

Colonnade Program Course Proposal: Explorations Category

1. What course does the department plan to offer in Explorations? Which subcategory are you proposing for this course? (Arts and Humanities; Social and Behavioral Sciences; Natural and Physical Sciences)

Astronomy 104- Astronomy of the Solar System
Subcategory: Natural and Physical Sciences

2. How will this course meet the specific learning objectives of the appropriate subcategory. Please address **all** of the learning outcomes listed for the appropriate subcategory.

Objective 1. Demonstrate an understanding of the methods of science inquiry in astronomy

This core focus is addressed by hands-on laboratory exercises integrated throughout the course. The department has approved a list of acceptable laboratory exercises that guide the students through the methods of science inquiry.

Objective 2. Explain basic concepts and principles of astronomy

Classroom activities, including many conceptual exercises (for example, Prather et al.'s Lecture Tutorials for Introductory Astronomy) use active learning methods to guide students into confronting their own scientific misconceptions and reinforce basic concepts and principles of astronomy.

Objective 3. Apply scientific principles to interpret and make predictions in astronomy.

This core focus is addressed by the hands-on laboratory exercises integrated throughout the course. The acceptable laboratory exercises teach the students to apply scientific principles and make predictions in astronomy.

Objective 4. Explain how scientific principles of astronomy relate to issues of personal and/or public importance.

Throughout the course, students gain a comprehensive understanding of our place in the cosmos, and other ways that scientific principles of astronomy relate to issues of personal and/or public importance. This core focus is addressed by the hands-on laboratory exercises integrated throughout the course.

3. Syllabus statement of learning outcomes for course. NOTE: In multi-section courses, the same statement of learning outcomes must appear on every section's syllabus.

Upon completion of this course the student will:

- **Understand the development of scientific thought and practices.**

- **Understand how scientific practices allow us to understand the solar system**
- **Understand the development and state of our current knowledge of the evolution, nature and structure solar system**
- **Understand the location and motions of celestial objects in the sky**
- **Be able to distinguish between various types of astronomical objects**
- **Understand the diversity of objects in the solar system**
- **Gain perspective on Earth's place in the solar system and on how understanding the other objects in the solar system leads to a greater understanding of Earth**

4. Brief description of how the department will assess the course for these learning objectives.

Objective 1, Objective 3, Objective 4. Each class section will include a minimum of six of the laboratory exercises approved by the department. At the end of each academic term, the department will collect each student's average score for the laboratory exercises. The goal is to have at least 70% of the students in all sections achieve a score of 70% or better.

Objective 2.

Each class section will have 10 common questions on the final exam. At the end of each academic term, the department will collect each student's average score for the common questions. The goal is to have at least 70% of the students in all sections achieve a score of 70% or better.

5. How many sections of this course will your department offer each semester?

1-3

6. Please attach sample syllabus for the course.

See attached. Note that this is a generic template syllabus for the class, containing information that will appear on the syllabus for each section. Areas that are blank are instructor specific and instructors are free to add information specific to their own course sections, in accordance with the department's view of academic freedom.

Please send your proposal to: robert.dietle@wku.edu

Astronomy 104 - Astronomy of the Solar System

Section 00# Fall 2014

Instructor:

Office:

Phone:

E-mail:

Office Hours:

Textbook:

Class Meets:

Course Grade:

Course Catalogue Description:

An introductory study of that portion of the physical universe extending beyond the earth from the sun to the outer limits of the solar system, including its relationship to the rest of the universe and to the earth. Topics include phenomena visible from earth, the earth's motions and timekeeping, eclipses, motions of planets and satellites, and the historical development of scientific understanding of the solar system. Comparison of physical properties among the sun, planets, and satellites interrelate the earth and its life forms with the extraterrestrial environment that supported the development and continuation of life on earth. This course contains an integral laboratory that includes planetarium exercises and evening observing sessions using telescopes.

General education learning objectives: Through lectures, discussions, hands on lecture enhancement exercises and laboratory exercise, the students will be able to 1. Demonstrate an understanding of the methods of science inquiry, 2. Explain basic concepts and principles in one or more of the sciences, 3. Apply scientific principles to interpret and make predictions in one or more of the sciences, and 4. Explain how scientific principles relate to issues of personal and/or public importance.

Learning Outcomes: Upon completion of this course the student will:

- Understand the development of scientific thought and practices.
- Understand how scientific practices allow us to understand the solar system
- Understand the development and state of our current knowledge of the evolution, nature and structure solar system
- Understand the location and motions of celestial objects in the sky
- Be able to distinguish between various types of astronomical objects
- Understand the diversity of objects in the solar system
- Gain perspective on Earth's place in the solar system and on how understanding the other objects in the solar system leads to a greater understanding of Earth

Students with disabilities: In compliance with university policy, students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Office for Student Disability Services in DUC A-200 of the Student Success

Center in Downing University Center. Please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the Office for Student Disability Services.

Attendance Policy: Regular and prompt attendance is expected and required for student success in this class.