AST 7939 Special Topics: Exoplanets

Fall 2025 | 3 credits

NOTE: This course complies with all UF academic policies. For information on those policies and for resources for students, please see UF's "Academic Policies and Resources" web page.

I. General Information

Meeting days and times: M, W, F
Class location: Bryant 3

Instructor(s):

Name: Jason Dittmann
Office Building/Number: Bryant 210
Phone:
Email: jasondittmann@ufl.edu
Office Hours: Monday 12:30 - 1:30, Tuesday 2pm - 3pm

Course Description
This course is a survey of the field of exoplanets, from formation to characterization.

Prerequisites
Prereq: Minimum 15 credits earned in enrollment, test, or transfer credit.

Course Materials

- Canvas
- Planetary Sciences by Imke de Pater, 2nd Edition, ISBN 9780521853712
- Exoplanets by Sara Seager, ISBN 9780816529452

Materials will be available through the following means:
Online
Textbooks Recommended, not required

Materials Fee: N/A

II. Course Goals

Course Objectives
In this course we will:

- Understand the development of the field of exoplanets from the discovery of the first exoplanets to detailed characterization of planetary systems currently being undertaken.
- Understand and be able to implement the techniques used to reduce these observations and interpret data.
- provide a thorough background knowledge of the important results in exoplanets, where the field is going, and how we know what we have learned about exoplanets in the past several decades.

III. Graded Work

Graded Components
Homework (50%): Problem Sets

In-class activities (20%): In class discussions / problem worksheets

Final Project (30%): Includes an in-class presentation`

TOTAL: 100%

Grading Scale

Letter Grade	Number Grade
A	100-92.5
A-	92.4-89.5
B+	89.4-86.5
B	86.4-82.5
B-	82.4-79.5
C+	79.4-76.5
C	76.4-72.5
C-	72.4-69.5
D+	69.4-66.5
D	66.4-62.5
D-	62.4-59.5
E	59.4-0

IV. Calendar

Date	Topic	Readings/Preparation	Work Due
August 25, 2025	Planet Formation / Dynamics		
September 1, 2025	RVs + Astrometry		
September 8, 2025	Transits + Microlensing		
September 15, 2025	Statistical Populations		
September 22, 2025	Statistical Populations		
September 29, 2025	Dynamics		
October 6, 2025	Interiors		
October 13, 2025	Interiors		
October 20, 2025	Atmospheres		
October 27, 2025	Atmospheres		
November 3, 2025	Recent JWST Results		
November 10, 2025	Habitability / Biosignatures		
November 17, 2025	Future Telescopes		
November 24, 2025	Presentations		
December 1, 2025	Presentations		

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V. Procedure for Conflict Resolution

Any classroom issues, disagreements or grade disputes should be discussed first between the instructor and the student. If the problem cannot be resolved, please contact Elizabeth Lada (elada@ufl.edu, 352-294-1862). Be prepared to provide documentation of the problem, as well as all graded materials for the semester. Issues that cannot be resolved departmentally will be referred to the University Ombuds Office (http://www.ombuds.ufl.edu; 352-392-1308) or the Dean of Students Office (http://www.dso.ufl.edu; 352-392-1261).