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SCI 112 – ASTRONOMY II

Semester: Fall 2011

Credits: 3

Instructor: C. de la Fuente Marcos, Ph.D.

Email: carlos@suffolk.es

Class Hours: T, Th 17:45-19:15

Course Objectives:

The overall goal of this course is to improve undergraduate student's conceptual understanding of introductory astronomy. This course is appropriate for students who have taken no previous college science courses and who will likely not major in science. The course presents a broad view of astronomy, straightforwardly descriptive and without complex mathematics. This course is mainly devoted to the study of stars and galaxies. Another characteristics of this course are heavy use of audio-visual materials often including computer animations and simulations, and intensive use of astronomy and astrophysics related INTERNET-based resources.

Contents:

Astronomy of the Cosmos: Sun, stars, interstellar materials, galaxies, pulsars, quasars, black holes, strange stars; nature of time relativity cosmology; the Big Bang theory; the Search for Extraterrestrial Intelligence (SETI).

Reference Text:

E. Chaisson & S. McMillan, *Astronomy, a beginner's guide to the Universe*, 6th. Ed. , Prentice Hall, New Jersey, USA, 2009.

Prerequisites:

None

Attendance:

Attendance is mandatory, I strongly urge you to attend every class, and to do so punctually. Students who miss classes are responsible for keeping themselves informed about class proceedings. Students with 3 absences will get an automatic 10% deduction in their final grade; this automatic deduction will increase to 25% for those students with 4 absences and to 50% for students with 5 absences. Students with more than 5 absences will automatically fail the course. Attendance is required for quizzes and exams. If you know that you will miss an exam due to an excused absence, you must notify me in advance so that alternative arrangements can be made.

Course evaluation:

There are several different areas from which your grade will be obtained: Participation 5%, Homework 10%, Short presentations 15%, Poster paper 10%, Observational projects 20%, Short quizzes 10%, Mid-term exam 10%, Final exam 20%

Grading Scale:

There will be no curve, and grades will be assigned as follows:

A = 95% - 100% C = 75% - 80%

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|------|-----------|------|---------------|
| A- = | 93% - 95% | C- = | 73% - 75% |
| B+ = | 90% - 93% | D+ = | 70% - 73% |
| B = | 85% - 90% | D = | 65% - 70% |
| B- = | 83% - 85% | D- = | 63% - 65% |
| C+ = | 80% - 83% | F = | Less than 63% |

Exams:

One mid-term exam and one final exam are given. The final exam will cover all the course work. Exams are takehome.

Short Quizzes:

There will be Short Quizzes (15 minutes) scheduled periodically in addition to the mid-term exam and the final exam. These quizzes will be closed book and closed notes. They will not be comprehensive. Five quizzes are given. Only the three highest scores are computed.

Assignments:

Mandatory homework is set triweekly, which is marked and return corrected to the student. For homework, students will be responsible for identifying a major concept in the assigned reading as well as exercises from the text book. After the reading part, students will write an explanatory report in which they will describe the concept in their own words and will apply the concept to their daily experience (if possible). Under no circumstances delayed homework will be collected after the deadline.

Mandatory Field Trip:

A mandatory trip to the Instituto de Astrofísica de Canarias (IAC) at Canary Islands is being offered as a complement to the course. The visit will cover the Teide Observatory (Tenerife) not the IAC itself which is restricted to professional astronomers and four observation nights with a 0.5 m telescope. Dates for this trip are September 25th-29th.

Observational Work:

During the trip to the Teide Observatory CCD observations will be collected. This material will be analyzed by using astronomical computer software.

Short Presentations:

Communication skills are an essential aspect of professional activities. Students will prepare two short (< 15 min) individual presentations about constellations, galactic, and extragalactic objects through the semester.

Poster Paper:

Observing teams will prepare a poster paper for public display with the observational material collected. This will focus on a particular object.

Plagiarism:

Students are expected to be honest in their academic work. The University reserves the right to penalize any student whose academic conduct is, in its judgment, detrimental to the University. Such conduct shall include cases of plagiarism, collusion, cheating, giving or receiving or offering or soliciting information on examinations, or the use of unauthorized previously prepared material in examinations or quizzes. Violations should be reported to your course instructor, who will investigate and adjudicate them according to the Policy on Academic Honesty of the University. If the charges are found to be true, the student may be liable for academic or disciplinary probation, suspension, or expulsion from the University. Collaboration is strictly prohibited during exams. Anyone caught cheating during an exam will receive an F as their final grade for the entire course.