

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Office of the Provost and Vice Chancellor
for Academic Affairs

Swanlund Administration Building
601 East John Street
Champaign, IL 61820



February 14, 2001

Susan A. Lamb, Chair
Senate Committee on Educational Policy
Office of the Senate
228 English Building, MC-461

Dear Professor Lamb:

Enclosed are copies of a proposal from the College of Liberal Arts and Sciences to establish a campus-wide minor in Atmospheric Science.

This proposal has been approved by the LAS Courses and Curricula, Academic Affairs and Executive committees; it now requires Senate review.

Sincerely,

A handwritten signature in black ink that reads "Keith A. Marshall".

Keith A. Marshall
Staff Associate

KAM/ab

c: A. Mester
R. Rauber
D. Wuebbles

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Office of the Dean
College of Liberal Arts and Sciences
294 Lincoln Hall
702 South Wright Street
Urbana, IL 61801-3631



November 7, 2000

Dr. Karen M. Carney
Assistant Provost
Swanlund Administration Building
MC - 304

Dear Karen:

The Courses and Curricula Committee, Academic Affairs Committee, and Executive Committee of the College of Liberal Arts and Sciences voted to approve the following proposal.

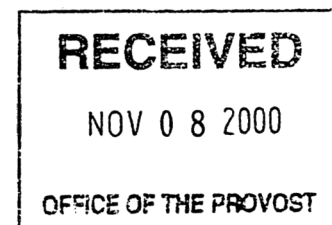
Proposal to Establish a Campus-Wide Minor in Atmospheric Science

This proposal is now ready for review by the Senate Educational Policy Committee for proposal implementation in Fall 2001.

Sincerely,

Ann M. Mester
Assistant Dean

R. Rauber
D. Wuebbles



RECEIVED LAS

SEP 8 2000

**Proposal to the Senate Committee on Educational Policy
to establish a minor in the Atmospheric Sciences**

OFFICE OF THE DEAN

Sponsor: Robert M. Rauber (Curriculum committee chairman, DAS)
333-2835
r-rauber@uiuc.edu

Brief Description:

The proposed Atmospheric Sciences minor requires 18 hours of coursework. The minor consists of the following requirements:

6-9 hours from the following courses

ATMOS 100: General Meteorology
ATMOS 120: Severe and Unusual Weather
ATMOS 130: Illinois in the changing earth system
ATMOS 140: Climate and Global Change

and 9-12 hours from the following courses:

ATMOS 222: Weather Processes
ATMOS 301: Atmospheric Physics
ATMOS 302: Atmospheric Dynamics
ATMOS 303: Weather Analysis and Forecasting
ATMOS 312: Radar Meteorology
ATMOS 313: Satellite Remote Sensing
ATMOS 314: Tropical Meteorology
ATMOS 348: Atmospheric Chemistry
ATMOS 381: Earth Systems Modeling

ATMOS 222 has MATH 242 as a prerequisite. Some 300 level courses have ATMOS 222, or instructor approval, as a prerequisite. ATMOS 302 has MATH 285, or instructor approval, as a prerequisite.

Justification

Scientists, researchers, and engineers in many fields require knowledge of atmospheric processes. Chemists, for example, address issues related to air quality, atmospheric ozone depletion, and the impact of anthropogenic chemicals on global climate. Entomologists use atmospheric data, including data from weather radar, to study airborne insect migrations. Other disciplines, such as Geography, Civil Engineering, Physics, and Computer Sciences conduct multidisciplinary work that involves the Atmospheric Sciences. Students with a minor in the atmospheric sciences will be better prepared to compete for positions in the multidisciplinary arena of today's workplace. By establishing a minor in Atmospheric Sciences, our Department would give students in these disciplines the opportunity to obtain a firm knowledge in Atmospheric Sciences and receive credit on their transcripts for that accomplishment.

Budgetary and Staff implications

Additional Staff and dollars needed: The required courses are from our existing course suite. No new course development is required. We anticipate, based on enrollment in majors in Atmospheric Sciences at other Universities, that the total enrollment in our minor at any one time will not exceed 20 students. Assuming that the minor had 20 interested students, we anticipate that half would be in the beginning and half in the advanced (200-300 level) courses in any semester. The impact of 10 students on ATMOS 100 and 120, which are taught every semester and have several hundred students spread across 2-3 sections, would be minimal. The increase in the remaining two 100 level courses would be welcome, since these courses are not close to capacity (an average of 26 (ATMOS 130) and 48 (ATMOS 140) students, the last two times they were offered). Typically, 3 advanced courses are offered per semester. We expect a maximum increase in class size of 3-5 students in these courses. None of the advanced classes are currently close to capacity (an average of 27 students enrolled in Atmos 222 the last two times it was offered and an average of 8 students enrolled in the 300 level classes the last two times they were offered). We believe that existing instructors can manage the anticipated (maximum) increase in class size of 3-5 students without difficulty. No new courses need to be established, space exists in courses to accommodate students in the minor without a need to create new sections, and no modification to the existing schedule of courses is necessary. We also note that LAS has given the Department permission to initiate a search for an additional faculty member. The new faculty member will contribute to teaching, and will be able to share any unanticipated additional load that may occur with the addition of the minor. Given these estimates, the department will not require additional funds to create the minor.

