

Astronomy 04: “Solar System Astronomy”

Class Times Section 2 Call No. 0199 1:30-3:40 p.m. Tue & Thu

Location: The Fujitsu Planetarium

Instructor: Paul J. Olejniczak (Oles)

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Office Hours: 11:30-1:15 p.m. Tue/Thu and 9:30-10:30 a.m. Fri.

Textbook: “The Solar System” by Michael A. Seeds, Latest Edition

Web Page: oles.pageout.net

Description:

Astronomy 4 is an introductory-level course, which concentrates on the Sun and the family of objects that orbit it including the planets, their satellites, asteroids, comets and meteoroids. The course will focus on what we have learned about them in the past five decades since the advent of humanity’s ability to explore space. The course has no astronomy, physics or math prerequisites and is taught in a “non-mathematical” manner.

Objectives:

- To provide the student with as comprehensive an account of the modern field of planetary astronomy as possible.
- To create an increased sense of place and scale in the universe and a sense of how our species reached its current understanding of our world’s place in the larger scheme of things.
- To acquaint the student with the appearances and other physical characteristics of the major planets, especially as they have been revealed by space probes over the last generation.
- To generate a familiarity with the various modes of research, which astronomers use to investigate other planets, including (but not limited to) various types of automated spacecraft.

Evaluation:

A student's final grade will be based upon four (4), fifty (50) questions each, objective-type exams including a final examination. The lowest of the first three test scores will be dropped and the final grade will be a simple average of the remaining three (3) exams. The final examination is comprehensive, mandatory and the score will not be dropped. Sample exams from previous quarters are posted online.

Notes regarding examinations:

- Scantron forms and #2 pencils are required for all examinations. It is the responsibility of the student to mark answers clearly and to fully erase mismarked answers. Scantron forms will not be rescored.
- Graded Scantron forms should be retained by students as proof they have taken a test.

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| <u>Letter Grades:</u> | A | = 89%+ |
| | B | = 79-88% |
| | C | = 69-78%% |
| | D | = 59-68% |
| | F | = 0-58% |

Extra Credit:

- Extra credit questions will be provided on each examination and will be drawn from material in instructional videos presented during class.
- Optional extra credit assignments and projects will be also be offered during the quarter.

Important

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| <u>Dates:</u> | Jan 06 | Tue | Classes begin |
| | Jan 27 | Tue | Test 1 On Chapters 1 – 5.1 |
| | Feb 12 | Thu | Test 2 on Chapters 6, 8, 19 & 20 |
| | Mar 17 | Tue | Test 3 on Chapters 21, 22, 23 & 24 |
| | Mar 27 | Fri | Final Exam from 1:45-3:45 p.m. |

Class and Lecture Schedule

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| Jan 06 | Tue | Orientation |
| Jan 08 | Thu | <u>Chapters 1: “The Scale of the Cosmos”</u> IMAX Video “Celestial Voyage” |
| Jan 13 | Tue | <u>Chapter 2: “The Sky”</u> Coast Tele-course Video: “The Sky” |
| Jan 15 | Thu | <u>Chapter 3: “Cycles of the Moon”</u> Coast Tele-course Video: “Cycles of the Sky” |
| Jan 20 | Tue | <u>Chapter 4.1: “The Roots of Astronomy”</u> Coast Tele-course Video: “The Origin of Astronomy” |
| Jan 22 | Thu | <u>Chapter 4.2 – 5.1: “History of Astronomy”</u> Cosmos Video: “Harmony of the Worlds” Review for Test 1 (Chapters 1 through 5.1) |
| Jan 27 | Tue | Test 1 On Chapters 1 – 5.1 |
| Jan 29 | Thu | Return and Review Test 1 <u>Chapter 6: “Light & Telescopes”</u> Coast Tele-course Video: “The Tools of Astronomy” |

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| Feb 03 | Tue | <u>Chapter 8: “The Sun”</u> PBS Video “Solar Blast” |
| Feb 05 | Thu | <u>Chapter 19: “The Origin of the Solar System”</u> Coast Tele-course Video: “The Origin of the Solar System” |
| Feb 10 | Tue | <u>Chapter 20: “Planet Earth”</u> Review for Test 2 (Chapters 6, 8, 19 & 20) |
| Feb 12 | Thu | Test 2 on Chapters 6, 8, 19 & 20 |
| Feb 17 | Tue | Return and Review Test 2 <u>Chapter 21.1: “The Moon”</u> BBC Video “The Moon” |
| Feb 19 | Thu | <u>Chapter 21.2 & 22.1: “Mercury and Venus”</u> NOVA Video: “Venus Unveiled” |
| Feb 24 | Tue | Chapter 22.2 & 22.3 “Mars and its Moons” Holiday Video: “Mars Past, Present and Future” |
| Feb 26 | Thu | Mars Part II: “The Exploration of Mars” The Martian Rovers: Spirit & Opportunity |
| Mar 03 | Tue | <u>Chapter 23: “Jupiter & Saturn”</u> BBC Video Volume #2: “Giants” |
| Mar 05 | Thu | <u>Chapter 24: “Uranus, Neptune & Pluto”</u> Coast Tele-course Video: “Uranus, Neptune and Pluto” Review for Test 3 (Chapters 21, 22, 23, 24) |
| Mar 10 | Tue | <u>Chapter 24: “Uranus, Neptune & Pluto”</u> Coast Tele-course Video: “Uranus, Neptune and Pluto” Review for Test 3 (Chapters 21, 22, 23, 24) |
| Mar 12 | Thu | Holiday – No Class |
| Mar 17 | Tue | Test 3 on Chapters 21-24 |
| Mar 19 | Thu | Return and Review Test 3 <u>Chapter 25: “Meteorites, Asteroids and Comets”</u> Coast Tele-course Video: #25 “Meteorites, Comets and Asteroids” National Geographic Video: “Asteroids: Deadly Impact” ⁰ |
| <u>Final Exam Schedule:</u> | | |
| Mar 27 | Fri | Final Exam 1:45-3:45 p.m. |

Rules & Regulations:

Regular class attendance is required. Class attendance will be recorded each class period. Students missing three (3) consecutive classes will be dropped from the class.

The use of cell phones or pagers is strictly forbidden during class unless prior arrangements have been made with the instructor.

Make-up examinations will not be administered.

- A missed test – for any reason - will be counted as the student's one allowed dropped test. There will be no exceptions.
- Students missing two tests have the option of withdrawing before the final withdrawal date (Nov 14) or receiving an "F" grade for the class.

Last Day to Drop with a "W" is Feb 28, 2009