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**LIBERAL STUDIES COURSE APPROVAL FORM
INSTRUCTION SHEET**

Use this form only if you wish to have a course included in a Liberal Studies Learning Skill or Knowledge Area category. Do not use this form for synthesis or writing-intensive sections; different forms are available for those. If you have questions, contact the Liberal

LIBERAL STUDIES COURSE APPROVAL, PARTS 1-3: GENERAL INFORMATION CHECK-LIST

I. Please indicate the LS category(ies) for which you are applying:

LEARNING SKILLS:

First Composition Course
 Mathematics

Second Composition Course

KNOWLEDGE AREAS:

Humanities: History
 Humanities: Philos/Rel Studies
 Humanities: Literature
 Natural Sci: Laboratory
 Natural Sci: Non-laboratory

Fine Arts
 Social Sciences
 Non-Western Cultures
 Health & Wellness
 Liberal Studies Elective

II. Please use check marks to indicate which LS goals are primary, secondary, incidental, or not applicable. When you meet with the LSC to discuss the course, you may be asked to explain how these will be achieved.

Prim Sec Incid N/A

A. Intellectual Skills and Modes of Thinking:

1. Inquiry, abstract logical thinking, critical analysis, synthesis, decision making, and other aspects of the critical process.

2. Literary writing, reading, speaking, listening

Liberal Studies Course Approval Parts 4-6:

IV. A. This is a multi-section (2 lecture, 6 labs) and multi-instructor (3) course: the three faculty who met and devised the syllabus will be the instructors most of the time. They will meet and discuss any changes in content, assignment, and evaluations.

B. The three instructors (Sutton, Gerson, and Richardson) most likely

to teach this course have attended (and even organized) conferences which deal

CHECK LIST NATURAL SCIENCES

Knowledge Area Criteria which the course must meet:

Course Syllabus

I. Catalog Description

(2c-21-2.5 sh)

Prerequisites: SC 101, SC 102

Introduction to geology, astronomy, oceanography and meteorology. Emphasis is placed on the understanding of large scale processes and how the Earth, Solar System and Universe work. Lab experiences include hands-on work with earth materials and with instruments from all four subjects, map, and field trips which may occur during class times, nights, and weekends.

II. Course objectives

1. Students will understand large scale processes and their concepts in

5. Synthesis exercise: design a teaching exercise with lab specimens

In addition, students will be required to attend and write-up notes from one of several optional field excursions.

B. Astronomy: 10 Lecture periods

- 1. Origin of time-keeping (day, week, month, year); calendars
- 2. Instrumental use: camera, spectroscope, telescope
- 3. Our satellite: Moon (phases and surface)
- 4. The Space Program: manned and unmanned, applications
- 5. The Planets: characteristics
- 6. Comets, meteors, and asteroids: characteristics

- 9. Galaxies: our Milky Way, other galaxies
- 10. Astronomy Exam

Astronomy: 4 Lab periods

- 1. Constellations: origins, use, identification
- 2. Seasons: causes, effects
- 3. Planets: motion, characteristics
- 4. Stars: properties

In addition, students will be required to attend and write-up notes on one evening observation.

IV. Evaluation Methods

The final grade for the course will be the average of the grades earned in geology, astronomy, and fluid environments. The individual professors teaching each portion will determine the grade by the following:

- 60% Tests which integrate lecture and lab material
- 40% Lab exercises and quizzes which may include book or article reviews

V. Required Textbooks Supplemental Books and Readings

Textbook: Edward J. Tarbuck and Frederick K. Lutgens 1988

612_p.

Non-textbook readings: students will read a variety of childrens' science books and magazines such as "3-2-1 Contact," "Odyssey," and astronomy. The students will be required to critique these books and for their science content as well as how they might appeal to children and be used in the elementary science classroom. Students will read a children's book and a magazine for each of the three portions of this course.

VI. Special Resources Requirement

Instructional media such a 35 mm slide sets, videocassettes, subscriptions to magazines, mineral and rock specimens, star charts

Plummer, Charles C. and David McGeary, , 1991, Physical Geology: Brown Publishers (N.Y.), 543 p.

Press, Frank and Raymond Siever, 1986, Earth: Freeman and Co. (N.Y.), 656 p.

Spiegel, Herbert and Arnold Gruber, 1983, From Weather Vanes to Satellites: An Introduction to Meteorology: Wiley (N.Y.), 241 p.

Stanley, Steven M., 1989, Earth and Life Through Time: Freeman and Co. (N.Y.), 689 p.

Thurman, Harold V., 1991, Introductory Oceanography: MacMillan (N.Y.), 526 p.

Course Analysis Questionnaire

A1: This course is designed for Elementary Education majors to fulfill their Liberal Studies science requirement and to satisfy national standards for science preparation of teachers in training. Thus, this course is proposed as a Liberal Studies Science Lab course.

A2: No, this course does not require changes in the content of existing courses.

A3: this course is traditional in this it is lecture and lab, but is non-traditional in that the students are spending less time in lecture than in GS 101-104, for example. This is our only 2.5 credit course.

A4: No

A5: No

A6: No

A7: This course was designed to fulfill the national standards set forth by the National Science Teachers Association and to prepare the students for PDE recommended science competencies. This course is one of the four

8

B2. No

B3: This content of this course does not overlap with courses from other departments. The content of this course is similar to the content of GS 101-104 Earth Science: Geology and Oceanography and Earth Science: Astronomy and Meteorology, but is taught specifically with the needs of elementary education majors in mind.

B4: No

Section C: Implementation

C1: Faculty: Prof. Paul Prince who teaches the introductory as well as

are seeking a replacement position. Our other courses, which include both Liberal Studies as well as Liberal Studies Synthesis and upper level majors courses will be much reduced by our offering this course each semester

Section D: Miscellaneous

This course was developed through consultation with Biology, Chemistry, Physics and Professional Studies in Education. We suggest that these "sister" courses be evaluated as a unit with representatives from these departments to answer any questions.

Catalog Description

SC 103 Earth and Space Science

2.5 credits
2 lecture hours
2 lab hours
(2c-21-2.5 sh)

Prerequisites: SC 101, SC 102

Introduction to geology, astronomy, oceanography and meteorology.