

ESS 102: Space and Space Travel

Location: Lectures JHN 102 (MWF* 11:30 AM); Section with TAs JHN 117 (TuTh)

Instructor: Dr. Erika Harnett (Johnson 267, eharnett@ess.washington.edu)

Teaching Assistants:

Nao Murakami [Head]	naom@uw.edu
Ian Johnson	ikj@uw.edu
Piage Northway	northway@uw.edu

Office Hours: Dr. Harnett: Wednesdays 12:30-1:30 PM or by appt.

Course Objectives:

- Explore the following topics: basics of light and matter, powering of the sun, making of space weather conditions, observations from space and from Earth, Earth's space environment, radiation belts and hazards, plasma storms and auroras, electron beams, spacecraft requirements, tooling up for manned exploration.
- Learn basic problem solving techniques.
- Learn basic observing and experimental techniques.
- Analyze the rocket performance and use that analysis to improve performance.

Prerequisites: Basic math skills, such as scientific notation, and algebra

Textbook (required): *Space and Space Travel*, by Erika Harnett and Robert Winglee.

Class Room Clickers (required): Turning Technology (set to channel 41)

Class Web Site: <http://earthweb.ess.washington.edu/ess-102/> and Canvas. You are encouraged to turn on Canvas notifications for this course as all electronic communication from the Instructor will be done through Canvas.

Writing Credit:

Students who DO NOT wish to receive writing credit for the class must tell their section TA by Tuesday, April 8th. Students signed up for writing credit must write a research paper on a course topic and a scientifically correct science fiction article. Details will be announced.

Grading:

No writing credit:

- (1) *Weekly Assignments* – Moodle homework and written assignments [35%]
- (2) *Hands-on Projects - Water Rocket* [15%]
- (3) *3 Tests* – Key Concepts [total of 35%]
- (4) *Classroom Participation* (lab and lecture discussions) [15%]

Writing credit [optional]:

- (1) *Weekly Assignments* – Moodle homework and written assignments [30%]
- (2) *Hands-on Projects - Water Rocket* [10%]
- (3) *3 Tests* – Key Concepts [total of 25%]
- (4) *Writing Project* - Write a research paper and sci-fi article [20%]
- (5) *Classroom Participation* (lab and lecture discussions) [15%]

HW: Weekly online assignments via Canvas and 5 in-class assignments to be done in Section. *Homework assignments are required for all students.*

Lecture: The lecture portion of this course will be a mixture of traditional lectures, in-class discussions, and online video lectures. Lectures will meet Monday and Wednesday only, except two required Friday sessions for students participating in Writing Credit.

Lab Sections: Meet twice a week. Hands-on lab to reinforce lecture topics. Also, time will be set aside to teach problem solving techniques, review lecture topics, and answer questions. In-class assignments to be completed and turned-in.

Tests:

- 3 Tests (50 minutes each) with multiple choice, short answer and simple calculations.
- Standard (purple) scantron forms will be required for all three exams.
- Tests 1 and 2 will be held during sections on January 28th and February 18th (subject to change).
- Test 3 on Wednesday, March 19th, 2:30-4:30 (JHN 102)

Grading Policies

Homework Due Dates:

All assignments will be turned through Canvas or at the end of lab. Please make sure to check due dates. Online components (Canvas) will typically be due at 6 AM on Mondays, but for some assignments that will change.

Late Policy:

Without PRIOR approval of your TA, no assignments will be accepted after the due date. Assignments may not be resubmitted for higher grades.

Missed-lab Policy:

There will be NO make-up labs. If you need to miss your lab section, plan to attend another section instead.

Missed-test Policy:

The three tests will be in either section or lecture. You must take the exam during your normal lab section. Make up tests are only available to those who MAKE PRIOR arrangements with their TAs or documented extenuating circumstances.

Missing Information on Exams Policy:

Written exams turned in without a name will receive a zero grade. Scantron exam forms turned in missing a name and/or a test version will receive a zero grade. **No exceptions.**

Academic Conduct:

Plagiarism, cheating, and other misconduct are serious violations of the student conduct code. We expect that you will know and follow the UW's policies on cheating and plagiarism. Any suspected cases of academic misconduct will be handled according to UW and College of the Environment regulations. All work on assignments or tests must be your own. Any cheating (which includes copy and pasting from another author) will result in a referral to the Dean's office for formal academic review, no matter how minor. More information, including definitions

and examples, can be found in the Faculty Resource for Grading and the Student Conduct Code (WAC 478-120). Additional Information:

<http://coenv.washington.edu/intranet/academics/academic-policies/academic-misconduct/>

Student Conduct Policy:

All UW students agree to abide by, and familiarize themselves with, the Student Conduct Code when enrolling at the University of Washington. All students in ESS courses are expected to abide by the Student Conduct Code (also known as WAC 478-120).

The possession, use, or distribution of controlled substances, firearms, and dangerous weapons will not be tolerated. Physical abuse, sexual harassment, or harassment of any kind, for any reason, will not be tolerated.

Violations will be immediately reported to the Community Standards and Student Conduct, and possibly the UW Police Department. The Student Conduct Code can be viewed at:

<http://apps.leg.wa.gov/WAC/default.aspx?cite=478-120>

If you have questions or concerns regarding an alleged violation of the Student Conduct Code please contact your instructor, ESS Student Services (206-616-8511 or essadv@uw.edu), or Community Standards and Student Conduct (206-685-6194 or cssc@uw.edu).

Illness Policy:

As always, influenza is a concern. For more information: <http://www.uw.edu/flu>. If you become ill with fever and cough/sore throat, ***please stay home***. The TAs and I are extremely understanding about illness provided that you email us while it is occurring, not two weeks later. If it results in missing an exam we may request a doctor's note, prior to scheduling a make-up exam.

Disability Accommodations:

The instructor and TAs for this course are committed to ensuring all students have the opportunity to get the most out of this class. To request academic accommodations due to any disability, contact [Disability Resources for Students](#) (Mary Gates Hall; 206-543-8924 (V) 206-543-8925 TDD / uwdss@uw.edu e-mail, <http://www.washington.edu/students/drs/>). If you have a information from that office indicating that you have a disability, which requires academic accommodations, arrange for the information to be provided by DRS to the Dr. Harnett by **as soon as possible** so that we can discuss and arrange for the accommodations needed for the class.