

**SPACE / AEROSP 574: Introduction to Space Physics
Course Syllabus (Fall 2020)**

TIME:	Tuesday & Thursday: 1:30 – 3:30 pm
PLACE:	Virtual platform (Zoom)
INSTRUCTOR:	Prof. Xianzhe Jia (xzjia@umich.edu)
GRADER:	Charlie Bowers (bowersch@umich.edu)
OFFICE HOURS:	<ul style="list-style-type: none"> • Prof. Jia will hold virtual office hours on Mondays between 2 – 3pm.
CONTENT:	<ul style="list-style-type: none"> • Basic plasma phenomena (<i>Single particle motion, Kinetic theory, etc.</i>) • Fluid and MHD theory (<i>Velocity moments, Conservation laws, etc.</i>) • Waves and Discontinuities (<i>MHD waves, Shocks</i>) • Sun, Solar Wind and Heliosphere (<i>Basic structures, Solar Eruptions, CMEs/CIRs</i>) • Earth’s Magnetosphere (<i>Global structure, Ionosphere, Aurora, Space Weather</i>) • Planetary Magnetospheres (<i>Mercury, Giant Planets</i>) • Unmagnetized bodies (<i>Mars/Venus, Planetary moons, Comets</i>)
BOOKS:	<ul style="list-style-type: none"> • Gombosi: <i>Physics of the Space Environment</i> (Cambridge Univ. Press, 1998) • Kivelson and Russell: <i>Introduction to Space Physics</i> (Cambridge Univ. Press, 1995)
COURSE POLICY:	<ul style="list-style-type: none"> • Attendance is highly recommended. • Any material covered in class may be on a test.
HOMEWORK:	<ul style="list-style-type: none"> • Homework should be submitted as electronic files (e.g. scanned copies) to Canvas • Homework is due at the beginning of class on the date posted on each problem set. • Late HW should be turned in in-person before the next HW set is due. It will be graded, but will have 50% deducted; • Only conceptual discussion is allowed (even encouraged). All substantive work (including computer code) must be your own; • Explain the reasoning behind your calculations. Credit is given mainly for the method, much less for the answer; • The use of homework solutions from past years is not allowed under any circumstances; • Any violation of this policy will be reported to the honor council for investigation.
EXAMS:	<ul style="list-style-type: none"> • There will be one midterm and a final exam; • Both exams are open-book; • You can use a calculator.
EXAM POLICY:	Makeup tests are given only for medical emergencies. You will need to bring a doctor’s certificate.
GRADES:	<p>Final grades will be calculated according to the following percentages:</p> <ul style="list-style-type: none"> • Homework: 30% • Midterm: 30% • Final: 40%

Information and policy regarding virtual classroom

- All lectures will be given on-line through a virtual meeting platform at the nominal times scheduled by the University, i.e., 1:30-3:30 pm on Tuesday and Thursday.
- Below is the information for the Zoom meeting set up for the regular class lectures. Please make sure that you have access to Zoom on your computer. In the case where Zoom is experiencing technical problems, we will switch to BlueJeans or another virtual platform if necessary.

Topic: SPACE 574 Class

Time: Sep 1, 2020 01:30 PM Eastern Time (US and Canada)

Every week on Tue, Thu, until Dec 10, 2020, 30 occurrence(s)

Join Zoom Meeting

<https://umich.zoom.us/j/97752818664>

Meeting ID: 977 5281 8664

Passcode: 019922

You can download and import the following iCalendar (.ics) files to your calendar system. Weekly:
https://umich.zoom.us/meeting/tJMqcuugrzMsHNDQ45-RW-Fh3zEHyKkPdt-5/ics?icsToken=98tyKuCvqT4oEtWdth-DRowEB4_4a_zzmFxdgo15rUuwThJkLyX-ZfhnGqtUG-jU

- Office hours will be held virtually via Zoom on Mondays 2-3pm, and the meeting link is given below.

Topic: SPACE 574 Office Hour

Time: Sep 7, 2020 02:00 PM Eastern Time (US and Canada)

Every week on Mon, until Dec 7, 2020, 14 occurrence(s)

Join Zoom Meeting

<https://umich.zoom.us/j/99795002724>

Meeting ID: 997 9500 2724

Passcode: 739268

- To accommodate the needs from students who will not be able to attend the virtual class synchronously, all the lecture slides will be uploaded to Canvas, and the online lectures will be recorded via Zoom and be shared with the whole class through Canvas after each lecture.