

ASTR 410 - Syllabus for Spring 2010

Date	Topic	Chapters
Jan 26	The Radio Astronomy Overview	
Jan 28	Basic Concepts in Radio Astronomy	Burke: 2
Feb 2	Continued Concepts in Radio land	Burke: 2
Feb 4	Signals, Noise, and Amplification	Burke: 3
Feb 9	Receivers and the radiometer equation	Burke: 3
Feb 11	Radio telescopes: Dipoles and more	Burke: 4
Feb 16	Fourier Transforms – Introduction	James: 1
Feb 18	Fourier Transform – Theorems	James: 2
Feb 23	Fast Fourier Transforms and Sampling	James: 4, 9
Feb 25	Practice with Fourier Transforms	James: 4, 9
Mar 2	Back to Telescopes	Burke: 4
Mar 4	Principles of Interferometry	Burke: 5 James: 3
Mar 9	Simple Interferometry	Burke: 5
Mar 11	Mid -term Exam	
Mar 15-19	Spring Break	Fun
Mar 23	Earth Rotation Synthesis	Burke: 6
Mar 25	Aperture Synthesis and Mapping	Burke: 6
Mar 30	Self-calibration and Phase Correction	Burke: 6
Apr 1	Very Long Baseline Interferometry	Burke: 6
Apr 6	Radio Emission Mechanisms	Burke: 7
Apr 8	Transmission and Radiative Transfer	Burke: 7
Apr 13	Stars and Planets	Burke: 11
Apr 15	Interstellar Medium – Ionized	Burke: 9
Apr 20	Interstellar Medium – Atomic	Burke: 9
Apr 22	Interstellar Medium – Molecular	Burke: 9
Apr 27	Dynamics and Structure of Galaxies	Burke: 10
Apr 29	Pulsars	Burke: 12
May 4	Radio Galaxies and Quasars	Burke: 13, 16
May 6	Cosmology: Cosmic Background Radiation	Burke: 14, 15
May 11	Future of Radio Astronomy	Burke: 17
May 18	FINAL EXAM	1:30 PM