

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 Theory
AST 108**

**Lecture hours: 3
Lab hours: 0
Credits: 3**

Course Description: This course is an introductory survey course of topics in astronomical theory, especially for students who are not science-oriented. A selected number of basic topics in astronomy are carefully examined and interpreted. 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)
Co-requisites: AST 109

Title: *THE ESSENTIAL COSMIC PERSPECTIVE, 8th EDITION,*
Authors: Bennett, Donahue, Schneider, Voit
Publisher: Pearson
ISBN-10: 0-321-92808-3
ISBN-13: 978-0-321-92808-5

Use of Technology (if applicable)

Evaluation & Requirements of Students

Homework/quizzes	20%
Research project	20%
<u>Exams</u>	<u>60%</u>
Total	100%

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Outline of Topics

WEEK	TOPIC	CHAPTERS
1	A Modern View of the Universe Discovering the Universe for Yourself	1, 2
2	The Science of Astronomy Understanding Motion, Energy and Gravity	3,4
3	Light: The Cosmic Messenger	5
4	Formation of Planetary Systems: Our Solar System and Beyond	6
5	Earth and the Terrestrial Worlds	7
6	Jovian Planet Systems	8
7	Asteroids, Comets, and Dwarf Planets: Their Nature, Orbits, and Impacts	9
8	Our Star - The Sun	11
9	Surveying the Stars	12
10	Star Stuff	13
11	The Bizarre Stellar Graveyard	14
12	Our Galaxy - The Milky Way	15
13	A Universe of Galaxies	16
14	The Birth of the Universe Dark Matter, Dark Energy, and the Fate of the Universe	17, 18
15	Finals Week	

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.

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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)
Gather, interpret, and assess information from a variety of sources and points of view.	Graded homework assignments on the topics of planetary, stellar, galactic, extragalactic astronomy and others will measure the gathering, interpretation, and assessing of information and points of view from their textbook and online sources.
Evaluate evidence and arguments critically or analytically.	Graded homework assignments in planetary, stellar, galactic, extragalactic astronomy and others will measure how students evaluate evidence and arguments critically or analytically.
Produce well-reasoned written or oral arguments using evidence to support conclusions.	Graded research project on e.g. galaxy classification or other topic will measure how students produce well-reasoned written arguments using evidence to support conclusions.
Identify and apply the fundamental concepts and methods of a discipline or interdisciplinary field exploring the scientific world.	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.
Demonstrate how tools of science, mathematics, technology, or formal analysis can be used to analyze problems and develop solutions.	Graded homework and exam problems and questions will include analysis of e.g. where to site a telescope; how to organize a classification system (of e.g. galaxies, stars or planets); how to determine the content of distant objects when no sample-return is possible (e.g. stars); etc.
Articulate and evaluate the empirical evidence supporting a scientific or formal theory.	Graded research project on e.g. galaxy classification or other topic will require students to enumerate and evaluate the empirical evidence for the relevant theory.

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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.	
<input checked="" type="checkbox"/>	Scientific Reasoning- Students will be able to apply the concepts and methods of the natural sciences.	Graded problems involving calculations, exam questions.
	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.	