Program Change Request

Date Submitted: 02/23/24 3:59 pm

Viewing: SC-PHD-CLIM : Climate Dynamics, PhD

Last approved: 01/25/23 4:01 pm

Last edit: 03/01/24 9:58 am

Changes proposed by: jbazaz

Catalog Pages Using this Program	Climate Dynamics, PhD
No Longer	2024-2025
Anticipated closure date (i.e., calendar	
Rationale for	

Are you completing this form on someone else's behalf?

No

Requestor:

Effective Catalog:	2024-2025
Program Level:	Graduate
Program Type:	Doctoral
Degree Type:	Doctor of Philosophy
Title:	Climate Dynamics, PhD

Approval Criteria

1. What was the process used within your academic

2. Who was involved in approving the badge?

3. What evidence was used to identify need/demand

4. Please attest to the following statements regarding your badge:

a. Have you ensured there are no other existing badges

b. Has CPE confirmed the proposed badge does not

c. Has the instructor(s) for this badge experience been

d. Is there a contact hour minimum?

e. Is an assessment required?

f. Does this badge provide a benefit for current or

5. Is this badge co-sponsored with another organization, association, or unit? (If you would like an

a. What is the organization, program, or department

Earning Criteria

In Workflow

1. **AOES Curriculum Committee**
2. **AOES Chair**
3. **SC Curriculum Committee**
4. SC Assistant Dean
5. Assoc Provost-Graduate
6. Registrar-Programs

Approval Path

1. 02/28/24 10:49 pm Barry Klinger (bklinger): Approved for AOES Curriculum Committee
2. 02/29/24 7:24 am Mark Uhen (muhen): Approved for AOES Chair

History

1. Oct 22, 2017 by clmig-jwehrheim
2. Jan 29, 2018 by rzachari
3. Dec 9, 2018 by Barry Klinger (bklinger)
4. Jan 15, 2019 by Tory Sarro (vsarro)
5. Nov 30, 2020 by Jennifer Bazaz Gettys (jbazaz)

6. Feb 23, 2021 by jriemen
7. Mar 14, 2022 by Tory Sarro (vsarro)
8. Jan 25, 2023 by Jennifer Bazaz Gettys (jbazaz)

Course:
Badge:
Participant:
Payment:
Portfolio:
Presentation:
Assessment:
Credential:
Education

Other:
Project:
Professional

Schedule/Registration:
Volunteer:

Skills Tag

Skills Tag

Badge Attributes

Please select one from each category:
Achievement Type:
Mastery Level:
Time Commitment:
Cost:
Industry Standards:
Recommendations:

Issuance information and Pricing

Pricing: See https://cpe.gmu.edu/digitalbadgepricing/ for more information.
Estimated Number of Badges Expected to be Issued:

Notes:

- **All badge requests will be routed to CPE for review and approval. Please allow 7 business days for processing. A draft badge template and design will be provided**
- **A Mason Digital Credentials Advisory Group may be developed to review badge development on an annual basis to determine which badges are underutilized and may need to be archived. Earners for any archived badges will always retain**
- **To view examples of all active badges at Mason, please see:**

Banner Title:	Climate Dynamics, PhD
Is this a retitling of an existing program?	
Existing Program	
Registrar/OAPI Use Only – SCHEV Status	Approved
Registrar's Office Use Only – Program Start Term	
Registrar/OAPI Use Only – SCHEV	

Letter	
Registrar/OAPI Use Only – SACSCOC Status	
Concentration(s):	
INTO Major(s):	
Registrar/IRR Use Only – Concentration CIP Code	
College/School:	College of Science
Department / Academic Unit:	Atmospheric, Oceanic, & Earth Sciences
Jointly Owned Program?	No
Participating	
Participating	
Justification	What: Referring applicants to central admissions language and removing extraneous wording. Why: To make the program more adaptable to changes in university policies.

Catalog Published Information

Total Credits Required:	Total credits: 72
Registrar's Office Use Only - Program Code:	SC-PHD-CLIM
Registrar/IRR Use Only – Program CIP Code	40.0401 - Atmospheric Sciences and Meteorology, General.
Admission Requirements:	

Admissions

University-wide admissions policies can be found in the Graduate Admissions Policies section of this catalog. International students and students having earned international degrees should also refer to Admission of International Students for additional requirements.

~~To apply for this program, please complete the George Mason University Admissions Application.~~Eligibility

Applicants should have demonstrated a high aptitude for quantitative reasoning, applied mathematics, and physical science. Applicants should have an undergraduate degree from an institution of higher education accredited by a Mason-

recognized U.S. institutional accrediting agency or international equivalent with a GPA of at least 3.00 in undergraduate work.

