

* A105 STARS & GALAXIES

Mondays and Wednesdays from 6:35 until 9:35 PM
Swain West Room 219
Section 1570

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General Introduction

Welcome to the exciting study of stars and galaxies! As stated in the official department description, this course will cover a wide variety of topics pertaining to a great many phenomena that have been observed across the visible Universe. In addition to simply providing you with curious facts, this class will also introduce you to the idea of astronomy as a science. By developing this theme, you may gain some deeper insight into what it is practitioners of the field actually do. Plus, since astronomy and astronomical findings tend to be highly appreciated by society, this course will help you gain a deeper understanding of why that is the case and how you can become more involved in it.

Materials

The text for this course is *Universe: Stars and Galaxies; Second Edition* by Freedman and Kaufmann. While it is not essential for your work, it is highly advised that you acquire a copy for help in preparing for quizzes and exams. It should be available in the campus bookstore, online, and from a multitude of other sources.

Requirements

Work for A105 comes in three flavors, described thusly:

☉ Projects

- * Over the course of the term, you will be asked to complete three separate projects. These are designed to expose you to some facets of astronomy not explicitly covered in class. Greater detail will be provided on each project over the duration of the class, but the general topics and due dates are:
 - ☉ You, Film, and the Universe, **Due Monday, May 21st**
 - ☉ Hubble Project, **Due Wednesday, May 30th**
 - ☉ Observing the Night Sky, **Due Monday, June 11th**
- * Overall, these projects account for 37% of your final grade.

☉ Exams

- ✧ There will be **two** exams for the class
 - ☉ A midterm examination is scheduled for **Wednesday, May 23rd**. It will account for 17% of your final grade.
 - ☉ A **comprehensive** final is scheduled for **Wednesday, June 13th**. It will account for 24% of your final grade.
- ✧ Both exams will occur during normal scheduled class time

☉ Quizzes

- ✧ Periodically, you will be given quizzes in class. These will be brief (10-20 questions) evaluations covering only the material that has been discussed in class since the prior quiz or exam.
- ✧ The dates for each quiz are listed in the schedule section of this syllabus.
- ✧ Averaged together, the quizzes will account for 22% of your grade.

Recommendations

It is absolutely *imperative* that you come to class. The lectures are what the quizzes and exams will be based on, where homework assignments will be presented, and when everything is due, so good attendance works purely towards your benefit. Besides, a true understanding of the material can only really come from experiencing the various demonstrations, examples, and other materials I intend to present in class. Outside of the classroom, there are office hours! Please feel free to use them. Astronomers like talking about astronomy (that's why we do this), so if ever you have any questions, quandaries, or figments, please share.

Restrictions

Since there is much material to be discussed and to avoid a major backup in grading, it is important that all work be completed in a timely manner. Therefore, the following policies will be enforced **without exception**:

- ☉ Late projects will be accepted, but the grade will be decreased by 15% for each day that passes beyond the due date.
- ☉ Missed quizzes and exams can be made up without penalty **only if you notify me of your absence from class PRIOR to the scheduled time of the evaluation**. Otherwise, you will be permitted to make up the missed work, but you will receive only 60% of the score you earn.

- ☉ Should you wish to avoid a grade of an F, you must take both the midterm and the final. Failure to do so will, without exception, result in that which you are trying to avoid, i.e., a grade of an F.
- ☉ In general, electronic submissions of work are not acceptable. Work is due in class and in the appropriate format. Failure to meet these requirements will result in deductions.
- ☉ As per usual, you are expected to follow the IU standards of academic conduct. Therefore, unpleasantries such as cheating, plagiarism, etc., will not be tolerated or treated in a casual manner.

Schedule

Wednesday, May 9th: Introduction to the course, astronomy, and light; *sections 1-1 through 1-8 & 5-1 through 5-8*

Monday, May 14th: More about light, telescopes, and physics of astronomy, part I; *sections 5-9, 19-2 through 19-4, and 4-1 through 4-7*

Wednesday, May 16th: Physics of astronomy, parts II and III (the physics of stars); *sections 4-1 through 4-7 & 18-1; Quiz 1*

Monday, May 21st: Structure of the Sun and stellar evolution; *sections 18-2 through 18-10 & 20-1 through 22-10; Film project due*

Wednesday, May 23rd: The H-R diagram; *section 19-7; Midterm Exam*

Monday, May 28th: NO CLASS!

Wednesday, May 30th: Curious and interesting stars and Globular Clusters; *sections 21-3 through 21-6 & 23-1 through 24-8; Hubble astronomy project due*

Monday, June 4th: Morphology, structure, and dynamics of galaxies; *sections 26-1 through 26-9; Quiz 2*

Wednesday, June 6th: The Milky Way and Curious and Interesting galaxies; *sections 25-1 through 25-6 & 27-1 through 27-7*

Monday, June 11th: Cosmology; *sections 28-1 through 29-7; Observing project due and Quiz 3*

Wednesday, June 13th: *Final Examination*

