DC 274 - Image, Optics & Cinematic Motion - Spring Quarter 2017

Instructor: Brian Mellen

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Office hours: T 4:15pm to 4:45pm **Levan 304**
T 4:45pm to 5:45pm **Lincoln Park Student Center Rm. 332 by Appt. Only**

Summary of Course:

Cinematography is the scientifically grounded discipline of making lighting and camera choices in order to record moving images. This course deals with the basic mathematics, physics, and photochemistry that underlies cinematography and that motivates camera design and construction. While we have adopted motion images into our daily lives, most people are unaware of the complexities involved in its creation and distribution - the "language of motion" so to speak.

As opposed to photography where the story is one still image, cinematography must deal with objects in motion and the consequential time based considerations of shutter speed vs. frame rate, image resolution, camera motion, motion perception of the viewer and the display of the image(s) on large screens.

A student who masters the foundations of cinematography through a mixture of lectures, readings, exercises, and labs will be able to evaluate and understand how motion based recording choices affect perception of moving images they see everyday.

* *Syllabus is subject to change*

Course objectives:

- To control the depiction of 3D on a 2D surface through the use of optics.
- To understand the nature of light and film/video latitude.
- To control exposure.
- To determine a visual "look" and achieve it through photochemical and/or digital means.
- To understand how the relationship of resolution, frame rate, shutter speed, and how camera movement influences the viewer.

Learning Domain Description:

DC 274 – Image, Optics, and Cinematic Motion is included in the Liberal Studies program as a course with credit in the Scientific Inquiry Domain. Courses in the Scientific Inquiry domain are designed to provide students with an opportunity to learn the methods of modern science and its impact on the world around us.

Courses are designed to help students develop a more complete perspective about science and the scientific process, including: an understanding of the major principles guiding modern scientific thought; a comprehension of the varying approaches and aspects of science; an appreciation of the connection among the sciences; the fundamental role of mathematics in practicing science; an awareness of the roles and limitations of theories and models in interpreting, understanding, and predicting natural phenomena; and a realization of how these theories and models change or are supplanted as our knowledge increases.

Goals and Learning Outcomes:

Below are listed the learning goals and outcomes for the Science Inquiry Domain. Each goal is listed followed by learning outcomes associated with the goal. Most of this document conforms to the National Science Education Standards.

1. Students will understand the major principles guiding modern scientific thought. Students will demonstrate a mastery of the science content within SID courses.

2. Students will know that science, technology, and math serve as mechanisms for inquiry into the nature of the universe. Students will:

a. Identify questions that can be answered through scientific investigations.
b. Design and conduct a scientific investigation to test a scientific hypothesis.
c. Use appropriate tools and techniques to gather, analyze, and interpret data to support or refute a scientific hypothesis.
d. Develop descriptions, explanations, predictions, and models using evidence
e. Describe relationships between evidence and explanations using critical and logical thinking.
f. Recognize and analyze alternative explanations and predictions.
g. Communicate scientific procedures and explanations.
h. Use mathematics in all aspects of scientific inquiry.

3. Students will understand and appreciate the interrelationships among science, technology and math. Students will:

a. Use technology and mathematics to identify a problem or design a solution to a problem.
b. Give examples of how science and technology inform and influence each other.

4. Students will understand and appreciate the role of science in society and in their lives. Students will:

a. Provide examples of how science and technology impact our lives, and how social needs and concerns impact our development of technology and scientific investigation.
b. Develop positive attitudes towards science, technology, and mathematics.
c. Establish an ongoing experiential/service-learning interest in science, technology, and mathematics.

5. Students will understand the nature of science, technology, and mathematics. Students will:

a. Provide examples of the abuse of science, including the representation of unfalsifiable claims as science and other forms of Pseudoscience.
b. Explain the strengths and limits of scientific inquiry.

c. Explain the difference between evidence and inference, and the provisional nature of scientific explanations by providing examples of how our understanding of the workings of the world has changed in the past.
d. Explain the difference between probability and certainty, and describe what is meant by uncertainty in the context of science, technology, and mathematics.

How Learning Outcomes Will Be Met:

Through a mixture of Lectures and Lab work combined with quizzes, lectures, and reading material as well as midterm and final exams.

Writing Expectations:

Writing is integral for communicating ideas and progress in science, mathematics and technology. The form of writing in these disciplines is different from most other fields and includes, for example, mathematical equations, computer code, figures and graphs, lab reports and journals. Courses in the SI domain must include a writing component where that component takes on the form appropriate for that course (eg, lab reports, technical reports, etc).

