Syllabus Cover Sheet (10 Points)
ASTR 101 (Hamilton)
Due in Discussion Section, Sep. 8-9

Your Name:_____ Student Number:_____

Email Address:_____ Your Phone Number:_____

Section Number:_____ Name of your Teaching Assistant:_____

When and where does your discussion section meet?_____

1. What do you most want to find out about in this course?

_____

_____

2. When have you last had some astronomy instruction?
_____ in jail
_____ at U. Maryland
_____ at another college
_____ as a junior or senior in high school
_____ as a freshman or sophomore in high school
_____ in junior high school
_____ in elementary school
_____ in utero

3. Check the highest level math that you've studied. We'll use some basic math, algebra, and geometry in ASTR101.
_____ calculus
_____ trigonometry
_____ geometry
_____ algebra
_____ fractions
_____ addition
_____ counting

4. Read the Syllabus. Go to the class web page at http://www.astro.umd.edu/~hamilton/ASTR101/ and follow the "What's My Grade Right Now?" link. What is the website Password: _____. What is your current grade? _____. You can do well in ASTR101 by attending all classes, doing the assigned reading, and completing all assignments. Check out the ASTR101 Blog, the assignments link, and explore other bits of the class website.

I HAVE READ THE SYLLABUS, EXPLORED THE WEBSITE, AND UNDERSTAND HOW MY GRADE FOR ASTR101 WILL BE DETERMINED.

Signed _____ Dated _____

5. Follow the link to the Student Honor Council site and carefully read over the links in Tab "STUDENTS". Familiarize yourself with the rest of the site. Define Plagiarism (Use your own words!)

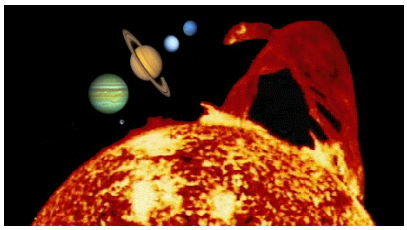
_____

_____

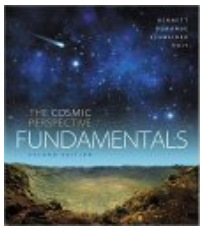
I HAVE FOLLOWED THE LINK TO THE STUDENT HONOR COUNCIL AND UNDERSTAND THE DEFINITIONS OF CHEATING, FABRICATION, FACILITATING ACADEMIC DISHONESTY, AND PLAGIARISM. I PLEDGE TO NOT CHEAT, FABRICATE, PLAGIARIZE, OR FACILITATE SUCH BEHAVIOR. I FURTHER PLEDGE TO REPORT ANY INSTANCES OF ACADEMIC DISHONESTY THAT I KNOW ABOUT TO THE PROFESSOR AND/OR MY TA. I AGREE TO ABIDE BY ALL POINTS LAID OUT IN THE STUDENT HONOR CODE.

Signed _____ Dated _____

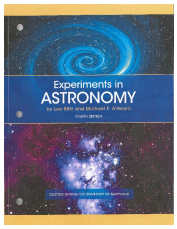
ASTR101: General Astronomy
Sections 0101-0110, Fall 2015

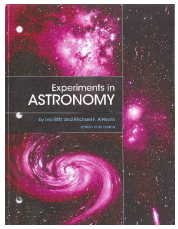


Prof: Doug Hamilton
Phone: (301) 405-1548
Email: **astr101 @ umd.edu**
(Also put "ASTR101" in your email subject line)
Office: PSC 1153
Office Hours: TuTh 12:30-2:00 or by Appt.



Class Textbook: *The Cosmic Perspective Fundamentals*, by Bennett, Dohahue, Schneider, Voit. You can get either the new second edition ($87) or the first edition (<$20), your choice. You do not need a CD or any online access for this class - just the hardcopy textbook. This is the shortest Astro book on the market, and I expect you to read it cover to cover over the course of the semester! If you do not have it, order it now so that you do not fall behind in class. If requested, I can also put a few copies on reserve in McKelden library (at the circulation/reserve desk).





Class Lab book: You will also need this lab book: *Experiments in Astronomy* by Leo Blitz and Michael F. A'Hearn. You should get the new fourth edition (about $35). An unused copy of the third revised edition (about $50 new) is also OK if you get a good deal. Be sure that the book is 100% intact, as you will have to tear pages out to hand in.

Class Web Page: http://www.astro.umd.edu/~hamilton/ASTR101/. Packed full with course information, supplementary readings, and interactive programs to make ASTR101 fun and to help you learn. Monitor your estimated grade and use the ASTR101 Blog! See cool space pictures and movies!

