Kingsborough Community College,
The City University of New York
Department of Physical Sciences

EPS3500 – Introduction to Astronomy

Syllabus

EPS 3500 – INTRODUCTION TO ASTRONOMY (4 crs. 6 hrs.)
Concepts and methods of astronomical science, the early theories of the universe, astronomical instruments, the solar systems and its members, stars, galaxies, recently discovered objects, and study of modern cosmological ideas. Course includes a laboratory component. Pre-requisites: Finished with or exempt from developmental work in Reading, Writing and Mathematics or Department permission.

Section: SECTION NUMBER
Time: LECTURE AND LABORATORY SCHEDULE FOR SECTION
Room: ROOM (S) FOR SECTION
Instructor: INSTRUCTOR FOR SECTION
Email: EMAIL ADDRESS FOR INSTRUCTOR FOR SECTION
Office Hours: OFFICE HOURS FOR INSTRUCTOR FOR SECTION

Source materials: The textbook is *21st Century Astronomy* by Hester - Latest Edition
Student Learning Outcomes Students will:

- Explore the nature of science
- Understand the history and evolution of the scientific method and learn to apply it
- Explore the Solar System, Cosmos and Dynamic Earth and begin to develop an integrated understanding of their origins and workings
- Learn to appreciate basic concepts of physics in astronomy and our daily lives.

The syllabus is centered on exploring four questions through astronomy: (1) What is the nature of science? (2) How did the Solar System form? (3) What are the forces that bind Solar Systems and the Universe together? (4) What is the nature of light and why is this so important? As these topics are addressed the student will learn the key players in the development of modern astronomy and its future directions.

Topical Outline: (Approximate and subject to change upon notification)
Lecture

Week	Topics	Book Chapter
1	Introduction to Astronomy, Science & The Universe. Dealing with scale – expressions of distance and time in astronomy	1, 2
2	Getting orientated - basics of astronomical measurement Earth's movements	1, 2
3	*How the solar system formed - from historical cosmologies to Big Bang Theory.	6, 18
4	Birth of our solar system and the rocky road to planets - a story told with meteorites. **Quiz 1**	6, 7, 8, 9, 12
5	The Dynamic Earth.	
6	Review **& Mid Term Test**	
7	Solar system tour - comparative planetology	6, 7, 8, 9, 12
8	Key players in a scientific revolution: Galileo, Tycho, Kepler and Newton Binding forces: Kepler and Newton's Laws	3
9	**Quiz 2** The nature of light – electromagnetic radiation. Light spectroscopy and star classification	4, 5
10	Stars: birth, evolution and death.	13, 17, 18
11	Cosmology and Life Student presentations	21,22,23
12	Review	
13	Final Exam	

Laboratory

Date	Topic	Requirements
Lab 1	Introductions/Metric System	Hand in
Lab 2	Parrallax	Hand in
Lab 3	Earth's movements/Retrograde Mars	Hand in
Lab 4	Meteorites and astromaterials	Discussion
Lab 5	Weight, Mass, Time & Scale	Hand in
Lab 6	Scientific Notation	Hand in
Lab 7	Kepler's Laws	Hand in
Lab 8	Gravity	Hand in
Lab 9	Nature of Expansion	Hand in
Lab 10	Classification of Stars	Hand in
Lab 11	Quiz	
Lab 12	Student Presentations	To be discussed

Grading Evaluation:

Assessment

- Two tests (45%)
- Passing the laboratory component* (25%)
- Quizzes (15%)
- Assignments (10%)
- Attendance (5%)

***Note on laboratory component:** The lab component counts for 25% of your overall result in EPS35. Lab grade is based and lab reports/hand in assignments, and presentations. If I see it as necessary, quizzes may be given unannounced. If you miss more than 1 lab you may receive an INC or fail the laboratory portion of the course. All labs much be completed and handed in within the time limits set

Grades will be awarded as follows:
95% or above=**A**; 90-94.99%=**A-**; 87-89.99%=**B+**; 83-86.99%=**B**; 80-82.99%=**B-**; 77-79.9%=**C+**; 73-76.99%=**C**; 70-72.99%=**C-**; 67-69.99%=**D+**; 63-66.99%=**D**; 60-62.99%=**D-**; <60%=**F**

Attendance: Attending all classes is mandatory - this means lectures and practical labs. The textbook is a guide for the course additional material will be covered in classes. If you miss class, you will miss out on taking notes and this ***will*** affect your ability to study for tests and quizzes. In addition, during class I'll try to often provide links to other learning resources, such as those that can be found on-line for you to consult outside of class. Except for extreme cases there can be no makeup tests or quizzes and missing one is grounds for failure of the course. Laboratory classes are important to developing an understanding of the processes we describe in lecture, so you must attend. Missing one or more laboratory classes can mean that you will fail the laboratory portion of the course. At all times, if you have any questions or need help, please ask your instructor. If you are having difficulties with the course, or if your life is affecting your performance in class, or your ability to attend, let me know as soon as problems arise. The course will be delivered in an open manner, active participation is encouraged, so feel free to offer your thoughts and opinions on issues we discuss in class. We'll try dedicating the last half of class on Thursday to discussion.

Conduct: Students are required to follow *The Student Code of Conduct* as stated in the *Student Handbook*.

Accessibility: Access-Ability Services (AAS) serves as a liaison and resource to the KCC community regarding disability issues, promotes equal access to all KCC programs and activities, and makes every reasonable effort to provide appropriate accommodations and assistance to students with disabilities. Your instructor will make the accommodations you need once you provide documentation from the Access-Ability office (D205). Please contact AAS for assistance.