

PHYS 1401: Descriptive Astronomy

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| INSTRUCTOR N.J. GETSON | E-mail: njaustin@uca.edu Telephone: 501.450.5910 |
| COURSE WEB | http://faculty.uca.edu/njaustin/PHYS1401 |
| LECTURE | LSC 168 MTWRF 9:40—11:10 |
| LAB | LSC 161 MWF 11:20—12:40 |
| OFFICE HOURS (LSC 014) | MTWRF 8:00–9:30; or by appointment |
| TEXTBOOK | <i>Astronomy: A Beginner's Guide to the Universe</i> Chaisson & McMillan, 7 th edition, ISBN # 978-0321815354 |
| REQUIRED SUPPLIES | Quadrille-ruled, hard-cover lab notebook Scientific calculator |

Objectives

The purpose of this course is to provide a survey of the science of astronomy concentrating on the sky, history, fundamental physics, observational methods, stars, planets, galaxies, and cosmology. Additionally, you will be expected to exercise and improve your critical thinking, written and oral communication, and problem solving skills by participating in discussions, demonstrations, and laboratory activities. The UCA Core Program has published the objectives for the skill set that students should attain through their natural science courses.

Students should be able to:

- ★ understand what the realm of science is, and why science is important to their lives;
- ★ understand current principles and theories used to explain natural phenomena and to understand the role of theories in science;
- ★ do science as a process by conducting systematic observations, formulating and testing hypotheses, recognizing sources of error and uncertainty in experimental methods, and disseminating results;
- ★ make informed judgments about science-related topics and policies.

Attendance

Attendance of both lecture and laboratory is required.

Attendance is your responsibility, and you are responsible for any material missed through non-attendance. Please plan to attend every class meeting, and plan to be in attendance for the full amount of time to which you committed by enrolling in the course. The last day for unrestricted withdrawal with a W is 07/22/16. If you miss this deadline, please do not ask for a WP if your average does not support this grade. Grades of WP will only be assigned to students who have a passing average on the day they withdraw. The final date for withdrawal with a grade of WP or WF is 07/29/16.

Attendance will be strictly enforced in the lab component of this course. You must attend and participate in a minimum of **nine** labs. Failure to meet this minimum standard will result in a grade of F for the semester. You must attend and participate in the first labs of the semester in order to learn the skills you will need for successful completion of subsequent labs. If you miss either lab during the first week of the semester, you will be withdrawn from the class for non-attendance. **No exceptions to this policy will be made for any reason.**

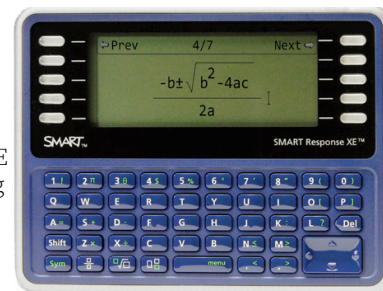
Lecture

You are expected to come to each lecture on time and well prepared. Lecture time will be spent involved in discussions,

demonstrations, and presentations based on the text. Please read the appropriate material from the text and have questions ready, bring the necessary supplies (paper, pen or pencil, calculator, text), and be ready to participate in whatever activity is scheduled. Check the online course calendar for specific reading assignments and announcements.

Pop-Ups

A loaner clicker will be provided for you each day. We will be using the SMART Response XE clickers each day during lecture. You are not required to purchase a responder, and you will not find these available at the bookstore. You will be responsible for picking up a clicker and signing in to the class before lecture begins, and you will be expected to return the clicker at the end of each session.



During each lecture session, there will be pop-up questions scattered throughout the presentation. You will be asked to respond using your clicker. Your responses will be recorded, and points will be awarded. You will receive 3 points for a correct response, and 1 point for any response at all. You can accumulate a maximum of 220 points in this manner.

You are required to click in to have any points recorded, and you must be physically present in the room to click. **You may never, under any circumstances, sign in using another student's ID number and click on behalf of anyone other than yourself. This is cheating, and will be treated as a serious breach of academic integrity.**

Laboratory

Labs meet Monday and Wednesday in LSC 161 or LSC 174. Lab attendance is mandatory, and will be carefully and thoroughly recorded daily. **Failure to attend and participate in nine labs will result in a grade of F for the semester.** You must attend and participate in the first labs of the semester in order to learn the skills you will need for successful completion of subsequent labs. If you miss either lab during the first week of the semester, you will be withdrawn from the class for non-attendance. **No exceptions to the attendance policy will be made for any reason.**

Ten lab assignments will count toward your course grade.

