

**RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE**

FILM 261: Light, Optics & Lighting

I. Basic Course Information

A. Course Number and Title: FILM 261 – Light, Optics & Lighting

B. New or Modified Course: Modified

C. Date of Proposal: Semester: Fall Year: 2017

D. Effective Term: Fall 2018

E. Sponsoring Department: Communication and Languages

F. Semester Credit Hours: 3

G. Weekly Contact Hours: 4 Lecture: 2
 Laboratory: 2
 Out of class student work per week: 5

H. Prerequisites/Corequisites: None

I. Laboratory Fees: Yes

J. Name and Telephone Number or E-Mail Address of Department Chair and Divisional Dean at time of approval:

Department Chair: Sara Banfield [-Sara.Banfield@raritanval.edu](mailto:Sara.Banfield@raritanval.edu)

Divisional Dean: Patrice Marks [-Patrice.Marks@raritanval.edu](mailto:Patrice.Marks@raritanval.edu)

II. Catalog Description

In this course, students will explore the science and technology that produce visual images, specifically the nature of light and lens optics. A clear understanding of image formation (chemical, analog & digital) will be gained. Classic lighting styles, lighting patterns and lighting methods used for film, video and still photography will be examined and put into practice.

III. Statement of Course Need

- A. This course will introduce topics that are essential building blocks for students involved in video production and photography. Understanding the science and the methods of creating images – and the control that a producer/creator of video and stills has over the look and feel of the final images – lies at the core of visual storytelling and audience manipulation. A command of the fundamentals of lighting for digital media is essential for students seeking employment in the private sector or those seeking degrees in video or photography at four-year institutions.

With the solid theoretical and practical skill base that this course provides, individuals will be able to make easy adjustments as the technology of video production and digital photography continues to evolve.

- B. This course has a lab component because it requires students to use special facilities such as a computer lab and studio areas, and to use other materials under the guidance of the instructor.
- C. Transferability of this course.
 - 1. Free elective
 - 2. This course generally transfers as a video, film studies, and visual arts program requirement.

IV. Place of Course in College Curriculum

- A. Free Elective
- B. This course meets a program requirement for [Digital Media/Film Studies \(AS\)](#), [Video Production – Certificate](#) and [program elective for Communication Studies \(AA\)](#)
- C. To see course transferability: a) for New Jersey schools, go to the NJ Transfer website, www.njtransfer.org; b) for all other colleges and universities, go to the individual websites.

V. Outline of Course Content

- A. The nature of light
 - 1. the science of light
 - 2. ambient vs. artificial light
 - 3. the creation of shadows
- B. Surfaces
 - 1. transmission
 - 2. reflection
 - 3. absorption
- C. Image production
 - 1. chemical

- 2. analog
- 3. digital
- 4. ccd's and beam splitters
- D. Lens optics
 - 1. affects of f/stops
 - 2. affects of shutter speeds
 - 3. depth of field
- E. Camera bodies
- F. Lighting styles
 - 1. High Key
 - 2. Low Key
 - 3. Silhouette
 - 4. Limbo
- G. Lighting set-ups
 - 1. Three-point Lighting
 - 2. Butterfly Lighting
 - 3. Split Lighting
 - 4. Bounce Lighting
 - 5. Location Lighting

VI. General Education and Course Learning Outcomes

A. General Education Learning Outcomes:

At the completion of the course, students will be able to:

1. use creative and analytical thinking to explore the roles of cameras, light and lenses in visual productions. (GE- 1,3,6,*)
2. apply current digital technology to create and edit video and still imagery. (GE- 1, 4)
3. practice communicating effectively with producers of video materials. (GE-1)
*embedded critical thinking

B. Course Learning Outcomes:

At the completion of the course, students will be able to:

1. explain the creation of photographic/video images with respect to electronic, chemical & digital processes.
2. differentiate among classifications of lenses.
3. discuss the pros and cons of each lens with respect to technical and aesthetic choices.
4. recognize lighting styles and light placement.
5. analyze the conditions that affect light, specifically quality, quantity, direction, and color.

6. design and actualize a lighting scheme specifically aimed at creating an intended mood or atmosphere.
7. be capable of combining artificial light with ambient/natural light.
8. be proficient with regards to the use of exposure meters.
9. understand the different costs associated with different types of lenses and lighting units.
10. be able to produce a lighting budget for any type of visual production.
11. discuss the aesthetic reason behind choices made by the film/video maker.

C. Assessment Instruments

1. art work
2. research papers
3. demonstrations
4. essays
5. journals
6. portfolios
7. exercises
8. projects
9. presentations
10. exams
11. critiques

VII. Grade Determinants

- A. essays
- B. projects
- C. tests
- D. presentations
- E. exercises
- F. discussions
- G. attendance
- H. participation
- I. effort

Given the goals and outcomes described above, LIST the primary formats, modes, and methods for teaching and learning that may be used in the course:

- A. lecture/discussion
- B. small-group work
- C. computer-assisted instruction
- D. guest speakers
- E. laboratory
- F. student oral presentations
- G. simulation/role playing
- H. student collaboration

- I. studio time
- J. independent study

VIII. Texts and Materials

- A. suggested textbook: to be determined
- B. film and video
- C. digital SLRs
- D. audio sources
- E. web sources
- F. other computer-based sources
- G. hand-outs

(Please Note: The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline. The RVCC Bookstore is the sole resource for the most up-to-date information about textbooks.)

IX. Resources

Required equipment:

- A. Production equipment, including removable lenses, continuous lighting kits, strobe lights, digital SLRs, mini DVD video cameras, 18% gray cards, and exposure meters.
- B. Projector and screen or display monitor
- C. DVD/Blu-ray player
- D. Scanners
- E. Marker board

X. Honors Option: N/A