Astronomy – PHYS 220/220G

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Office Hours: Monday 11:00 am - 2:00 pm, Thursday 2:00-5:00 pm, or by appointment  
Class Meetings:  
Section 001: M Th 8:55-10:10 AM, Kreeger G01  
Section 002: T F 2:35-3:50 PM, Beeghly 01

Teaching Assistant: Noel Klingler  
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Office Hours: TBA  
Phone: 631-697-4004

Calculator: Scientific calculator that can do trigonometric, exponential, and logarithmic functions; graphing capacity is not required.

Course Description and Goals: PHYS 220 is a one semester course that introduces topics in astronomy. Major topics that we will cover include the history of astronomy as a science, methods for investigating astronomy, planets and the solar system, stars and stellar evolution, the Milky Way galaxy and other galaxies, other matter in the universe, and ultimately the fate of the universe. Students will be expected to develop an understanding of and demonstrate the use of scientific methodology, including problem-solving methods and understanding of astronomy concepts.

General Education Information: Astronomy, PHYS-220G, is a second-level course in the University’s General Education Program in Curricular Area 5: The Natural Sciences; Cluster 2: The Physical World. As university publications state, courses in Curricular Area 5: “focus on the nature of scientific reasoning, discovery, and invention through the systematic exploration of basic concepts within their historical context.” These courses study how science works by examining scientific concepts, methods, and principles. They involve problem-solving, analysis of the contributions of important scientists, and appreciation of Earth as a planet and as our home. Students wishing to take PHYS-220G for General Education credit should have completed one of the following Foundation Courses in Curricular Area 5, Cluster 2: CHEM-100G; CHEM-110G; PHYS-100G; PHYS-105G; PHYS-110G

Communication: We will be using the Blackboard system at AU for distribution of information outside of class time. All announcements for the course including homework problem sets, due dates, and exams will appear on the course website so please check it regularly.
**Discussion Board:** There will be a forum on the Discussion Board on Blackboard that I encourage you to use for all questions/concerns related to class. I ask that you use this forum for any HW questions rather than sending me an individual email with your question. I have found that often if one student has a question, it is guaranteed that another student will have a similar question. If you all use the Discussion Board, this becomes a great resource to get some help in answering questions. Of course you are also encouraged to communicate with each other on the Discussion Board so that students can also answer questions.

**Succeeding in this class and getting help:** This class will be lecture based, so attendance in the lecture is mandatory. In addition to attending lectures, reading assignments, classroom activities, and homework will also be required. These activities are meant to strengthen your understanding of the material, and any ideas covered in class or in homework may appear on the exams. Students are encouraged to come to office hours and/or to meet with the teaching assistant and to also form study groups to help reinforce the material.

**Course Requirements and Grading:** Your final grade will be based on the following

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework</td>
<td>25%</td>
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<tr>
<td>Participation</td>
<td>10%</td>
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<tr>
<td>Exam 1</td>
<td>20%</td>
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<td>Exam 2</td>
<td>20%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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**Grading scale:** The grading scale below is guaranteed to be the maximum requirements for a grade, but may be adjusted lower to account for class performance (do NOT expect this to be the case!). There will be no curve applied during the semester on any given part of your grade regardless of class performance. Only at the end of the semester will any changes to these grade boundaries be considered based on class performance in all areas, and this typically is NOT necessary. **NOTE** – If you are taking the course Pass/Fail, a grade of C- or lower is considered failing!

- A  >  93%
- A- >  90%
- B+ >  87%
- B  >  83%
- B- >  80%
- C+ >  77%
- C  >  73%
- C- >  70%
- D >  55%

**Homework:** We will be using the website www.masteringastronomy.com for astronomy homework assignments. MasteringAstronomy is an online database of astronomy problems and tutorials that are designed to aid you in your understanding of the material. A subscription to this site came with your textbook if you purchased it through the bookstore, otherwise you must buy a separate subscription. In order to access the information for our course, you will need the course ID listed below.
The first assignment to be completed is "Introduction to Mastering Astronomy" that will guide you through the basics of the site. Following assignments will be announced on Blackboard and assigned approximately on a weekly basis. The homework assignments will be due at 8:00 AM for Section 001 or 2:00 PM for Section 002 on the due date for full credit, and each day late reduces the credit by 20%, however the score will never be reduced more than 60%. This means if you didn’t complete an assignment, you have until the day of the final to complete it for some credit. Your lowest two HW assignment grades will not count towards your final grade.

From time to time, additional supplemental assignments may be handed out in class.

**Observing Sessions:** Throughout the semester I will offer observing sessions as a means to supplement the material learned in class. These sessions will NOT be mandatory for the class, but will provide you all with a hands-on learning experience through which we will locate various planets and deep sky objects as well as familiarize ourselves with the night sky. I look forward to seeing you all (and whoever you’d like to bring with you) there!

**Class Participation:** Classroom attendance and participation are essential to the learning experience. The classroom will be an active learning environment through the use of "clicker" questions and exercises. Participation benefits you as well as your fellow students through creating a collective learning environment. Attendance is expected, and activities done in class will be included in your participation grade. Each student will be allowed three “excused absences” which he or she may use for any reason (sickness, religious holiday, family emergency, or just don’t feel like showing up) for regular class periods throughout the semester without penalty. However, additional absences will be excused only for unusual circumstances and require approval of the instructor. So use your absences wisely – if you skip class three times and then get sick, you will lose participation points. Each absence above the three excused absences will result in a 10% deduction from your participation grade, in addition to losing credit for in-class activities done that day.

**Tests and Final:** There will be two tests and a final exam. The tests will occur approximately every 4 weeks throughout the semester

**Section 001:** Thursday 2/16, and Thursday 3/29
**Section 002:** Tuesday 2/14, and Tuesday 3/27

The final exam will be cumulative, but will mostly focus on the material covered since the 2nd test. You are required to take the exams at the scheduled time. Any student who arrives more than 15 minutes after the start of an exam will not be permitted to take that exam. Makeup exams will be given only in the case of a documented emergency, subject to instructor approval. In all other cases, missed exams will result in a zero for that exam. The final exam will be given in our normal classroom on the following dates as scheduled by the University.

**Section 001:** Monday 5/7, 8:55-11:25 AM
**Section 002:** Tuesday 5/8, 2:35-5:05 PM
Re-grades: If you believe a homework assignment or test has been mis-graded, DO NOT WRITE on it. Write a note on a separate piece of paper and give the note and test back to me in class or office hours or slip it in my mailbox in SCAN 108 within one week of the date it was returned. After one week grades are final.

Etiquette: You are encouraged to express yourself freely in this class, however please remember to treat each other with respect.

Students with disabilities: You should be registered with the University, who will send me a letter describing any special needs. We can accommodate your needs, but occasionally patience will be required. Anything discussed will be kept confidential.

Academic Integrity Code: Standards of academic conduct are set forth in the University's Academic Integrity Code. By registering, you have acknowledged your awareness of the Academic Integrity Code, and you are obliged to become familiar with your rights and responsibilities as defined by the Code. Violations of the Academic Integrity Code will not be treated lightly, and disciplinary actions will be taken should such violations occur. Please see me if you have any questions about the academic violations described in the Code in general or as they relate to particular requirements for this course. It is your responsibility to read and follow the Academic Integrity Code!

The code is available online at -
http://www.american.edu/provost/registrar/regulations/reg80.cfm

NOTE: Details of this syllabus may be changed at the discretion of the instructor. Please check Blackboard announcements to keep up to date, and ask the instructor if you have any questions.