

# ART 20: COLOR THEORY

## Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2025
Units:	4
Hours:	3 lecture, 3 laboratory per week (72 total per quarter)
Advisory:	Not open to students with credit in ART 20A or 20B.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Area 3: Arts & Humanities
Transferable:	CSU/UC
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

## Student Learning Outcomes

- Comprehend and describe how color is perceived biologically, psychologically, culturally, symbolically, and intuitively.
- Independently produce finished color assignments that demonstrate an understanding of color theory and principles in the history of art

## Description

A study of the principles, theories, and applications of additive and subtractive color in two dimensions. Topics will include major historical and contemporary color systems, production of projects in applied color, and the elements of design as they apply to color.

## Course Objectives

The student will be able to:

- Create aesthetically complete designs and images that demonstrate a working knowledge of:
  - Color systems and color organization
  - Principles of color perception - light, vision, and the brain
  - Value, hue, intensity (chroma), and color temperature
  - Additive and subtractive color (light and paint)
  - Relationships between color and composition
  - Color usage in contemporary art and design
- Make individual aesthetic decisions and judgments related to their own artwork
- Skillfully use a variety of artistic materials, techniques, and tools
- Independently produce finished color assignments that demonstrate an understanding of color theory and principles in the history of art
- Comprehend and describe how color is perceived biologically, psychologically, culturally, symbolically, and intuitively
- Use the appropriate terminology related to color theory

## Course Content

- The history of color pigments and hues in Western and non-Western art history: red, yellow, orange, blue, green, violet, indigo, black, and white
- Color in art historical periods

- Art in the ice age and cave paintings
  - Post-impressionism and pointillism
  - Non-Western color in art movements
  - 20th century art and abstraction
  - Contemporary color in art and craft
- Color systems and color organization
    - Impressionism
    - Joseph Albers notation system
    - Munsell notation system
    - Pantone notation system
    - Matching or swatch system
    - History of color wheels and charts
  - Physics of color and perception
    - Sir Isaac Newton's theory of color - sources of light
      - Prism, white light, and color
    - Vision and the brain
    - Afterimages and optical mixing
    - Local color and perceptual color
    - Retinal painting
  - Properties of color
    - Value and tonal progressions
    - Hue
    - Chroma/Intensity
    - Local color vs. arbitrary color
    - Color temperature - warm and cool hues
      - The symbolic color temperature in fine art, graphic design, and photography
      - Color and the illusion of spatial depth (advancing and receding)
  - Colors, palettes, and materials
    - History of paint - pigments, vehicles, water-based paint, oil-based paint, encaustics, brushes, and palettes
    - Natural color pigment sources - rocks, minerals, spices, fat, twigs, urine, blood, and bugs
    - Color-aid paper and manufactured color
    - Paint mixtures: charts, wheels, palettes - closed (restricted palettes) and open
    - Neutral colors and earth colors
    - Primary, secondary, and tertiary colors
    - Digital palettes and tools: pixels, color gamuts, color sliders, digital and tablet palettes - color pickers, digital color apps, color inventories
    - Color studies on the computer, by collage, or by paint
  - Additive and subtractive color (light and paint)
    - Pigmentary or subtractive color (paint)
      - Pigments
      - CYMK
    - Physical properties of color
    - Refracted or additive color (light)
      - RGB primaries
      - Stage light and color - stage light and color light for plays and performances
    - Identifying and describing hues and color mixtures
  - Color, composition, and interactions relationships