Class Meetings:

Lectures meet in PHYS 1412 on TuTh from 11:00am to 12:15pm. Lectures are led by the professor and will include demonstrations, slides, videos etc.

Discussion Sections and **Labs** meet in times listed below starting the week of Sep. 7. Discussion sections and Labs are led by graduate student and exceptional undergraduate Teaching Assistants

(TAs). Both weekly meetings provide a smaller and more informal environment for further developing the material taught in class. The TAs will also answer questions about the lectures and reading and will hold review sessions before exams.

Course Description:

Welcome to Astronomy 101! You are about to embark on an ambitious project - to survey our known Universe in one short semester. We hope that you find this course enjoyable and walk away with a better knowledge and understanding of the universe that we live in. With that goal in mind, the course attempts to focus on major concepts in astronomy and where possible tie those concepts into issues relevant to your life. For example, global warming, an important worldwide issue, is also central to understanding the differences between the environments of Venus, Mars, and Earth. At a more philosophical level, understanding how our universe works and how planets, stars, and galaxies are formed gives us a better perspective on our place in the universe and how special planet Earth is to our continued survival.

Most of you have chosen this course to fulfill your science requirement (see GENED Requirements below). GENED courses are designed to ensure that you will take a look at several different academic disciplines and the way they create and analyze knowledge about the world. We will introduce you to ideas and issues that are central to a major intellectual discipline and involve you actively in the learning process. Please take advantage of the opportunities this course offers!

Course Expectations:

Attendance: In order to succeed in this course, I expect you to attend ALL lectures, discussion sections, and labs. This is very important! The material on the homeworks and exams are based upon the material covered in the lectures, the text, discussion sections, and labs. If you have to miss a scheduled class meeting, be sure to look at another student's notes and make sure that you understand what was covered. See me or the teaching assistant if you have questions. There will be times during the semester, in both lectures and sections, when we will ask for written responses to questions. Your written answers will count towards your grade in the class.

Preparation: I expect you to be prepared to work. You will understand the lecture more easily if you preview the reading assignment. A more careful reading is recommended after lecture. You should study your class notes sometime before the next lecture to make sure that everything is clear. I encourage you to ask questions in class, in discussion, in lab, during office hours, and over email.

Study Habits: Study wisely and ask for help if you need it. If you just cram the night before the exam, you probably will not do very well. It is better (and easier) if you keep up with the material on a daily basis. If you have questions, please see me or one of the TAs. We are here to help you learn.

Grading:

I grade on a point scale with different assignments weighted as shown in the table. A description of each of these components is contained in this syllabus.

ASSIGNMENT	Syllabus Cover	Homework	Section	Labs	Exam I	Exam II	Final	Total
POINTS	10	60	65	165	100	100	200	700

Letter grades will be assigned based upon your curved cumulative score. Grades for some discussion sections may be adjusted slightly so that the average grade given by each TA is similar. Here is how your grade will be determined from your point total in the class.

Letter Grade	A	B	C	D	F
Points Needed	630-700	560-629	476-559	385-475	0-384
Percentage	90%-100%	80%-89%	68%-79%	55%-67%	0%-54%

The point scale makes it possible for everyone in the class to do well. For example, if everyone scores above 80% in the course, you would all receive either a B- or better letter grade. I do use +/- modifiers - you will get a "+" if you are in roughly the upper 1/3 of students with the same letter grade and a "-" if you are in the lower 1/3. I may adjust the number of points required to get a given grade depending on the class averages; however, any adjustment will make it easier to get a given grade, never more difficult. You can monitor my current estimate of your grade from the class webpage as the semester progresses.

To improve your learning in ASTR101, it is important to go over your returned assignments and any solution sets carefully within a day or two of when they are returned to you. If you are unsure about why something was marked wrong or you believe that it was incorrectly marked wrong, please contact your TA promptly. Grading can be reconsidered for only a reasonable time after the assignment is returned to you, typically 7-10 days.

Midterm Exams

There will be two in-class 75-minute examinations which will be held in PHYS 1412 on Thursday, October 8 and Thursday, November 19. These exams are closed book with no notes, no calculators, and no other electronic devices allowed. You will only be allowed to leave the classroom at a few specified times. Each exam will consist of 25-40 multiple choice questions and three or four essay or problem solving questions. These exams are incremental (i.e., non-cumulative) checkups on how well you have learned the material. The schedule of lectures included in this syllabus shows what material will be covered on each exam. Please bring only a pencil and your ID card to both midterms and the final.

