

DC 274 IMAGE, OPTICS & CINEMATIC MOTION

Section 601/601L; Spring 2015-2016

Lecture Location: CDM, Loop Campus, #214
Day/Time: Mon, 1:30 - 4:45 PM

Lab Location: CDM, Loop Campus, #634
Day/Time: Wed, 9:00-11:00 AM

Instructor: B. Rich
E-mail: brich3@cdm.depaul.edu
Office Hours: Refer to Faculty [Page](#) for current schedule

Prerequisites: None

Course Description:

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 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.

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 in understanding 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 and 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.

Where required, the Quantitative Reasoning and Technological Literacy sequence (LSP 120 & LSP 121) is a prerequisite for SI Domain courses. Students have the option to test out of one or both of these courses. Generally, three SI courses are required and one course must be designated as an SI lab course. Students who complete both LSP 120 and LSP 121 will have their total Domain Area requirements reduced by one. Within the SI Domain, only non-lab SI courses are eligible for this reduction.

Learning Outcomes

Students will be able to:

- Understand the major principles guiding modern scientific thought.
- Demonstrate a mastery of the science content knowledge of their SID courses.
- Know that science, technology, and math serve as mechanisms for inquiry into the nature of the universe:
 - Identify questions that can be answered through scientific investigations.
 - Design and conduct a scientific investigation to test a scientific hypothesis.
 - Use appropriate tools and techniques to gather, analyze, and interpret data to support or refute a scientific hypothesis.
 - Develop descriptions, explanations, predictions, and models using evidence.
 - Describe relationships between evidence and explanations using critical and logical thinking.
 - Recognize and analyze alternative explanations and predictions.
 - Communicate scientific procedures and explanations.
 - Use mathematics in all aspects of scientific inquiry.
- Understand and appreciate the interrelationships among science, technology, and math:
 - Use technology and mathematics to identify a problem or design and solution to a problem.
 - Give examples of how science and technology inform and influence each other.
- Understand and appreciate the role of science in society and in their lives:
 - Provide examples of how science and technology impact our lives, and how social needs and concerns impact our development of technology and scientific investigation.
 - Develop positive attitudes towards science, technology, and mathematics.
 - Establish an ongoing experiential/service-learning interest in science, technology, and mathematics.
- Understand the nature of science, technology, and mathematics:
 - Provide examples of the abuse of science, including the representation of unfalsifiable claims as science and other forms of pseudoscience,
 - Explain the strengths and limits of scientific inquiry,
 - 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,
 - Explain the difference between probability and certainty.
 - Describe what is meant by uncertainty in the context of science, technology, and mathematics.

How Learning Outcomes Will Be Met: A mixture of Lectures and Lab work will allow the student to meet the desired learning outcomes. Assessment of learning will be made through a combination of quizzes (on lectures and reading material) and exams (midterm and final).

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.)

Required/Recommended Texts and Software:

- Hand-outs and readings as supplied by instructor
- Software will be provided as needed in the Lab
- Course Management System – D2L
- Access to DSLR (or equivalent camera – ask instructor) for in-class exercises
 - We will provide cameras, but if you have one you would like to learn to use more, bring it
- There is no required textbook for this class. These are *recommended* if you want to further your own knowledge:

Cinematography: Theory and Practice, 2nd edition
Brown, Focal Press/Taylor & Francis Group, 2011
ISBN: 978-0240-812090

The Visual Story: Creating the Visual Structure of Film, TV and Digital Media, 2nd edition
Block, Focal Press/Taylor & Francis Group, 2008
ISBN: 978-0240-807799

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

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. Some guidelines for your emails:

- Always include the course # in your subject line: DC274-601
- Be clear and concise in your subject line; ex: "DC274-601– question about assignment X"
- Don't reply to class-wide email unless it pertains specifically to the subject of that email
- To that end, begin a new email thread for any new question, notification, etc.
- If you don't get a response within 1 business day, please resend as there may be an email issue

Attendance: Classes will consist of lectures, screenings, discussion, and creative exercises. Attendance is mandatory. An absence is defined as not showing up for class, or showing up after class has started. Any absences will result in a reduction of the attendance/participation grade. **Three unexcused absences can result in an automatic F for the course.**

Assignments and Exercises: See criteria under Grading.

