Date Submitted: 01/17/19 4:34 pm

Viewing: GS 109 : Physical Science (Meteorology)

Last approved: 03/19/15 12:56 pm

Last edit: 02/02/19 6:55 am

Changes proposed by: eriks.puris

Catalog Pages referencing this course	Aviation Science General Education/Discipline Studies General Science
Programs referencing this course	AAS-AVS: Airplane Without Flight Instructor AAS Degree AAS-AVSA: Airplane With Flight Instructor AAS Degree AAS-AVSH: Helicopter AAS Degree
Other Courses referencing this course	This course is listed as a Prerequisite for: AVS 217 : Aviation Weather Services

General Information

Submitter:	User ID: **eriks.puris** ~~stimmins~~	Phone: **x7627** ~~7813~~
Course Prefix	General Science (GS)	
Course Number	109	
Course Type	Lower Division Collegiate	
Implementation Term	**Fall 2019** ~~201502~~	
Course Title	Physical Science (Meteorology)	
Transcript Title	Physical Science (Meteorology)	

In Workflow

1. **GS SAC Chair**
2. **GS SAC Administrative Liaison**
3. **Curriculum Office-Curriculum**
4. **Curriculum Committee Chair**
5. **Dean of Instruction - Cascade**
6. Dean of Academic Affairs
7. VP Academic Affairs
8. Ready for Banner
9. Banner

Approval Path

1. 01/18/19 12:48 pm eriks.puris: Recommended for GS SAC Chair
2. 01/18/19 1:13 pm alyson.lighthart: Recommended for GS SAC Administrative Liaison
3. 01/27/19 3:11 pm sally.earll: Recommended for Curriculum Office-Curriculum
4. 02/19/19 6:24 am ann.cary: Recommended for Curriculum Committee Chair

History

1. Aug 13, 2014 by jmorfin
2. Mar 19, 2015 by stimmins

Contact Hours per Quarter	**Lecture:** Meets **3** hours per week for **10** weeks. **Total** student academic engagement hours per quarter: **90** **Lec/Lab:** Meets **0** hours per week for **10** weeks. **Total** student academic engagement hours per quarter: **0** **Lab:** Meets **3** hours per week for **10** weeks. **Total** student academic engagement hours per quarter: **30** **Total** student academic engagement hours for course: **120**
Credits	4
Please indicate the basis for creating this experimental course:	
Justification for change:	Updating math, reading, and writing prerequisites.
Does this course require a special additional fee set up through the bursar's office?	Yes
Special Fee Amount	$12.00
Special Fee Code	T111
Special Fee	$12.00
Course Is Repeatable	No
If this course is equivalent to other currently active course(s), please indicate	
If this course is mutually exclusive with other currently active course(s), please indicate	
If the SAC intends to allow this course to be co-scheduled with other currently active course(s), please indicate	
Grading Option(s)	Audit Letter Grade Pass/No Pass
Default Grading Option	Letter Grade
Course Description	Covers characteristics of our **atmosphere including** ~~atmosphere,~~ air pressure and winds, atmospheric moisture, large air masses, violent storms, **climates, and** the effect of oceans on **weather.** ~~weather, and climates.~~ Includes **a** weekly lab. Audit available.
Prerequisites	**(WR** ~~WR 115, RD~~ 115 and **RD 115)** ~~MTH 65~~ or **IRW 115 and (MTH 58 or MTH 65) or** equivalent **placement.** ~~placement test scores.~~
Pre/Concurrent Courses	
Corequisites	

General Education/Discipline Studies Designation

General Education Areas Satisfied	Mathematics, Science, Computer Science

Standard Prerequisites

Does this course need to opt-out of the standard prerequesites?	No

Cultural Literacy Designation

Does this course satisfy the Cultural Literacy Designation Criteria	No

Course Content and Outcome Guide (CCOG)

Addendum to Course Description

The purpose of this course is to develop an understanding of our atmosphere, weather, and climate, including historical perspectives. It is a one-term survey course that may be included as part of the year's sequence in physical science for college transfer credit.
The course will have as many of the following components as feasible: lectures, discussions, lab activities, videos, CD's, slides, live television and computer reports, and computer-aided instruction. It is necessary to successfully complete the lab part of the course in order to pass th course.
The text and materials for this course have been chosen by the faculty and viewpoints shall be that of the author(s). This includes the topics of relativity, the geologic time scale, evolution of the Earth and its atmosphere, the solar system, the galaxy and the universe.
Regarding the teaching of basic geologic principles (such as geologic time and the theory of evolution), the Portland Community College Geology Department stands by the following statements about what is science.

1. Science is a fundamentally non-dogmatic and self-correcting investigatory process. A scientific theory is neither a guess, dogma, nor myth. The theories developed through scientific investigation are not decided in advance, but can be and often are modified and revised through observation and experimentation.

Outcomes

Upon completion of ~~A student who successfully completes~~ this course **students** should be able to:

1. Use an understanding of atmospheric processes to elucidate the practice of weather prediction.
2. Use an understanding of atmospheric structure and global circulation to explain the climates of the Earth.
3. Access atmosphere science information from a variety of sources, evaluate the quality of this information, and compare this information with current models of meteorological **processes,** ~~processes~~ identifying areas of congruence and discrepancy.
4. Make field and **laboratory-based** ~~laboratory based~~ observations and measurements of the atmosphere, weather, and climate, use scientific reasoning to interpret these observations and measurements, and compare the results with current models of meteorological processes identifying areas of congruence and discrepancy.
5. Use scientifically valid modes of inquiry, individually and collaboratively, to critically evaluate the hazards and risks posed by meteorological processes both to themselves and society as a whole, evaluate the efficacy of possible ethically robust responses to these risks, and effectively communicate the results of this analysis to their peers.
6. Assess the contributions of meteorology to our evolving understanding of global change and sustainability while placing the development of meteorology in its historical and cultural context.

Aspirational Goals

Course Activities and Design

The laboratory is not separate from the lecture, but will usually be correlated in such a way as to reinforce the materials being discussed in the lecture section. It is necessary for the student to successfully complete the laboratory section of the course in order to earn a grade in the course. Math will be used to solve ratio, percentage, and simple algebraic problems. Also included are the design, reading, and interpreting of graphs.

Outcomes Assessment Strategies	The instructor will choose from the following methods of assessment: exams, quizzes, lab exercises, written reports, oral presentations, group projects, class participation, homework assignments, and field trips. The instructor shall detail the methods to be used to the students at the beginning of the course.
Course Content: Themes, Concepts, Issues and Skills	1. Explain the nature and history of meteorology as a science 2. Discuss the structure and dynamics of the earth's atmosphere. 3. Discuss the basic physical principles of energy 4. Explain how solar and gravitational energy drive weather 5. Describe the different facets of the hydrologic cycle and atmospheric circulation 6. Outline the details of weather observation 7. Discuss weather systems and major theories used to explain and predict the behavior of these systems 8. Outline the details of weather forecasting 9. Discuss climate, climate zones, and the factors that shape them 10. Explain how and why climate changes 11. Discuss humans impact weather and climate change 12. Other topics as desired by the instructor.
Course reviewer comments	

Key: 4105