How Writing Expectations Will Be Met:

Each Lab will have a lab report where students will document their findings. Also, several take home quizzes will be given throughout the quarter. The quizzes are written essays based on materials covered in class and the at home readings.

Textbooks and printed resources:

Hand-outs supplied by instructor as needed

Software will be provided as needed in the Lab

D2L and Course Management System

Recommended Text:

Cinematography: Theory and Practice, Image Making for Cinematographers and Directors, 3rd Edition by Blain Brown

Grading:

Attendance & Participation	10%
Reading Quizzes	10%
In-Class Labs	30%
Midterm	20%
Final Exam	30%

LATE WORK WILL NOT BE ACCEPTED.

Grading Scale:

A = 100-93, A- = 92-90, B+ = 89-87, B = 86-83, B- = 82- 80, C+ = 79-77, C = 76-73, C- = 72-70, D + = 69-67, D = 66-63, D- = 62-60, F = 59-0.

A indicates excellence, B indicates good work, C indicates satisfactory work, D work is unsatisfactory in some respect, F is substantially unsatisfactory work

Course Policies:

In addition to DePaul University course policies (see student handbook), the following special policies will apply to this course.

Attendance & Participation:

This course demands class participation - attendance is mandatory. Students arriving more than 15 minutes late, or leaving before class is dismissed will be considered absent. You are allowed one (1) unexcused absences. After that, a one letter deduction for each absence will be taken from your final course grade. Three absences result in an automatic F for the course. Excessive tardiness will also be penalized.

Assignments and Exercises:

Assignments and exercises must be completed by the due date as indicated in the syllabus. Late work will not be accepted without prior consent of the instructor.

Examinations:

Students who do not take exams during the regularly scheduled time will receive a failing grade for the exam unless they have contacted the instructor in advance to arrange for a make-up exam. Make-up exams will be administered by the College according to its make-up exam schedule.

Email:

Email is the primary means of communication between faculty and students enrolled in this course outside of class time. Students should be sure their email listed under "demographic information" at http://campusconnect.depaul.edu is correct. All emails to the instructor must contain a heading specific to the subject discussed in the email.

Course Lectures/Reading Assignments:

The assigned readings offer an opportunity for independent learning that supplements the lectures. Lectures will introduce material not available in the readings, and the readings will explore concepts not mentioned in class. The exam will cover both lecture and reading materials as specified by the instructor.

Content Changes:

Depending on time factors, the assignments projected for the term may require slight alteration or rescheduling.

CLASS SCHEDULE

** Syllabus schedule is subject to change*

Class One 03/28

Lecture - Syllabus, Introductions, History of Cinematography

Lab - Intro to Lab, Procedures, ColWeb, Stop Motion

Class Two 04/04

Lecture - Camera Basics, Exposure Triangle, Semiotics

Lab: Light Metering and Exposure

Class Three 04/11

Lecture - Perspective and Illusions, Cinematic Continuity

Lab - Light Painting

Quiz 1 (Due 04/25)

Class Four 04/18

Lecture - Optics and Depth of Field, Screen Direction

Lab - Depth of Field Calculations

Class Five 04/25

Lecture - Review of Quiz 1, Midterm Review, Screening TBD

Lab - MIDTERM during lab session

Class Six 05/02

Lecture - Screening TBD, Camera Movement

Lab - Optics

Class Seven 05/09

Lecture - Intro to Lighting, Color Theory

Lab - Color Science

Quiz 2 (Due 05/30)

Class Eight 05/16

Lecture - Specialized Cinematography, More About Lighting

Lab - Timelapse

Class Nine 05/23

Lecture: Composition and Visual Design, Visual Effects

Lab - Shot Exercise: crafting a short film using a variety of shot sizes and types

Class Ten 05/30

Review of Quiz 2, Final Exam Review

Lab - Screening

Class Eleven 06/06

Final Exam at 2:30pm

College Policies

Online Course Evaluations

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are a requirement of the course and are key to continue to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online in CampusConnect.

Academic Integrity and Plagiarism

This course will be subject to the university's academic integrity policy. More information can be found at http://academicintegrity.depaul.edu/. If you have any questions be sure to consult with your professor.

Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information on enrollment, withdrawal, grading and incompletes can be found at: cdm.depaul.edu/enrollment.

Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential.

To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: csd@depaul.edu.

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