Astronomy 100: Descriptive Astronomy
Sonoma State University
Department of Physics and Astronomy
Fall 2014

General Information

Instructor: Dr. Scott A. Severson
Class Schedule: 4:00 – 5:15 PM Tuesday and Thursday
Location: Darwin 103
Office Hours: Monday 11 – 11:50 AM
Tuesday 2 – 2:50 PM
Office: Darwin 300L
Email: scott.severson@sonoma.edu
Phone: (707) 664-2376
Course Moodle site available via login to SSU Online Services:
http://login.sonoma.edu/

Course Description
This is a three-hour lecture survey course, designed primarily for non-science majors.
The course will cover the composition and nature of the universe, from our own solar
system, to stars and stellar evolution, interstellar matter, galaxies, and clusters of galaxies.
Along the way we will explore historic astronomy, some fundamental physics such as
Newton’s laws and the nature of light, and discuss how astronomers discover the nature
of the universe.

General Education
This course may be used to satisfy GE requirements in categories B1 or B3.

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

Textbook
Understanding Our Universe
Authors:
Palen, Kay, Smith, and Blumenthal.
**ISBN-13:** 978-0393129199 [Bundled with required Smartwork online homework license]

**ISBN-13:** 978-0393912104 [May be without required Smartwork online homework license, check with vendor]

**Note:**
We will make use of the online homework site for this book. Some versions of the new book include access to [http://smartwork.wwnorton.com](http://smartwork.wwnorton.com). When buying a used book or a new book that does not include the bundled Smartwork license, you will need to purchase the online homework component separately at: [http://smartwork.wwnorton.com](http://smartwork.wwnorton.com) (currently $20). There is an option to purchase this access along with an eText version of the text (currently $41.25). See *Online Homework* below for more details on setting up your account. The website also contains many features beyond the homework, such as helpful tutorials and animations. It is essential to augment the lecture notes with material from the text, and questions in the homework will require material beyond the lecture notes.

**Grading**

*Attendance / Participation*  **10 %**
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. Finally, I encourage at least one office visit during the semester.

*Online Homework*  **30 %**
There will be online homework assignments, approximately one every two weeks (see schedule below). These will be made available and must be completed at the Smartwork website as described in the course text. They will take the form of true/false or multiple choice questions derived from both the textbook and course notes. We will discuss how to register and set up your Smartwork account in class. See lecture notes for further details. Our Course Enrollment key for Fall 2014 is: **SSU6633**

*In-class Quizzes (3)*  **30 %**
There will be three in-class quizzes covering sections of our course material, approximately one every 3-4 weeks (see schedule below). Students are required to bring their own ParSCORE Scanning forms and #2 pencils for these quizzes (3 quizzes and 1 final mean you should purchase 4 of these forms). They are available at the University Bookstore. The quizzes will take the form of approximately 30 multiple choice questions derived from both the textbook and course notes. Your lowest quiz grade will be dropped.

*Final Exam*  **25 %**
There will be a cumulative final exam, **Thursday, December 11, 5 p.m.–6:50 p.m.**
Students are required to bring their own ParSCORE Scanning form for this exam. The forms are available at the University Bookstore. The exam will consist of approximately 75 multiple choice questions derived from both the textbook and course notes.
**Observing Assignment**  
5 %

Submit a one-page account of your experience observing with a telescope during the semester. Include the date, time, observatory, a description of the telescope(s) and what you observed. You may attend one of the Public Viewing Nights scheduled monthly at the SSU Observatory, or observe elsewhere as detailed below. Call before coming if it appears possible that clouds or fog may force cancellation: (707) 664-2267.

Off campus, there are observing opportunities at the Robert H. Ferguson Observatory and several other places that can be found via The Astronomy Connection, the Astronomical Association of Northern California, or the Sonoma County Astronomical Society.

This submission must be made via the “Observing Assignment” link available at the course Moodle page. The following file formats are acceptable: MS Word, WordPerfect, RTF, PDF, PostScript, HTML, and plain text (.txt)

Check spelling of astronomical terms by looking them up in your text or on the web. Warning: There may be an increasing percentage of cloudy nights as the semester progresses. Take advantage of good weather as soon as you can.

