ASTRON 4L Course Outline as of Fall 1998

CATALOG INFORMATION

Dept and Nbr: ASTRON 4L Title: SOLAR ASTRON LAB
Full Title: Solar Astronomy Laboratory
Last Reviewed: 9/12/2022

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.00	Lecture Scheduled	0	17.5	Lecture Scheduled	0
Minimum	1.00	Lab Scheduled	3.00	17.5	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 0.00 Total Student Learning Hours: 52.50

Title 5 Category:	AA Degree Applicable
Grading:	Grade or P/NP
Repeatability:	01 - May Be Taken for a Total of 1 Unit
Also Listed As:	
Formerly:	

Catalog Description:
Solar astronomy laboratory involves the analysis and reduction of basic astronomical data concerning planets, satellites, comets and other solar system phenomena. Using photos, spectra, as well as direct planetarium observations, the student will arrive at conclusions concerning fundamental properties of the solar system.

Prerequisites/Corequisites:
Course Completion or Current Enrollment in ASTR 4 (or ASTRON 4)

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Solar astronomy laboratory involves the analysis and reduction of basic astronomical data concerning planets, satellites, comets and other solar system phenomena. Using photos, spectra, as well as direct planetarium observations, the student will arrive at conclusions concerning fundamental properties of the solar system. (Grade or P/NP)
Prerequisites/Corequisites: Course Completion or Current Enrollment in ASTR 4 (or ASTRON

4)
Recommended:
Limits on Enrollment:
Transfer Credit: CSU;UC.
Repeatability: May Be Taken for a Total of 1 Unit

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**			Effective:	Inactive:
CSU GE:	**Transfer Area**			Effective:	Inactive:
	B3	Laboratory Activity		Fall 1998	
IGETC:	**Transfer Area**			Effective:	Inactive:
	5C	Fulfills Lab Requirement		Fall 1998	
CSU Transfer:	Transferable	Effective:	Fall 1997	Inactive:	
UC Transfer:	Transferable	Effective:	Fall 1998	Inactive:	

CID:

Certificate/Major Applicable:
Not Certificate/Major Applicable

COURSE CONTENT

Outcomes and Objectives:
Upon completion of this course the student will:
1. describe the fundamental properties gravitation and how these properties are used to discover the physical characteristics and motions of planets and satellites.
2. explain the observational techniques that are used to compute the distances, temperatures, brightnesses, motions, compositions, and masses of planets and satellites.
3. describe the nuclear processes that powers the sun.
4. compute the periods of revolution of planets from the distances from the sun.
5. compute the surface gravities of planets and satellites from their masses and radii.
6. predict and explain lunar phases.
7. predict and explain eclipses.

Topics and Scope:

1. Greek Astronomy
2. Renaissance Astronomy
3. Newton's Law of Gravity and Laws of Motion
4. The Major Planets
5. The Minor Planets
6. Comets
7. Meteors, Meteoroids, and Meteorites

8. The Sun
9. The Moon
10. Tides and Eclipses
11. The Space Program
12. The Origin of the Solar System

Assignment:

Weekly reading assignments in course text.
Weekly laboratory assignments from course text.
Attendance at, and written report on, at least one outdoor observation session

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.	Writing 0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, Lab reports	Problem solving 25 - 50%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Class performances	Skill Demonstrations 25 - 50%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice, True/false	Exams 25 - 50%

Other: Includes any assessment tools that do not logically fit into the above categories.

None	Other Category 0 - 0%

Representative Textbooks and Materials:
Palmer, Leon. THE TRAINED EYE: AN INTRODUCTION TO ASTRONOMICAL OBSERVING.
Saunders College Publishing, 1990.
Robbins, Robert R., Jefferys, William H., and Shawl, Stephen J.

DISCOVERING ASTRONOMY ACTIVITIES MANUAL AND KIT. 3rd Edition, John Wiley &
Sons, Inc., 1995.