If for whatever reason, the University is *officially* closed on the exam date, the exam date shifts to the next lecture date.

Final Exam

According to University rules, **the final exam for this course will be held on Monday Dec. 14 from 8:00 am to 10:00 am in PHYS 1412.** This final exam is cumulative, that is, it will cover *all* material discussed in this course. However, since chapters 10-15, HW 5-6, and labs 10-11 will not be covered by the midterm exams (see Lecture Schedule), *this material will be more heavily weighted*. The final will include multiple choice, essay and problem solving questions with the exact combination to be determined.

This exam is also closed book with no notes and no calculators allowed. Please bring a pencil and your ID card to the final.

Missed Exams

If you are not able to take an exam due to illness or other legitimate reasons (as outlined in the Academic Info section of the schedule of classes) and you wish to take a make-up exam, you must

1) contact me by email **before** you miss the regularly-scheduled exam and
2) submit a valid **written** excuse for your absence **within one week** after the regularly-scheduled exam.

Make-up exams will be given within one week after you submit the valid written excuse. The make-up exams will consist entirely of essays, problems, and short answer questions, and may also include oral questions asked by the professor.

If you miss the final exam and have a *valid written* excuse, you must arrange for a make-up final within 48 hours after the scheduled exam. The make-up final, like the make-up midterms, will have **no multiple choice questions**.

Discussion Sections and Labs

Your weekly hour-long discussion section is an integral part of this course. The sections are run by the TAs, with just general guidelines from me; they will normally include preparing you for lab, review of lecture material, presentation of problems and material not covered in lecture, exercises and quizzes etc. These sections serve as a forum to enhance your understanding of the course material. Your TAs are an excellent resource; get to know them and use that resource! Homeworks, Exams, and other work will be returned to you by your TA. Please attend all your discussion sections and labs. If for some reason you have to miss one of these meetings, talk to your TA for options for making up the work.

Understanding laboratory techniques and reaching conclusions based on careful observations is a hallmark of scientific inquiry. Your weekly 2-hour lab is an important part of this course that provides you with the opportunity to think like a scientist. Our goal is that you leave ASTR101 at the end of the semester with critical thinking skills that will allow you to better appreciate science in the news and elsewhere that you encounter it. Be sure to attend the discussion section and lab combination for which you registered. The only way to switch sections is through the registrar's office; **unofficial changes are not allowed**. Memorize your section number and put it on everything that you turn in.

Section	Discussion: **CSS 2400**	Lab: **CSS 1109**	TA Name
0101	Tu 3:30pm-4:20pm	Tu 5:30pm-7:30pm	Zeeve Rogoszinski
0102	Tu 3:30pm-4:20pm	W 8:30am-10:30am	Zeeve Rogoszinski
0103	W 10:00am-10:50am	W 11:00am-1:00pm	Ginny Cunningham
0104	W 10:00am-10:50am	Th 3:30pm-5:30pm	Ginny Cunningham
0105	W 11:00am-11:50am	W 1:00pm-3:00pm	Scott Lawrence
0106	W 11:00am-11:50am	Th 8:30am-10:30am	Scott Lawrence
0107	W 12:00pm-12:50pm	W 6:00pm-8:00pm	Nimarta Chowdhary Marie Bernard
0108	W 12:00pm-12:50pm	Th 6:00pm-8:00pm	Nimarta Chowdhary Marie Bernard
0109	W 1:00pm-1:50pm	F 10:00am-12:00pm	Robyn Smith
0110	W 1:00pm-1:50pm	F 1:00pm-3:00pm	Robyn Smith

Copying from another student's lab - from our class or another - is academic dishonesty and will not be tolerated in this class (see Academic Integrity below).

Contact Information and Office Hours

The Prof. and the Teaching Assistants all hold office hours that are open to everyone. There is someone available for several hours each day of the week - we are here to help! When contacting us by email, always be sure to put "ASTR101" in the subject line to ensure that your email is not overlooked.

