

SUNY College at Cortland  
Physics Department  
**PHY550 – Intermediate Astronomy**  
**Fall 2008**

**Course Description**

This course is an intermediate level astronomy. We will discuss the night sky and learn about the stars and constellations, the Sun and the ecliptic. We will learn how to locate objects in the sky and measure their distances. We will study the properties of light and learn how to classify stars based on the light that comes from them. We will learn about the life cycle of stars, the Hertzsprung-Russell diagram and different types of galaxies. Finally we will discuss the expansion of the universe.

We will use some algebra and formula in the course. We will learn to do some astrophysical calculations and work out some interesting problems. Come to see me if you have questions or concerns. Please keep current with the reading assignments and homeworks. Do not fall behind the class.

**Course Textbook**

The textbook is “Universe” 8<sup>th</sup> edition, by Roger A. Freedman and William J. Kaufmann III (Freeman).

**Course Information**

Fall 2008  
Tue, Thu 4:25-5:40pm  
Bowers 51  
3 credit hours

**Course Webpage**

<http://web.cortland.edu/aphrodite.ahmadi/PHY550>

You can find the syllabus, course calendar including exam dates and chapters, reading assignments for each week, homework assignments and due dates, lecture notes and more information on the course. Check it frequently for updates and important notices. Also check myRedDragon for your grades and other course related material.

**Professor Information**

Dr. Aphrodite Ahmadi, Assistant Professor of Physics  
Office: Bowers 133  
Phone: (607) 753-2919 (EMERGENCY ONLY)  
Email: [Aphrodite.Ahmadi@cortland.edu](mailto:Aphrodite.Ahmadi@cortland.edu)  
Office Hours: Wed 11:00am-12:00pm and 2:00-3:00pm, Thu 11:00am-12:00pm or by appointment.

**Grading**

4 Midterm Exams (1 lowest grade will be dropped)	20% each
Final Exam (comprehensive)	20%
Homeworks and in class activities	20% total

You need 60% to pass, tentative grading scale:

90-100	A
80-89	B
70-79	C
60-69	D
Below 60	F

Midterm Exams dates:

Thursday, Sept. 11	EXAM I (Chapters 1, 2, 5, 17)
Thursday, Oct. 2	EXAM II (Chapters 17, 18, 19)
Thursday, Oct. 23	EXAM III (Chapters 21, 22)
Thursday, Nov. 13	EXAM IV (Chapters 23, 24, 35)

**Final Exam date (comprehensive):**

**Tuesday, Dec. 9                    4:25 – 5:40pm**

**Homework Assignments:**

They will be always due one week from the day they are handed out. You will have one full week to work on your problem sets so late homeworks will not be accepted.

**Attendance Policy**

Class attendance is not mandatory, however, you are responsible for everything discussed and assigned in class. The exams cover everything discussed in class and material may be covered in class that are not in the textbook, so attendance is highly recommended. Questions during lectures are welcome.

**Extra Assistance**

Please feel free to see me during office hours or by appointment to discuss any difficulties or questions you may have about the lectures, material in your textbook and/or homeworks.

**Working with Friends**

In general, I encourage you to work with friends and learn together with classmates. The preparation of the written assignments, however, must be individual work. Do it ALONE. It is easy to detect copying on the homeworks. Attached is a part of chapter 340 of the college handbook on academic integrity:

**340.01 STATEMENT OF ACADEMIC INTEGRITY**

The College is an academic community whose mission is to promote scholarship through the acquisition, preservation and transmission of knowledge. Fundamental to this goal is the institution's dedication to academic integrity. Providing an atmosphere that promotes honesty and the free exchange of ideas is the essence of academic integrity. In this setting all members of the institution have an obligation to uphold high intellectual and ethical standards.

It is the responsibility of the faculty to impart not only knowledge but also respect for knowledge. It is also the professional responsibility of all faculty members to explain the importance of honesty and respect for knowledge in order to ensure an academic environment that encourages integrity. To establish such an environment, students must recognize that their role in their education is active; they are responsible for their own learning. Specifically, it is the responsibility of students to protect their own work from inappropriate use by others and to protect the work of other people by providing proper citation of ideas and research findings to the appropriate source. This includes the obligation to preserve all educational resources, thereby permitting full and equal access to knowledge.

This academic community takes seriously its responsibilities regarding academic honesty. Academic integrity is absolutely essential to ensure the validity of the grading system and maintain high standards of academic excellence. In addition, all members of the academic community must exhibit behavior exemplifying academic honesty and encourage such behavior in others.

(For instances of violations of academic integrity and procedures for handling academic dishonesty please read the entire chapter 340 of the college handbook.)

**Students with Disability**

If you are a student with a disability and wish to request accommodations, please contact the Office of Student Disability Services located in B-40 Van Hoesen or call (607) 753-2066 for an appointment. Information regarding your disability will be treated in a confidential manner. Because many accommodations require early planning, requests for accommodations should be made as early as possible.

**PHY550 – Intermediate Astronomy**  
**Tentative Course Calendar, Fall 2008**

Date	Topic
Tuesday, Aug. 26	Introduction, Powers of 10, Scientific notation (Chapter 1)
Thursday, Aug. 28	Night Sky: Stars and Constellations, Celestial sphere, Locating objects in the Sky, Motion of the Sun (Chapter 2)
Tuesday, Sept. 2	Parallax, Light (Chapters 17, 5)
Thursday, Sept. 4	Matter and Spectra (Chapter 5)
Tuesday, Sept. 9	REVIEW
Thursday, Sept. 11	EXAM I (Chapters 1, 2, 5, 17)
Tuesday, Sept. 16	Measuring and Classifying Stars (Chapter 17)
Thursday, Sept. 18	Birth of Stars (Chapter 18)
Tuesday, Sept. 23	Star Clusters, Evolution of Stars (Chapters 18, 19)
Thursday, Sep.25	Globular Clusters (Chapter 19)
Tuesday, Sep. 30 *	REVIEW (Rosh Hashanah)
Thursday, Oct. 2	EXAM II (Chapters 17, 18, 19)
Tuesday, Oct. 7	Neutron Stars (Chapter 21)
Thursday, Oct. 9*	Neutron Stars (Chapter 21) (Yom Kippur)
Tuesday, Oct. 14	Black Holes (Chapter 22)
Thursday, Oct. 16	Black Holes (Chapter 22)
Tuesday, Oct. 21	REVIEW
Thursday, Oct. 23	EXAM III (Chapters 21, 22)
Tuesday, Oct. 28	The Milky Way (Chapter 23)
Thursday, Oct. 30	The Milky Way (Chapter 23)

Tuesday, Nov. 4	Other Galaxies (Chapter 24)	
Thursday, Nov. 6	Active Galaxies (Chapter 25)	
Tuesday, Nov. 11	REVIEW	
Thursday, Nov. 13	EXAM IV (Chapters 23, 24, 35)	
Tuesday, Nov. 18	Cosmology, Dark Matter, Expanding Universe (Chapter 26)	
Thursday, Nov. 20	Cosmic Inflation, Symmetry Breaking (Chapter 27)	
Tuesday, Nov. 25	Matter and Antimatter, Dimensions of the Universe (Chapter 27)	
Thursday, Nov. 27	HOLIDAY	
Tuesday, Dec. 2	Overview of the Universe (Chapter 28)	
Thursday, Dec. 4	REVIEW for FINAL EXAM	
Tuesday, Dec. 9	FINAL EXAM (comprehensive)	4:25-5:40pm