

PHYSICS 2051

DU Winter 2010

Syllabus updated: 12/12/2009

Bio-Astronomy of Solar Systems - 3996 - PHYS 2051 - 1

4 credit hours, can apply to Physics or Astronomy Minor**

Class meets: Mon & Wed 2pm for up to 1^h50^m, at PhysAstron room 325

As a courtesy, please turn off cell phones during class. Thanks.

Instructor: Prof. R.E.Stencel, Dept. Physics & Astronomy, SSL/Phys 409, 303-871-2135
rstencel@du.edu Office hours: after class, Mondays 4pm, and by appt.

Pre-requisites: General Physics [Phys1111/2/3] or University Physics [Phys1211/2/3]

Course description and goals: To understand the physical conditions – space, atmospheric, lithospheric and interior - that constrain the emergence of life in our solar system and other solar systems recently discovered. Classroom method is lectures plus student recitations.

Textbook: “Planetary Sciences” by dePater and Lissauer (Cambridge) ISBN 978-0-521-48219-6

Reference materials: “Astrobiology” by Lunine (Addison-Wesley, 2005).

See also: Astrobiology e-zine, <http://www.astrobio.net/> & Astrobiology journal:

<http://bianca.penlib.du.edu/search/?parent?searchtype=s&searcharg=astrobiology&searchscope=2&SORT=D&x=24&y=0>

Grading: grades will be based on a combination of factors including attendance, participation, homework, quizzes, Portfolio development and evidence for maturation in subject grasp. Grades will be compiled at Blackboard6.du.edu course pages. 90%=A-/B+; 80%=B-/C+, etc.

Details: <http://www.du.edu/~rstencel/Courses/grading.htm>

Late penalties may apply – 10% per day late, etc.

Know the DU Honor Code, <http://www.du.edu/ccs/honorcode.html>

Guarantee: If you will spend 2+ hours outside of class for each hour in class, diligently reading and researching these topics, you can master it all! That's a serious 12+ hours per week commitment, including class time. 15 credit hours does mean 45 hours of effort weekly.

Tools for critical thinking: <http://www.du.edu/~rstencel/sagan.htm>

12/12/2009

SYLLABUS PLAN* AND GOALS:

Bioastronomy of solar systems, Phys 2051

WEEK/DATES	MON TOPIC Chapter	WED Problem Set PREVIEW	PROB SET DUE MON.
1. Jan. 4,6	1. Intro & Orientation	-due Weds – Ch.1	-due Mons-
2. Jan. 11,13	8. Meteorites	Ch.8	Ch.1
3. Jan. 18,20	9. Asteroids	Ch.9	Ch.8
4. Jan. 25,27	10. Comets, Quiz 1 prep	Ch.10 Quiz One	Ch.9
5. Feb. 1,3	11. Rings	Ch.11	Ch.10
6. Feb. 8,10	12/13. Planet formation	Ch.12/13	Ch.11
7. Feb. 15,17	2. Dynamics	Ch.2	Ch.12/13
8. Feb. 22,24	3. Solar heating	Ch.3 Quiz 2	Ch.2
9. Mar. 1,3	Group reports: Ch.4/5**	Ch.4/5	Ch.3
10. Mar. 8,10	Group reports: Ch.6/7**	Ch.6/7	Ch.4/5
FINAL: 2pm Fri.March 12 th	--	--	--

*schedule is subject to change as conditions warrant

**please post summary at your portfolio page

<http://marsrover.nasa.gov/gallery/press/opportunity/20091125a.html>

NASA's Mars Exploration Rover Opportunity took this picture of a rock informally named "Marquette Island" as the rover was approaching the rock for investigations that have suggested the rock is a stony meteorite. The dark-toned rock stood out so prominently in more distant views on earlier sols that the rover team referred to it as "Sore Thumb" before assigning the Marquette name in accord with an informal naming convention of choosing island names for the isolated rocks that the rover is finding as it crosses a relatively barren plain on its long trek from Victoria Crater toward Endeavour Crater.