There are ten labs scheduled on the calendar. In addition, there are two extra opportunities for you to complete an out-

of-class assignment which may also count as a lab. **These are detailed on the course web.** If you must miss a lab, these are the only opportunities to participate in a make up. If you choose, you may complete all twelve lab exercises. If you complete all twelve labs and quizzes, only the highest ten quiz scores will count towards your grade. The lowest two quiz scores will be dropped.

You must have a lab notebook. You should use a hard-bound book with quadrille-ruled paper and sewn-in pages. These are inexpensive and readily available at the UCA Bookstore. Wal-Mart and Office Depot do not always stock these. You should always bring the notebook to lab, along with pens or pencils, a calculator, and your textbook.

There is a lab manual posted online in .pdf format, and each week's lab handouts are also online in .pdf format. You are required to download and print out your own lab materials prior to coming to lab. No paper copies will be provided by the lab instructor! Read the assignment carefully before coming to lab, then come prepared. Review the sections of the text that pertain to the exercise and make a note of any questions that you might have. You should record all data, calculations, and answers to questions in your lab notebook.

Exams and Quizzes

Four unit exams are scheduled over the semester. You should expect exams that are predominantly conceptual, with a few quantitative problems that reflect what we have covered in lecture. Each exam will cover two or three specific chapters.

Exams are pre-scheduled on the course calendar. Any changes will be announced in class and updated on the calendar. You are responsible for knowing when each exam will occur and getting to class on time to take it. If you are unable to attend class on an exam day, **you must notify me within 24 hours of the missed exam. Failure to notify me will result in a score of zero for the exam.** You will be required to provide written documentation (i.e., doctor's note, accident report, traffic citation) before any make-up exam will be scheduled. This policy will be strictly enforced with no exceptions, and any abuse of this policy (i.e., providing false information) will result in, at the minimum, a course grade of F, and referral to the Dean of Students for further disciplinary action.

A lab quiz will be administered after you complete each lecture exam. Quizzes will cover only the material from the week's lab assignments. You will always be allowed to use your lab notebook (no other books or notes) and a calculator as a reference for each quiz. **If you have missed a lab, you will not be permitted to record a quiz score for that lab. You may not receive points for an exercise in which you have not participated.** If you attend a lab, but skip the lab quiz, you will not be given a make up quiz at a later date. You may participate in one make up lab to earn the points you have missed. As with the lecture exams, if you miss the lab quiz, you have 24 hours to notify me. Failure to contact me will result in a score of zero for the missed quiz.

Grades

You are expected to keep all graded material and keep track of your own point progress over the course of the semester. I will be happy to correct any bookkeeping errors, but you must be able to document the error with the original graded work. You will be given your point total and grade average after each exam. If you need to know your grade at any time, please e-mail me, and I will promptly send you your current point total.

Points for the semester break down as follows:

| | | | |
|--------------------|-----------------------------|------|------|
| UNIT EXAMS | 4 exams @ 120 points each | 480 | 48% |
| POP-UPS | maximum of 220 points | 220 | 22% |
| LAB QUIZZES | 10 quizzes @ 30 points each | 300 | 30% |
| TOTAL | | 1000 | 100% |

Grades will be assigned according to the following scale:

| GRADE | MINIMUM POINTS | MAXIMUM POINTS |
|--------------|-----------------------|-----------------------|
| A | 890 | 1000 |
| B | 795 | 889 |
| C | 695 | 794 |
| D | 600 | 694 |
| F | 0 | 599 |

Course Web

This course does not use Blackboard. Never. Ever. All course information, current calendars, review material, quiz and test solutions are posted on the course web, located at:

<http://faculty.uca.edu/njastin/PHYS1401>

Personal Electronic Devices

Social use of mobile devices is strictly prohibited during lecture and lab time. You are not permitted to use any mobile device capable of connecting to the internet during quizzes or exams. Your mobile devices may not be anywhere visible for the duration of the quiz or exam. You must turn your phone (and any other mobile devices) off for the duration of class time. If your phone disrupts the class during an exam, you will be required to turn in your exam and leave the room immediately. You will not be permitted to return and finish the exam after you have completed your call. In the event that device usage becomes problematic, I reserve the right to implement point penalties for repeat offenders. The number of points per penalty is left to my discretion. **No exceptions to this policy will be made for any reason whatsoever.**

Academic Integrity

The University of Central Arkansas affirms its commitment to academic integrity and expects all members of the university community to accept shared responsibility for maintaining academic integrity. Students in this course are subject to the provisions of the university's Academic Integrity Policy, approved by the Board of Trustees as Board Policy No. 709 on February 10, 2010, and published in the Student Handbook. Penalties for academic misconduct in this course may include a failing grade on an assignment, a failing grade in the course, or any other course-related sanction the instructor determines to be appropriate. Continued enrollment in this course affirms a student's acceptance of this university policy.

