



# Course Approval Form

For approval of new courses and deletions or modifications to an existing course.

registrar.gmu.edu/facultystaff/curriculum

### Action Requested:

Create new course       Inactivate existing course  
 Modify existing course (check all that apply)  
 Title       Credits       Repeat Status       Grade Type  
 Prereq/coreq       Schedule Type       Restrictions  
 Other: **Delete course**

### Course Level:

Undergraduate  
 Graduate

**College/School:**       **Department:**   
**Submitted by:**       **Ext:**       **Email:**

**Subject Code:**       **Number:**       **Effective Term:**  Fall       Spring       Summer  
(Do not list multiple codes or numbers. Each course proposal must have a separate form.)      Year

**Title:** Current   
 Banner (30 characters max including spaces)   
 New

**Credits:** (check one)  3 Fixed       Variable      or      to  
**Repeat Status:** (check one)  Not Repeatable (NR)       Repeatable within degree (RD)       Repeatable within term (RT)      Maximum credits allowed:

**Grade Mode:** (check one)  Regular (A, B, C, etc.)       Satisfactory/No Credit       Special (A, B C, etc. +IP)  
**Schedule Type:** (check one)  Lecture (LEC)       Lab (LAB)       Recitation (RCT)       Internship (INT)  
LEC can include LAB or RCT       Independent Study (IND)       Seminar (SEM)       Studio (STU)

**Prerequisite(s):**   
**Corequisite(s):**

**Instructional Mode:**  
 100% face-to-face  
 Hybrid: ≤ 50% electronically delivered  
 100% electronically delivered

**Restrictions Enforced by System:** Major, College, Degree, Program, etc. Include Code.

**Are there equivalent course(s)?**  
 Yes       No  
 If yes, please list

### Catalog Copy for NEW Courses Only (Consult University Catalog for models)

Description (No more than 60 words, use verb phrases and present tense)	Notes (List additional information for the course)
<input type="text"/>	<input type="text"/>

**Indicate number of contact hours:** Hours of Lecture or Seminar per week:       Hours of Lab or Studio:   
**When Offered:** (check all that apply)  Fall       Summer       Spring

## Approval Signatures

Department Approval \_\_\_\_\_ Date \_\_\_\_\_      College/School Approval \_\_\_\_\_ Date \_\_\_\_\_

If this course includes subject matter currently dealt with by any other units, the originating department must circulate this proposal for review by those units and obtain the necessary signatures prior to submission. Failure to do so will delay action on this proposal.

Unit Name	Unit Approval Name	Unit Approver's Signature	Date
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

### For Graduate Courses Only

Graduate Council Member \_\_\_\_\_      Provost Office \_\_\_\_\_      Graduate Council Approval Date \_\_\_\_\_

# Course Proposal Submitted to the Curriculum Committee of the College of Science

## 1. COURSE NUMBER AND TITLE: CLIM 311 Introduction to Atmospheric Dynamics

Course Prerequisites: PHYS 260, PHYS 261, MATH 214, MATH 313.

### Catalog Description:

Covers the basic conservation laws of mass, momentum, and energy and a scaling analysis of the equation of motion and the thermodynamic equation; concepts of circulation and vorticity, balanced flows in the atmosphere (e.g., the geostrophic wind and its vertical shear, and the thermal wind relationship), planetary waves and wave-mean flow interaction. Also covers the baroclinic instability theory and energy transfer in the life cycle of the baroclinic eddies and two-layer quasi-geostrophic theory for the mid-latitude atmospheric general circulation. Hadley circulation dynamics may be discussed if time permits.

## 2. COURSE JUSTIFICATION:

CLIM 311 is being deleted because it has been replaced by CLIM 411 because the level of the course is more appropriate for a 400 level course.