



WAYLAND BAPTIST UNIVERSITY  
VIRTUAL CAMPUS  
SCHOOL OF MATHEMATICS AND SCIENCES  
GEOL 3405 - Planetary Geology

### Notice

1. This is an upper level laboratory science course. You should expect to spend a minimum of 10 hours per week on this course.
2. This course has a prerequisite. If students have not taken the prerequisite course they should expect to expend extra effort to understand the material in this course.
3. This course requires students to install and use the program Starry Night Pro 6 (student DVD) on a computer for their use in some lab activities. This software may be purchased separately or is available as part of a textbook bundle from the Wayland Baptist University Bookstore.  
*If you cannot use this software you should NOT take this course.*

The minimum computer system requirements for Starry Night Pro 6 (student DVD) are:

DVD-ROM drive is required for the installation of Starry Night Pro version 6 on your computer.

#### Windows

Windows XP/Vista

500MHz or higher processor

128MB RAM

2GB free hard-disk space

1024 x 768 display resolution

OpenGL support requires a 64MB OpenGL 1.4-capable graphics card (OpenGL 2.0 required for features like shaded sky)

DVD-ROM drive

QuickTime 7 or higher

#### Macintosh

Mac OS X v10.3.9 or later

450Mhz PowerPC G3 or higher processor

128MB RAM

2GB free hard-disk space

1024 x 768 display resolution

OpenGL support requires a 64MB OpenGL 1.4-capable graphics card (OpenGL 2.0 required for features like shaded sky)

DVD-ROM drive

QuickTime 7 or higher

Recommended Graphics card: 128MB nVidia GeForce 6600 or ATI Radeon X800 or higher graphics card

## Course Syllabus:

**INSTRUCTOR:** Dr. Tim R. Walsh

Office: Room 028, Moody Science Building

Office Hours: Mon. 8:15-12:00 & 3:00-3:30, Tues 8:15-9:00 & 12:15-2:15,  
Wed. 8:15-11:00, Thurs 8:15-9:00, Fri. 8:30-9:30

Phone: (806) 291-1123, or ext 1123 on campus

Email: [walsht@wbu.edu](mailto:walsht@wbu.edu)

**CATALOG DESCRIPTION:** An examination of the planets in our solar system. Topics will include the origin and geology of the nine planets and their moon, comets, asteroids, and meteorites as well as current updates from the various space probes. Lab may consist of nighttime observation of planetary objects using the University's telescopes. Field trips may include visits to observatories in the area.

**PREREQUISITE:** GEOL1401 (formerly EASC1401) or division approval

**TEXTBOOK:** Astronomy Today, Volume 1: The Solar System, 6th ed. By Chaisson & McMillan, 2007: Prentice Hall. ISBN 0321540727

(Must include "Starry Night Pro 6" software.)

**LAB BOOK:** none

**OUTCOME COMPETENCIES:** Upon completion of the course the student will

1. have knowledge of the geological, chemical and physical makeup of the planets and satellites.
2. be familiar with our current understanding of other solar system bodies, such as comets, asteroids, meteorites and the Sun.
3. be able to identify/locate several planets with naked eye and the use of telescopes.
4. understand current theories concerning the origin of our Sun and the solar system.
5. be aware of current investigations of our solar system and understand the techniques in use.

**DISCRIMINATION POLICY:** It is university policy that no otherwise qualified disabled person be excluded from participating in, be denied the benefits of, or be subject to discrimination under any educational program or activity in the University.

**ATTENDANCE:** All class activities should be completed in a timely manner.

Students who do not complete any labs prior to the end of the first test will automatically fail the course or should drop the course.

Students who do not pass over half the labs will automatically fail the course.

**COURSE REQUIREMENTS:** Students will be evaluated by examinations, lab activities, etc. as described in this syllabus under the heading "Evaluation".

Students should have necessary computer skills to complete an online course.

**COURSE REQUIREMENTS:** Students will be evaluated by examinations, quizzes and lab activities, etc. as described in this syllabus under the heading "Evaluation".

**EVALUATION:**

University Grading System: A=90-100, B=80-89, C=70-79, D=60-69, F=below 60.

The final class grade will be based on the average of grades that are earned as listed below.

Tests	3	(200 points each)	600	60%
Discussions	5	(15 points each)	75	7.5%
Readings	5	(15 points each)	75	7.5%
Labs	10	(25 points each)	<u>250</u>	<u>25%</u>
			1000	100%

Tests: The 3 online tests will have specific dates for completion to be announced. Tests not completed by that date will be graded as 0.

Online forums/discussion: Several questions/discussion topics will be posted during the term. Students are expected to respond to these postings. These topics may be of current events, new discoveries or any variety of items. Student responses may require some additional reading and extensive thought or may be just asking for their opinion. In addition, the instructor expects emails with questions or other concerns about the class and its activities.

Readings: Students will be required to read and respond to several journal articles and other items.

Labs: Except for the first lab, all labs are due by Midnight Monday, Central Time Zone (US) following the week assigned. Late labs are graded as 0. The first lab may be turned in by the second week deadline. (This is to allow all students ample time to obtain the materials.) Students should plan at least 3 hours per week to complete lab activities. Labs may be completed in advance of the week assigned but should be completed in the order listed. Labs will not be graded before they are due, although students are encouraged to email questions about lab activities.

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## COURSE OUTLINE

date

Monday of	week	subject	chapter
<u>18</u>	1	Introduction/ Solar System/ Starry Night	1, 2 & 6
25	2	Radiation / Spectroscopy	3 & 4
<u>1</u>	3	The Sun / Telescopes	5 & 16
8	4	Geologic concepts / Earth / Test1	7
15	5	Moon	8
22	6	Mercury	8
29	7	Venus	9
<u>6</u>	8	Mars / Test2	10
13	9	Solar System Debris	14
20	10	Jupiter / Saturn	11 & 12
27	11	Outer planets/& bodies/Test3	13 & 14

Notes-

- This is a lab course and students should expect to expend 10 hrs per wk. minimum.
- Communication with the instructor regarding due dates should be done BEFORE items are due.
- Grades listed in the gradebook within Blackboard may not be correct. Always verify with your instructor your final grade on any assignment.
- Late tests, labs, papers and any other activities will receive a grade of 0.
- This outline and other syllabus items are subject to change at university or instructor discretion.
- The final test, EXAM 3, is a proctored exam.