

This syllabus is provided as a general informational guide. Some of the information may vary depending on the specific course section and instructor. Different sections of the same course may require different textbooks. Verify the section specific textbook information in the CUNY's Academic Course Schedule Web Page. Modifications of the grading system presented here will be communicated by the instructors of the sections when they meet the class.

BOROUGH OF MANHATTAN COMMUNITY COLLEGE
City University of New York
Department of Science

Title of Course: Astronomy: General Observations
AST 109

Lecture hours 1
Lab hours 2
Credits 3

Course Description: This course serves as an observational introduction to astronomy, especially for students who are not science oriented. A selected number of basic topics in astronomy are carefully examined and subjected to observational verification. The relevance of the scientist and his/her work to the lives of non-scientists is continually examined.

Prerequisites: (ENG 88 or ESL 62) and ACR 94 and (MAT 12 or MAT 14 or MAT 41 or MAT 51)

Corequisite: AST 108

Required Text & Readings

General Astronomy Laboratory Manual (Prepared and handed out by the Science Department)

Other Resources: Each student is required to supply their own 1) a 12-inch ruler that includes metric units (centimeters) in addition to inches and 2) a protractor for measuring angles.

Use of Technology (if applicable)

Evaluation & Requirements of Students

Exams/quizzes	20%
Research project / Presentation	20%
<u>Laboratory reports</u>	<u>60%</u>
Total	100%

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LABORATORY

<u>WEEK</u>	<u>EXPERIMENT/ACTIVITY</u>
1	Celestial Identification
2	Measurement, graphs & math for Astronomy
3	Lenses & Telescopes
4	Phases of Venus
5	Acceleration due to Gravity
6	Retrograde Motion
7	Celestial Sphere, Star Maps
8	Spectra
9	Heliocentric Parallax
10	Hertzsprung-Russell diagram
11	Galaxy Identification
12	Variable Stars
13	Hubble's Law
14	Phases of the Moon; Moon rise/set; eclipses OR review
15	Final exam

College Attendance Policy

At BMCC, the maximum number of absences is limited to one more hour than the number of hours a class meets in one week. For example, you may be enrolled in a three-hour class. In that class, you would be allowed 4 hours of absence (not 4 days). In the case of excessive absences, the instructor has the option to lower the grade or assign an F or WU grade.

Academic Adjustments for Students with Disabilities

Students with disabilities who require reasonable accommodations or academic adjustments for this course must contact the Office of Services for Students with Disabilities. BMCC is committed to providing equal access to all programs and curricula to all students.

BMCC Policy on Plagiarism and Academic Integrity Statement

Plagiarism is the presentation of someone else's ideas, words or artistic, scientific, or technical work as one's own creation. Using the idea or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations, require citations to the original source. Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism.

Students who are unsure how and when to provide documentation are advised to consult with their instructors. The library has guides designed to help students to appropriately identify a cited work. The full policy can be found on BMCC's web side, www.bmcc.cuny.edu. For further information on integrity and behavior, please consult the college bulletin (also available online).

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Course Student Learning Outcomes (Students will be able to...)	Measurements (means of assessment for student learning outcomes listed in first column)
1. Identify and apply the fundamental concepts and methods of the physical science.	Graded homework and exam problems and questions on planetary, stellar, galactic, extragalactic astronomy and others will measure how students identify and apply the fundamental concepts and methods of astronomy.
2. Apply the scientific method to explore natural phenomena, including hypothesis development, observation, experimentation, measurement, data analysis, and data presentation.	Laboratory experiments will require the statement of a hypothesis, gathering of experimental data followed by analysis and presentation of this data.
3. Use the tools of a scientific discipline to carry out collaborative laboratory investigations.	Laboratory experiments will require the students to work in groups and carry out collaborative laboratory investigations and report on their findings.
4. Gather, analyze, and interpret data and present it in an effective written laboratory or fieldwork report.	Graded laboratory reports, where students will report, analyze and present scientific data collected in the experiments performed.
5. Identify and apply research ethics and unbiased assessment in gathering and reporting scientific data.	Students will exchange data with other groups for evaluation as part of the lecture portion of the class – discussions will include how to identify and examine bias (sometimes introduced unintentionally). Based on readings, students will also be asked to identify historical examples of bad behavior.

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	General Education Learning Outcomes	Measurements (means of assessment for general education goals listed in first column)
	Communication Skills- Students will be able to write, read, listen and speak critically and effectively.	
	Quantitative Reasoning- Students will be able to use quantitative skills and the concepts and methods of mathematics to solve problems.	
☑	Scientific Reasoning- Students will be able to apply the concepts and methods of the natural sciences.	Graded problems involving calculations, exam questions. Graded lab reports involving the collection, tabulating and plotting of physical data.
	Social and Behavioral Sciences- Students will be able to apply the concepts and methods of the social sciences.	
	Arts & Humanities- Students will be able to develop knowledge and understanding of the arts and literature through critiques of works of art, music, theatre or literature.	
	Information & Technology Literacy- Students will be able to collect, evaluate and interpret information and effectively use information technologies.	
	Values- Students will be able to make informed choices based on an understanding of personal values, human diversity, multicultural awareness and social responsibility.	