ASTR 1504L - Astronomy Laboratory

Fall 2026 Syllabus, Section 02, CRN 40986,

Credit hours: 1

Instructor

John Feldmeier

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Public Instructor Information

Dr. John Feldmeier, Professor

- Distinguished Professor, Youngstown State University, 2019
- Astronomy and Astrophysics Postdoctoral Fellow, National Science Foundation, 2003
- Ph.D. Astronomy and Astrophysics, Pennsylvania State University, 2000
- B.S. Physics, University of Texas, Austin, 1994
- B.A. Astronomy, University of Texas, Austin, 1994

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Course Description

1504L. Astronomy Laboratory. Telescope and Planetarium laboratory work designed to supplement ASTR 1504. Measurement techniques and deductive methods to determine distance and size of astronomical objects. Three hours per week. Prereq. or concurrent: ASTR 1504. 1 s.h.

Course Readings

Group	Title	Author	ISBN
Required	ASTR 1504 Lab Manual	Durrell	9781645657996

The *Astronomy 1504L Laboratory Course Packet* is available from the YSU Bookstore, and is the only book that you need for this class. You might want to refer to the free online Astronomy textbook for help with the concepts, which is at: https://openstax.org/details/astronomy

The pre-reading is all in the Course Packet, and is tied to each experiment:

Experiment 0 - Semester Observing Project - pgs. 25-31

Experiment 1 - The Scale of Things - pgs. 69-71

Experiment 2 - Sky Motions - pgs. 79-82

Experiment 3 - Kepler's Laws - pgs. 93-98

Experiment 4 - Introduction to Spectroscopy - pgs. 105-116

Experiment 5 - Telescopes - pgs. 123 - 130

Experiment 6 - Parallax - pgs. 137 - 143

Experiment 7 - Standard Candles - pgs. 151-156

Experiment 8 - Types of Stars - pgs. 161-169

Experiment 9 - Clusters of Stars - pgs. 177-182

Experiment 10 - The Milky Way Galaxy - pgs. 189-198

Experiment 11 - Galaxy Classification - pgs. 205-222

Experiment 12 - Studying Extra-Solar Planets - pgs. 231-236

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Reading(s)	Proposed Topic	Due/To Prepare for Class
8/24		Introduction, Observing Project	
8/31	Experiment 0 Experiment 1	The Scale of Things	
9/7	Experiment 2	Sky Motions	
9/14	Experiment 3	Kepler's Laws	
9/21	Experiment 4	Introduction to Spectroscopy	
9/28	Experiment 5	Telescopes	
10/5	Experiment 6	Parallax	
10/12	Experiment 7	Standard Candles	
10/19	Experiment 8	Types of Stars	
10/26	Experiment 9	Clusters of Stars	
11/2	Experiment 10	The Milky Way Galaxy	
11/9	Experiment 11	Galaxy Classification	
11/16	Experiment 12	Studying Extra-Solar Planets	
12/7	Final Exams - No labs		

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.