



# ASTR 214: Honors: General Astronomy

2011 Fall Semester

Lecture MWF 12:40-13:35, TCCW 201

Laboratory T 19:00-21:00, TCCW 201/250

Online: [physics.wku.edu/~gibson/astr214](http://physics.wku.edu/~gibson/astr214)

Instructor: Dr. Steven Gibson

Office: TCCW 231, Phone: 745-3019

Email: (first).(last) (at) wku.edu

Office hours: M 13:50-15:50, or by appointment

**Co-requisites:** Students taking ASTR 214 must have completed or now be taking MATH 126 or 136 (Calculus I) or have permission from the instructor.

**Description:** ASTR 214 is a 4-credit lecture/lab course (category B II), with 3 hours of lecture and 2 hours of laboratory per week. It serves as an introduction to astronomy for science majors. Topics include but are not limited to sky and planetary motions, Solar system bodies, the Sun, stellar properties and evolution, star systems, clusters, interstellar matter, Galactic structure, external galaxies, and cosmology. A keen curiosity coupled with scientific skepticism are highly desirable traits for students in this class.

**Required Textbook:** *21st Century Astronomy, 3rd Edition*, by Hester, Smith, Blumenthal, Kay, & Voss (W. W. Norton, 2010, ISBN 978-0-393-93198-3; **cover photo above**). We will follow the required text closely but not exhaustively for most of the course and draw on supplementary material as appropriate.

**Course Website:** All course announcements, including homework and laboratory assignment dates and exam dates, will be posted online at [physics.wku.edu/~gibson/astr214](http://physics.wku.edu/~gibson/astr214) along with any other potentially useful electronic materials. This website includes a link to the **Norton StudySpace** site with a range of study and visual aids for the text.

**Grading Method:** Letter grades for the course will be assigned using the scheme shown at left below. Grade thresholds may be lowered but will not be raised. The relative weights of the course components contributing to the final course score are listed at right below.

% Avg Score	Grade
90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
0 - 59	F

Course Component	Grade Fraction
homework assignments	20%
in-class exercises, quizzes	10%
laboratory exercises	20%
block exams (2 × 15%)	30%
final exam	20%

## Assignments

- **Homework:** Problems will be assigned from the main text and occasionally other sources. Discussion of problems with other students is encouraged as a constructive learning activity. However, you must turn in work in your own hand for evaluation, and you are individually responsible for understanding any homework material that may appear on exams. Homework assignments are due at the beginning of class on the date specified on the course website.
- **Reading Quizzes:** You are responsible for reading assignments I will give in class. These are intended to familiarize you with material before it is covered in lecture or class discussions, so that you can grasp important points as they arise rather than frantically trying to note down everything that is said. I will give reading quizzes worth a small fraction of your total grade to encourage you in this regard. (These quizzes are NOT the same as the self-tests on the Norton StudySpace website, but the self-tests may still be a useful study aid!)
- **In-Class Activities:** Occasionally, there may be in-class activities for credit. Some of these will be group conceptual or problem-solving exercises for “participation points” rather than a grade. Others may be graded, e.g., a quiz or short presentation.
- **Laboratory Exercises:** Weekly guided nighttime laboratories during our scheduled Tuesday class period will be conducted on the TCCW rooftop observatory, in the astrophysics computing lab, and in the classroom. It will be cold most of the term, so dress accordingly, and bring a flashlight. Lab assignments are due before the start of class on the next lab meeting, unless otherwise stated. As with homework assignments, laboratory results must be submitted for individual evaluation and are fair game on exams.

Two **Block Examinations** will be given during the semester on successive “blocks” of material. Each block exam is worth 15% of your course grade. The exact dates and topics for each exam are subject to change, but may resemble the following:

Exam	Example Material (not complete list!)	Date
# 1	fundamentals + solar system [Ch. 1 - 12]	Fri 21 Oct
# 2	stars + galaxies [Ch. 13 - 20]	Fri 18 Nov

**Final Examination:** The final exam for the course will be comprehensive: it will cover material from all prior exams plus any new material. The final exam will be given according to the University-mandated schedule, which as of this writing is listed online as:

Course ID	Normal Day/Time	Final Exam Date & Time
ASTR 214-001	MWF 12:40pm	Monday, Dec 12, 1:00 - 3:00pm

**Lecture Attendance:** Regular and punctual attendance is expected of everyone during every class meeting, including laboratories. You will be responsible for material missed in your absence. Lecture notes must be obtained from a classmate.

**Exam Attendance:** Make-up exams will only be given in very unusual circumstances. If you are unable to take an exam, request to schedule a make-up exam by asking permission from the instructor *before* the regularly-scheduled exam period (except in the case of unforeseen circumstances). A serious reason is required to warrant the scheduling of a make-up exam.

**Problem Credit:** One important goal of this course is to get you thinking and communicating like an astronomer, including in the core area of problem solving. On homeworks or exams, you need to do more than just write down the answer to a problem to receive full credit. I want to be able to follow your reasoning so I can see how you got what you got. In this way I can also give partial credit for wrong or incomplete answers if I can tell you were on the right track. All numerical problem solutions should include the following elements:

1. A sketch or graph of the situation with suitable labels
2. Appropriate *algebraic* equations (no numbers!) relating known & unknown quantities
3. Solved equations with proper numerical values & units for known quantities
4. Numerical answer for the “unknown” you were trying to find, including proper units
5. Neatness counts! I can’t give credit for anything I can’t follow.

**Disability Policy:** In compliance with university policy, students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Office for Student Disability Services in Downing University Center, A-201, telephone 270-745-5004 V/TDD. Please do not request accommodations directly from me without a letter of accommodation from the Office for Student Disability Services.

### Classroom Policy

- Food and drinks are NOT allowed in the classroom
- Cell phones, pagers, and similar devices must be turned off and stored away during class time
- The classroom laptop computers are for specific classroom activities ONLY!
  - Do not install or modify any software on the laptop computers.
  - Do not use the computers to check email during class time.
  - Do not use the computers to instant message or chat with anyone ever.
  - Do not browse the internet during class time unless it is part of a class activity.