UNIVERSITY of HOUSTON
CORE CURRICULUM COURSE REQUEST RECEIVED NOV 17 2005

Originating Department/College: 
Person making request: Telephone: 
Dean's signature: Date: 

1. General Information:
   Course number and title: 
   Complete catalog description (NOT required if attached to CBM 003 form):

Category of Core for which course is being proposed (mark only one):

- Communication
- Communication: Writing Intensive Experiences in the Disciplines
- Mathematics
- Mathematics/Reasoning (LDO)
- Natural Sciences
- Humanities
- Visual/Performing Arts Critical
- Visual/Performing Arts Experiential
- Social/Behavioral Sciences
- U.S. History
- American Government

2. Objectives and Evaluation (respond on one or more separate sheets):
   Call 3-0919 for a copy of "Guidelines for Requesting and Evaluating Core Courses" or visit the website at www.uh.edu/academics/corecurriculum

- How does the proposed course meet the appropriate Exemplary Educational Objectives (see Guidelines). Attach a syllabus and supporting materials for the objectives the syllabus does not make clear.
- Specify the processes and procedures for evaluating course effectiveness in regard to its goals.
- Delineate how these evaluation results will be used to improve the course?

SVP Effective 9/2005. Replaces all previous forms, which may no longer be used.
CBM003 ADD/CHANGE FORM

☐ Undergraduate Council  ☐ New Course  ☐ Course Change
☐ Core Category: Nat Sci  Effective Fall 2006
□ Graduate/Professional Studies Council  ☐ New Course  ☐ Course Change
□ Core Category:  Effective Fall ___

1. Department: Geosciences  College: NSM

2. Person Submitting Form: James Lawrence  Telephone: 713-243-3410

3. Course Information on New/Revised course:
   • Instructional Area / Course Number / Long Course Title:
     GEOG / 3550 / Introduction to Meteorology
   • Instructional Area / Course Number / Short Course Title (30 characters max.):
     GEOG / 3550 / INTRO TO METEOROLOGY
   • SCH: 3.00  Level: GR  CIP Code: 40040:0902  Lect Hrs: 3  Lab Hrs: 0

4. Justification for adding/changing course: To meet core curriculum requirements.

5. Was the proposed/revised course previously offered as a special topics course? ❌ Yes  ❌ No
   If Yes, please complete:
   • Instructional Area / Course Number / Long Course Title:
     GEOG / 1397 / Introduction to Meteorology
   • Content ID: 297189  Start Date (yyyyy): 20053

6. Is this course offered for undergraduate credit only? ❌ Yes  ❌ No

7. Authorized Degree Program(s): BS Environmental Science
   • Does this course affect major/minor requirements in the College/Department? ❌ Yes  ❌ No
   • Does this course affect major/minor requirements in other Colleges/Departments? ❌ Yes  ❌ No
   • Are special fees attached to this course? ❌ Yes  ❌ No
   • Can the course be repeated for credit? ❌ Yes  ❌ No

8. Grade Option: Letter A, B, C...  Instruction Type: Lecture

9. If this form involves a change to an existing course, please obtain the following information from
   the course inventory: Instructional Area / Course Number / Long Course Title
   ______ / ______ / ______
   • Start Date (yyyyy): ______  Content ID: ______

10. Proposed Catalog Description:
    Cr.: 3(4)  Prerequisites: Corequisite MATH 1310 or 1311  Description (30 words max.) Basic concepts
        and principles of meteorological processes including clouds and precipitation, local and global circulation, air
        masses and fronts, and severe weather systems.

11. Dean's Signature: ___________________________ Date: 12/01/65
    Print/Type Name: Ian Evans
Course Name: Introduction to Meteorology, GEOL 3197

Instructor: Dr. Sharon Zhong, Associate Professor, Department of Geosciences

A. How does the proposed course meet the appropriate Exemplary Education Objectives

Meteorology is a topic that easily generates interest in and appreciation of natural science. In recent years, weather and climate have become front pages news from such events as Forest Fire in California and Hurricane Rita in the Gulf Coast. The dynamic nature of the atmosphere seems to demand our attention and understanding more these days than ever before and the interest in meteorology has been growing.

This course introduces students to basic concepts and principles of a wide range of meteorological phenomena including clouds and precipitation, local and global circulations, air masses and fronts, El Nino and jet streams, and severe weather systems such as tornadoes and hurricanes. The course emphasizes the understanding of dynamical principles governing weather phenomena and encourages students to observe the atmosphere and apply immediately their understanding to answer questions about weather and climate that arise in our day-to-day lives. The course is designed for non-science majors by conveying meteorological concepts in a visual, practical, and non-mathematical manner, while still providing some advanced topics with detailed mathematics for students majoring in science.