It is also a matter of academic and personal integrity to take responsibility for withdrawing yourself from this course, if the situation requires it. The last day for unrestricted withdrawal with a **W** is **07/22/16**. The final date for withdrawal with a grade of **WP** or **WF** is **07/29/16**.

Tentative Course Calendar

| | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|-----------------------------|--|------------------------------------|---|-------------------|--|
| WEEK 01: LECTURE | Fourth of July Holiday! Class begins tomorrow! | Course Policies Chapter 0.1–0.2 | Chapter 0.3–0.5 | Chapter 1.1–1.2 | Chapter 1.3–1.4 |
| WEEK 01: LAB | | | Lab 01: Introduction to Stellarium LSC 174 | | Lab 02: Solar/ Sidereal Day LSC 174 |
| WEEK 02: LECTURE | Chapter 2.1–2.4 | Chapter 2.5–2.8 | Chapter 3.1–3.3 | Chapter 3.4–3.5 | Chapter 4.1–4.2 |
| WEEK 02: LAB | Lab 03: Lunar Synodic Month LSC 174 | | Exam 01: Ch 00–02 Lab Quizzes 01–03 | | Lab 04: Spectroscopy LSC 161 |
| WEEK 03: LECTURE | Chapter 4.3–4.4 | Chapter 4.4 Chapter 9.1 | Chapter 9.2–9.3 | Chapter 9.4–9.5 | Chapter 10.1–10.3 |
| WEEK 03: LAB | Lab 05: Determining the Mass of Jupiter LSC 174 | | Lab 06: Exoplanet 51 Pegasi b LSC 161 | | Exam 02: Ch 03–09 Lab Quizzes 04–06 |
| WEEK 04: LECTURE | Chapter 10.4–10.5 | Chapter 10.6–10.7 | Chapter 11.1–11.3 | Chapter 11.4–11.6 | Chapter 12.1–12.3 |
| WEEK 04: LAB | Lab 07: Photoelectric Photometry (Part I) LSC 174 | | Lab 08: Photoelectric Photometry (Part II) LSC 161 | | Exam 03: Ch 10–11 Lab Quizzes 07 and 08 |
| WEEK 05: LECTURE | Chapter 12.4–12.6 | Chapter 12.7 Chapter 13.1 | Chapter 13.2–13.4 | Chapter 13.5–13.8 | Exam 04: Ch 12–13 Lab Quizzes 09 and 10 |
| WEEK 05: LAB | Lab 09: Stellar Classification LSC 174 | | Lab 10: Age of Stellar Clusters LSC 174 | | |

Americans With Disabilities Act

The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need an accommodation under this act due to a disability, please contact the UCA Disability Resource Center at 501.450.3613.

Student Evaluations

Student evaluations of a course and its professor are a crucial element in helping faculty achieve excellence in the classroom and the institution in demonstrating that students are gaining knowledge. Students may evaluate courses they are taking starting on the Monday of the last week of instruction (08/05/16) through the end of finals week by logging in to **myUCA** and clicking on the **Evals** button on the top right.

Building Emergency Plan

An Emergency Procedures Summary (EPS) for the building in which this class is held will be discussed during the first week of this course. EPS documents for most buildings on campus are available online at: <http://uca.edu/mysafety/bep/>. Every student should be familiar with emergency procedures for any campus building in which s/he spends time for classes or other purposes.

Title IX Disclosure

If a student discloses an act of sexual harassment, discrimination, assault, or other sexual misconduct to a faculty member (as it relates to "student-on-student" or "employee-on-student"), the faculty member cannot maintain complete confidentiality and is required to report the act and may be required to reveal the names of the parties involved. Any allegations made by a student may or may not trigger an investigation. Each situation differs and the obligation to conduct an investigation will depend on those specific set of circumstances. The determination to conduct an investigation will be made by the Title IX Coordinator. For further information, please visit: <http://uca.edu/titleix>.

*Disclosure of sexual misconduct by a third party who is not a student and/or employee is also required if the misconduct occurs when the third party is a participant in a university-sponsored program, event, or activity.

Disclaimer

Assignments, point distributions, grading scales, and course policies should be regarded as flexible and subject to substitution or change at the discretion of the instructor. Students should refer to the 2016-2017 Student Handbook and familiarize themselves with all policies, particularly the Sexual Misconduct Policy and Academic Policies.