

**ASTRONOMY 5 – FALL 2018**  
**GENERAL SCHEDULE OF ACTIVITIES**

<b>WEEK #</b>	<b>WEEK BEGINNING</b>	<b>LECTURE TOPICS AND ACTIVITIES</b>	<b>TEXTBOOK READING*</b>	<b>HOMEWORK**</b>	<b>3RD HR EXERCISE</b>	<b>CPS QUIZ</b>
1	8/20	Enrollment Check, Introduction and Objectives Overview of Astronomy and the Universe Distance and Time Scales, Our Place in the Cosmos	Chapter 1	Assignment 0 Due 08/30	Intro-go to 3 <sup>rd</sup> hour!	—
2	8/27	Planetarium Sky Demonstrations – Terminology and Motions Seasons, Precession, Moon Phases, Eclipses Ancient Mysteries – Retrograde Motion and Stellar Parallax	Chapter 2	Assignment 1 Due 08/30	A	—
3	9/3 Monday Holiday	Early History and the Geocentric Models, Ptolemy Origins of Modern Astronomy – Copernicus, Brahe, and Kepler Galileo – Nature of Science, Observations, and Inertia and Motion	Chapter 3	Assignment 2 Due 09/06	B****	AA
4	9/10	Newton’s Three Laws of Motion, Force and Acceleration Conservation Laws, Momentum and Energy Law of Universal Gravitation, Orbits and Tides	Chapter 4	Assignment 3 Due 09/13	C	BB
5	9/17	Properties of Light, Waves & Photons, Electromagnetic Spectrum Properties of Matter, Atomic Structure, Phase Changes Atoms and Spectra, The Stefan-Boltzmann and Wien Laws Doppler Shift, Radial Velocity and Rotation	Chapter 5	Assignment 4 Due 09/20	D	CC
6	9/24	Telescopes – Refractors & Reflectors, Interferometers Light Gathering, Angular Resolution, Magnification Observations at Nonvisible Wavelengths, Instrumentation Atmospheric Effects – Light Pollution, Twinkling, Windows	Chapter 6	Assignment 5 Due 09/27	E	DD
7	10/1	Physical Characteristics and Processes of the Sun Sunspots, Solar Activity Cycle, and the Sun-Earth Connection	Chapter 14	Assignment 6 Due 10/04	F	EE
8	10/8	Properties of Stars – Luminosity, Temperature, Mass, Radius Magnitude System, Parallax, and Binary Star Systems Stellar Classifications and the HR Diagram Globular and Open Star Clusters, Stellar Birth and Aging <b>Take-Home Midterm Available</b> (Part 1)	Chapter 15	Assignment 7 Due 10/11	G	FF

\* Supplementary Chapter S1, although not required reading, may be helpful in understanding Week 2 lectures and third-hour activities.

\*\* Assignments are found on the “Mastering Astronomy” web site for “The Cosmic Perspective: Stars, Galaxies, and Cosmology”.

\*\*\* Since Monday is a holiday this week, Monday Third-Hour students need to attend a Third-Hour class at a later time during the week.

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(continued)

<b>WEEK #</b>	<b>WEEK BEGINNING</b>	<b>LECTURE TOPICS AND ACTIVITIES</b>	<b>TEXTBOOK READING<sup>†</sup></b>	<b>HOMEWORK<sup>††</sup></b>	<b>3RD HR EXERCISE</b>	<b>CPS QUIZ</b>
9	10/15	The Interstellar Medium and Star-Forming Clouds Stellar Formation Processes, Protostars, Disks, Jets and Winds Life Tracks and the Masses of Newborn Stars Evolution and Death of Low-Mass Stars <b><u>In-Class Midterm</u></b> (Part 3) <b><u>in Third Hour</u></b> (Bring Scantron 882) <b>Extra Credit (first 10 pts) – Due 10/19 by 12:00 Noon</b>	Chapter 16 Chapter 17	<b><u>Take-Home Midterm</u></b> (Part 1 - 40 pts Part 2 - 10 pts) Due 10/18	<b><u>In-Class Midterm</u></b> (Part 3 – 50 pts)	GG
10	10/22	Evolution and Death of High-Mass Stars White Dwarfs, Neutron Stars, and Black Holes Accretion Disks, Novae, Supernovae, Creation of the Elements Pulsars, X-Ray Binaries and Bursters, Gamma-Ray Bursts	Chapter 17 Chapter 18	Assignment 8 Due 10/25	H	HH
11	10/29	The Milky Way Galaxy – Characteristics, Dynamics, Populations Galactic Recycling, Star-Forming Regions, The Spiral Arms History of the Milky Way, The Galactic Center	Chapter 19	Assignment 9 Due 11/01	I	II
12	11/5	Galaxy Types – Spirals, Ellipticals, and Irregulars Galaxy Distances and Standard Candles, Cepheid Variables Hubble Law, Universal Expansion, and the Lookback Time	Chapter 20	Assignment 10 Due 11/08	J	JJ
13	11/12 Monday Holiday	Galactic Evolution, Collisions, and Starbursts Quasars and Other Active Galaxies, Supermassive Black Holes Quasars as Probes of the Intergalactic Medium	Chapter 21	Assignment 11 Due 11/15	K <sup>†††</sup>	KK
14	11/19 Thursday Friday Holiday	The Big Bang and the Universe’s Early Evolution Observational Evidence & the Need for Inflation, Olbers’ Paradox	Chapter 22	Assignment 12 Due 11/22	L <sup>††††</sup>	LL
15	11/26	Dark Matter and Dark Energy – Evidence and “Composition” The Large Scale Structure of the Universe Fate of the Universe – Expand Forever or Big Crunch? <b>Balance of Extra Credit Due 11/30 by 12:00 Noon</b>	Chapter 23	Assignment 13 Due 11/29	M	MM
16	12/3	<b><u>Final Exam</u></b> (110 pts, 3 parts – see <i>Final Exam Outline</i> ) and <b><u>Sky Quiz</u></b> (30 pts)	—	—	<b><u>Final</u></b>	—

<sup>†</sup> Supplementary Chapters S2 and S3, although not required reading, may be helpful in understanding the lectures for Weeks 9-15. Supplementary Chapter S1, also not required reading, may be helpful in understanding activities in Third-Hour.

<sup>††</sup> Assignments are found on the “Mastering Astronomy” web site for “The Cosmic Perspective: Stars, Galaxies, and Cosmology”.