Application Requirements

To apply for this program, ~~apply,~~ prospective students should submit the ~~a completed~~ George Mason University Admissions Application and its required supplemental documentation, ~~Application, a current résumé,~~ three letters of recommendation, ~~an expanded goals statement,~~ and a goals statement. ~~two copies of official transcripts from each college and graduate institution attended.~~

The GRE is not required for admission into this program.

~~TOEFL scores are required of all international applicants who have not completed a master's degree in the UnitedStates.GRE-GEN scores are notrequired.~~

Program-Specific Policies:

Policies

For policies governing all graduate programs, see ~~see~~AP.6 Graduate Policies.

Transferring Previous Graduate Credit into this Program

Previously earned and relevant graduate credits may be eligible for transfer into this program; details can be found in the Credit by Exam or Transfer section of this catalog.

~~Reduction of Credit For students entering the doctoral program with a master's degree in a related field from an institution of higher education accredited by a Mason-recognizedU.S.institutional accrediting agency or international equivalent, the number of required credits may be reduced up to 30 credits, subject to approval of the program faculty and the college's associate dean for studentaffairs.See AP.6.5.2 Reduction of Credits for moreinformation.~~

Degree Requirements:

This is a Green Leaf program.

Students should refer to the Admissions & Policies tab for specific policies related to this program.

Fundamental Climate Science Courses

CLIM 610	Introduction to the Physical Climate System	3
CLIM 614	Land-Climate Interactions	3
CLIM 711	Introduction to Atmospheric Dynamics	3
CLIM 712	Physical and Dynamical Oceanography	3
CLIM 751	Predictability and Prediction of Weather and Climate	3
Total Credits		15

Core Computational Courses

CLIM 680	Climate Data	3
or CSI 690	Numerical Methods	
CLIM 715	Numerical Methods for Climate Modeling	3

CLIM 762	Statistical Methods in Climate Research	3
Total Credits		9

Climate Seminar

CLIM 991	Climate Dynamics Seminar (taken three times)	3
Total Credits		3

Electives

Select 21 credits of graduate-level electives, including CLIM courses and other relevant courses as approved by the graduate coordinator[1].

CLIM courses		21
Total Credits		21

1

Including up to 6 credits of CLIM 796 or CLIM 996.

Eligibility for Qualifying Exams

Satisfactory progress in the program is demonstrated by adequate research progress (as attested by the advisor) and by the student attaining a B- or higher in all CLIM courses and on the final exams of the "Core Climate" courses (CLIM 610 Introduction to the Physical Climate System, CLIM 614 Land-Climate Interactions, CLIM 711 Introduction to Atmospheric Dynamics, CLIM 712 Physical and Dynamical Oceanography). If any of these conditions are not met, the director of the Climate Dynamics program convenes a faculty committee to recommend whether the student should continue in the program. The director makes the final decision based upon input from the committee. A student who is allowed to continue in the program may, in a later semester, retake any Core Climate final exam in which the student's score was below B-.

To be eligible for CLIM 997 Doctoral Qualification, students must have received a B- or higher on the final exam of each of the four Core Climate courses. Students who have taken the equivalent of any of these courses must take the Core course's final exam even if they do not take the course.

Qualifying Exams

Students take a qualifying exam by enrolling in CLIM 997 Doctoral Qualification. Students pass the exam by demonstrating an ability to analyze scientific problems, identify an open scientific question in climate dynamics, and outline a methodology to answer the question.

Students take CLIM 997 in their second spring semester in the program. Students who enter in the spring have the option of taking it in their 2nd or 3rd spring semester.

CLIM 997	Doctoral Qualification	3
Total Credits		3

Advancement to Candidacy

After the student has completed all coursework in CLIM 997 Doctoral Qualification, the Climate Dynamics Program Director decides whether the student continues in the doctoral program, based on performance in CLIM 997 and consultation with student's advisor and the instructors of CLIM 997 and Core Climate courses. If the Director decides

that the student can continue in the doctoral program, then the student forms a dissertation committee by the end of the following summer and thereafter enrolls in CLIM 998 Doctoral Dissertation Proposal.

Students who continue in the doctoral program are expected to submit a paper to a peer-reviewed journal, and to the dissertation committee, before the start of the Spring semester following the successful completion of CLIM 997 Doctoral Qualification. If this deadline is not met, then the student submits a progress report to the dissertation committee at the end of each semester until the paper is submitted. In all cases, a student must satisfy the submission requirement before submitting and defending a dissertation proposal.

By the end of the student's third year, the student should aim to present a Dissertation Proposal to their dissertation committee. If this deadline is not met, then the student convenes their thesis committee towards the end of their third year and presents a progress report. By the end of the student's fourth year, the student is expected to present a Dissertation Proposal to their thesis committee.

