

Color

Dan Collins, Coordinator
Studio Core Program
School of Art
Arizona State University

COURSE SYNOPSIS: ART 113 (COLOR)

Unit I: Subjective Color

Unit II: Emotional/Symbolic Color

Unit III: Color Basics: Additive Color (Light Theory)

Unit IV: Color Basics: Subtractive Color (Pigment Theory)

Unit V: Color Schemes and Beyond

Unit VI: Local and Optical Color

Unit VII: Joseph Albers and Color

Unit VIII: Depth Cues in Color

Unit IX: Color as a Compositional Device

Unit X: Process Color

Unit XI: Final Project

Optional Unit: The Psychology of Color

ART 113 (COLOR)

A Course Outline for Teaching Assistants and Faculty

Dan Collins, Studio Core Coordinator

Catalog description: Principles of color theory as related to the visual arts.

Prerequisites: ART 111 and ART 112. Six hours a week.

Expanded description: This course shall cover not only the basic elements of color theory, but also provide an opportunity for the more intuitive and practical applications of color in the making of art. The perceptual, symbolic, and cultural significances of color are addressed.

Required text

Color, Zelanski and Fisher, Prentice-Hall, Fourth Edition, 2003

General Introduction for the Instructor

“Color is the most relative medium in art”

—Josef Albers

“The artist is a medium.”

—Marcel Duchamp

Art 113—Color—is one of a quartet of courses comprising the Studio Core Curriculum in the School of Art. The Foundation as a whole is designed to both provide a practical understanding of Drawing, 2-D Design, 3-D Design, and Color and to whet the appetite for more advanced courses. A thoughtful, well-ordered problem-solving structure in each sixteen-week course, within the context of an integrated "first year" curriculum, provides an essential foundation for the variety of specialized courses found in the School of Art.

In the Color course, students are presented with a set of experiences that enable them to directly perceive, understand, and apply the principles of Color. While the broader territory of Color is introduced—the major theories, the various medias, the way Color is perceived, different professional uses of Color, etc.—the class emphasizes the "mind-set" of the studio artist as opposed to the more pragmatic concerns of the "design professions."

As an entry-level course, instructors are encouraged to foster both a sense of discipline about the art process as well as instill an excitement and love for art that will carry over into more advanced courses. Open dialog and critique are an integral part of the 2-D curriculum. The practice of art is shown to have rich cultural and historical dimensions. Examples are drawn both from the history of western art as well as from a broad range of non- western cultures.

THE COURSE OUTLINE

Instructors are provided with a detailed Course Outline that includes a collection of Units, arranged in a developmental sequence. Instructors are encouraged to follow this outline to ensure consistency in the information that beginning students take with them to the 200 level courses and beyond. (Personally designed assignments / problems are always welcome—in fact, innovative and successful assignments will be added routinely to the Course Outline.) All deviations by T.A.s from the written syllabus must be approved the Studio Core Coordinator.

Each Unit includes an *Objective*, a *Discussion*, a *Vocabulary* list, suggested *Reading*, a list of *Artists / Cultural References*, and a number of proven *Assignments*. Each of these components is discussed briefly below:

Objective: An *Objective* is a goal or destination that an instructor would like his or her class to attain. Pedagogically speaking, an "objective" is distinct from an "assignment."

Assignments are the "means"; objectives are the "ends." Assignments are specific tasks instructors give to students in order to explore objectives. These objectives can be explored using whatever means that best fit an instructor's teaching style and expertise. As will be clear from the range of assignments listed under each Unit, there are a great variety of ways in which to explore a given objective. These may be projects, tests, oral reports, etc.

Discussion: The Discussion is a synopsis of the ideas and references that inform the larger unit objective(s). The information found here may be gleaned from the textbook, drawn from external sources, or be of an anecdotal nature. The intention is to paint a more complete picture of the range of issues that could be dealt with in a given Unit.

Vocabulary: In general, the Vocabulary in each unit is derived from the textbook. In those cases where other textbooks have been referenced, the source will be listed immediately following the word in question. Instructors are encouraged to introduce new vocabulary as needed for particular assignments or Unit Objectives.

Reading: Suggested Reading is usually derived from the textbook. However, instructor packets targeting particular concerns may be assembled and distributed using local photo-copying services.

Artists/Cultural References: Numbered Artist / Cultural References (#) following specific examples for the Unit correspond to illustrations in the textbook. Individual assignment sheets handed out by the instructor may also include other references made in lectures, on field trips, or in other research.

Possible Assignments: There is a menu of Assignments listed under each Unit. Instructors are free to choose one of the assignments--or to design a new assignment that targets the Unit objective (new assignments developed by T.A.s must be approved by the approval of the Coordinator). As indicated above, innovative and successful assignments will be added to the roster of "possible assignments" on a regular basis.