Name	Office	Office Hours	Email
Prof. Doug Hamilton	PSC 1153	Tu 12:30pm-2:00pm Th 12:30pm-2:00pm	astr101@astro.umd.edu
Marie Bernard	CSS 1250	W 5:30pm-6:00pm Th 5:30pm-6:00pm	christiannembernard@gmail.com
Nimarta Chowdhary	CSS 1250	M 12:00pm-1:00pm F 11:00am - 12:00pm	nimarta@umd.edu
Ginny Cunningham	PSC 1248	F 12:00pm-2:00pm	vcunning@astro.umd.edu
Scott Lawrence	PSC 1238	W 12:00pm - 1:00pm W 3:00pm-4:00pm	srl@umd.edu
Robyn Smith	PSC 1238	M 10:00am-12:00pm	rnsmith@umd.edu
Zeeve Rogoszinski	PSC 1248	M 3:30pm-5:30pm	zero@astro.umd.edu

Homeworks

There are a total of six homeworks in this course. All homeworks are included with this syllabus and can also be obtained from the Assignments link from the class website. The syllabus cover sheet is treated like homework, except that it is turned in during you discussion section and we grade it very generously! Homework solution sets will be posted online.

All homeworks must be typed, converted to PDF format, and submitted on the class webpage by the start of class at **11:00 am** on the due date. Homeworks turned in after this will be considered late and docked at least 20%. **Homeworks may not be turned in by email.** If you experience a valid emergency, you must write me an email or leave me a voice mail message **before the assignment is due**, telling me why you will be late. Computer problems are not a valid excuse; ask a friend or your TA for help if you need it.

Although you may discuss the homework problems with your friends, the final writeup *must be in your own words*. **Copying from anyone else's homework, copying from a book, or allowing anyone to copy your homework is academic dishonesty** (see Academic Integrity below) and is unacceptable in this class. If you consult a reference other than the course text, please acknowledge it in your homework - *this includes websites*!

Open House

The astronomy department hosts an open house on the 5th and 20th of each month at the university observatory which is located just off campus on Metzerott Road. Each open house consists of a speaker talking about some aspect of astronomy. Following this short talk, there will be public viewing of the heavens with the observatory's telescopes (weather permitting). Dress warmly as you will be outside when using the telescopes! A list of scheduled speakers and topics is available online at http://www.astro.umd.edu/openhouse/. While not required for this course, I highly encourage you to take advantage of a unique opportunity to see the universe with your own eyes.

Extra Credit

There are many ways to earn extra credit in this class:

- Attend Class: I will frequently ask questions worth bonus points during lectures.
- Do the Extra Credit questions on each homework assignment.
- Post to the ASTR101 Blog anytime in September.
- Fill out the ASTR101 class evaluation in October.

Please do not ask for other extra credit opportunities.

Special Circumstances

Students with a documented disability should let me know as soon as possible (preferably on the first day of class) so that appropriate academic accommodations can be made.

Academic Integrity

The academic community at the University abides by a Code of Academic Integrity. Acts of academic dishonesty include cheating, fabrication, facilitating academic dishonesty, and plagiarism. Activities including, but not limited to, cheating on exams or quizzes, copying homework from a friend or book, allowing your homework or paper to be copied, and submitting forged excuses for absences from exams are violations of this code. Academic Dishonesty hurts the whole University of Maryland community - if you are aware of an incident in ASTR101, please report it to one of the TAs or me, anonymously if you wish. If we suspect that a serious incident of academic dishonesty has occurred, we will turn the case over to the Student Honor Council to investigate and resolve. If the suspected party is judged 'responsible' for the act(s) of academic dishonesty, the normal sanction is a course grade of 'XF' on the student's academic transcript which denotes failure due to academic dishonesty. This is far worse than an F. More information can be found on the web at http://www.shc.umd.edu/SHC/Default.aspx; pay particular attention to the links for students. **We are very serious about this.**

GENED Requirements

ASTR101 is intended for non-science majors and requires no more than a modest, high-school level science and math background. This course satisfies U. Maryland's requirement for a *lab* natural science course. To satisfy the requirement for a *non-lab* natural science course, you might wish to consider ASTR100. Note that **you cannot get credit for both ASTR100 and ASTR101**. Please be sure that you have chosen the correct course.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ASTR101 LECTURE SCHEDULE

