required	Min.	36	24	21	3
credit	Max.	120	80	80	0

hours offered  
by the unit

Required	Min.	0	0	0	0
credit	Max.	84	56	59	3

hours offered  
outside of  
the unit

Required	Min.	0	0	0	0
prerequisite	Max.	0	0	0	0

credit hours  
not included  
above

18. If the difference (column D) is more than 4 semester credit hours between the values listed in columns B and C for any row in the table above, provide a rationale for the change in credit hours.

all changes are less than 4 semester hours

19. Transition policy statement that assures those students who began their degrees under quarters that the transition policy to semesters will not delay their graduation nor disrupt progress toward a degree. This may include a description of a preliminary program transition plan, how individual students advising plans will be developed, and possible use

of bridge courses. It should address students in the program and students taking service courses offered by the department/unit.

Students who began their degree under quarters will not be penalized as we move to semesters, either in terms of progress toward their degree or their expected date of graduation. Current students and new students who will begin in Autumn quarter 2011 are being and will continue to be advised about the conversion to semesters in June of 2012.

Most students complete most of the required courses during their first year and spend their second years taking graduate seminars and working on their thesis. Students are being advised of the inclusion of Geography 5941 as a required course. Nearly all of the current students have completed that course. In cases where completion of the course would pose an undue hardship on a student's progress toward their degree, the student may petition the Graduate Studies Committee to substitute another course for Geography 5941. The Graduate Studies Committee has always recognized the interdisciplinary nature of the Atmospheric Sciences IGP and has been willing to approve substitutions that are in the best interests of students. This policy will continue and should make it possible to deal with any transition issues on an individual basis.

20. Is this a degree program (undergraduate, graduate or professional) or major? (Yes/No)

Yes

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

No.