

LECTURE PLAN FOR FYS 3610 AUTUMN 2006

- 4 hours of lecture + 2 hours of seminar per week
- 3 hours mid-term examination written (counts 20%)
- Project work (counts 20%)
- Oral examination (counts 60%)

Week	Topic	Curriculum	Lecturer
34	Introduction Earth's atmosphere	Compendium Ch 3 - pdf	JM
35	The Earth's magnetic field 4h	Compendium Ch 2 - pdf	YR
36	Ionosphere	Compendium Ch 4 - pdf	JM
37	The Lorentz Force and single particle motion: - Gyromotion - Zeroth order drifts (ExB, Grad B, Curvature) - Magnetic momentum, pitch angle and loss cone Maxwellian distribution and plasma temperature MHD description	Ch 2.1-2.5 K&R	JM JM
38	The Sun and Solar Activity, Frozen-in, Reynolds number	Ch 3.1-3.3, 3.5-3.6, 3.8-3.9 K&R	JM JM
39	Ionospheric currents	Compendium Ch5 - pdf	JM
40	Aurora 4h	Ch 14 K&R	YR
41	Midterm examination		
42	The Solar wind (Formation, Naval's Nozzle, IMF, Parker spiral) 2h Currents systems and magnetic deflections 2h	Ch 4.1-4.3, 4.4-4.5 (descriptive) K&R Compendium Ch6-pdf	JM YR

42	Field trip to Andøya Rocket Range (Thursday – Sunday) Experimental Techniques (4 h) + Field observations	Powerpoint-pdf's Infrastructure.pdf, Optics.pdf, Radars.pdf, ICI.pdf	YR YR YR
43	Plasma frequency, Alfvén waves	Ch 11.1-11.6	JM
44	Magnetic reconnection, reconnection rate = time rate of change of magnetic flux, $j \times B$ force and reconnection signatures, Svalgard-Mansurov effect	Ch 9 K&R	JM
45	Solar wind driven ionospheric convection (2h)	Cowley&Lockwood,1992 Article – paper copy	YR
46	Intensify your project work!!		
47	Ozone and UV radiation (2 hours) Space Weather impacts on satellite systems (2h)	Ch 7–Moan7.pdf Space Weather.pdf	JohanM JM
48	Repetition		JM
	ORAL EXAMINATION		

Final 2006