Lecture Date	Lecture Topic	Reading
Tue. Sep. 1	Introduction, The Scale of the Universe	Chapter 1
Thu. Sep. 3	A Brief History of the Universe	Chapter 1
Tue. Sep. 8	Seasons on Earth	Chapter 2; Syllabus Cover Sheet due
Thu. Sep. 10	The Motions of the Moon and Planets	Chapter 2
Tue. Sep. 15	Competing Cosmologies	Chapter 3
Thu. Sep. 17	Kepler's Laws & The Scientific Method	Chapter 3
Tue. Sep. 22	Newton's Laws of Motion	Chapter 4; HW#1 due
Thu. Sep. 24	Planetary Formation	Chapter 4
Tue. Sep. 29	Terrestrial Planet Surfaces	Chapter 5
Thu. Oct. 1	Terrestrial Planet Atmospheres	Chapter 5
Tue. Oct. 6	The Giant Planets	Chapter 6; HW#2 due
Thu. Oct. 8	**EXAM I**	Chapters 1-5
Tue. Oct. 13	Moons, Asteroids, and Comets	Chapter 6
Thu. Oct. 15	Extrasolar Planets	Chapter 7
Tue. Oct. 20	Revisiting Planetary Formation	Chapter 7
Thu. Oct. 22	Light and Atomic Physics	Chapter 8
Tue. Oct. 27	The Sun	Chapter 8; HW#3 due
Thu. Oct. 29	Other Stars	Chapter 8
Tue. Nov. 3	A Small Star's Life	Chapter 9
Thu. Nov. 5	A Big Star's Life	Chapter 9
Tue. Nov. 10	White Dwarfs and Neutron Stars	Chapter 10
Thu. Nov. 12	Black Holes	Chapter 10
Tue. Nov. 17	Our Galaxy and Other Galaxies	Chapter 11; HW#4 due
Thu. Nov. 19	**EXAM II**	Chapters 6-10
Tue. Nov. 24	Galactic Distances	Chapter 12
Thu. Nov. 26	**THANKSGIVING!!**	
Tue. Dec. 1	The Big Bang Theory	Chapter 13; HW#5 due
Thu. Dec. 3	Dark Matter and Dark Energy	Chapter 14

Tue. Dec. 8	Fate of Our Universe	Chapter 14
Thu. Dec. 10	Life, the Universe, and Everything	Chapter 15; HW#6 due
Mon. Dec. 14	**FINAL EXAM** (8:00am-10:00am)	Chapters 1-15


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ASTR101 Discussion and Lab

Date	Discussion	Lab
Sep. 1 - Sep. 4	First Week of Class!	No Lab or Discussion Meetings this week.
Sep. 8 - Sep. 11	Introduction to Discussion and Lab	Mathematical Tools
Sep. 15 - Sep. 18	All about the Moon	Lunar Phases
Sep. 22 - Sep. 25	Motions on the Sky	The Celestial Sphere
Sep. 29 - Oct. 2	Kepler, Newton	The Night Sky
Oct. 6 - Oct. 9	Review for Exam I	Makeup Lab (TA Permission Required)
Oct. 13 - Oct. 16	Terrestrial Planets	Lunar and Martian Surface Features
Oct. 20 - Oct. 23	Giant Planets	The Moons of Jupiter
Oct. 27 - Oct. 30	Light and Spectra	Spectroscopy
Nov. 3 - Nov. 6	Stellar Properties	Stellar Spectra
Nov. 10 - Nov. 13	Nebula	The Interstellar Medium
Nov. 17 - Nov. 20	Review for Exam II	Makeup Lab (TA Permission Required)
Nov. 24 - Nov. 27	Thanksgiving!	No Lab or Discussion Meetings this week.
Dec. 1 - Dec. 4	Galaxies	Galaxies
Dec. 8 - Dec. 11	Cosmology	The Expansion of the Universe
Saturday, Dec. 12	Last chance to ...	Makeup Lab (TA Permission Required)


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ASTR 101 (Hamilton)
HOMEWORK ASSIGNMENTS

Homework #1 (10 Points) Due Tuesday Sep. 22, by 11:00am

Before starting this homework, please read chapters 1, 2, and 3. Be sure to try the "Quick Quiz" at the end of each chapter (answers are on page A-13 in the old textbook) - this is a great way to see if you are absorbing the material. It is also an excellent way to practice for the exams, which will include some multiple choice questions eerily similar to these ones. I recommend doing this for each of the chapters as you read them and again before exams.

Now you should be easily able to work the following questions and problems. Always put your name and section number at the top of your homework!

Chapter 1	Page 17	Questions 15, 19
Chapter 2	Page 35	Questions 18, 20

Last Question. Go to the class web page and explore the link Astronomy Classroom located immediately below "The Astronomy Workshop". Run the "Scientific Notation" program until you are sure that you can do the "Convert" problems in your sleep (or on a midterm, so don't use a calculator!). Now take the conversion quiz (you may retake it as many times as you'd like), take a screenshot of your results and hand it in with the rest of your homework.

Extra Credit (2 Points): Find the "Astronomical Distances" program in the same area of the Astronomy Workshop. How fast can you make the spaceship travel? How quickly can you get to the nearest star?

