CHAMINADE UNIVERSITY
PHY-140: INTRODUCTION TO ASTRONOMY
COURSE SYLLABUS – SPRING 2011

Instructor: Matthew Cochran
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Office: Henry Hall 7
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Office Hours: Monday to Thursday 12:00 to 1:00 or by appointment
Course Time: Tuesday and Thursday from 9:30 to 10:50
Course Room: Henry Hall 225
Prerequisites: Concurrent enrollment in PHY-140L is assumed.
Required Text: Bennett, Donahue, Schneider, and Voit, *The Essential Cosmic Perspective,* 5th ed., Pearson, New York, 2009.

COURSE DESCRIPTION:
This survey of general astronomy course is intended for students with no previous background in astronomy. The course will emphasize the tools and methods of astronomy, the solar system, stars, and the structure of the galaxy and the universe. Emphasis is placed on conceptual, as contrasted with mathematical, comprehension.

EVALUATIONS AND GRADING SCALE:

Exam 1 . . . . . 25%
Exam 2 . . . . . 25%
Exam 3 . . . . . 25%
Homework 25%

90% – 100% . . . . . A
80% – 90% . . . . . B
70% – 80% C
60% – 70% . . . . . D
0% – 60% . . . . . F

Incomplete grades (I) will be given in accordance with college regulations as outlined in the college catalog. Withdrawals (W) from the class are the responsibility of the student and deadlines are set by the college.

EXAMS:
There will be three examinations and a final as part of the requirements for the course. Tests include a combination of short answer, multiple choice, figure identification, and short essay formats. Exam questions may be drawn from readings in the textbook, lecture materials (including handouts or other supplements), homework assignments, slides, and in-class activities. Makeup exams will only be given under extenuating circumstances beyond the student's control.

HOMEWORK:
To be successful in this course, it is essential that you complete all homework assignments. Be prepared to spend three hours or more on homework every week. If you are having trouble, get help from the instructor or your classmates. Do not fall behind. Homework is due at the beginning of class. Late homework, especially homework due over a week ago, is not accepted.

ATTENDENCE:
Regular attendance is expected of all students. Read material prior to lecture. If a topic is still not clear after it has been discussed in class, ask questions. Time will be spent working through homework problems and reviewing for exams in addition to lecturing. You will work with partners in class. It is important that partners engage in discussion of their work and avoid working as isolated individuals.

STUDENT LEARNING OUTCOMES:
Upon successful completion of the course, the student will be able to:

- Identify and describe all the members of our solar system.
- Identify major stars and constellations.
- Classify stars according to brightness, size, color, and distance.
- Describe the evolution of different kinds of stars.
- State characteristics of various deep sky objects.
- Construct a hierarchy of objects in the observable universe, according to size and distance.

TENTATIVE WEEKLY SCHEDULE:

Week	Date	L#	Lecture Topic	Reading	Due	Monday Lab
1	Jan 11	1	Intro; Our Place in the Universe			Position
	Jan 13	2	Scale of the Universe; Spaceship Earth	1.1 to 1.3		
2	Jan 18	3	Patterns in the Sky; Seasons	2.1 & 2.2	**HW1**	**No Lab**
	Jan 20	4	The Moon; Planets	2.3 & 2.3		
3	Jan 25	5	Ancient Science; Copernicus	3.1 to 3.3	**HW2**	Motion
	Jan 27	6	Nature of Science; Review	3.4		
4	Feb 01	**E1**	**Exam 1 – Chapters 1 to 3**		**HW3**	Seasonal Stars
	Feb 03	7	Describing Motion	4.1 & 4.2		
5	Feb 08	8	Conservations Laws; Gravity	4.3		Newton's Laws and Gravity
	Feb 10	9	Light	5.1		
6	Feb 15	10	Spectra	5.2	**HW4**	Spectra
	Feb 17	11	Telescopes; Review	5.3		
7	Feb 22	12	Our Solar System	6.1 to 6.3	**HW5**	**No Lab**
	Feb 24	13	Formation of Planets	6.4 & 6.5		
8	Mar 01	14	Terrestrial Worlds	7.1 & 7.2	**HW6**	Earth's Changing Surface
	Mar 03	15	Terrestrial Worlds	7.3 to 7.5		
9	Mar 08	16	Jovian Planets	8.1 to 8.3	**HW7**	Seasons
	Mar 10	17	Comets and Asteroids	9.1 to 9.4		
10	Mar 15	**E2**	**Exam 2 – Chapters 5 to 8**		**HW8**	Sun Size
	Mar 17	18	Star Wheel Activity			
–	Mar 22 Mar 24	**H1**	**Spring Break**			**No Lab**
11	Mar 29	19	Sun; Fusion in the Sun	10.1 & 10.2		Apparent and Absolute Magnitude of Stars
	Mar 31	20	The Sun-Earth Connection	10.3		
12	Apr 05	21	Luminosities	11.1	**HW9**	The Parsec
	Apr 07	22	Patterns Among Stars; Clusters	11.2 & 11.3		
13	Apr 12	23	Low Mass Stars	12.1 & 12.2	**HW10**	Parallax and Distance
	Apr 14	24	High Mass Stars	12.3		
14	Apr 19	25	The Stellar Graveyard	13.1 to 13.4	**HW11**	HR Diagrams
	Apr 21	26	The Milky Way	14.1 to 14.4		
15	Apr 26	27	Life in the Universe	18.1 to 18.3	**HW12**	Milky Way Scales
	Apr 28	28	Life in the Universe	18.4 & 18.5		
Finals	May 02	**E3**	**Exam 3 – Chapters 9 to 14, 18**			