

TENTATIVE SCHEDULE OF LECTURE TOPICS

	Jan 15 Course orientation. Units – cgs vs. SI	Jan 17
Jan 20 NO CLASS – MLK Holiday	Jan 22 Charged Particle orbits in <u>constant</u> electric and magnetic fields	Jan 24
Jan 27 Charged Particle orbits in <u>varying</u> electric and magnetic fields #1: drifts, invariants	Jan 29 Distribution function	Jan 31
Feb 3 Vlasov and Boltzman equations, and Liouville's theorem	Feb 5 MHD equations	Feb 7
Feb 10 Electric field in MHD. Energy equation	Feb 12 Frozen Flux theorem	Feb 14
Feb 17 Solar Magnetic Fields #1	Feb 19 Solar Magnetic Fields #2	Feb 21
Feb 24 Hydrostatic Equilibrium, Solar Atmosphere	Feb 26 Solar/Stellar Winds	Feb 28
Mar 2 Parker spiral magnetic field	Mar 4 Heliospheres/Astrospheres: Parker's potential-flow solution	Mar 6
Mar 9 NO CLASS – Spring Break	Mar 11 NO CLASS – Spring Break	Mar 13
Mar 16 NO CLASS – University Closure	Mar 18: NO CLASS (see email)	Mar 20
Mar 23: VIA ZOOM Heliosphere (cont.) Current Sheets/Magnetic reconnection	Mar 25: VIA ZOOM Plasma waves #1	Mar 27
Mar 30: VIA ZOOM Plasma waves #2	Apr 1: VIA ZOOM MHD Shocks #1	Apr 3
Apr 6: VIA ZOOM MHD Shocks #2	Apr 8: VIA ZOOM Plasma Turbulence	Apr 10
Apr 13: VIA ZOOM STUDENT PRESENTATIONS #1	Apr 15: VIA ZOOM STUDENT PRESENTATIONS #2	Apr 17
Apr 20: VIA ZOOM STUDENT PRESENTATIONS #3	Apr 22: VIA ZOOM STUDENT PRESENTATIONS #4	Apr 24
Apr 27: VIA ZOOM Particle orbits in <u>varying</u> electric and magnetic fields #2: diffusion	Apr 29: VIA ZOOM Particle diffusion. Cosmic-ray transport in the Heliosphere and Galaxy	May 1
May 4: VIA ZOOM Cosmic ray acceleration at shocks	May 6: VIA ZOOM Other acceleration mechanisms	May 8