Principles to Astronomy

AST 101: CRN 1080
Nyla Tresser, Adjunct Faculty of Astronomy
ntresser@mcc.commnet.edu
Middlesex Community College

Course Description

This is an introductory course in classical and modern Astronomy, designed to raise the level of student awareness of celestial objects including their history, properties, interrelationships, and impact upon our understanding of the universe. **Prerequisite: Reading exempt and grade of C or better in MAT*075 or placement in MAT*095 or higher.**

Required Texts/Materials:

Astronomy: A Beginner's Guide to the Universe (6th Ed.) Chaisson & McMillan
Scientific Calculator

Grading Policy:

Assignments (30%): 13 total

Homework assignments will be assigned weekly. The homework will consist of web-based tutorials through masteringastronomy.com. It is strongly encouraged that students read the text before attempting the assignments and to ask questions via the mail tool in blackboard. The homework is meant to be challenging yet reminiscent of what is learned in the readings. Assignments will be due every Sunday night before midnight.

Discussions (30%): 13 total

There are weekly discussions, which cover key concepts learned in your readings. Each week you will post an original discussion response to the posed discussion question by Wednesday at midnight. Make sure to cite your sources in MLA format. A second post must be made in response to another students post. This response needs to clearly state what you liked about the students post, add new relevant information and any further questions that you might have. The response is due every Sunday by midnight.

Exams (40%): 3 Total

Exams are non-cumulative and will cover concepts learned in the modules, readings, discussion and assignments. The format of the exam will have multiple choice, definition and short answer type questions.

Extra-Credit

There is an opportunity for extra-credit at the end of the semester. More detail about these projects will be given after the first exam.

Late Work Policy:

Unless there is a medical emergency all assignments, tutorials and exams are due by the given due date. No late work will be accepted and a zero will be recorded for the missed work.

100-93 A	89-87 B+	79-77 C+	69-67 D+	59-00 F
92-90 A-	86-83 B	76-73 C	66-63 D	
	82-80 B-	72-70 C-	62-60 D-	

Academic Policies & Students with Disabilities:

Disabilities:

If you have a disability that may impact your performance in class please contact me as soon as possible with any and all appropriate forms so that accommodations can be made. *(See the MxCC catalog for more information.)*

Withdrawal Policy:

The student may withdrawal from the semester during the first two-thirds of the course. To withdrawal from the course, the student must complete all appropriate forms from the registrars' office. A student who withdrawals from the course with the registrars office will receive a "W" for their course grade. Per policies of the Science Department students may not withdrawal after two-thirds of the semester has passed. *(See the MxCC catalog for more information.)*

Audit Policy:

A student who wishes to change from credit to audit status must request this form from the registrars' office within the first four weeks of the course. *(See the MxCC catalog for more information.)*

Incomplete Grades:

An incomplete is a temporary grade assigned by the course instructor when course work is missing and the student agrees to complete the requirements. Although a student may request an incomplete, the course instructor is not required to honor the request. For this course at least three-fourths of the course must be completed before an incomplete will be considered. *(See the MxCC catalog for more information.)*

Academic Integrity:

Students are expected to complete all assignments on their own. This does not mean you cannot work with somebody to better understand the task at hand, but does mean that all turned in work must be from the student only. In other words, copying and/or plagiarisms of any form is unacceptable and will result in a zero for all students involved. However, it is up to the student to maintain conduct consistent with the definition of academic integrity as outlined in *the MxCC catalog*.

Course Goals:

The Sky
You will know how the sky is used to observe celestial objects as well as understand the cause of the seasons and its relation to the sky.

Origin of Modern Astronomy
You will know how astronomy has changed throughout history and where our current understanding of the universe is today.

Light & Telescopes
You will know the properties of light and the functions of telescopes and observations.

Star Light & Atoms
You will know what the properties of starlight are and how light interacts with matter.

Formation of the Solar System
You will know how the solar system formed the Sun and planets.

The Sun
You will know why the sun is an active world and how it produces energy. You will also understand the evolutionary stages of the Sun from birth to death.

The Earth & Moon
You will know why the Earth is an active changing world and why the moon has phases and eclipses.

The Other Terrestrial Planets
You will know about the internal and surface structures of the other terrestrial planets; Mercury, Venus and Mars.

The Jovian Planets
You will know about the internal and atmospheric structures of the Jovian planets; Jupiter, Saturn, Uranus and Neptune.

The Milky Way
You will know the major components of the Milky Way and why astronomers believe that Milky Way Galaxy is a spiral galaxy.

Galaxies
You will know about the different types of galaxies in the universe and how they form and are distributed in the universe. You will also explore active galaxies and the supermassive blackholes that make them strong x-ray sources.

Cosmology
You will know the current excepted theory on the origins and evolution of our Universe and the possible fate of our Universe.

Topic & Reading Schedule

Week	Topics	Readings
1	Charting the Heavens	Chapter 0
2	The Copernican Revolution	Chapter 1
3	Light & Matter	Chapter 2
4	Telescopes	Chapter 3
5	Exam One Week	
6	The Solar System	Chapter 4
7	The Sun	Chapter 9
8	The Earth & Moon	Chapter 5
9	The Terrestrial Planets	Chapter 6
10	The Jovian Planets	Chapter 7, 8.1-8.4
11	Exam Two week	
13	The Milky Way Galaxy	Chapter 14
14	Galaxies & Dark Matter	Chapter 16
15	Cosmology	Chapter 17
16	Exam Three Week	