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CHAMINADE UNIVERSITY OF HONOLULU

PHYSICS 121 PHYSICS OF PHOTOGRAPHY - SYLLABUS

Spring Semester, 1999 Instructor: Dr. David Cooke

1. OBJECTIVES OF COURSE:

The course introduces you to practical photography - with classroom lectures and labs to teach you the techniques involved in setting up and using a camera to take good photographs. The classroom work goes far beyond this, however. As well as learning the basics of photography you will be introduced to the physics of light, which relates to such things as the nature of light, reflection and refraction, the wave properties of light, interference, lenses and mirrors, polarization, and color. You will then see how these effects relate to photography. The accompanying laboratory experiments involve, in part, some simple experiments aimed to help you to understand these physical principles. The main intention of the laboratory sessions is to teach you practical, hands-on photography - including assignments in which you take photographs, and develop and print these by means of more advanced techniques such as dodging, burning-in and the use of polycontrast filters.

Later in the semester we go beyond the scope of the conventional photography that the book describes and learn about digital imaging and photography (pictures processed and presented in a computer are held in digital form). Digital images are very common now - on the World Wide Web, for example. The special effects sequences in movies are now normally sequences of digital images produced by computer, and what appear to be photographs in magazines - in advertisements and graphics - are very commonly images that have been processed digitally by computer.

In summary, the "Physics of Photography" course offers interesting insights into the nature of scientific thought and methods, and teaches practical photography in - overall an enjoyable way of taking one of the two science courses (with labs) that students need to undertake as part of their general education requirements.

2. TEXT:

There is no published text which presents the course material in an appropriate way, so you will be issued with xeroxed notes of a text book which is in preparation, one chapter at a time. You will be issued with a folder in which to keep these notes.

3. EVALUATION:

There will be a homework assignments at the end of each chapter's work. Quizzes are given at the end of each segment of the work. The quiz dates will be assigned in discussion with the members of the class. Two preliminary exams will be held - one during the week of February 16th -

19th, and the other through the week of March 29th - April 1st. The final exam will be held on Tuesday, May 4th from 10:30 - 12:30. Makeups for quizzes and exams will only be given if the absence during the original assigned exam time is by an athlete involved an official school sports event, or for medical reasons (with a doctor's certificate).

Grades are based on homework quizzes, exams, etc. to the extent presented here:

Attendance:	5%
Homework:	5%
Quizzes:	30%
Midterm Exam	30%
Final Exam	30%
TOTAL	100%

It is important to understand the grade definitions which guide the awarding of grades at the end of the semester. Grading criteria as stated in the Chaminade undergraduate catalog are as follows:

A -- Outstanding scholarship and an unusual degree of intellectual initiative.
B -- Superior work done in a consistent and intellectual manner.
C -- Average grade indicating a competent grasp of subject matter.
D -- Inferior work of the lowest passing grade, is not satisfactory for fulfillment of prerequisite coursework.
F -- Failed to grasp even the minimum subject matter; no credit given.
I -- Did not complete a small portion of the work or final examination due to circumstances beyond the student's control. The issuance of an "I" grade is not automatic. Prior to reporting of grades a contract must be made between the student and the instructor for the completion of the course.

5. LABORATORY:

The laboratory course, PHY 121L, is taken concurrently with the theoretical course. The experiments cover concepts in physics, in addition to practical photography and darkroom practice, and digital photography. Appropriate instructions and notes are issued to you.

The high point of the class is a showing and competition of photographs by students in the class. You will be required to submit three mounted (and titled, if you wish to use a title) prints, which will be mounted on the board at the rear of room 33. The twenty best prints are judged, and will go on long-term display on the display board just outside room 33. The three judged to be the best are awarded prizes.