

## 1. Course Information

Class: Tu, Th, 9:40 - 12:20, in PAB 210

Exams: 7/23 and 8/20 in class.

Course website: <http://www.astro.washington.edu/users/christensen/astro101>

Textbook: *The Cosmic Perspective: Stars, Galaxies and Cosmology*, Fifth Edition, Bennett, Donahue, Schneider, and Voit.

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### Instructor Information

Charlotte Christensen

Office hours: Tues: 12:30 – 1:30,  
Wed: 4:00 – 5:00,  
or by appointment

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### TA Information

Jeffrey Acquino

Office hours: Mon: 10:00 – 11:00,  
Thurs: 1:00 – 2:00,  
or by appointment

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## 2. Course Description

Introduction to the universe, with emphasis on conceptual, as contrasted with mathematical, comprehension. Modern theories, observations; ideas concerning nature, evolution of galaxies; quasars, stars, black holes, planets, solar system

## 3. Course Goals

By the end of the course, I hope you will have grown in each of the following areas:

- An ability to think scientifically and mathematically about both everyday ideas and physical concepts.
- An awareness of how the scientific process has been used discover astronomical concepts.
- A capacity to interpret a variety of astronomical observations.
- An understanding of the structure and life cycle of different astronomical objects such as stars and galaxies.
- A grasp of the scale of the cosmos from our Earth to the visible Universe.
- A comprehension of the history and future of the Universe.
- A lasting interest in astronomy.

#### 4. Resources/Materials

**Textbook** The required text for this course is *The Cosmic Perspective, Stars, Galaxies and Cosmology*, Fifth Edition, Bennett, Donahue, Schneider, and Voit., (2008) Pearson Education, Inc. This is the abbreviated stars and galaxies version of the larger Cosmic Perspective text. The full version also contains material on the solar system and the planets, which will not be covered in this course. If you bought a new copy of this text it should have come with a student access kit for the mastering astronomy website. This website is a companion to the textbook, and has interactive figures, tutorials and self-quizzes on the material presented in the text. If you have access to it I highly recommend you check it out. The Fourth edition of this text is virtually the same, feel free to use it.

**Other Resources** You are encouraged to talk to either Jeffrey Acquino or me outside of class for answers on answers to questions you have, help on the assignments, tips for studying, or just chats on interesting astronomy. You can stop by either during office hours or arrange a time. I understand that it is possible to be confused about a subject without having specific questions. Because of that, I will chose a topic I find interesting or confusing for each of my office hours, if no one has specific questions, I will review that topic for the hour. You are also welcome to call or email me with questions; I can promise to respond within 24 hours during the week; during the weekend it may take longer.

I will place my slides for each class following the period. These are NOT, however, a substitute for attending class. There are few captions and fewer explanatory notes, making them fairly cryptic if you missed lecture.

While the textbook is a good overview of astronomy, there is a lot of free astronomy information available that you may want to check out. For a list of links to online references, see the website. These are good places to look for additional explanations or further information on interesting topics we do not have time to cover more fully.

**Class Materials** For class periods, you will need writing utensils, a notebook, and scratch paper. Calculators are provided in class but you will need access to one to finish the labs at home.

## 5. Student Expectations

No higher level learning takes place without thought; students are expected to engage with and think critically about the material. This will be encouraged through discussions, in-class problem solving, and group work. Students should expect to do the following class-related work:

- Attend class daily
- Complete the daily readings and email me questions or comments about each readings and lab
- Participate in group discussions and in-class problem solving
- Review a popular science article each week
- Turn in labs on time
- Study as necessary to keep up with what is covered in lecture
- Complete each exam to the best of his or her ability

There will often be time allotted for labs in class but unfinished work is to be completed outside of class. I expect a lot of thought to be put into assignments and that they be concise and clear. I expect every member of a group to participate an equal amount in labs and in data taking, even if it requires time outside of class.

Use the resources available in this class to develop your skills as a scientist. The point of the class is to learn science - not to memorize facts to pass a test! Any student who completely fulfills these expectations should expect to pass this course.

## 6. Class Session Format

Two and hours and forty minutes is far too long to listen to a lecture, so that will not be happening. Class sessions will consist of 15 minute mini-lectures, discussion, problem solving, and a lab. Here is an outline of a typical class:

- Astronomy Picture of the Day (5 minutes)
- Discussion of Astronomy News OR 5 Minutes Something Interesting (5-10 minutes)
- Review of Previous Lab (10 minutes)
- Q &A Session (10 minutes)
- A Series of Mini-lectures Separated by Problems or Discussions (45-60 minutes)
- Minute Writing (5 minutes)
- Break (10 minutes)
- Lab (45 - 60 minutes)