Syllabus
Astronomy 135
Summer 2015

4 credits, Gened Tier II physical science [P] or UCORE [PSCI] with lab credit. This course is an overview of ancient astronomy, Greek astronomy, Renaissance astronomy, and modern astronomy, covering stars, galaxies, and cosmology with an emphasis on what can be directly experienced and observed.

Meetings: The time cadence is approximately: weekdays 9:00-10:15, short break, then 10:30-11:45 a.m. Lectures are in Webster 241, and labs are in Webster 241 and 249. We will also use the WSU planetarium located in Sloan Hall 231. The planned locations are matched to dates in the calendar at the end of this syllabus.

Text: Seeds & Backman, "Foundations of Astronomy, 13th Edition" (Required)
ebook: http://www.cengagebrain.com/shop/search/9781305079151
Lab manual (Required, but provided)

Calculator: Please provide yourself with a calculator capable of powers of ten exponential notation. Smartphones are not acceptable due to their other functions.

Contact Information:

Instructor: Guy Worthey
Office Webster Hall 948C, phone 5-4994, gworthey@wsu.edu

Administrative Details:
Numerical grades will be assigned and transformed to the WSU letter scale via the following table. Participation and in-class exercises, for which attendance is a necessary prerequisite, will contribute 10% of the total score, exams 45% (exam 1 5%, exams 2 through 5 10% each), homework 10%, laboratory reports 35%.

W.S.U. Letter Grade	W.S.U. Grade Point	Minimum percentage needed to obtain grade
A	4.0	92
A-	3.7	89
B+	3.3	86
B	3.0	83
B-	2.7	80
C+	2.3	77
C	2.0	74
C-	1.7	71
D+	1.3	68
D	1.0	65

- Some homework is assigned in class. It may consist of numerical problem-solving, graphing, conceptual problems, pictorial depictions of physical situations,

interpretations and summaries of readings, and practice for information literacy skills. We will be previewing the online "MindTap" Homework system. Log on at URL: http://login.cengagebrain.com/course/MTPN-Z02P-Q00J

- In-class exercises will be assigned and completed in class.
- Exams will be given in class, and will require a pencil. No electronic devices are allowed in exams (except the calculator, which, however, though allowed, will generally not be needed). Exam format will include multiple choice, fill in the blank, numerical problems, short sentence, sketches, and longer essay questions.
- Laboratory work will be completed in lab. There is a flexible format for lab reports called "guidelines" in the lab manual. Lab reports are a major component of assessment for the course. It strongly recommended that the students finish their lab reports and turn them in before leaving the room.

Late work is strongly discouraged. Late work will be accepted for grading for one week after the due date with a mandatory 20% dock in score. Late work will not be accepted after one week past the due date.

Students desiring an incomplete grade in the course must apply to the instructor in writing before 5pm on the final day of the semester or session in which the course is offered. In the application the student must demonstrate an understanding of Academic Regulations 90 and 114 (http://registrar.wsu.edu/Registrar/Apps/AcadRegs.ASPX), and must include a supporting letter from the student's academic advisor. In all cases, the final decision regarding the student's grades rests with the instructor.

Attendance at exams is mandatory.

Electronic devices are not allowed in class unless required for a disability (see ACCOMODATION STATEMENT, below) except that simple hand-held calculators are needed for some laboratory and in-class exercises.

COURSE OBJECTIVES AND STUDENT LEARNING OUTCOMES:

Critical and creative thinking. Define, analyze, and solve physical problems related to the core course material; understand the methods used, and assess the thus-discovered astronomical conclusions for plausibility; distinguish between valid inferences and misconceptions; understand basic statistical inference.

Quantitative reasoning. Express and interpret information presented in equations, graphs, diagrams, tables, and words, pertaining to the core course material. Use basic statistical inference.

Scientific literacy. Identify and apply the fundamental laws of mathematics and physical science relevant to astronomical problems; learn experientially the process of scientific discovery.

Information literacy. Finding and using authoritative physical constants; filtering popular articles or web sites for plausibility.