Internal reallocations: Changes in class size, teaching loads, and student faculty ratio were discussed above. The slightly larger classes are well within normal class size for 200 and 300 level courses. The teaching loads are also well within normal teaching loads for 200 and 300 level classes. The student faculty ratio, although larger, is within normal ratios for 200 and 300 level classes at the university.

Effect on course enrollments in other departments and explanations of discussions with representatives of those departments: All students in the minor will be expected to take the basic three calculus courses from the Math department. Since these students normally will be from scientific and engineering disciplines, they will have taken these courses regardless of the minor. We therefore believe there will be no impact on the Math Department. Since the students in the minor will come from a number of disciplines, impacts on courses in other disciplines should be minimal.

Impact on library, computer use, equipment, etc. The department has obtained funds to add to the number of computers in our laboratory rooms, so we believe we will be able to handle the additional students in classes requiring computer facilities. We do not anticipate any additional demands on the library. No other equipment or facilities are involved.

Guidelines for undergraduate education


The proposed minor meets the guidelines for undergraduate education by accomplishing the following: The new minor will provide students with opportunities to expand their capabilities for quantitative and qualitative reasoning, to obtain a basic understanding of their physical environment, to understand and use technological and scientific tools, and to develop educated opinions concerning their environment. Our courses demand excellence in communication, both oral and written, and students will be challenged to improve their skills in the course of completing the minor. Students will be prepared to work as a professional in the multidisciplinary environment that characterizes environmental sciences today.

Clearances

 9/19/00

Department/Unit Head Date

School Approval (if Applicable) Date

 11/7/00

Asst. Dean, College of Liberal Arts and Sciences Date

Associate Dean, Graduate College Date

Assoc. Provost Date

Advising for the minor:

Date: Tue, 06 Mar 2001 11:54:14 -0600
To: damrau robert conrad <damrau@staff.uiuc.edu>
From: Ann Mester <mester@uiuc.edu>
Subject: Minor in Atmospheric Sciences (EP.01.10)
Cc: wuebbles@uiatma.atmos.uiuc.edu

Here is the statement regarding advising in Atmospheric Sciences:

Advising for the minor:

Bob Rauber, faculty member in the department, will coordinate advising with the LAS Student Office and with other faculty within the department who will serve as the students' personal advisors. Bob's office is Room 210 in the Atmospheric Sciences Building. (r-rauber@uiuc.edu).

Statement for the Bulletin

The minor in Atmospheric Sciences is designed for students who desire a significant background in Atmospheric Sciences to support work in their major field. This minor will especially benefit students who choose to pursue careers in environmental areas in which multidisciplinary background is essential. The Atmospheric Science minor can complement majors in engineering and agriculture, scientific pursuits such as chemistry, geography, geology, physics, biology, and scientific writing, or curricula preparatory to teaching in secondary schools.

E-mail: dept@atmos.uiuc.edu

Web address: for most current program requirements:

http://www.las.uiuc.edu/las/p_atmos.html

HOURS

REQUIREMENTS

Choose from the following introductory courses:

ATMOS 100-General Meteorology

ATMOS 120-Severe and Unusual Weather

ATMOS 130-Illinois in the Changing Earth System

ATMOS 140-Climate and Global Change

Choose from the following advanced courses:

ATMOS 222-Weather Processes¹

ATMOS 301-Atmospheric Physics²

ATMOS 302-Atmospheric Dynamics³

ATMOS 303-Weather Analysis and Forecasting⁴

ATMOS 312-Radar Meteorology⁵

ATMOS 313-Satellite Remote Sensing⁶

ATMOS 314-Tropical Meteorology⁷

ATMOS 348-Atmospheric Chemistry⁸

ATMOS 381-Earth Systems Modeling⁹

18

Total hours

Effective date: FALL 2001

¹ Math 242 is required for this course

² Math 242 or Math 245 or consent of instructor is required for this course

³ Math 280 or consent of instructor is required for this course

⁴ ATMOS 222 or consent of instructor is required for this course

⁵ ATMOS 222 or consent of instructor is required for this course

⁶ Math 242 or Math 245 or consent of instructor is required for this course

⁷ ATMOS 222 or consent of instructor is required for this course

⁸ ATMOS 301 or ME 207 or CHEM 340 or consent of instructor is required for this course

⁹ Student must have Junior, Senior or Graduate standing in a natural science, geography, natural resources and environmental studies, or engineering to enroll in this course