Astronomy 103 - Survey of Astronomy                Fall 2013

Lectures:   MWF in Physics 137, 09:00-09:50.
Instructor:     Patrick Brady
Office:  Physics 488
Phone:  (414) 229-6508
Email:  astron103@gravity.phys.uwm.edu
Office Hours:  M 10:00-11:00, W 15:00-16:00 and by appointment

REQUIREMENTS

1. Please see instructions in this syllabus about accessing the course’s web page on
   Desire2Learn (D2L). You should become familiar with D2L to take the quizzes and
   homework assignments. Please set your preferred email address as soon as possible.
2. The textbook is Astronomy: A beginners guide to the Universe by Chaisson &
   New, $99.65 Used. You can get by with the 6th edition which is cheaper.
3. You are required to have access to the internet to take online quizzes, do the
   homeworks, and receive updates on the class from the instructor.

COURSEWORK

A. Reading and homework assignments
   In this course, it is critical that you do the reading before each of the lectures. Homework
   assignments based on the reading will be given over D2L. You should complete the
   homework before class: I will use the homework responses to guide my emphasis in
   class. There will be 24 homework assignments. The best 16 homeworks will be used for
   your grade. This is to take into account that you could potentially have an internet or
   D2L issue. You can take the homework assignments an unlimited number of times and
   the highest score will be used. Homework assignments must be completed by the end
   date indicated on D2L.

B. Quizzes
   Quizzes will be given over D2L once a week. There will be 13 quizzes. The best 9
   quizzes will be used for your grade. This is to take into account that you could potentially
   have an internet or D2L issue. The quiz will have questions taken from the homework
   assignments with numbers changed in questions that involve a calculation. You must get
   a score of 85% to pass the quiz, but you can take the quiz 4 times. The grades for a
   passed quiz start at B+. Quizzes must be completed by the end date indicated on D2L.

C. Planetarium assignment
   Attend a planetarium show (across the hall from PHY 137) during class time and write a
   100-150 word typed summary based on the show you attend. Don’t forget to sign into the
show since attendance counts toward your grade on this assignment. The planetarium
holds at most 75 people, so I will divide the class so that half can attend the show on 23
September 2013 and the other half can attend on 25 September 2013. Watch for an
announcement about this.

D. Exams
Three midterm exams will be given: your lowest midterm score will be dropped. Since
the lowest midterm will be dropped, **no make up of a missed midterm exam will be
allowed except for medical emergencies.** The final exam will be cumulative with
emphasis on the material since the last midterm.

Optional
E. Extra-credit assignments
These will be announced in class and on D2L.

**EXTRA TUTORING**

Panther Academic Support Services (PASS) offers Supplemental Instruction (SI) review
sessions for this course. Your SI leader will attend class and conduct four 50-minute
review sessions each week. The SI leader is also available for walk-in times and online to
discuss your questions. In review sessions you will work together to master course
content, better prepare for class, and study for exams. Your SI Leader for Astronomy 103
is Kaitlin Dominski. She will run review session in the Library E170 (Mon 11 am; Tue 2
pm; Wed 10 am; Thur 11 am) and have walk-in desk hours in Library E170 (Wed 12 pm;
Thur 10 am)

**EVALUATION**

<table>
<thead>
<tr>
<th>Component</th>
<th>%</th>
<th>SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments (16 best)</td>
<td>10%</td>
<td>A 90 -100</td>
</tr>
<tr>
<td>Planetarium (show&amp;summary)</td>
<td>5%</td>
<td>B 80 - 89</td>
</tr>
<tr>
<td>Quizzes (9 best)</td>
<td>25%</td>
<td>C 70 – 79</td>
</tr>
<tr>
<td>Midterm (2 best)</td>
<td>30%</td>
<td>D 60 – 69</td>
</tr>
<tr>
<td>Final exam</td>
<td>30%</td>
<td>F 0 - 59</td>
</tr>
</tbody>
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**EXAM SCHEDULE**

All exams during class except for the final

1\(^{st}\) midterm: Friday September 27\(^{th}\).
2\(^{nd}\) midterm: Friday October 25\(^{th}\).
3\(^{rd}\) midterm: Friday November 22\(^{nd}\).
Final: 10:00-12:00 Noon Wednesday, Dec 18\(^{th}\).
POLICIES

• Feel free to study with other students but submit your own work.
• Please feel free to ask questions in class or office hours.
• No makeup midterms will be given since you can drop your worst midterm.
• Students with disabilities: if you need special accommodations in order to meet any of the course requirements, please contact me as soon as possible.
• I reserve the right to modify the syllabus if necessary. You will be informed of any changes.
• Any concerns about your attendance, quizzes or assignments should be brought to my attention within 2 weeks of the final grade being posted or the issue may not be addressed.