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.

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. Exams/Quizzes will cover both lecture and reading materials as specified by the instructor.

Class Participation: Student participation will be measured in three ways.

- 1) In-class research projects (groups research and present their findings on topics related to the day's lecture)
- 2) In-class camera exercises
- 3) Active participation in class discussions. Students are encouraged to ask questions and offer comments relevant to the class topics. Questions will be posed to the class; students are encouraged to offer answers, insights and best guesses.

Attitude: A professional and academic attitude is expected throughout this course. Measurable examples of non-academic or unprofessional attitude include: talking to others when someone is speaking, mocking another's opinion, cell phones ringing/vibrating, emailing, etc. Out of respect to fellow students and the professor, texting and other forms of technological socializing is not allowable in class. If any issues arise a student may be asked to leave the classroom.

Cell Phones/On Call: If you bring a cell phone to class, it must be off or set to a silent mode. Should you need to answer a call during class, leave the room in an undistruptive manner. If you are required to be on call as part of your job, please advise me at the start of the course.

Civil Discourse: DePaul University is a community that thrives on open discourse that challenges students, both intellectually and personally, to be [Socially Responsible Leaders](#). It is the expectation that all dialogue in this course is civil and respectful of the dignity of each student. Any instances of disrespect or hostility can jeopardize a student's ability to be successful in the course. To that end, if you ever feel uncomfortable, unsafe or disrespected by anyone in the class, please bring it to the attention of the instructor immediately so the issue can be addressed and resolved.

Changes to Syllabus: This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L and sent via email.

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: 66-60, F: 59-0

Attendance/Participation	10%
Reading Quizzes	10%
Midterm	20%
Assignments & in-class Labs	30%
Final Exam	30%

All grading is final. Quizzes will not be accepted after the due date. All assignments are due the date they are assigned. Assignments may not be resubmitted for new grades. Late assignments will be penalized 10% per week late. If an assignment is more than two weeks late, it is worth a maximum of 50% of its original point value. If you anticipate you will miss class, the assignment must be submitted the day it is due, unless the absence for the class is excused (documented illness, death in the family, etc.). Labs are due one week after they are assigned. If you miss a lab you must make it up on your own time. Contact the lab instructor for make-up procedures. Equipment is supplied during lab times for appropriate labs. You have the option to make up a single lab by writing a one and a half page paper about the subject the lab covered; this must be arranged with the lab instructor.

Weekly Schedule (subject to change):

Readings and handouts will be assigned throughout the quarter

Week 1

- (3/28) Lecture – Syllabus, Introductions, History of moving images & cameras
(3/30) Lab – Intro to Lab, D2L; Stop Motion Animation, connecting photography and cinematography

Week 2

- (4/4) Lecture – Semiotics, Perspective and Illusions
(4/6) Lab – Stereoscopy

Week 3

- (4/11) Lecture – Color Theory and Color Film
(4/13) Lab – Color Theory

Week 4

- (4/18) Lecture – Exposure Pt. 1
(4/20) Lab – Light Painting

Week 5

- (4/25) Lecture – Exposure Pt. 2, Midterm Review
(4/27) Lab – **Midterm Exam**

Week 6

- (5/2) Lecture – Lighting
(5/4) Lab – Lighting, Light Meters and Contrast Ratio

Week 7

- (5/9) Lecture – Optics
(5/11) Lab – Optics

Week 8

- (5/16) Lecture – Depth of Field
(5/18) Lab – Depth of Field Variables

Week 9

- (5/23) Lecture – Composition and aesthetics; Review for Final Exam
(5/25) Lab – Composition Variables

Week 10

- (5/30) **Memorial Day – No class**
(6/1) Lab - **Final Exam**

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.
Lewis Center 1420, 25 East Jackson Blvd.
Phone number: (312)362-8002
Fax: (312)362-6544
TTY: (773)325.7296