

ASTR 8200: Galactic Structure

Spring 2026 ★ Tue/Thu 12:45 PM – 2:00 PM ★ Room 628, 25 Park Place

Instructor: Professor Todd Henry
Room 618, 25 Park Place
email: thenry88@gsu.edu
research: nearby stars, stellar masses, exoplanets, astrobiology

Office Hours: by appointment

Prerequisite: ASTR 6000 or equivalent

Textbook: current readings in the astronomical literature

Course Objectives: An overview of the structure, kinematics, and dynamics of the Milky Way Galaxy and its various components.

Grades (approximate):

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|------------------------------|-----|
| Research Proposal | 50% |
| Presentation | 20% |
| Quizzes | 20% |
| In-Class Participation | 10% |

How to Do Well in This Class:

The following are highly recommended: (1) showing up to class on time, (2) being an active participant during class, (3) being prepared for quizzes based on readings, and (4) getting an early start on the primary component of the course, the Research Proposal. Each student is expected to do her/his/their own work. Certainly, discussions of more difficult problems with other students are acceptable (and encouraged), but work that is turned in must be your own. Under no circumstances will duplication on assignments or plagiarism in the Research Proposal be tolerated. No AI of any kind may be used for the written Research Proposal, although AI may be used for computational work for which results are incorporated into the proposal.

Dates to Remember:

MAR 13 — Last Day to Withdrawal

APR 14 — Student Presentations I (Tuesday)

APR 16 — Student Presentations II (Thursday)

APR 23 — Research Proposal due at 11:59pm (Thursday)

Lecture Topics: The following is an approximate list of topics for the course. Changes will likely occur, but this is the map for our quest through the Milky Way ...

| Date | Topic |
|--------|-----------------------------|
| JAN 13 | Milky Way History I |
| JAN 15 | Milky Way History II |
| JAN 20 | Milky Way Overview |
| JAN 22 | Gaia |
| JAN 27 | Writing Proposals |
| JAN 29 | Proposal Brainstorm |
| FEB 03 | Variable Stars |
| FEB 05 | Stellar Populations I |
| FEB 10 | Stellar Populations II |
| FEB 12 | Clusters I |
| FEB 17 | Clusters II |
| FEB 19 | Milky Way Neighborhood |
| FEB 24 | Disk Overview |
| FEB 26 | Rotation Curve |
| MAR 03 | Arms I |
| MAR 05 | Arms II |
| MAR 10 | Galactic Center |
| MAR 12 | Bulge + Bar |
| MAR 17 | !!!! SPRING BREAK !!!! |
| MAR 19 | !!!! SPRING BREAK !!!! |
| MAR 24 | Halo — Globular Clusters I |
| MAR 26 | Halo — Globular Clusters II |
| MAR 31 | Halo — Stellar Streams |
| APR 02 | <i>catch-up/guest</i> |
| APR 07 | <i>catch-up/guest</i> |
| APR 09 | Milky Way Structure Wrapup |
| APR 14 | Presentations Marathon I |
| APR 16 | Presentations Marathon II |
| APR 21 | <i>proposal work</i> |
| APR 23 | PROPOSALS DUE by 11:59pm |