Division Approval: 1/30/15 _____
Date Initial (Division Dean)

Curriculum Committee Approval: 3/2/15 _____
Date Initial (Committee Chair)

Faculty Approval: 4/7/15 _____
Date Initial (Academic Senate Secretary)

SCHENECTADY COUNTY COMMUNITY COLLEGE
Course Outline

ACADEMIC DEPARTMENT: Mathematics, Science, Technology, and Health

PREPARED BY: Ralf Schauer and Ben Placek

COURSE CODE: AST 127 **COURSE TITLE:** Cosmic System

LECTURE HOURS/WEEK: 3 **LAB HOURS/WEEK**: _____ **CREDIT HOURS**: 3

PREREQUISITE/S:
PREREQUISITE or CONCURRENT COURSE
COREQUISITES:

FINAL EXAM REQUIRED: YES X NO _____

COURSE DESCRIPTION: This course introduces students to the scientific study of the cosmic system. Emphasis is placed on the evolution, life-cycle, and characteristics of the stars and galaxies. Information from recent discoveries by the space-based telescope and other 21st century telescopes is presented. Other topics include constellation identification, life in the universe, and current theories of cosmology.

SCCC Core Principle Course	**yes**
SUNY General Education Course	**yes**

STUDENT LEARNING OUTCOMES:
Students who have completed this course will:

- Explain the basic properties of starlight;
- Describe the basic life-cycle of stars;
- Define and use the vocabulary of cosmology; and
- Identify all 88 constellations.

REPRESENTATIVE TEXT/S:

The Essential Cosmic Perspective. Bennett, Donahue, Schneider & Voit. Pearson Publishing (current edition)

SUPPLEMENTARY MATERIALS/REFERENCES:
As supplied by the instructor.

EVALUATION METHODS:
Evaluation methods may include, but are not limited to, exams, quizzes, homework and projects.

REQUIRED ASSESSMENT METHODS:

Assessment results from these methods will be used for course-level assessment and, where applicable, for SCCC core principles and SUNY General Education Knowledge and Skills areas. This information will be incorporated in program reviews.

Student Learning Outcome	Method(s)
Explain the basic properties of starlight	Examination
Describe the basic life-cycle of stars	Examination
Define and use the vocabulary of cosmology	Examination
Identify all 88 constellations	Examination

NOTE: College policy requires a final exam or final week activity.

COURSE CONTENT OUTLINE:

COURSE: AST 127 – Cosmic System

Week	Topic
1	Introduction, overview and basic characteristics of the universe
2	Characteristics of starlight
3	Telescopes
4	Measuring stellar and galactic distances
5	Nebulas
6	Star and planetary formation
7	Stellar evolution of low mass stars
8	Stellar evolution of high mass stars
9	Black holes
10	Constellations
11	Milky Way
12	Galaxies
13	Dark Matter, Dark Energy, and other puzzles of the universe
14	Cosmology
15	Search for life in the universe
16	Final Exam