Once a dissertation committee approves the dissertation proposal and the student completes all non-dissertation program requirements, the student is formally advanced to doctoral candidacy and enrolls in CLIM 999 Doctoral Dissertation. Note that Doctoral students are expected to advance to candidacy within no more than six (6) years (AP.6.10.1 Time Limit).

Dissertation Research and Defense

After advancement to doctoral candidacy, the student works on the dissertation while taking CLIM 999 Doctoral Dissertation. The student is expected to meet and present a progress report with their committee once a year while taking CLIM 999 Doctoral Dissertation. The degree's requirements will be fulfilled upon completion of the required coursework and approval of a dissertation that makes an original and significant contribution to the field. For both full-time and part-time students enrolled in doctoral programs, whether entry is post-baccalaureate or post-master's, the total time to degree will not exceed nine (9) calendar years from the time of first enrollment in the program as a doctoral student (AP.6.10.1 Time Limit).

No more than 21 combined credits from CLIM 998 Doctoral Dissertation Proposal and CLIM 999 may be applied toward satisfying doctoral degree requirements, with no more than 18 credits of CLIM 998.

Choose credits for the following courses in consultation with an advisor:21

CLIM 998	Doctoral Dissertation Proposal	
CLIM 999	Doctoral Dissertation (minimum 3 credits)	
Total Credits		21

Retroactive Requirements Updates:

Plan of Study:

Honors Information:

Accelerated Description/Dual Degree Description:

INTO-Mason Requirements:

College Requirements & Policies:

Department / Academic Unit Requirements & Policies:

Program Outcomes

Program Outcomes

1. Demonstrate in-depth knowledge.
2. Conduct research.
3. Solve quantitative climate problems.
4. Solve quantitative fluid dynamics problems.
5. Solve quantitative conservation law problems.

Additional Program Information

This information is required by the Office of Accreditation and Program Integrity.

Courses offered via distance (if applicable):

Indicate whether students are able

What is the primary delivery format for the program? Face-to-Face Only

Does any portion of this program occur off-campus?

No

Off-campus details:

Are you working with a vendor / other collaborators to offer your program?

No

Please explain:

Related Departments

Could this program prepare students for any type of professional licensure, in Virginia or elsewhere?

No

Please explain:

Are you adding or removing a licensure component?

No

Please explain:

Additional SCHEV & SACSCOC Information

Is the content of the new program closely related to that of an existing approved program at the same instructional level (i.e., baccalaureate, master's, doctoral)?

Which existing approved program(s)?

Is this new program considered to be "advancing the degree level of a currently approved program" (i.e. existing content is at lower degree level, new content is at the higher degree level)?

Which existing approved program(s)?

Is this new program considered to be "lowering the degree level of a currently approved program" (i.e. existing content is at higher degree level, new content is at the lower degree level)?

Which existing approved program(s)?

Is this a re-opening of a program that was closed to admission within the last five years?

Date of Program Closure

What are the methods of delivery for the program?

Does this program include a course/credit-based competency-based education delivery option?

Is this change a simple retitling of an existing program, with no other changes, to any existing program content, curriculum requirements, etc?

No

Does this change represent a repackaging of content in an existing approved degree/certificate program at the same instructional level (i.e., baccalaureate, master's, or doctoral)?

No

Which existing approved program(s)?

Percentage of total credits containing new course content. ("New course content" is defined by SACSCOC as content that is not currently included in an existing approved degree/certificate program at the same instructional level. Do not exclude gen ed credits in calculations for undergraduate programs.)

0%-24%

Does this change include the addition of a distance education or face-to-face method of delivery for this program?

No

What is the new method of delivery?

Does this change include the addition of a course/credit-based competency-based education delivery option?

No

Will any additional equipment/facilities be needed?

No

Description of institutional impact:

Will any additional faculty be required?

No

Description of institutional impact:

Will any additional financial resources be needed?

No

Description of institutional impact:

Additional library/learning resources needed?

No

Description of institutional impact:

OAPI Use Only – Determination of SACSCOC Impact

Comments or Notes

Green Leaf Program Designation

Is this a Green Leaf program? Yes

Green Leaf Designation Sustainability-focused designation

Sustainability-focused academic programs require at least one green leaf course. Either that course is itself sustainability-focused or else the program requires a set of sustainability-related courses with aggregated substance equivalent to a sustainability-focused course.

Relationship to Existing Courses

Relationship to Existing Programs

List sustainability-focused courses currently required

in the degree program:

Sustainability-related academic programs either require at least one sustainability-related course or else offer any green leaf course as an option or elective. *

List sustainability-related courses currently required in the degree

Does this program cover material which crosses into another department?

No

Impacted Departments

Additional Attachments

SCHEV Proposal

Executive Summary

Reviewer Comments

Additional Comments

Is this course required of all students in this degree program?

%wi_required.eschtml%

Attached Document

%attach_document.eschtml%

Key: 6