

Descriptive Astronomy, PH104 Syllabus

General Information

Instructor Information and Availability

Instructor name: Dr. Ben Stanley

E-mail address: stanleb@linnbenton.edu

Office number: MH 111

Office hours: Tuesday 1-2pm (or available by appointment)

Help desk hours: Monday and Tuesday 3-4 pm 1st floor of Madrone Hall

Course Information

CRN: 31847; Section: 01

Scheduled time and days: 10:00 am-12:20 pm Tuesday/Thursday

Number of credits: 4

Classroom: MH 108

Prerequisites:

MTH 075 Variables and Linear Equations or equivalent with a grade of "C" or better.

Course Materials

Required:

- Textbook: [OpenStax Astronomy](#), by Fraknoi, Morrison, Wolff
 - This is text is an open educational resource and is available for free
- PH104 Lab Manual 18/19 LBCC
- One quarter Sapling code for Astronomy, ISBN 978-1-3191-5935-1
 - [Sapling account log-in](#)
 - [Sapling registration instructions](#)

Course Description

An introductory course covering the historical and cultural context of discoveries concerning planets and stars and their motion. Topics include models and the scientific method, astronomical tools, the solar system, star and stellar evolution, galaxies and cosmology. An accompanying laboratory is used for experiments, including outdoor observations.

Student Learning Outcomes

1. Solve scientific problems with quantitative methods.
2. Describe the physical nature of the universe at the atomic, planetary, stellar, and galactic scales.
3. Explain how light is used by astronomers to study the universe.
4. Describe key events in the history of science, with particular emphasis on astronomy, and their impact on society.
5. Describe and apply the process of scientific inquiry.

Class Policies

Behavior and Expectations

You are held accountable to the [Student Code of Conduct](#), which outlines expectations pertaining to academic honesty (including cheating and plagiarism), classroom conduct, and general conduct.

Use of Cell Phones

Phones are expected to be silenced and put away during class.

Testing

- Tests are taken individually, and are closed note and book.
- If you know you will be absent on a test day please contact me ahead of time to schedule a make-up in the Student Assessment Center in RCH-111.
- Once exams are returned to the class they cannot be made up.
- The final exam is Tuesday, March 19, from 9:30-11:20 am in MH 108.

Grading

- 2 Exams = 100 points total
 - Comprehensive Final Exam = 100 points
 - Labs = 80 points
 - Reading Quizzes = 60 points
 - Weekly Sapling Homework = 60 points
- Total = 400 points

Final Grade Calculation:

- A = 400-360 points
- B = 359-320 points
- C = 319-280 points
- D = 279-240 points
- F = below 240 points

Exams. Exam 1 covers weeks 1-3. Exam 2 covers weeks 4-6. Each are 50 points.

Comprehensive Final Exam. This exam covers the entire 10 week course. Early finals can only be taken during finals week.

Labs. Labs are on Thursdays. You must bring your lab manual with you. Lab reports are due no later than the following class. Labs cannot be made up but I drop your two lowest scores.

Reading Quizzes. I provide reading guides on Sapling. You will fill these out and bring them to use on the reading quizzes. Reading quizzes cannot be made up but I will drop your lowest score.

Weekly Sapling Homework. You will complete weekly assignments on Sapling. These are always due on Sunday at 11:55 pm. Late work not accepted.

Incomplete grades (IN) will only be considered if a student has talked to me in advance, and a signed agreement between the student and myself is completed. IN grade are assigned only if the student has a good reason for making the request, has only the minority of coursework to complete, and has scored a C or better on work that has been submitted.

Late Assignment Policy

No work can be made up after it is returned to the class. Labs cannot be made up. Late homework is not accepted. **Two labs and one homework will be dropped.**

College Policies

LBCC Email and Course Communications

You are responsible for all communications sent via Moodle and to your LBCC email account. You are required to use your LBCC provided email account for all email communications at the College.

Disability and Access Statement

LBCC is committed to inclusiveness and equal access to higher education. If you have approved accommodations through the Center for Accessibility Resources (CFAR) and would like to use your accommodations in this class, please talk to your instructor as soon as possible to discuss your needs. If you believe you may need accommodation but are not yet registered with CFAR, please visit the CFAR website at www.linnbenton.edu/cfar for steps on how to apply for services or call 541-917-4789.

Statement of Inclusion

To promote academic excellence and learning environments that encourage multiple perspectives and the free exchange of ideas, all courses at LBCC will provide students the opportunity to interact with values, opinions, and/or beliefs different than their own in safe, positive and nurturing learning environments. LBCC is committed to producing culturally literate individuals capable of interacting, collaborating and problem-solving in an ever-changing community and diverse workforce.

