

University of Montana

ScholarWorks at University of Montana

University of Montana Course Syllabi

Open Educational Resources (OER)

1-2015

SCN 175N.01: Integrated Physical Science

Ashley L. Preston

University of Montana - Missoula, ashley.preston@mso.umt.edu

Follow this and additional works at: <https://scholarworks.umt.edu/syllabi>

Let us know how access to this document benefits you.

Recommended Citation

Preston, Ashley L., "SCN 175N.01: Integrated Physical Science" (2015). *University of Montana Course Syllabi*. 2924.

<https://scholarworks.umt.edu/syllabi/2924>

This Syllabus is brought to you for free and open access by the Open Educational Resources (OER) at ScholarWorks at University of Montana. It has been accepted for inclusion in University of Montana Course Syllabi by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.

**INTEGRATED PHYSICAL SCIENCE I
SCN175N
COURSE SYLLABUS**

Course Rubric and Title: SCN 175N Integrated Physical Science I
Semester Credits: 3
Professor: Ashley Preston
Office: HB Building "Office"/HB02, Missoula College
Email: ashley.preston@umontana.edu
Office Hours: MW 12:30-1:30 or by appointment

Course Description: SCN175N Integrated Physical Science I, 3cr. Offered every term. An introduction to the fundamental principles of physics and chemistry with an emphasis on the scientific method and process.

Course Overview: The course offers an introduction to the scientific method as a tool for understanding natural phenomena. The course begins with an examination of the scientific method, introducing students to methods of observation, data collection, experimentation, validation, interpretation, and theory building. Science is presented as an ongoing process, one that aims to construct a seamless web of knowledge about the workings of the world around us and the universe as a whole. SCN175 takes an integrated approach to the presentation of basic concepts and principles in physics and chemistry. Topics emphasized include: mechanics, energy and thermodynamics, electricity and magnetism, waves and electromagnetic radiation, the atom, quantum mechanics, basic chemistry, and the atomic nucleus. In each instance, connections between the branches of science are emphasized, focusing on real-world situations and applications.

Required Text: Tillery et al. 2013. *Integrated Science*, 6th edition custom. McGraw-Hill Higher Education. ISBN 0077658442 or ebook version.

Student Learning Outcomes: Upon completion of this course, the student will be able to:

1. Understand and critically evaluate the merit of basic scientific claims and /or findings encountered in education, the workplace, the marketplace, or the media.
2. Identify and differentiate between observations, hypotheses, theories, and laws (e.g., to understand the scientific method and its relationship to creativity, logic, and intuition).
3. Gather information, interpret observations, and quantify data on natural phenomena.
4. Recognize patterns in natural processes and structures; formulate and test elementary predictions based on pattern recognition; draw conclusions and construct hypotheses and/or theories.
5. Understand the meaning and broader significance of the basic principles and concepts of the major scientific disciplines.
6. Make connections between the different sciences to construct an integrated web of knowledge about the natural world.
7. Apply scientific methods and principles to real-world situations; assess the social, economic, political, environmental, and ethical impacts of scientific findings or research agendas.

Student Conduct Code

In an effort to ensure that students are informed about the consequences of academic misconduct, the Academic Officers of The University of Montana have determined that the following statement must be present on every course syllabus. You will be held to these standards in this course.

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the [Student Conduct Code](#).

Plagiarism will not be tolerated. The first offense will earn you an F on the assignment; the second will earn you an F in the course and I will send your name forward to the Academic Dean for expulsion from the University and a record will be put in your permanent file.

Course Accommodations Statement (DSS)

Students with disabilities may request reasonable modifications by contacting me. The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS).

"Reasonable" means the University permits no fundamental alterations of academic standards or retroactive modifications.

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with DSS, please contact DSS in Lommason 154 or 406.243.2243. I will work with you and DSS to provide an appropriate modification.

For further information contact UM's Disability Services for Students Office. Make an appointment or stop by during office hours to bring me your form and discuss accommodations.

Email policy at UM

According to the University email policy effective on 1 July 2007, an "employee must use *only* UM assigned student email accounts for all email exchanges with students, since such communication typically involves private student information." This means that you *must* send any correspondence through your official UM student email account. For more information on setting up and using your official UM email account contact tech support.

Assessment Methods and Grading

This class is offered for traditional letter grade only; it is not offered under the credit/no credit option.

1. **Six Unit Tests. Exams cannot be made up** without prior approval. You must contact me **in advance** of the exam date to make arrangements to take the exam prior to the regularly scheduled time.
2. **Projects/Homework**
 - Scientist bio sketch (1)
 - Science Journal Article Summaries (4).
 - Science Journal Final Project (1)
 - Other work as assigned

Note: **Late assignments are not accepted.** You will receive a 0 for any assignment not submitted by the due date and time.

3. **Attendance/participation**
For **online** students participation is measured by the frequency and quality of contributions to the Discussion Board (quantity will not replace quality; consult the grading rubric for details), and timely completion of ALL work.
For **face to face** students, attendance is required and participation in class is strongly recommended; both will impact grades. Your final grade will drop one full letter after 4 unexcused absences (i.e., upon the 5th unexcused absence)
4. **Comprehensive Final Exam.** The final is cumulative.

Unit Tests (6) (drop lowest score)	500 points	50%
Homework	300 points	30%
Comprehensive Final Exam	<u>200 points</u>	<u>20%</u>
	1000 points	100%

Grading Scale

A- - A = 90 - 100
 B- - B+ = 80 - 89
 C- - C+ = 70 - 79
 D- - D+ = 60 - 69
 F = 59 and below

Topical Outline SCN 175N

Scientific Method and Process	Mechanics	Energy	Heat and Temperature	Wave Motion and Sounds
Electricity	Light	Atoms and Periodic Properties		Chemical Reactions
Water and Solutions	Nuclear Reactions			

Important Dates

Important Dates Restricting Opportunities to Drop a Course Spring 2015:

See also [Registrar's Important Dates Calendar](#)

To 15 th instructional day	Students can drop classes on Cyberbear with refund	February 13 = last day
16 th to 45 th instructional day	Drop requires form with instructor and advisor signature, a \$10 fee from registrar's office, student will receive a 'W' on transcript, no refund.	February 14 through April 6

Beginning 46 th instructional day	Students are only allowed to drop a class under very limited and unusual circumstances. Not doing well in the class, deciding you are concerned about how the class grade might affect your GPA, deciding you did not want to take the class after all, and similar reasons are not among those limited and unusual circumstances. If you want to drop the class for these sorts of reasons, make sure you do so by the end of the 45 th instructional day of the semester.	April 7
---	--	---------