ACCOMMODATION STATEMENT

Students with Disabilities: Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, please visit the Access Center (Washington Building 217) to schedule an appointment with an Access Advisor. All accommodations MUST be approved through the Access Center. Access Center, 217 Washington Building, PO Box 642322, Pullman, WA 99164-2322, 509-335-3417, http://accesscenter.wsu.edu.

ACADEMIC INTEGRITY STATEMENT

‘‘Academic dishonesty’’ is anytime one represents someone else’s work as one's own. All forms of cheating, plagiarism, and fabrication, are prohibited. The WSU Academic Integrity Policy is printed in the Student Handbook, Faculty Manual, and is available from the Office of Student Affairs. In this course, students receive a zero on the relevant grading item for a first offense, and fail the course for subsequent offenses. A formal report is sent to the Office of Student Standards and Accountability. Cheating is defined in the Standards for Student Conduct WAC 504-26-010 (3). It is strongly suggested that the student read and understand these definitions: http://conduct.wsu.edu/default.asp?PageID=338

SAFETY STATEMENT

The current Campus Safety Plan is available at http://safetyplan.wsu.edu. Please look at the general emergency information provided at http://oem.wsu.edu/emergencies from the Emergency Management Office. You can check any campus alerts at http://alert.wsu.edu. This site will have the most current information about any campus emergency. On your Student Information System account http://zzusis.wsu.edu you can register your emergency contact information so you can be notified directly by phone and/or email about any crisis occurring on campus.

PRIVACY STATEMENT

As a University student, you have legal rights under the Family Educational Rights and Privacy Act (FERPA) for protection of your academic records. For a complete explanation of these rights, visit the URL associated with your home campus in the Academic Regulations section or http://www.registrar.wsu.edu/Registrar/Apps/FERPA.ASPX. To protect your privacy, the instructor will communicate with you ONLY via your WSU email address or in person.

ASTR 135 Calendar, Summer 2015:

May	Mon	11	Introductory matter, sky motions	Web 249
	Tue	12	Lab: Celestial Sphere	Web 241/9
	Wed	13	Naked eye astronomy	Web 249
	Thu	14	Lab: The Sidereal day	Web 241/9
	Fri	15	Planetarium: sky lessons	Sloan 231
			MindTap questions due 2 p.m.	
	Mon	18	Greek astronomy & Renaissance	Web 249
	Tue	19	Lab: Eclipse Prediction	Web 241/9
	Wed	20	gravity, orbits, light, telescopes	Web 249
	Thu	21	Lab: Resolution of the Human Eye	Web 241/9
	Fri	22	Exam 1 (Chapters 1-5)	Web 249
			MindTap questions due 2 p.m.	
	Mon	25	Memorial Day! No class.	Web 249
	Tue	26	Lab: Introduction to Spectroscopy	Web 241/9
	Wed	27	Radiation Atoms	Web 249
	Thu	28	Lab: The Earth's Orbital Velocity	Web 241/9
	Fri	29	Exam 2 (Chapters 1-7)	Web 249
			MindTap questions due 2 p.m.	
June	Mon	1	Sun & stars	Web 249
	Tue	2	Lab: Properties of Stars	Web 241/9
	Wed	3	Interstellar medium, Star formation	Web 249
	Thu	4	Lab: HR Diagram of Star Clusters	Web 241/9
	Fri	5	Exam 3 (Chapters 1-11)	Web 249
			MindTap questions due 2 p.m.	
	Mon	8	Stellar evolution; extreme stars	Web 249
	Tue	9	Lab: Dying Stars and the Birth of the Elements	Web 241/9
	Wed	10	Stellar Populations; the Galaxy	Web 249
	Thu	11	Lab: Supermassive Black Holes	Web 241/9
	Fri	12	Exam 4 (Chapters 1-15)	Web 249
			MindTap questions due 2 p.m.	
	Mon	15	Galaxies, Hubble Law	Web 249
	Tue	16	Lab: Center and Shape of the Milky Way	Web 241/9
	Wed	17	Galaxies and cosmology	Web 249
	Thu	18	Lab: Hubble's Law	Web 241/9
	Fri	19	Final Exam (Chapters 1-18)	Web 249
			MindTap questions due 2 p.m.	