

ASTR 255: Introduction to Planetary Science

Class times

Tuesdays & Fridays, 2:30-3:50 pm, Elliott Building 161

Instructor

Dr. John Blakeslee, email: jblakes@uvic.ca

Primary office: Dominion Astrophysical Observatory, Rm 314

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Office hours: Fridays 1:00-2:00, or by appointment

Textbook

FUNDAMENTAL PLANETARY SCIENCE: Physics, Chemistry, and Habitability

by J. J. Lissauer & I. de Pater, Cambridge University Press, 2013

Evaluation

1. 25% Problem sets
2. 20% Midterm #1 (in class, Friday, **Feb. 3**)
3. 20% Midterm #2 (in class, Friday, **Mar. 10**)
4. 25% Final exam
5. 10% Participation

Course Overview

Planetary science is an ever expanding field within modern astrophysics. In this course, we will try to strike a balance between depth & breadth by covering only selected topics in the following chapters of Lissauer & de Pater:

- Ch 1: Introduction & Inventory of the Solar System
- Ch 2: Planetary orbits and dynamics
- Ch 3: Thermodynamics, hydrostatic equilibrium, & stellar properties
- Ch 4: Temperature, radiation, energy transport, & greenhouse effect
- Ch 5: Planetary atmospheres
- Ch 7: The Sun, solar wind, & interaction with planetary magnetospheres
- Ch 9: Terrestrial planets & Earth’s Moon
- Ch 8: Giant gaseous planets
- Ch 10: Satellites of the giant planets
- Ch 11: Meteorite classification, properties, & radiometric dating
- Ch 12: Asteroids, comets, dwarf planets, & other trans-Neptunian objects
- Ch 14: Extrasolar planets