Date: UWUCC Action Date:

Address: kroles@uap.edu

Prop: Dept (Geoscie

Current course prefix, number and full title:

Proposed course prefix, number and full title, if changing:

Liberal Studies (2

ies – must meet at lea

Information Literacy

Quantitative Reasoning

Other: (e.g. Women's Studies, Pan African)

4. Program

Department Curriculum Committee Chair(s)

Director of Honors College (as needed)

Additional signature (with title) as appropriate

UWUCC Co-Chairs

Received

DEC 10 2012

Liberal Studies

Part II.

1) Syllabus of Record

I. Catalog Description

GEOS 106 Exploring The Universe Lab 0c-2l-1cr

[redacted]

Corequisite: GEOS 105

Introduces the techniques astronomers use to study the nature and motions of objects in the sky, [redacted]

Rationale:

The ability to decipher and plot using coordinate systems enables recognition of patterns in the sky, in time, and in various astronomical objects. Students will practice organizing observations and predicting events to become critical users of quantitative observations

[redacted]

III. Course Outline

Lab 1: Interpreting planetary surfaces	2 hours
Lab 2: Constellations, Part I	2 hours
Lab 3: Seasons	2 hours
Lab 4: Celestial Coordinates	2 hours
Lab 5: Telescopes	2 hours
Lab 6: Surface of the Moon	2 hours
Lab 7: Exam One	2 hours
Lab 8: Phases of the Moon	2 hours
Lab 9: Planetary size and orbits	2 hours
Lab 10: Sunspots and solar activity	2 hours
Lab 11: Telescope observation (at night)	2 hours

[redacted]

IX. Bibliography

In addition to the required textbooks and and lab manual, the following will be used to develop the course curriculum:

[redacted]

Columbia University Press, 244 p.
Moche, D. L., 2009, Astronomy: A self-teaching guide, 7th edition: John Wiley, 388 p.
Ridpath, I., 2004, Norton's star atlas, 20th edition: Pi Press, 195 p.
Royal Astronomical Society of Canada, 2011, Observer's Handbook (issued annually), 352 p.
Seasonal Star Charts, 2008: Hubbard Scientific, 21 p.

[redacted]

4. OLD SYLLABUS OF RECORD

GS 106 Exploring the Universe Lab

I. Catalog Description

GS 106 Exploring the Universe Lab — 1 credit, 2 lab hours (0c-2l-1sh)

Prerequisites: No Geoscience Majors/Minors
Corequisites: Enrollment in GS 105

Introduces students to the techniques astronomers use to study the celestial sphere

IV. Evaluation Methods

30% Quizzes – Eight ten-point quizzes will cover previous week's lab or field trip

Liberal Studies Course Approval General Information

1. This course has been taught by one or two instructors each semester it has been offered, generally taught in one section. Each instructor may teach one or multiple sections. Instructors use an identical lab manual and frequently consult and collaborate on syllabi, textbooks and assignments for this

Example Assignment and Grading Rubric

Lab 1: Making maps of Mars (attached)

Lab Grading Rubric

	Excellent	Good	Unsatisfactory
Numerical data	Student answers all coordinate and scale questions correctly and	Student answers all coordinate and scale questions with only	Student answers coordinate and scale questions incorrectly or

Name _____
Day and Time of Your Lab:

_____

GEOS 106
Introductory Lab Exercise

[redacted]

from orbit is a young science. You can interpret what you see in the same way a professional planetary scientist does.

PART 1

Note: Please take care of these maps! We only have one copy of each, and many of them are now out of print. They will be unfolded and you are asked to leave them that way. Repeated folding wears them out faster. Thank you.

You will examine the maps with a small group. You may discuss your ideas, but each of you should write your own answers in your own words.

Look at one of the Shaded Relief Maps.

3. Look for valleys or other low areas on your map. What could have made these?

Explain the process.

Give the coordinates (in latitude and longitude along the edges of the map) for an example of this feature. If it has a name on the map, give the name also.

4. One feature seen on several planets were first called "wrinkle ridges." Find these or

Give the coordinates (in latitude and longitude along the edges of the map) for you

example of overlap of units.

Now use a piece of tracing paper and a pencil to trace the region you are examining for overlapping relation ships. Outline the units and give their relationship (which is on top or younger, etc.). Colored pencils may be helpful for this.

PART 2

Please have your lab checked by the instructor. If you are done to this point, you will

What is their origin?

9. Find the overlapping units you looked at before. What units are overlapping?

Which unit is younger?

Add the unit names, if any, to your tracing paper from question 5.

10. Imagine you are hired by NASA to choose a landing site for a robotic (unmanned)