

SPST631

STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

Course Summary

Description

Course Description: This course examines the study of stars and galaxies with special emphasis on the methods and instrumentation used in the exploration of the universe around us. Focus is also placed on cosmology, the study of the past, present, and possible future of the universe. (Prerequisite: SPST630). This course requires access to the web site MASTERING ASTRONOMY, and use of CLEA Labs, which are Windows only programs. If you are not using a Windows program, please verify that your system will be compatible with CLEA labs prior to registering for the course. The link for CLEA labs is <http://www3.gettysburg.edu/~marschal/clea/CLEAhome.html>

Course Scope:

This course is designed to give the student a firm grounding in the key concepts of astronomy, as they apply to our study of stars, galaxies, and the large scale structure of the universe.

Objectives

Upon completion of this course, the student will be able to

- Examine Einstein's theories of special relativity and general relativity. (CO-1)
- Distinguish the principles of the fundamental particles and forces and how they relate to astronomy. (CO-2)
- Analyze the source of energy in the Sun (and other stars), and how solar activity affects humans. (CO-3)
- Appraise the significance of the Hertzsprung-Russell diagram and its uses for analyzing the properties of stars and star clusters. (CO-4)
- Compare and contrast the evolutionary paths of stars of different masses, from star birth through their time on the main sequence to star death. (CO-5)
- Analyze the structure and history of the Milky Way galaxy. (CO-6)
- Examine the consequences of Hubble's Law and what it tells us about galactic distances and the expansion of the universe. (CO-7)
- Evaluate what can be learned by looking back through time to the history of galaxies, including quasars and active galactic nuclei. (CO-8)
- Examine the evidence for dark matter and dark energy and their relation to the structure and evolution of the universe. (CO-9)
- Deconstruct the evidence for the Big Bang and inflation. (CO-10)
- Evaluate the search for life beyond the earth. (CO-11)

Outline

Week 1:

Learning Outcomes
Required Readings
Assignments
Recommended Optional Reading
Recommended Media

Week 2:

Learning Outcomes
Required Readings
Assignments
Recommended Optional Reading
Recommended Media

Week 3:

Learning Outcomes
Required Readings
Assignments
Recommended Optional Reading
Recommended Media

Week 4:

Learning Outcomes
Required Readings
Assignments
Recommended Optional Reading
Recommended Media

Week 5:

Learning Outcomes
Required Readings
Assignments
Recommended Optional Reading
Recommended Media

Week 6:

Learning Outcomes
Required Readings
Assignments
Recommended Optional Reading
Recommended Media

Week 7:

Learning Outcomes
Required Readings
Assignments
Recommended Optional Reading
Recommended Media

Week 8:

Learning Outcomes
Required Readings
Assignments
Recommended Optional Reading
Recommended Media

Evaluation

Grading:

Name	Grade %
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Materials

Book Title: Cosmic Perspective Plus MasteringAstronomy with eText -- Access Card Package, 8th ed. (custom) (Non-custom ISBN:9780134058290) (If you previously purchased the 7th ed. for SPST630, you do not need to purchase the 8th ed.)

Author: Bennett, Donahue, Schneider, and Voit

Publication Info: Pearson

ISBN: 9781323582459

Book Title: If you purchase a used copy or a text that does not include the access card, students can purchase access through this site: <http://www.masteringastronomy.com/site>

Author:

Publication Info:

ISBN: AMN

Book Title: If you prefer the electronic format, your required book(s) may be available for purchase from the APUS Bookstore in a VitalSource e-book format

Author:

Publication Info:

ISBN: GRAD NOTE

Course Guidelines

Citation and Reference Style

- Attention Please: Students will follow the APA Format as the sole citation and reference style used in written work submitted as part of coursework to the University. Assignments completed in a narrative essay or composition format must follow the citation style cited in the APA Format.

Tutoring

- [Tutor.com](https://www.tutor.com) offers online homework help and learning resources by connecting students to certified tutors for one-on-one help. AMU and APU students are eligible for 10 free hours* of tutoring provided by APUS. Tutors are available 24/7 unless otherwise noted. Tutor.com also has a SkillCenter Resource Library offering educational resources, worksheets, videos, websites and career help. Accessing these resources does not count against tutoring hours and is also available 24/7. Please visit the APUS Library and search for 'Tutor' to create an account.

Late Assignments

- Students are expected to submit classroom assignments by the posted due date and to complete the course according to the published class schedule. The due date for each assignment is listed under each Assignment.
- Generally speaking, late work may result in a deduction up to 20% of the grade for each day late, not to exceed 5 days.
- As a working adult I know your time is limited and often out of your control. Faculty may be more flexible if they know ahead of time of any potential late assignments.

Turn It In

- Faculty may require assignments be submitted to Turnitin.com. Turnitin.com will analyze a paper and report instances of potential plagiarism for the student to edit before submitting it for a grade. In some cases professors may require students to use Turnitin.com. This is automatically processed through the Assignments area of the course.

Academic Dishonesty

- Academic Dishonesty incorporates more than plagiarism, which is using the work of others without citation. Academic dishonesty includes any use of content purchased or retrieved from web services such as CourseHero.com. Additionally, allowing your work to be placed on such web services is academic dishonesty, as it is enabling the dishonesty of others. The copy and pasting of content from any web page, without citation as a direct quote, is academic dishonesty. When in doubt, do not copy/paste, and always cite.

Submission Guidelines

- Some assignments may have very specific requirements for formatting (such as font, margins, etc) and submission file type (such as .docx, .pdf, etc) See the assignment instructions for details. In general, standard file types such as those associated with Microsoft Office are preferred, unless otherwise specified.

Disclaimer Statement

- Course content may vary from the outline to meet the needs of this particular group.

Communicating on the Forum

- Forums are the heart of the interaction in this course. The more engaged and lively the exchanges, the more interesting and fun the course will be. Only substantive comments will receive credit. Although there is a final posting time after which the instructor will grade comments, it is not sufficient to wait until the last day to contribute your comments/questions on the forum. The purpose of the forums is to actively participate in an on-

going discussion about the assigned content.

- “Substantive” means comments that contribute something new and hopefully important to the discussion. Thus a message that simply says “I agree” is not substantive. A substantive comment contributes a new idea or perspective, a good follow-up question to a point made, offers a response to a question, provides an example or illustration of a key point, points out an inconsistency in an argument, etc.
- As a class, if we run into conflicting view points, we must respect each individual's own opinion. Hateful and hurtful comments towards other individuals, students, groups, peoples, and/or societies will not be tolerated.

University Policies

[Student Handbook](#)

- [Drop/Withdrawal policy](#)
- [Extension Requests](#)
- [Academic Probation](#)
- [Appeals](#)
- [Disability Accommodations](#)

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