The following is the current Syllabus

GEOL 1397 INTRODUCTION TO METEOROLOGY

COURSE SYLLABUS Fall 2005

Dr. Sharon Zhong
Department of Geosciences
Room 227, Science Building (502 on Campus Map)
Phone: 713-743-9130, Email: szhong@uh.edu

Office hours: Mondays 2:30 to 4:00 pm and Wednesdays 12:00-1:00 pm

Textbook (Required):

Title: Essentials of Meteorology
Author: Donald Ahrens
Publisher: Brooks/Cole, Thompson Learning
ISBN: 0-534-42264-0

Course Web Address

www.vnec.uh.edu
Click on VLCASS
Click on Geosciences Folder
Click on GEOL 1397 Introduction to Meteorology

Course Objectives:

- To be able to describe general characteristics of a wide range of meteorological processes and weather phenomena
- To develop basic understanding of physical principles for these phenomena.
• To develop ability to make quantitative calculations using elementary principles of atmospheric dynamics and physics
• To develop ability to critically examine reports on weather and climate
• To become conversant in issues related to weather and climate, e.g., air pollution and climate change

Assignments and examinations:
There will be three exams during the semester and a comprehensive final exam. The exams will be a combination of multiple choice and short essay questions, and will cover materials from lectures and lab/homework assignments. As a general rule, a make-up exam will be offered only under extraordinary circumstances. If you miss an exam, your final exam grade will be used to substitute for the missed exam grade (proportionally).

Grading policy:
First three exams: 15% each, a total of 45%.
Final: 25%
Lab and homework assignments: 25%
Attendance (including the field trip): 5%

A: 90-100  B: 80-89  C: 70-79  D: 60-69  F: 0-59

Course Schedule (Tentative, subject to change during the semester)

<table>
<thead>
<tr>
<th>Dates</th>
<th>Lectures and Labs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug 22</td>
<td>Lecture 1. Introduction</td>
</tr>
<tr>
<td>Aug 24</td>
<td>Lecture 2. Weather map basics – how to read surface and upper air weather maps</td>
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<tr>
<td>Aug 29</td>
<td>Lecture 3. The earth’s atmosphere (Chapter 1)</td>
</tr>
<tr>
<td>Aug 31</td>
<td>Lab 1. Weather maps</td>
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<tr>
<td>Sept 7</td>
<td>Lecture 4. Warming the earth and the atmosphere (Chapter 2)</td>
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<tr>
<td>Sept 12</td>
<td>Lecture 5. Air temperature (Chapter 3)</td>
</tr>
<tr>
<td>Sept 14</td>
<td>Lab 2. Temperature and temperature changes</td>
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<tr>
<td>Sept 19</td>
<td>Exam 1</td>
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<tr>
<td>Sept 21</td>
<td>Lecture 6. Humidity (Chapter 4)</td>
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<tr>
<td>Sept 26</td>
<td>Lecture 7. Condensation and clouds (Chapter 4 and 5)</td>
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<tr>
<td>Sept 28</td>
<td>Lecture 8. Stability and cloud development (Chapter 5)</td>
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<td>Oct 3</td>
<td>Lab 3. Humidity, stability</td>
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<td>Oct 6</td>
<td>Lecture 9. Precipitation (Chapter 6)</td>
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<tr>
<td>Oct 10</td>
<td>Lecture 10. Air pressure and winds (Chapter 6)</td>
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<td>Oct 12</td>
<td>Lecture 11. Atmospheric circulation (small scale) (Chapter 7)</td>
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<tr>
<td>Oct 17</td>
<td>Lecture 12. Atmospheric circulations (large scale) (Chapter 7)</td>
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<tr>
<td>Oct 19</td>
<td>Lab 4. Atmosphere in motion</td>
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<tr>
<td>Oct 24</td>
<td>Exam 2</td>
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<tr>
<td>Oct 26</td>
<td>Lecture 13. Air masses and fronts (Chapter 8)</td>
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<tr>
<td>Nov 1</td>
<td>Lecture 14. Mid-latitude cyclones (Chapter 8)</td>
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<tr>
<td>Nov 7</td>
<td>Lab 5. Weather fronts and cyclones</td>
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<tr>
<td>Nov 7</td>
<td>Lecture 15. Thunderstorms and tornadoes (Chapter 13)</td>
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<tr>
<td>Nov 9</td>
<td>Lecture 16. Hurricane</td>
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</table>
B. Specify the process and procedures for evaluating course effectiveness in regard to its goals.

The effectiveness of the course is regularly evaluated by frequent solicitations of feedback from students and by giving in-class quizzes and exams (three exams plus final). A detailed questionnaire is given at the end of the semester for students' comments on the weaknesses and strengths of various teaching techniques employed during the semester. Feedback and suggestions from colleagues will also be solicited by inviting them to attend lectures and lab sessions.

C. Delineate how these evaluation results will be used to improve the course

The instructor will use the feedback and questionnaires to improve the teaching of the course. For example, the current syllabus includes 5 labs as part of the course designed to help students learn the concepts by doing hands-on experiments. Based on the feedback from the students about the effectiveness of these in-class labs, the lab sessions may be reduced or increased in the coming semester. The course also includes a field trip to the National Weather Service office and a guest lecture from a TV forecaster. The students' feedback on these activities will help determine whether to further expand such activities.