

COURSE OUTLINE

Theatre Arts 134

I. Catalog Statement

Theatre Arts 134 -Practical and Theoretical Aspects of Stage Lighting - 2 units

Prerequisite: Theatre Arts 131 (6 units) or equivalent.

Note: This course may be taken 3 times; a maximum of 6 units may be earned.

Theatre Arts 134 is for the advanced student in technical theatre. It is a course designed to develop the skills and techniques which are necessary for the student's participation and appreciation of the art of stage lighting. It is hoped that the student will develop, as a result of familiarity with stage lighting practice, a sense of balance and rhythm with regard to color, light and shadow₁ and mass.

Laboratory 6 hours

II. Course Objectives

The students will be able to:

1. evaluate the responsibilities of a theatrical lighting designer and recognize the designer's collaboration with other production company personnel,
2. demonstrate an understanding of the fundamentals of stage lighting, the basic concepts of electricity and lighting design or the theatre. He will be able to evaluate the appropriateness and effectiveness of lighting designs using generally accepted criteria,
3. demonstrate an understanding of the function of various lighting instruments, riggings, control systems, and technical plots which the lighting designer must use,
4. distinguish types of circuits and be able to compute wattage, amperage, resistance, and voltage as appropriate,
5. demonstrate an understanding of style, color, texture, angle of light and mood as they relate to theatrical lighting.

III. Text

Scene Design and Stage Lighting, W. Oren Parker and Harvey K. Smith, (2nd ed.), Holt, Rinehart and Winston, Inc., N.Y. 1990

IV. Course Outline

- A. Stage Lighting Design
 1. Objectives of stage lighting
 2. Functions of light

- a. Visibility
 - b. Plausibility
 - c. Composition
 - d. Mood
 3. Controllable qualities of light
 - a. Intensity
 - b. Color
 - c. Distribution
 - d. Movement
 4. Lighting the actor
 5. Lighting the acting area
 6. Lighting the background
 7. Special effects
 - a. Motivating light
 - b. Motivated lights
 - c. Specially defined visibility
 - d. Projections
 8. The responsibilities of the lighting designer
- B. The Elements of Electricity
1. The atomic theory
 2. Conductors and insulators
 3. Sources of electric current
 - a. Battery
 - b. Generator
 - c. Direction of current flow
 4. Electrical units of measurement
 - a. Volt
 - b. Ampere
 - c. Ohm
 - d. Watt
 - e. Ohm's Law
 - f. The "PIE" formula
 5. Direct and alternating current
 6. Electric services
 7. Series and parallel circuits
 8. Circuit accessories
 - a. Connectors
 - b. Switches
 - c. Fuses
 - d. Circuit breakers
- C. Color in Light
1. The electromagnetic spectrum
 2. Primary colors in light
 - a. Color mixing
 - b. Color filtering
 - c. Uses of mixing and filtering
 3. Warm and cool colors

- a. Colored light and the actor
 - b. Colored light and the scenery
 - c. Color on the sky
 - d. Color media
 - e. Comparison of color media
- D. Light Sources
- 1. The incandescent lamp
 - a. Lamp filaments
 - b. Lamp bulbs
 - c. Lamp bases
 - 2. The "R" and "PAR" lamps
 - a. Light distribution
 - b. Color
 - 3. Lamp life
 - 4. Tungsten-halogen lamps
 - 5. Lamp code numbers and identification symbols
 - 6. The carbon-arc light
 - 7. The fluorescent tube and other sources
- E. Reflection, Refraction, and Absorption
- 1. Reflection of light
 - a. The spherical reflector
 - b. The parabolic reflector
 - c. The ellipsoidal reflector
 - 2. Refraction of light
 - a. The plano-convex lens
 - b. The focal length
 - c. The fresnel and step lenses
 - 3. Absorption
 - a. White light
 - b. Colored light
- F. Stage Lighting Instruments
- 1. Spotlights
 - a. Plano-convex spotlight
 - b. Fresnel spotlight
 - c. Ellipsoidal spotlight
 - 2. Beam projector
 - 3. Floodlight
 - 4. Striplight
 - 5. Tungsten-halogen instruments
- G. Special Effect Instruments
- 1. Projected scenery
 - a. Linnebach projector
 - b. Lens projector
 - 2. Arc light
 - 3. Lighting fixtures
 - 4. Moon and stars
 - 5. Fire effects

6. Lightning
7. Explosions and flashes
8. Fog and smoke effects
- H. Intensity Control
 1. Pre-electric control
 2. Resistance dimmer
 3. Autotransformer dimmer
 4. Switchboards for resistance and autotransformer dimmer control
 5. Electronic control
 - a. Thyatron-tube
 - b. Silicon controlled rectifier
 - c. Control board theory and design
 - (1) presetting
 - (2) group mastering
 6. Portable dimming equipment
 7. Control board operator
- I. Stage Lighting Theory and Practice
 1. Lighting design
 - a. Lighting plot
 - b. Section
 2. Design for proscenium stage
 - a. Realistic interior
 - b. Realistic exterior
 - c. Wing-and-border settings
 - d. Space stages
 3. Design for arena theater
 4. Design for thrust stage
 5. Design for dance productions
 6. Design for outdoors productions
 7. Television and motion picture lighting
 8. Commercial theater

V. Examination/Evaluation Procedures

1. Grade evaluation of all examinations with essay style, true/false, matching and short answer questions to apply knowledge and analytical abilities developed through assigned readings, class discussions, assignments and practical, hands-on experience
2. Graded evaluation of a final examination dealing with student's ability to explain, synthesize, justify and apply the principles and methodologies learned in class and lab to a needed design plot with a certain number of dimmers and lighting instruments available for a hypothetical play production to be performed in a proscenium theatre
3. Summary evaluation of production assignment performance

VI. Special Features None