Course Title: AST 180 Introduction to Astronomy

Term: Winter 2023

Instructor: TBA

Course Credit: 3

Mode of Instruction: Online

Course Description:

The course is an introduction to the science of astronomy and will focus on the mysteries of the solar system with no requirement for prior knowledge. In this course, students will explore the secret of solar system, Stars, the Galaxies and the Universe, including their features and origins. They are also expected to develop their understanding of some travelers in the universe, like comets and asteroids, dark matter, black holes, gravitational waves and etc. Besides, methodologies and tools for astronomic study will also be introduced.

Course Prerequisites:

N/A

Learning Outcomes:

By the end of the course, the student should be able to:

A. Understand the basic terms related to the solar systems, the planets and other celestial bodies;

B. Describe and compare the features of each planet in the solar system;

C. Explain why the Earth is so special in the solar system;

D. Interpret the phases of the moon and the relationship between the Earth and the moon, and the Sun and the moon;

E. Describe the evolution of stars, from their birth through to their death as white dwarfs, neutron stars or black holes.

Course Material:

The Cosmic Perspective, Jeffrey Bennett, Megan Donahue, Nicholas Schneider & Mark Voit, 8th Edition, Pearson Education, Inc. Press, 2017.

Evaluation:

- 4 Assignments [4*10%]
- Mid-term Exam [25%]
- Final Exam [35%]

Description of the Evaluation tasks:

Assignment/ Essay/...: During the term, students will be required to finish several evaluation tasks within due date. All the tasks are linked with specific course topics/outcomes and will adequately assess students' competence and learning outcomes. Students are encouraged to meet with instructor about these tasks at any point.

Mid-term/ Final Exams/ Quiz/...: There may be periodic quizzes given at the beginning of lecture sessions; the feedback from these quizzes will monitor the progress of the learners and help to set learning priorities. There will be mid-term exam/ final exam for the course. They are the basic criteria for the evaluation of students' learning outcomes and final grade.

Grading Policy:

Students are supposed to finish each online lecture. Prior to each class, students should finish the required readings. During the class time, students are encouraged to make use of all relevant online course resources and communicate with the instructor. Students' grades are accumulated based on the cumulative evaluations.

Students' letter grade will be assigned according to the following scale:

A+ 90-100	A 85-89	A- 80-84
B+ 77-79	B 73-76	B- 70-72
C+ 67-69	C 63-66	C- 60-62
D+ 57-59	D 53-56	D- 50-52
F < 50		

Academic Integrity:

Students must strictly adhere to the university's academic integrity rule; and all essays, exams and any other form of academic assignments must adhere to these rules. Any form of plagiarism, cheating, or misappropriation of materials will be considered a violation of academic integrity and will be punishable by the university.

Withdrawal from the Course(s):

Students will be able to apply for a transfer or withdrawal within 3 days of the starting date of the course. If a withdrawal is applied for within 3 working days, the tuition fee will be fully refunded. After 3 days, the tuition fee will not be refunded. If a withdrawal is applied for in the first two weeks, it will be recorded as W (Withdraw) on the course transcript. After this initial two-week period, the class will be recorded as F (Fail).

Tentative Schedule:

1	Course Introduction
2	The Sun and the Stars
3	Our Star
4	Surveying the Stars
5	Surveying the Stars (Cont.) **Assignment #1**

6	Star Birth
7	Star Stuff
8	Star Stuff (Cont.)
9	The Bizarre Stellar Graveyard
10	The Bizarre Stellar Graveyard (Cont.) **Assignment #2**
11	**Midterm Test**
12	The Galaxies
13	The Galaxies (Cont.)
14	Galaxies and the Foundation of Modern Cosmology
15	Galaxies and the Foundation of Modern Cosmology (Cont.) **Assignment #3**
16	Galaxy Evolution
17	Galaxy Evolution (Cont.)
18	The Birth of the Universe
19	The Birth of the Universe (Cont.)
20	Dark Matter, Dark Energy, and the Fate of the Universe **Assignment #4**
21	Dark Matter, Dark Energy, and the Fate of the Universe (Cont.)
22	Life in the Universe
23	Life in the Universe (Cont.)
24	Final Exam Reviews
25	**Final Exam**