- a. Principles of design and color - space, balance, repetition, unity, proportion, emphasis, rhythm
  - i. Composition, computation, and proportional math in art
    1. Proportional and non-proportional designs
    2. Grids and charts
    3. Measuring, scale, and dimensions of color and design projects
  - ii. Color harmonies: monochromatic, complementary, analogous, primaries (triadic), tetrads, split-complementary
- b. Elements of design - dot, line, shape, form, color, value, texture, space/depth, movement
  - i. Depth - advancing and receding colors
- c. Color interaction
  - i. Transparency
  - ii. Luminosity
  - iii. Simultaneous contrast and the Bezold effect
9. Cultural, environmental, and global color influences
  - a. Symbolic color, context, and global meaning
  - b. Religious and spiritual color
  - c. Environmental influences and color in nature
    - i. Environmentally safe paint and pigments
10. Psychological aspects of color
  - a. Innate non-verbal and learned responses to color
  - b. Emotional responses
  - c. Symbolic uses of color
  - d. Human response to color
  - e. Socioeconomic aspects of color
  - f. Color as a means of expression
11. Color and technology
  - a. Design and the fine arts, graphics and brand identity, package and product, color complexity, design, website design color
  - b. Pixels, raster vs. vector, additive color, color pickers, types of computer-imaging programs, monitors, color calibration, web color, online color, printing color, ink jets, four-color separations
12. Basic design art non-objective and abstract projects in which the student is required to demonstrate knowledge and skill in the use of the principles of color theory
13. Critical evaluation and critique of class projects
  - a. Students discuss, critique, and evaluate their own color and design compositions, as well as those of their classmates
14. Use the appropriate terminology related to color theory: achromatic grays, additive color, afterimage, analogous, bridge tones, chromatic darks, chromatic grays, color harmony, color interaction, color symbolism, color temperature, color wheel, CMYK, complementary hues, co-primaries, dark transparency, earth-tone primary, GAMUT, grayscale, high key, hue, hue continuum, inherent light, keyed, low key, luminosity, median transparency, monochromatic, muted colors, non-proportional color inventory, optical mixing, overtone, primary triad, prismatic colors, proportional color inventory, RGB, saturation, saturation continuum, secondary triad, shade, simultaneous contrast, subtractive color, tertiary colors, tin, tones, triadic, value, value continuum

## Lab Content

1. Basic design assignments in which the student is required to demonstrate knowledge and skill in the use of the principles of color theory
2. Assignments in which the student is required to use a variety of color systems and application techniques appropriate to different art historical periods and styles
3. Assignments in which the student is required to use a value, hue, intensity (chroma), and color temperature to express personal and expressive approaches to a subject matter
4. Development of skills using a variety of artistic materials, techniques, and tools appropriate to an introductory study in art, including but not exclusive to Color-aid and/or painted paper collage, water-based paint, glues, and cutting tools
5. Assignments in which the student is required to use a variety of color harmonies and application techniques appropriate to the principles and elements of design
6. Assignments in which the student is required to use a contemporary digital apps, photography and/or computers to create color inventories and then to make non-objective designs
7. Assignments in which the student is required to create research and design based on a global understanding of color and symbolic meaning
8. Assignments in which the student is required to create color and designs based on the color palettes from non-Western fine art and/or crafts

## Special Facilities and/or Equipment

1. Adequate work table space, stool for each student, and sink
2. When taught via Foothill Global Access: on-going access to a computer or smartphone with email software and capabilities; email address; JavaScript-enabled internet browsing software

## Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Portfolio review of completed work - each design will be evaluated for technical ability, craftsmanship, and personal creative and conceptual approaches

Group and individual critiques in oral or written formats

Written assignments, which may include quizzes, essays, exams, or reports

## Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture presentation using the vocabulary of color theory, color systems, and color organization

Class discussions using the language of color theory

Color demonstrations using hue, chroma, and value

Critique and group presentation of weekly in-progress color theory projects followed by in-class discussion and evaluation

## Representative Text(s) and Other Materials

Horning, David. Color - A Workshop for Artists and Designers, 3rd ed.. 2020.

Finlay, Victoria. The Brilliant History of Color in Art. 2014.

Long, Jim. The New Munsell Student Color Set, 3rd ed.. 2011.

Bleicher, Steven. Contemporary Color Theory & Use, 2nd ed.. 2011.

Fisher and Zelanski. Color. 1998.

Although some of these texts are older than the suggested "5 years or newer" standard, they remain seminal texts in this area of study.

## Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Research and write an essay on the history, symbolism, origins, and cultural meaning of color pigments
2. Independently produce finished color assignments that demonstrate an understanding of color theory and principles in the history of art
3. Examples: Research optical mixing in the four-color printing process, the Widow's Mite, 6th century mosaic, and the 21st century artist Chuck Close's Self Portrait. Write an essay to compare and contrast how optical mixing is used in the three two-dimensional art pieces. Next, make your own optical mixing art piece using some of the techniques you learned from these three artworks

## Discipline(s)

Art or Photography