Title IX Reporting Policy

If you or another student are the victim of any form of sexual misconduct (including dating/domestic violence, stalking, sexual harassment), or any form of gender discrimination, LBCC can assist you. You can [report](#) a violation of our sexual misconduct policy directly to our Title IX Coordinator. You may also report the issue to a faculty member, who is required to notify the Coordinator, or you may make an appointment to

Speak confidentially to our Advising and Career Center by calling 541-917-4780.

Campus Police/Emergency Resources

You may review emergency services and resources at the LBCC [Public Safety website](#). Campus Safety can be reached using the 'Code 2' button on any campus phone or by dialing x411 on campus or (541) 917-4440 off campus. Dial 911 for off campus emergencies.

Campus Resources

Learning Center

The Learning Center provides academic support and a comfortable place to study. It is located on the second floor above the Library. It also provides free tutoring services for all classes.

Library

Computers and printing available.

Science Help Desk

The Science Help Desk is located in the atrium on the first floor of Madrone Hall and is manned 20 hours per week.

Single Stop

Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Single Stop Office for support (singlestopatLBCC@linnbenton.edu, 541-917-4877, or visit the website <https://www.linnbenton.edu/current-students/student-support/Single-Stop-at-LBCC/>). The office can help students get connected to resources to help. Furthermore, please notify me if you are comfortable in doing so. This will enable me to provide any resources, knowledge or connections that I may possess to help aid.

Linn-Benton Lunch Box

The LB Lunch Box provides an emergency supply of food for students in need.

<https://www.linnbenton.edu/current-students/involvement/institutional-equity-and-student-engagement/student-resources/lb-lunch-box.php>

Changes to the Syllabus

I reserve the right to change the contents of this syllabus due to unforeseen circumstances. You will be given notice of relevant changes in class, through a Sapling Announcement, or through LBCC e-mail.

Class Schedule

Due dates every week:

- Sapling Homework due Sunday at 11:55 pm

Week	Reading	Tuesday	Thursday
1	1.1-1.5, 4.2-4.5, 4.7	Introductions Scientific models <u>Lab: What's in the Box?</u>	Seasons, Lunar phases, eclipses
2	2.1, 2.2, 2.4, 3.1-3.4	Reading Quiz #1 Constellations History of astronomy	Planetary motion and gravity <u>Lab: Kepler's Laws</u>
3	5.1-5.3, 6.1-6.4	Reading Quiz #2 Light and spectroscopy	Telescopes <u>Lab: Spectral Analysis</u>
4	7.1, 7.2	EXAM 1 Solar System: Overview	Earth and Moon <u>Lab: Telescopes</u>
5	8.3, 10.1, 10.3, 11.1-11.3, 13.3, 14.1	Reading Quiz #3 Solar system: Planets	Solar system: asteroids and comets <u>Lab: Our Solar System</u>
6	9.1-9.2, 12.1-12.3, 21.4, 21.5, 15.1-15.3, 16.1-16.4	Reading Quiz #4 Solar system: rings, moons, exoplanets	The Sun <u>Lab: Parallax</u>
7	17.1-17.3, 18.1-18.4, 19.1-19.4	EXAM 2 Measuring stars	Measuring stars <u>Lab: The H-R Diagram</u>
8	21.1-21.2, 22.1, 22.4, 23.1-23.2, 23.4	Reading Quiz #5 Life cycle of stars	Supernovae <u>Lab: Cepheid Variable Stars</u>
9	24.1-24.5, 24.7	Reading Quiz #6 Relativity and black holes	Gravitational Waves <u>Lab: Gravitational Waves</u>
10	25.1, 25.3, 26.1-26.2, 26.5, 29.5	Reading Quiz #7 The Milky Way and galaxies	Cosmology Life in the universe <u>Lab: Expansion of the Universe</u>
Final		FINAL EXAM 3/19 9:30-11:20 am MH 108	

Office Schedule

Winter Term 2019

Instructor: Ben Stanley
Phone: (prefer email)

Office: MH 111 or BC 201A
Email: stanleb@linnbenton.edu

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:00 AM					
9:00 AM	PH 104 (8:30 - 10:50 am) BC 207		PH 104 (8:30 - 10:50 am) BC 207		
10:00 AM					
11:00 AM		PH 104 (10 am - 12:20 pm) MH 108	Office Hours BC 201A (11a-12p)	PH 104 (10 am - 12:20 pm) MH 108	
12:00 PM					
1:00 PM		Office Hours MH 111 (1-2 pm)			
2:00 PM					
3:00 PM					
4:00 PM					
5:00 PM					