

Hagerstown Community College
PHS 109 MASTER SYLLABUS DOCUMENT

COURSE: PHS 109 Introduction to Meteorology - Online

INSTRUCTOR: D. Terlizzi

SEMESTER/YEAR:

COURSE DESCRIPTION:* This on-line course is offered in conjunction with the American Meteorology Society (AMS) and delivered over the Internet. Emphasis is placed on movements and processes of the atmosphere, radiation and atmospheric heating, global circulation, weather systems, fronts and air masses, cloud physics, and basic forecasting skills. Included is a laboratory activity each week based on real-time or archived weather data provided by the AMS. Total of 60 hours. Prerequisite: MAT 099 and ENG 099 or appropriate scores on placement tests. All work is done on-line. Examinations must be taken in person on campus. Semesters offered: Fall, Spring. 4 credits.

TEXTBOOK:

There are two options for ordering the full Weather Studies textbook/investigations manual package for Academic Year 2016-17/Summer 2017.

The HCC bookstore will have the e-version of the materials or you can also go the following site to order print or e copies of the material directly from the AMS:

<https://edubooks.ametsoc.org/WXPK-16>

Weather Studies Student ePackage – This package includes both, the text and the lab manual.

- *Weather Studies: Introduction to Atmospheric Science, 6th Ed.* eTextbook
- Weather Studies eInvestigations Manual 2016-2017 & Summer 2017
- RealTime Weather Portal Access
- ISBN 9781940033976 ... cost is \$144
- You have 2 choices on how to access your ebooks A webBook. With this you can only access when you are connected to the internet.
- Or an ePub edition which allows you access your books at any time. If you choose ePub, it will REQUIRE the free Digital Editions software. You must download this first before you download your ebooks. Download it now for free from [Adobe Digital Editions](#).
- You can choose both options for an extra cost.

STUDENT LEARNING OUTCOMES:

At the end of this course, students should be able to

1. Explain how solar energy creates the weather experienced in their daily lives;
2. Use tools available to meteorologists to explore, analyze, and interpret the relationship between earth and its atmosphere.
3. Describe the different layers of the atmosphere and the changes in air temperature that occur in each.
4. Explain the differences between solar and terrestrial radiation and how they are measured.
5. Distinguish the difference between heat and temperature.
6. Calculate specific heat and explain its significance.
7. Define air pressure, and draw the wind circulation patterns associated with pressure areas.
8. Compute specific, relative, and maximum humidity for parcels of air at different altitudes.
9. Explain the different processes that produce precipitation.
10. Access, process, analyze, and synthesize scientific weather information and relate it to current and future weather conditions and climate change

Total Hours of Coursework:

biweekly lab assignments	28 x 2 hours = 56 hours
Reading/studying for exams	2 exams X 15 hours per exam = 30
Final (cumulative) exam	15 hours
Weekly reading assignments	14 hours
Total out of class time	115+ hours