Extra Credit (2 Points): Now check out the "Working with Equations" program. What are all of the variables in the two equations that contain "GM"? Check those two boxes and try the program. If you have trouble doing either of these problems, be sure to talk to your TA about it. This and Scientific Notation are the ONLY type of math problems that I will ask you to do on a test.

Type your homework up in Microsoft Word, Mac's Pages or another text editing program. Be sure to show all work for math problems. When done, convert to PDF and submit to http://janus.astro.umd.edu/datadir/ed/15f/homework/ by the **11:00am** deadline. You may submit your homework multiple times; the last of your submissions before the deadline is the one that will count. All homeworks should be prepared and submitted in this way. Converting to PDF is easy:

- Word: Select "Save As" from the "File" menu. Choose "PDF" from the "Format" bar.
- Pages: Select "Export To" and "PDF" from the "File" menu.

Homework #2 (10 Points) Due Tuesday Oct. 6, by 11:00am

Read Chapters 4 and 5.

Chapter 3	Page 53	Questions 20, 22
Chapter 4	Page 74	Questions 16, 23
Chapter 5	Page 93/94	Question 16

Page numbers for the book's 1st/2nd editions

Extra Credit (2 Points): Go to the Astronomy Classroom link from the main class web page (under "The Astronomy Workshop"). Run the "Scientific Notation" program with the "Practice Multiply/Divide" until you are sure that you can do this type of problem in your sleep (or on a midterm!). Now take the Multiply/Divide quiz, take a screenshot and hand it in with the rest of your homework.

A Good Idea: Test Yourself! Do some of the Quick Quizzes for the five chapters that will be on the midterm and see how you do! This is an excellent way to start studying for a midterm! You might also check out the Supplementary Information link from the main class web page (under "GENERAL"). Pick a few sections, look through the material, and try at least one quiz. If you answered any questions wrong, be sure to read the corrected quiz carefully!

Homework #3 (10 Points) Due Tuesday Oct. 27, by 11:00am

Read Chapters 6, 7, and 8.

Chapter 6	Page 111/112	Questions 13, 15
Chapter 7	Page 126/127	*Comparing Methods*, *When Is a Theory Wrong*
Chapter 8	Page 142/145	Question 17

Page numbers for the book's 1st/2nd editions
Chapter 7 problem numbers are different in each edition.

Extra Credit (2 Points): Follow one of the SOLAR SYSTEM links from the main class web page (under "Useful Links"). Explore some of the sublinks, and write a paragraph summarizing what you find, and a paragraph describing what you learned (Use your own words!)

Homework #4 (10 Points) Due Tuesday Nov. 17, by 11:00am

Read Chapters 9 and 10.

Chapter 8	Page 142/145	Question 22
Chapter 9	Page 161/165	Questions 15, 16

Chapter 10	Page 177/181	Questions 14, 18

Page numbers for the book's 1st/2nd editions

Extra Credit (2 Points): Feeling stressed? Slam some asteroids and comets into the Earth and see what happens on the "Solar System Collisions" webpage (Follow the Explore the Possibilities link). Describe what happens -- and how often -- for asteroids of several different sizes (small, medium, large, HUGE!). Imagine a rocky asteroid moving at 20 km/s, how big does it have to be to create a magnitude 9.5 earthquake?

Homework #5 (10 Points) Due Tuesday Dec. 1, by 11:00am

Read Chapters 11, 12, and 13.

Chapter 11	Page 193/197	Questions 14, 17
Chapter 12	Page 208/212	Question 20
Chapter 13	Page 225/229	Questions 16, 20

Page numbers for the book's 1st/2nd editions

Extra Credit (2 Points): Follow one of the STARS & STELLAR REMNANTS links from the main class web page (under "Useful Links"). Explore some of the sublinks, and write a paragraph summarizing what you find, and a paragraph describing what you learned (Use your own words!)

Homework #6 (10 Points) Due Tuesday Dec. 10, by 11:00am

Read Chapters 14 and 15.

Chapter 14	Page 245/249	Questions 13, 16, 17
Chapter 15	Page 263/267	Questions 14, 21

Page numbers for the book's 1st/2nd editions

Extra Credit (2 Points): Follow one of the GALAXIES links from the main class web page (under "Useful Links"). Explore some of the sublinks, and write a paragraph summarizing what you find, and a paragraph describing what you learned (Use your own words!)

Click "Reload" to get the most up to date version of this page.

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