# Syllabus

**Astronomy 4B, section 1**  
**Spring 2017**  
**MWF 11:00 – 11:50**  
**MW: MND 1015 / F: MND 1003**

**Professor:** Chris Taylor  
**Office:** 438 Sequoia Hall  
**Phone:** 278-6480  
**Office Hours:** M/W/F 1:00 – 2:00  
**E-mail:** ctaylor@csus.edu  
**Web site:** http://www.csus.edu/indiv/t/taylorc

<table>
<thead>
<tr>
<th>Week of</th>
<th>Material Covered</th>
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<tbody>
<tr>
<td>Jan 23, 25, 27</td>
<td>Chapter 1 – Charting the Heavens.</td>
</tr>
<tr>
<td>Jan 30, Feb. 1, 3</td>
<td>Chapter 1 (<em>continued</em>), Chapter 2 – The Copernican Revolution.</td>
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<tr>
<td>Feb. 6, 8, 10</td>
<td>Chapter 2 (<em>continued</em>), Chapter 3 – Radiation.</td>
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<tr>
<td><strong>Feb. 13, 15, 17</strong></td>
<td>Chapter 3 (<em>continued</em>), Chapter 4 – Spectroscopy. <em>(Exam)</em></td>
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<tr>
<td>Feb. 20, 22, 24</td>
<td>Chapter 4 (<em>continued</em>), Chapter 5 – Telescopes.</td>
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<tr>
<td>Feb. 27, Mar. 1, 3</td>
<td>Chapter 5 (<em>continued</em>), Chapter 16 – The Sun.</td>
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<tr>
<td>Mar. 6, 8, 10</td>
<td>Chapter 16 (<em>continued</em>).</td>
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<tr>
<td>Mar. 13, 15, 17</td>
<td>Chapter 17 – Red Giants and White Dwarfs</td>
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<tr>
<td><strong>Mar. 20, 22, 24</strong></td>
<td><strong>SPRING BREAK</strong></td>
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<tr>
<td><strong>Mar. 27, 29</strong></td>
<td>Chapter 19 – Star Formation <em>(Exam)</em></td>
</tr>
<tr>
<td>Apr. 3, 5, 7</td>
<td>Chapter 19 (<em>continued</em>), Chapter 20 – Stellar Evolution</td>
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<tr>
<td>Apr. 10, 12, 14</td>
<td>Chapter 20 (<em>continued</em>), Chapter 21 – Stellar Explosions.</td>
</tr>
<tr>
<td>Apr. 17, 19, 21</td>
<td>Chapter 22 – Neutron Stars and Black Holes.</td>
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<tr>
<td><strong>Apr. 24, 26, 28</strong></td>
<td>Chapter 23 – The Milky Way Galaxy. <em>(Exam)</em></td>
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<tr>
<td>May 1, 3, 5</td>
<td>Chapter 23 (<em>continued</em>), Chapter 24 – Normal and Active Galaxies.</td>
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<tr>
<td>May 8, 10, 12</td>
<td>Chapter 25 – Galaxies and Dark Matter, Chapter 26 – Cosmology.</td>
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**Final Exam:** Monday, May 15 10:15 AM -- 12:15 PM
Additional Course Information:

GE: Astr 4B is a GE area B1 course.

Course Goals:
1) To understand the place of human beings in the physical Universe.
2) To learn how astronomers use knowledge of physics and chemistry to study distant objects via observation and the scientific method.
3) To learn the history of human knowledge of the Universe.
4) To learn the basic principles of modern astronomy: telescopes, the electromagnetic spectrum, the formation and evolution of stars, and the structure of galaxies.

Required Text:
(7th Edition OK)

Reading the text is essential. It's best if you read the section of the book we will be covering any given day before we discuss that material in class.

Required Equipment:

We will be using the Top Hat (www.tophat.com) classroom response system in class. You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text message.

You can visit the Top Hat Overview (https://success.tophat.com/s/article/Student-Top-Hat-Overview-and-Getting-Started-Guide) within the Top Hat Success Center which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system.

An email invitation will be sent to you by email, but if don’t receive this email, you can register by simply visiting our course website: https://app.tophat.com/e/488651

Note: our Course Join Code is:

Top Hat will require a paid subscription, and a full breakdown of all subscription options available can be found here: www.tophat.com/pricing.

Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team directly by way of email (support@tophat.com), the in app support button, or by calling 1-888-663-5491.
Grades:
Your final course grades will be based upon homework, best 2 of 3 exams, a cumulative final exam, and class participation during in-class exercises.

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>15%</td>
</tr>
<tr>
<td>Exam 1</td>
<td>20%</td>
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<tr>
<td>Exam 2</td>
<td>20%</td>
</tr>
<tr>
<td>Class Participation</td>
<td>15%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
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Homework will be assigned on SacCT by Friday, and will be due on the next Wednesday. You will always have the weekend to work on the homework assignments. All homework assignments are done using SacCT!!

Exams will be multiple choice. You will need to bring a General Purpose Pearson NCS Answer Sheet, form no. 4521 (available from the bookstore), and a number 2 pencil.

You will also have to bring photo ID to all exams!

Letter grades will be assigned as follows:

- A \( \geq 95\% \)
- A- \( \geq 90\% \)
- B+ \( \geq 87\% \)
- B \( \geq 82\% \)
- B- \( \geq 77\% \)
- C+ \( \geq 73\% \)
- C \( \geq 69\% \)
- C- \( \geq 66\% \)
- D+ \( \geq 62\% \)
- D \( \geq 58\% \)
- D- \( \geq 55\% \)
- F less than 55%

To avoid a grade of F, you must pass at least one exam. No one who fails all three midterms and the final will pass the course.

Contacting Me:
The best way is by e-mail, since I don't check my voice mail very often. Please use my campus e-mail address: ctaylor@csus.edu and not the e-mail in SacCT for the quickest response. Coming to office hours is also good, and any time my office door is open, please come in.
**Attendance:**

Attendance is not mandatory, but is highly encouraged. If you miss an in-class exercise, then you will receive zero points for it, which will be reflected in your grade. Class participation is one-fifth of your final grade, and you can't earn any class participation points if you aren't here! Each class participation is worth two points: you get one point for being here and answering the question, and an additional point for getting the answer right.

**Make-up Exams:**

I will announce exam dates at least 2 weeks in advance of the exam. If you have a conflicting activity that cannot be rescheduled, you must see me at least two days before the exam. If you don't come see me before the exam, there will be no opportunity to make it up. You must bring me documentation of your conflicting activity (i.e. If you have jury duty, show me the form they sent you, if you have a brain transplant scheduled for that day and can't change it, bring me a note from the surgeon, etc....).

**Math:**

Algebra is required in this course. I plan the exams so that you cannot get an A if you get all the math problems wrong. However, if you get every math problem wrong, but get everything else right, you can still get a B.

Calculators are allowed on the exams. Cell phones and other devices that can do math are not allowed.

**Cell Phone Policy:**

Please turn your cell phone to vibrate before class starts. Cell phones that ring in the middle of class are disrespectful to your fellow students and to me. If your cell phone goes off in class and it is a call that you must take, please go into the hallway to answer it.

**Cheating:**

The faculty of the Department of Physics and Astronomy do not tolerate academic dishonesty. Falsification of data, copying, unauthorized collaborations, plagiarism, alteration of graded materials or other actions (as described in, but not necessarily limited to the CSUS Policy Manual) will be promptly reported to the Office of Student Affairs. The offending student will be penalized on the assignment in question. Serious infractions will result in course failure and a recommendation for administrative sanctions.

**Students with disabilities:**

Please see me before the end of the first week of class.