EXPECTED AVERAGE STUDENT TIME INVESTMENT

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td>50/60 x 40 = 33 hours</td>
</tr>
<tr>
<td>Assigned reading</td>
<td>15 x 2 hours = 30 hours</td>
</tr>
<tr>
<td>Homework assignments</td>
<td>24 x 1.5 hours = 36 hours</td>
</tr>
<tr>
<td>Quizzes</td>
<td>14 x 2 hours = 28 hours</td>
</tr>
<tr>
<td>Review for exams</td>
<td>6 x 3 hours + 10 hours = 28 hours</td>
</tr>
<tr>
<td>Midterms</td>
<td>50/60 x 3 = 2.5 hours</td>
</tr>
<tr>
<td>Final exam</td>
<td>2 hours</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>159.5 hours (53 hours per credit)</td>
</tr>
<tr>
<td><strong>Weekly Average (15 weeks)</strong></td>
<td>10.6 hours</td>
</tr>
</tbody>
</table>

GENERAL EDUCATION REQUIREMENT (GER-NS)

Astronomy 103 meets the following Natural Sciences Divisional Criteria: 1) understand and apply the major concepts of a natural science discipline, including its breadth and its relationship to other disciplines; 2) explain and illustrate the relationships between experiments, models, theories and laws; 4) discuss and assess the limitations of data and the possibility of alternative interpretations.

The course also addresses the following UW System Shared Learning Goals: 1) Knowledge of the Natural World including breadth of knowledge and the ability to think beyond one’s discipline, major, or area of concentration. 2) Critical and Creative Thinking Skills including inquiry, problem solving, and higher order qualitative and
quantitative reasoning. 3) Effective Communication Skills including listening, speaking, reading, writing, and information literacy.

**STUDENT LEARNING OUTCOMES**

Active participation in this course will enable students to:

1. Distinguish between scientific theories, hypotheses, and observations, and understand how scientists combine observation, theory and testing to understand the Universe.
2. Describe the scale, structure and motions of the solar system, how it may have formed and outline the properties known planets beyond our solar system.
3. Understand how astronomers use mathematics and graphical representations of data to determine properties, such as temperature, size, mass and composition, of stars, planets and other objects in the Universe.
4. Describe the levels of structure in the Universe in order of increasing size and describe the observational evidence in support of the Big Bang theory of the expanding Universe.

**ASSESSMENT**

The student learning outcomes will be assessed using multiple-choice questions on the homework assignments, quizzes, mid-term exams, and the final. Questions relating directly to student learning outcomes will be identified before the students complete the specific task: student performance on these questions will provide a quantitative measure of progress.

**ASSESSMENT RUBRIC**

Homework Assignments: the target for an initial first pass is that 60% or more of the students have correct answers to all the assessment questions.

Quizzes: 65% or more of the students should correctly answer to all such questions

Midterms: 75% or more of the students should correctly answer to all such questions.

Final: 75% or more of the students have correct answers to all such questions.
Using UW-Milwaukee Desire2Learn (D2L) course web sites

Materials for this course are available on a Desire2Learn (D2L) course web site. Students may see these materials there anytime using a standard web browser.

**Recommended browsers:** A complete and up-to-date list of recommended browsers and settings can always be found at: [http://kb.wisc.edu/helpdesk/page.php?id=3210](http://kb.wisc.edu/helpdesk/page.php?id=3210). Please contact the UWM Help Desk, as described at the bottom of this page, with any questions about these requirements.

**To find and browse the D2L course web site:**

1. Go directly to the D2L **Landing** page at [http://D2L.uwm.edu](http://D2L.uwm.edu).
2. On the D2L **Landing** page, choose the button labeled **[UWM ePanther]**.
3. On the next page, type in your ePanther **Username** (your ePanther campus email, but without the “@uwm.edu”) and **Password** (the same password you use for PantherLink and PAWS). Then hit [Login].
   - You may bookmark the D2L.UWM.edu landing page, if you wish.
   - To prevent failed log-ins, please DO NOT BOOKMARK the UWM ePanther login page.
4. On the D2L **MyHome** screen, find the area called **My Courses**. You’ll see your active courses here, arranged by Semester, with the newest semester at the top.
5. Click any course title to see the Course Home page. Click [Content] in the navigation bar to begin exploring the site.
6. If you have any difficulty getting into the course web site, please close down your web browser completely and open it up again. Then try logging on again, using the instructions above. If you do not know your ePanther username or password, please get help as indicated below.
7. When you are finished looking around your D2L course sites, always click on [Logout]. This is especially important if you are in a computer lab. Otherwise, the next person who uses the machine will be using your D2L account!

**What to do if you have problems with Desire2Learn (D2L)**

If you have any difficulties with D2L, including problems with your login (e.g., you forgot your password, or if you just can’t get on), please contact the UWM Help Desk as follows:

- Report the problem via online web form at [GetTechHelp.uwm.edu](http://GetTechHelp.uwm.edu)
- Call the UWM Help Desk at 414.229.4040 if you are in Metro Milwaukee
- Go to Bolton 225 (this lab is not open all day or on weekends – call 414.229.4040 for specific hours)
- From outside the 414 or 262 area codes, but from within the USA, you may call the UWM Help Desk at 1.877.381.3459