湖北工業大學
HUBEI UNIVERSITY OF TECHNOLOGY

Course Title	Astronomy of Stars & Galaxies
Course Code	ASTR 1302
Semester	Summer 2026
Course Length	4 Weeks, 60 Contact Hours
Credits	4
Instructor	TBA
Office	TBA
Email	TBA
Prerequisite	N/A

Course Description:

The Universe in which we live is an unimaginably vast and rich place that is understandable through the same physical laws that govern our existence here on Earth. By exploring topics from our nearest neighboring stars to the farthest galaxies newly formed after the Big Bang, this course will engage your mind to better understand our Universe and your everyday world. Through active and engaged participatory lectures, we will observe the cosmos and learn about the birth, life, and death of stars and their mysterious remnants: pulsars and black holes. By studying stars and our own Milky Way galaxy, we will expand our horizons to investigate the origin and ultimate fate of the Universe.

Course Goals:

Students who successfully complete this course will demonstrate competency in the following general education core goals:

- **Critical thinking skills** – Students will engage in creative and/or innovative thinking, and/or inquiry, analysis, evaluation, synthesis of information, organizing concepts, and constructing solutions.
- **Communication skills** – Students will demonstrate effective written, oral, and visual communication.
- **Teamwork** – Students will demonstrate the ability to work effectively with others to support a shared purpose or goal and consider different points of view.
- **Social responsibility** – Students will demonstrate intercultural competency and civic knowledge by engaging effectively in local, regional, national, and global communities.

Student Learning Outcomes:

Upon completion of this course, students will be able to:

- compare the properties of stars (single, binary and in clusters), including their distances, motions, temperatures (from spectra), masses, flux densities and luminosities;
- describe interstellar matter and the formation of stars from gas and dust;
- describe the Milky Way Galaxy, its contents, the massive black hole at its center, and its evolution;
- describe the properties of the different kinds of galaxies, from ordinary elliptical and spiral galaxies to dwarf galaxies and quasars.

Textbooks/Supplies/Materials/Equipment/ Technology or Technical Requirements:

21st Century Astronomy, 7th Edition, Palen & Blumenthal. W. W. Norton & Company.

Course Requirements:

Homework
Homework will be assigned for each unit. Assignments will be announced in class and due dates will be clearly specified.

Special Interest Project
During the second half of the quarter, you'll choose a topic to research and present about the last week of class. This may be done solo or in a pair. The topic must relate to stellar astronomy in some way but otherwise is fairly open-ended.

In-Class Tests
The tests will be held at the normal class time and you will have the entire class time to take it. Both in-class tests and the final exam will be closed-book and closed-notes. The in-class tests will cover the material in the lectures and readings since the previous test, whereas the final exam will be comprehensive, covering the entire quarter.

Final Exam
We will have one cumulative final exam at the end of the quarter during finals week. The format will be the same as tests, with multiple choice/fill in the blank/short-answer style questions. You will need a calculator.

Assessments: Activity	**Percent Contribution**
Homework	15%
Special Interest Project	30%
In-Class Tests	25%
Final Exam	30%

Grading:

Final grades will be based on the sum of all possible course points as noted above.

Grade	**Percentage of available points**
A	94-100
A-	90-93

B+	87-89
B	84-86
B-	80-83
C+	77-79
C	74-76
C-	70-73
D	64-69
D-	60-63
F	0-59

Course Schedule:
The schedule of activities is subject to change at the reasonable discretion of the instructor. Minor changes will be announced in class, major ones provided in writing.

ASTR 1302 Schedule

Lecture	Topic	Readings
L1	Class Introduction	---
L2	Measuring Stars	Chapter 13
L3	Taking the measure of Stars	Chapter 13
L4	Taking the measure of Stars	Chapter 13
L5	Binary Stars	Chapter 13
L6	**In-Class Test 1**	---
L7	The Sun	Chapter 14
L8	Sun and Space Weather	Chapter 14
L9	Space Weather: Coronal Mass Ejections	Chapter 14
L10	Interstellar Medium	Chapter 15
L11	Star Formation	Chapter 15
L12	Low Mass Stars	Chapter 16
L13	Evolution of Low Mass Stars	Chapter 16
L14	Evolution of High-Mass Stars	Chapter 17
L15	**In-Class Test 2**	---
L16	Active Galactic Nuclei and Supermassive Black Holes	Chapter 18
L17	Galaxies	Chapter 19
L18	Galaxies	Chapter 19
L19	The Milky Way - A Normal Spiral Galaxy	Chapter 20
L20	Our Expanding Universe	Chapter 21
L21	Modern Cosmology	Chapter 22
L22	Large-scale Structure in the Universe	Chapter 23
L23	**In-Class Test 3**	---
L24	Project Presentation	---
L25	**Final Exam**	---

Accommodation Statement:

Academic accommodations may be made for any student who notifies the instructor of the need for an accommodation. It is imperative that you take the initiative to bring such needs to the instructor's attention, as he/she is not legally permitted to inquire. Students who may require assistance in emergency evacuations should contact the instructor as to the most appropriate procedures to follow.

Academic Integrity Statement

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or otherwise fails to meet the standards. Any student judged to have engaged in academic dishonesty in coursework may receive a reduced or failing grade for the work in question and/or for the course.

Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the University; and nondisclosure or misrepresentation in filling out applications or other University records.

Other Items:

Attendance and Expectations
All students are required to attend every class, except in cases of illness, serious family concerns, or other major problems. We expect that students will arrive on time, be prepared to listen and participate as appropriate, and stay for the duration of a meeting rather than drift in or out casually. In short, we anticipate that students will show professors and fellow students maximum consideration by minimizing the disturbances that cause interruptions in the learning process. This means that punctuality is a must, that cellular phones be turned off, and that courtesy is the guiding principle in all exchanges among students and faculty. You will be responsible for the materials and ideas presented in the lecture.

Assignment Due Dates
All written assignments must be turned in at the time specified. Late assignments will not be accepted unless prior information has been obtained from the instructor. If you believe you have extenuating circumstances, please contact the instructor as soon as possible.

Make-Up Work
The instructor will not provide students with class information or make-up assignments/quizzes/exams missed due to an unexcused absence. Absences will be excused and assignments/quizzes/exams may be made up only with written documentation of an authorized absence. Every effort should be made to avoid scheduling appointments during class. An excused student is responsible for requesting any missed information from the instructor and setting up any necessary appointments outside of class.

Access, Special Needs and Disabilities
Please notify the instructor at the start of the semester if you have any documented disabilities, a medical issue, or any special circumstances that require attention, and the school will be happy to assist.