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PHSX 330.01: Communciating Physics

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PHSX 330: Communicating Physics

University of Montana

Spring, 2014, TR 9:40 AM – 11:00 AM

Skaggs 174

Dr. David Macaluso

Email: david.macaluso@umontana.edu

Office: CHCB 119

Office Hours: M 1:30 PM – 3:00 PM

T 12:10 PM – 1:00 PM

R 12:10 PM – 1:00 PM

I am happy to help students and answer questions outside my normally scheduled office hours and I strongly encourage students to seek my assistance whenever necessary. If I am not in my office, I can often be found in my lab, CHCB 020, or in the machine shop, CHCB 023.

Course Website

Course materials will be available on Moodle.

Course Description

This course will cover the basic concepts and techniques involved in the communication of scientific ideas to various audiences. Topics will include:

- research papers
- peer reviewed journal articles
- presentations and posters
- proposals (grant, scholarship, etc.)
- resumes and curriculum vitae (CV)
- job/grad school applications
- research statements
- teaching

Each topic will be explored in relation to the four primary audience groups typically encountered in scientific communication:

1. Technical audiences of related background (*scientific peers*)
2. Technical audiences of general background (*scientists from multiple disciplines*)
3. The general public (i.e. *non-scientists*)
4. Students

Textbook

Scientific Writing and Communication: Papers, Proposals, and Presentations, 2nd Edition

By Angelika Hofmann

ISBN-10: 0199947562 | ISBN-13: 978-0199947560

Course Objectives

1. Introduce students to the concepts of scientific writing and presentation.
2. Introduce students to the differentiation of content based on audience.
3. Introduce students to the techniques of teaching scientific ideas.

Course Expectations

This is an upper division course intended for physics majors. The expectations are therefore appropriate for advanced undergraduate students who are familiar with the concepts of personal responsibility, accountability, and academic honesty. For example:

Attendance: Papers and presentations will be based largely on lectures, in-class discussions, and in-class activities. Participation in in-class activities also accounts for a large portion of the course grade. Thus regular attendance, while not compulsory, is vital to student success.

Reading Assignments: Students are expected to read the assigned material before class. Intermittent quizzes will be given usually at the beginning of class that will be based at least partially on the reading.

Original Work: I strongly encourage students to work together, to use all available resources, and to seek assistance from me whenever necessary. However, written work submitted in this class must be the original work of the student. For specific information regarding the University policy on academic misconduct, please refer to the last page of this syllabus.

Grading Policy

Grading will be based on the traditional letter grade percentage scale. Grade breakdown:

Projects (papers, proposals, posters, presentations etc.)	70%
Homework	15%
Quizzes	15%

Assignments will be due at the beginning of class. Late assignments will be accepted at a penalty of 10% per day late (except where prior arrangements have been made with me).

Course Schedule

Part 1 – Scientific Writing and Communication			Topic
T	Jan 28	Syllabus/course intro, writing basics (words & structure)	Chapter 1-3
Tr	Jan 30	LaTeX, writing basics (words & structure)	Chapter 1-3
T	Feb 04	Writing basics (words, sentences & paragraphs)	Chapter 4-6
Tr	Feb 06	Writing basics (words, sentences & paragraphs)	Chapter 4-6
T	Feb 11	Planning an article	Chapter 7
Tr	Feb 13	Plagiarism, figures & tables, literature searches	Chapter 8-9
T	Feb 18	Introduction to Review Articles	Chapter 10, 18
Tr	Feb 20	Manuscripts	Chapter 10-18
T	Feb 25	Manuscripts	Chapter 10-18
Tr	Feb 27	Manuscripts	Chapter 10-18
T	March 04	Manuscripts	Chapter 10-18
Tr	March 06	Applications/Proposals (resume, CV, job, grant)	Chapter 19-27, 30
T	March 11	Applications/Proposals (resume, CV, job, grant)	Chapter 19-27, 30
Tr	March 13	Applications/Proposals (resume, CV, job, grant)	Chapter 19-27, 30
T	March 18	Poster presentations (overview, content, format, organization)	Chapter 28
Tr	March 20	Posters	
T	March 25	Posters	
Tr	March 27	Oral presentations (content & organization, data formats)	Chapter 29
T	April 01	<i>Spring Break</i>	
Tr	April 03		
T	April 08	Oral presentations (PPT, delivery, timing)	Chapter 29
Tr	April 10	Presentations	
T	April 15	Presentations	
Tr	April 17	Presentations	
Part 2 – Teaching Science			
T	April 22	Physics Education Research and Active Learning Classrooms	
Tr	April 24	Physics Education Research and Active Learning Classrooms	
T	April 29	SPOT	
Tr	May 01	<i>Team teaching practicum</i>	
T	May 06	<i>Team teaching practicum</i>	
Tr	May 08	Final Course Review & Evaluations	

Academic Honesty: *Academic misconduct is subject to penalty by the course instructor and/or disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available at http://life.umt.edu/vpsa/student_conduct.php.*

Students with Disabilities: *Whenever possible, and in accordance with civil rights laws, The University of Montana will attempt to provide reasonable modifications to students with disabilities who request and require them. Please feel free to setup a time with me to discuss any modifications that may be necessary for this course. For more information, visit the Disability Services for Students website at <http://life.umt.edu/dss/>.*