**Extra Credit**  
up to 6%

Extra Credit is available for attending a public talk on some current astronomical or physics topic and submitting a one to two page synopsis via a link on the class Moodle page. **Submissions will be checked for originality and cannot be used for credit in other classes or at other institutions.** You may submit up to two synopses, each is worth up to 3% extra credit. The assignments are graded based on presenting a one to two page, double-spaced, coherent and comprehensive summary of the talk. Researching and defining unclear concepts is recommended. Be sure to include a list of your three “take-away” thoughts: personal comments on what parts of the talk resonated with you.

The Department of Physics and Astronomy will present a free public lecture in its renowned “What Physicists Do” series most Mondays during the semester, from September 8th through November 24th at 4:00 p.m. in Darwin 103. See the following URL for details and a list of speakers and topics: [http://phys-astro.sonoma.edu/wpd/](http://phys-astro.sonoma.edu/wpd/). Other appropriate external work may be substituted with instructor approval.

**Both the observing and extra-credit assignments are due within two weeks after you make your observations or attend the talk, but accepted (with a 20% late penalty) up until the Friday of the week BEFORE finals week at 11:55pm. No submission after this date will be accepted.**

**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.

**Course Standards**

This course is not graded on a curve but will follow an absolute scale. The following is a likely distribution of grades according to percentage of possible credit. I reserve the right
to adjust this scale accordingly based on the class aggregate performance on the course assignments.

\[
\begin{align*}
A & : > 95 \% \\
A- & : 90-95 \% \\
B+ & : 86-89 \% \\
B & : 82-85 \% \\
B- & : 78-81 \% \\
C+ & : 74-77 \% \\
C & : 70-73 \% \\
C- & : 66-69 \% \\
D+ & : 62-65 \% \\
D & : 58-61 \% \\
D- & : 54-57 \% \\
F & : < 54 \%
\end{align*}
\]

**Other Class Policies**

Questions are encouraged. 

Read subject material before each class.

Turn off cell phones and other distracting small electronics. 

Start homework problems early. Do not fall behind!

Try your best to attend every class, and arrive to class on time. 

No grading information will be sent over email.

Please include your name, class name and class number in all email. 

Come to my office during my office hours with questions.

**Course Schedule**

<table>
<thead>
<tr>
<th>Week</th>
<th>Tues.</th>
<th>Thurs.</th>
<th>Text Reading</th>
<th>HW Due Sunday @11:59pm</th>
<th>Quizzes/Final (Thursday)</th>
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<tr>
<td>1</td>
<td>Aug 19</td>
<td>Aug 21</td>
<td>Ch. 1</td>
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<td>2</td>
<td>Aug 26</td>
<td>Aug 28</td>
<td>Ch. 2</td>
<td>HW Ch. 1 &amp; 2</td>
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<td>3</td>
<td>Sep 02</td>
<td>Sep 04</td>
<td>Ch. 3</td>
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<td>4</td>
<td>Sep 09</td>
<td>Sep 11</td>
<td>Ch. 4</td>
<td>HW Ch. 3 &amp; 4</td>
<td>Quiz 1 Ch. 1-4</td>
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<td>Sep 16</td>
<td>Sep 18</td>
<td>Ch. 5</td>
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<td>6</td>
<td>Sep 23</td>
<td>Sep 25</td>
<td>Ch. 6 &amp; 7</td>
<td>HW Ch. 5, 6 &amp; 7</td>
<td>Quiz 3 Ch. 6-12</td>
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<td>Oct 02</td>
<td>Ch. 8</td>
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<td>Oct 07</td>
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<td>HW Ch. 8 &amp; 9</td>
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<td>Oct 23</td>
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<td>HW Ch. 10 &amp; 11</td>
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<td>Nov 04</td>
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<td>HW Ch. 12 &amp; 13</td>
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<td>Nov 18</td>
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<td>HW Ch. 14 &amp; 15</td>
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<td>Dec 02</td>
<td>Dec 04</td>
<td>Ch. 17</td>
<td>HW Ch. 16 &amp; 17</td>
<td>Quiz 13 Ch. 16-22</td>
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<td>Dec 11</td>
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<td>Cumulative Final Thursday, December 11 5 p.m.-6:50 p.m.</td>
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