

Descriptive Astronomy (PH104) Syllabus

General Information

Instructor Information and Availability

Instructor name: Pamela Beilby

E-mail address: beilbyp@linnbenton.edu

Office hours: Monday/Wednesday 10:15 – 11:15 am, or by appointment

Office number: BC 201

Course Information

CRN: 40656

Scheduled time/days: 11:30 am – 1:50 pm Monday/Wednesday

Number of credits: 4

Classroom(s): BC 207

Prerequisites:

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

Course Materials

Required:

- Textbook: [OpenStax Astronomy](https://openstax.org/details/books/astronomy) (https://openstax.org/details/books/astronomy) by Franknoi, Morrison, and Wolff – This is an open educational resource and is available for free online.
- PH104 Lab Manual 2018/19 LBCC
- Access to Moodle

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 [Students' Rights, Responsibilities, and Conduct](https://www.linnbenton.edu/current-students/administration-information/policies/students-rights-responsibilities-and-conduct.php) (<https://www.linnbenton.edu/current-students/administration-information/policies/students-rights-responsibilities-and-conduct.php>), 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 Learning and Career Center in BC 222.
- Once tests are returned to the class they cannot be made up.
- The final exam is Wednesday, 12 June, from 10 – 11:20 am in BC 207.

Grading

- Exams = 100 points
- Comprehensive Final Exam = 100 points
- Labs = 80 points
- Reading Quizzes = 60 points
- Weekly 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

Midterm Exams: Exam 1 covers weeks 1-3. Exam 2 covers weeks 4-6. Each midterm exam is worth 50 points.

Comprehensive Final Exam: This exam covers the entire 10-week course. Early final exams may only be taken during finals week.

Labs: Labs are on Wednesdays. You must bring your lab manual with you. Lab reports are due the following Monday. Labs may not be made up, but the lowest score will be dropped.

Reading Quizzes: Reading guides will be provided on Moodle. Fill these out and bring them to use on the reading quizzes. Reading quizzes may not be made up, but the lowest score will be dropped.

Weekly homework assignments: Weekly homework assignments are always due Sunday evening at 11:55 pm. Late work will not be accepted. No homework due 26 May 2019 (Memorial Day weekend) or 9 June 2019 (final prep).

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 grades are assigned only if the student has 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 may be made up after it is returned to the class. Labs cannot be made up. Late homework will not be accepted. **One lab, one homework, and one reading quiz 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. You may access your LBCC student email account through Student Email and your Moodle account through Moodle.

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 or 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 (https://linnbenton-advocate.symplicity.com/public_report/index.php/pid115807?) 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.

Public Safety/Campus Security/Emergency Resources:

In an emergency, call 911. Also, call LBCC Campus Security/Public Safety at 541-926-6855 and 541-917-4440.

From any LBCC phone, you may alternatively dial extension 411 or 4440. LBCC has a public safety app (<http://lbccpublicsafety.mobapp.at/landing/Desktop#.XJvjVC3MzOQ>) available for free. We encourage people to download it to their cell phones. Public Safety also is the home for LBCC's Lost & Found. They provide escorts for safety when needed. Visit them to learn more.

Campus Resources

Learning and Career Center

The Learning Center provides academic support and a comfortable place to study, with access to computers and printer. It is located on the second floor in BC 222. It also provides free tutoring services for all classes.

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 Moodle Announcement, or through LBCC e-mail.

Class Schedule

- Weekly homework assignment due Sunday at 11:55 pm.

Week	Readings	Monday	Wednesday
1	1.1-1.5 4.2-4.5, 4.7	NO CLASS LBCC closed	Introduction Scientific models Lab: Black Box
2	2.1, 2.2, 2.4 3.1-3.4	Reading Quiz 1 Seasons, lunar phases, eclipses, history of astronomy	Planetary motion and gravity Lab: Kepler's Laws
3	5.1-5.3 6.1-6.4	Reading Quiz 2 Light and spectroscopy	Telescopes Lab: Spectral Analysis
4	7.1, 7.2	EXAM 1 Solar System: Overview	Earth and Moon Lab: Solar System
5	8.3, 10.1, 10.3 11.1, 11.2, 13.3, 14.1	Reading Quiz 3 Solar system: planets	Solar system: asteroids and comets Lab: Optics and Telescopes
6	9.1, 9.2 12.1-12.3 21.4, 21.5	Reading Quiz 4 Solar system: rings, moons, and exoplanets	The Sun Lab: Parallax
7	17.1, 17.2 18.4, 19.2	EXAM 2 Measuring stars	Measuring stars Lab: H-R Diagram
8	21.1, 22.2, 22.4 23.1, 23.2, 23.4	Reading Quiz 5 Life cycle of stars	Supernovae Lab: Cepheid Variables
9	24.1-24.5 24.7	NO CLASS Memorial Day	Reading Quiz 6 Relativity and black holes
10	25.1, 25.3 26.1, 26.2, 26.5 29.5	Reading Quiz 7 The Milky Way Galaxies	Cosmology Life in the universe Lab: Expansion of the Universe
Final			FINAL EXAM 10-11:20 am BC 207