

Franklin & Marshall College - Physics and Astronomy Department  
 Astronomy 170: Survey of Astronomy (Section A)  
 F. Crawford  
 Fall 2010 Course Schedule

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### Lecture Schedule

Day	Date	Lecture Topics	Reading
W	Sep 1	The Scale of the Cosmos	1.1 - 1.4, Appdx. C
F	Sep 3	Some Notes on Scientific Theories and Models	1.1 - 1.4
M	Sep 6	The Celestial Sphere and Local Sky	2.1
W	Sep 8	Angles and Problem Solving Suggestions	2.1, 2.3
F	Sep 10	Moon Phases	2.1, 2.3
M	Sep 13	Moon Phases; Ellipses and Kepler's Laws	2.3, 3.3, 3.4
W	Sep 15	Ellipses and Kepler's Laws	3.3, 3.4
F	Sep 17	The Physical Laws of the Universe: Acceleration, Free-fall, Newton's Laws	4.1, 4.2
M	Sep 20	The Physical Laws of the Universe: Conservation Laws, Gravitational Potential Energy	4.3
W	Sep 22	The Physical Laws of the Universe: Gravitation and Trajectories	4.4, 4.5
F	Sep 24	The Physical Laws of the Universe: Newton's Form of Kepler's 3rd Law, Tides	4.4, 4.5
M	Sep 27	Light and Atoms	5.1 - 5.3
W	Sep 29	Spectra	5.4
F	Oct 1	<b>Exam #1 - in class</b>	<i>none</i>
M	Oct 4	Doppler Shift; Telescopes and Angular Resolution	5.5, 6.2, 6.3
W	Oct 6	Telescopes; Pluto	6.2, 6.3, 7.1, 12.3
F	Oct 8	Planet Formation; Radiometric Dating	8.3 - 8.5
M	Oct 11	Terrestrial Planet Cooling and Magnetic Field Generation	9.1
W	Oct 13	Interesting Mars and Venus Features, Phase Diagrams; Atmospheres	9.4, 10.1
F	Oct 15	Greenhouse Effect and Planetary Surface Temperature	10.3 - 10.5
M	Oct 18	<i>Fall Break - no class</i>	<i>none</i>
W	Oct 20	Jupiter and Its Moons	11.1, 11.2
F	Oct 22	Cosmic Collisions and Impacts	12.4
M	Oct 25	Detection of Other Planetary Systems: Extrasolar Planets	13.1
W	Oct 27	Patterns and Selection Effects in Extrasolar Planets; Current Activity and Future Prospects	13.2 - 13.4
F	Oct 29	Life in the Universe	24.1 - 24.3
M	Nov 1	SETI; Interstellar Travel	24.4, 24.5, S2.4
W	Nov 3	The Sun	14.1
F	Nov 5	<b>Exam #2 - in class</b>	<i>none</i>
M	Nov 8	Sunspots and Solar Flares; Fusion; Stellar Properties and Patterns	14.2, 14.3, 15.1
W	Nov 10	Parallax; Spectral Type; Stellar Radii	15.1
F	Nov 12	HR Diagrams; Mass Limits for Newborn Stars	15.2, 16.3
M	Nov 15	Stellar Evolution: Low-mass Stars and Planetary Nebulae	17.1, 17.2
W	Nov 17	Stellar Evolution: High-mass Stars and Supernovae; General Relativity; Spacetime; World Lines	17.3, S3.1, S3.2
F	Nov 19	Effects of Gravity; Hyperspace and Wormholes	S3.3 - S3.5
M	Nov 22	Quantum Uncertainty and Exclusion; Key Quantum Effects in Astronomy; White Dwarfs	S4.3, S4.4, 18.1
W	Nov 24	<i>Thanksgiving Holiday - no class</i>	<i>none</i>
F	Nov 26	<i>Thanksgiving Holiday - no class</i>	<i>none</i>
M	Nov 29	Pulsars and Neutron Stars	18.2, S3.4, S4.4
W	Dec 1	Black Holes	18.3, S3.4, S4.4
F	Dec 3	Standard Candles; Hubble's Law; Expanding Universe	20.2, 20.3
M	Dec 6	Hubble's Law and the Age of the Universe	20.2, 20.3, 22.1
W	Dec 8	Dark Matter and Dark Energy; Rotation Curves; M/L Ratio	22.1, 22.2, 19.1, S3.4
F	Dec 10	The Fate of the Universe; Wrap Up	22.4

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All readings are from *The Cosmic Perspective* (6th edition) by Bennett et al.

Two in-class exams will be given on **Fri Oct 1** and **Fri Nov 5**.

The final exam will occur during the final exam period and will be scheduled by the Registrar's office.