Astronomy 350: Cosmology
Sonoma State University
Department of Physics and Astronomy
Spring 2012

General Information
Instructor: Dr. Scott A. Severson
Class Schedule: 1:00 – 2:15 PM Tuesday and Thursday
Classroom Location: Darwin 102
Office Hours: 11:00 - 11:50 AM Monday and Thursday
Office: Darwin 300L
Email: scott.severson@sonoma.edu
Phone: (707) 664-2376

Course Website:
http://www.phys-astro.sonoma.edu/people/faculty/severson/a350

Course Description
This is a three-hour lecture course. The course describes what we know about the Universe and how scientists have learned it. Topics include the Big Bang, cosmic inflation, surveys of galaxies, the origin and evolution of structure in the Universe, dark matter, and dark energy. The course emphasizes the scientific method and how our knowledge of the Universe has changed over time and will continue to change, but the method continues to work.

General Education
This course may be used to satisfy general education requirements in category B3.

Prerequisite:
One prior course in astronomy.

Textbook
Your Cosmic Context
Authors
Todd Duncan and Craig Taylor.

ISBN-10
0132400103.

Note:
There will be other required reading presented in the form of articles, web references and at least one additional popular-science cosmology book for the book report assignment.
Policies

University Policies
There are several important University policies of which you should be aware, such as
the add/drop policy; cheating and plagiarism policy, grade appeal procedures;
accommodations for students with disabilities and the diversity vision statement.
Go to this URL for details:
http://www.sonoma.edu/uaffairs/policies/studentinfo.shtml

Grading

Relative Weighting

Participation / Class assignments 20 %

Participation will be a component of your final grade. I will occasionally and randomly
require students to sign attendance. I will also make note of participation during in-class
discussion and the asking of pertinent questions. There will be occasional in-class or
outside reading activities that will be turned in for credit. Finally, I encourage at least one
office visit during the semester.

Crossword Puzzles 10 %

Our textbook, Your Cosmic Context, contains crossword puzzles at the end of each
chapter designed to test your knowledge of key terms and concepts in the reading. We
will be spending a great deal of our in-class time on discussion of the reading and it is
imperative to stay caught up. The crossword puzzles are due on the Monday of the week
shown in the Course Schedule later in the Syllabus. They will not be accepted late. There
are a total of 12 assignments. Any ten of the puzzles will count towards full-credit, with a
possibility of up to 2% course extra-credit should you turn in all 12 assignments. For
example, should you turn in 12 complete and correct crossword puzzle assignments you
will receive 12% (10%+2% extra-credit) for this portion of the class grade. The format
for the Crossword puzzle assignments may be as follows:

<table>
<thead>
<tr>
<th>Student Name</th>
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<tbody>
<tr>
<td>Chapter #</td>
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Across
2 Hydrogen
6 Helium
7 Lithium
...

Down
1 Einstein
3 Newton
4 Kepler
...

Alternatively, you may turn in a completed photocopy of the puzzle from the text. A set
of scanned pdfs of these crossword puzzles will be made available on the course Moodle
page for your convenience. Please do not write on the original crossword in the text.
Also please keep a copy of your work, as these assignments will not be handed back.


**Midterm Exams (2) 40 % (20% each)**

There will be two in-class midterm exams, which will consist of fill-in-the-blank and short essay questions. The first will be held on Thursday, February 23\textsuperscript{rd} and cover material from chapters 1-4 of the text and associated class material. The second will be held on Thursday, April 5\textsuperscript{th} and cover material from chapters 5-8 of the text and associated class material.

**Final Exam 30 %**

There will be a cumulative final exam, which will consist of will consist of fill-in-the-blank and short essay questions. It will be held in our regular classroom on: Thursday, May 10\textsuperscript{th} 2 p.m.-3:50 p.m.

**Extra Credit**

Extra Credit (up to 9%) is available for attending a public talk on some current astronomical or physics topic and submitting a one-page synopsis via Moodle. The submission will be checked for originality. You may submit up to three synopses for three different talks. Each is worth up to 3% extra credit, meaning you can earn up to 9% total extra credit on your course grade. The assignments are graded on a scale from zero to six, representing the 0-3% extra credit in 0.5% increments. The grade will be based on how well you present a one-page, double-spaced, coherent and comprehensive summary of the talk. Researching and defining unclear concepts is recommended. Be sure to note three “take-away” ideas you learned during the talk.

The [Department of Physics and Astronomy](http://phys-astro.sonoma.edu/wpd/) presents a free public lecture in its renowned “What Physicists Do” series most Mondays during the semester, beginning January 30\textsuperscript{th} at 4:00 p.m. in Darwin 103. See the following URL for details: [http://phys-astro.sonoma.edu/wpd/](http://phys-astro.sonoma.edu/wpd/). Other appropriate external work may be substituted with instructor approval.

**Instructor Discretion**

I reserve the right to raise your grade if exceptional effort and class participation are observed through the semester. Improvement throughout the semester is also noted.

**Other Class Policies**

- Questions are encouraged.
- Turn off phones and small electronics.
- Arrive to class on time.
- Try your best to attend every class.
- Read subject material before each class.
- Start assignments early. Do not fall behind!
- Come to office hours with questions
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<tr>
<th>Week</th>
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<th>Comment or Exam (Thursday)</th>
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