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| **PROFESSOR:** | **PHONE NUMBER:** |
| **OFFICE LOCATION:** | **E-MAIL:** |
| **OFFICE HOURS:** | **SEMESTER:** |

1. **COURSE NUMBER AND TITLE, CATALOG DESCRIPTION, CREDITS:**

**AST 2004C ASTRONOMY: STARS, GALAXIES AND COSMOLOGY (4 CREDITS)**

This course provides a survey of astronomy as a quantitative observational science. It is designed to provide an introduction to star formation, stellar properties, the lives and deaths of stars, galaxies and cosmology. AST 2003C and AST 2004C may be taken in any order.

1. **PREREQUISITES FOR THIS COURSE:**

(SB 1720 Testing Exemption or successful completion of all Developmental courses) and MAT 1033 or higher with a grade of “C” or better

**CO-REQUISITES FOR THIS COURSE:**

None

1. **GENERAL COURSE INFORMATION:** Topic Outline.

* Astronomical tools and methods
* Stellar properties
* The interstellar medium and star formation
* The lives and deaths of low-mass stars
* The deaths of massive stars: neutron stars and black holes
* Our Galaxy
* A diversity of galaxies
* Cosmology
* The search for extraterrestrial intelligence

1. **All courses at Florida SouthWestern State College contribute to the general education program by meeting one or more of the following general education competencies:**

**C**ommunicate clearly in a variety of modes and media.

**R**esearch and examine academic and non-academic information, resources, and evidence.

**E**valuate and utilize mathematical principles, technology, scientific and quantitative data.

**A**nalyze and create individual and collaborative works of art, literature, and performance.

**T**hink critically about questions to yield meaning and value.

**I**nvestigate and engage in the transdisciplinary applications of research, learning, and knowledge.

**V**isualize and engage the world from different historical, social, religious, and cultural approaches.

**E**ngage meanings of active citizenship in one’s community, nation, and the world.

**A.**  **General Education Competencies and Course Outcomes**

1. Listed here are the course outcomes/objectives assessed in this course which play an integral part in contributing to the student’s general education along with the general education competency it supports.

General Education Competency: **Evaluate**

Course Outcomes or Objectives Supporting the General Education Competency Selected:

* Use the law of gravitation and the laws of motion to explain stellar orbits.
* Identify the various observational tools used in astronomy and categorize and differentiate the regions of the electromagnetic spectrum.
* Compare and contrast the different layers in the Sun’s interior and atmosphere; measure the Sun’s diameter using pinhole projection.
* Compare the various methods of measuring distances and other stellar properties; measure the proper motion of Barnard’s star and determine the star’s overall motion in space.
* Interpret the H-R diagram and use it to describe stellar evolution.
* Describe the properties of the interstellar medium and theories of stellar formation.
* Trace and compare the life histories of stars of various masses.
* Use the period-luminosity relationship for Cepheid variables and calculate their distances.
* Compare the properties of white dwarfs, neutron stars, and black holes.
* Describe the physical makeup, stellar populations, and evolution of our Galaxy
* Construct the shape of our Galaxy and locate our position in it by using observational data of clusters of stars; construct a scale drawing of our Galaxy by using appropriate data for the diameter of the Sun, solar system, and Galaxy.
* Compare the different types of galaxies and theories of their origin, and describe the nature of active galactic nuclei.
* Differentiate among cosmological models and identify their limitations.
* Deduce the size and age of the observable universe by using Hubble’s law.
* Locate and observe deep sky objects using their coordinates and a telescope.
* Describe efforts to communicate with extraterrestrial intelligence, develop one such method, and identify the obstacles astronomers face in pursuing such searches.

1. **DISTRICT-WIDE POLICIES:**

**Programs for Students with Disabilities**

Florida SouthWestern State College, in accordance with the Americans with Disabilities Act and the College’s guiding principles, offers students with documented disabilities programs to equalize access to the educational process. Students needing to request an accommodation in this class due to a disability, or who suspect that their academic performance is affected by a disability should contact the Office of Adaptive Services at the nearest campus. The office locations and telephone numbers for the Office of Adaptive Services at each campus can be found at <http://www.fsw.edu/adaptiveservices>.

**REPORTING TITLE IX VIOLATIONS**

Florida SouthWestern State College, in accordance with Title IX and the Violence Against Women Act, has established a set of procedures for reporting and investigating Title IX violations including sexual misconduct.  Students who need to report an incident or need to receive support regarding an incident should contact the Equity Officer at [equity@fsw.edu](mailto:equity@fsw.edu).  Incoming students are encouraged to participate in the Sexual Violence Prevention training offered online.  Additional information and resources can be found on the College’s website at <http://www.fsw.edu/sexualassault>.

1. **REQUIREMENTS FOR THE STUDENTS:**

List specific course assessments such as class participation, tests, homework assignments, make-up procedures, etc.

1. **ATTENDANCE POLICY:**

The professor’s specific policy concerning absence. (The College policy on attendance is in the Catalog, and defers to the professor.)

1. **GRADING POLICY:**

Include numerical ranges for letter grades; the following is a range commonly used by many faculty:

90 - 100 = A

80 - 89 = B

70 - 79 = C

60 - 69 = D

Below 60 = F

(Note: The “incomplete” grade [“I”] should be given only when unusual circumstances warrant. An “incomplete” is not a substitute for a “D,” “F,” or “W.” Refer to the policy on “incomplete grades.)

1. **REQUIRED COURSE MATERIALS:**

(In correct bibliographic format.)

1. **RESERVED MATERIALS FOR THE COURSE:**

Other special learning resources.

1. **CLASS SCHEDULE:**

This section includes assignments for each class meeting or unit, along with scheduled Library activities and other scheduled support, including scheduled tests.

1. **ANY OTHER INFORMATION OR CLASS PROCEDURES OR POLICIES:**

(Which would be useful to the students in the class.)