OTHER CONSIDERATIONS

Supplemental Materials and Activities: Supplements to the Course Outline (e.g., notebooks, sketchbooks, outside readings, pop quizzes, visits to local art exhibits, student reports, field trips, etc.) are strongly encouraged. These will be assigned at the discretion of the Instructor.

Contact Hours vs. Outside Class Time: Students are expected to spend six contact hours per week with the instructor, plus a minimum of six hours of time outside of class in the pursuit of class projects.

Pacing: The speed with which individual classes move through the material may vary dramatically. The "pacing" of the class is more important than "finishing the list." Some sections may complete all of the Units listed below. Some instructors may feel that fewer assignments done at a more moderate pace would better serve their particular students. Consider the rhythm of your assignments and activities: a short assignment followed by a long assignment followed by a field trip may sustain interest and avoid burn-out. Each class is unique. Do what works. Be sensitive to the various learning styles of the students. Learning Styles: Customize your course materials to respond to the various learning styles of your students. Some students respond well to visual cues, others to text-based materials, still others to the spoken word. A few respond best to tactile, kinesthetic experiences.

Active vs. Passive Teaching: Consider ways in which your materials can be presented using "active" strategies for teaching (as opposed to "passive" presentational modes). With active learning, students are questioning things and thinking about the materials presented—not just passively recording. Research shows that active learners retain far more information than passive recipients. In one study, for example, the same materials presented as a traditional lecture yielded only 5% retention of the information by the students. Conversely, when students were asked to demonstrate knowledge actively, retention jumped to 30%. When students were asked to actually teach what they had learned (as with peer tutoring or interactive discussions) or immediately use the information received, retention rose to 90%.

For further information concerning course design, grading procedures, active vs. passive teaching strategies, sexual harassment issues, etc. see the Teaching Assistant Handbook.

UNIT I: Subjective Color

OBJECTIVE: To illustrate that one's perception of color and color harmony is, in large measure, a matter of personal preference and taste. To demonstrate the richness born of intuitive choices.

DISCUSSION: Johannes Itten relates the story in his book, *Elements of Color*, of the time he was teaching a class in "harmonic color combinations." Giving in to the students' restlessness, he allowed them to pursue an exercise in which the decision as to color choice and color relationships was left to each individual student. The resultant color combinations revealed that each student had their own private criterion of color harmony. Itten called these opinions "Subjective Color." Like the old adage, "In matters of taste, there can be no argument", in matters of color preference one's likes and dislikes need to be respected. Much of the challenge of this course is to temper one's passionate response to color phenomena with a little judgment and a dash of technique. Still, however much we learn, we don't want to disavow or ignore the value of Subjective Color—despite our own investment in particular theories or notions about color.

VOCABULARY: subjective, objective, taste, phenomena, subjective color, "arbitrary" color (see Lauer, [Design Basics](#))

READING: Chapters 1, 3, and 4

ARTISTS/CULTURAL REFERENCES:

Henri Matisse, Johannes Itten, Frantisek Kupka

POSSIBLE ASSIGNMENTS:

- 1) In the medium of your choice, make a grid of the colors you are wearing today in class. (3 hours)
- 2) Close your eyes. Picture a landscape that you would like to explore. Pick out the colors. Do a composition of simple shapes on a colored background that accurately renders the colors—not the specific imagery—of your "dreamscape." (3-6 hours)
- 3) Make a "personal color wheel" with a minimum of six divisions. Use only your favorite colors. Make another color wheel using only colors you hate. (3 hours)
- 4) Go to a room or a place in which you spend most of your time—or would like to spend more time. Do a color chart that accurately renders the range of colors and color relationships found in that place. Refinement: render your color chart so that the relative proportion of various colors is accurately depicted. Variation: Go somewhere you feel extremely uncomfortable. Do the same exercise. Further variation: take an object from one environment and paint it with the colors of the other environment. (6-9 hours)
- 5) Write a short story or poem that describes the colors of a dream you have had. Be specific and try to remember the particular relationships between colors and the context in which they appeared. (Hours open)

UNIT II: Emotional/Symbolic Color

OBJECTIVE:

To appreciate color's basic ability to achieve an emotional response in a viewer. To introduce cultural and symbolic significances of color.

DISCUSSION:

The following is from *Design Basics* by David Lauer:

"For artists who wish to arouse an emotional response in the viewer, color is the most effective element. Even before we "read" the subject matter or identify the forms, the color creates an atmosphere to which we respond. In a very basic instance, we commonly recognize so-called warm and cool colors. Yellows, oranges, and reds give us an instinctive feeling of warmth and evoke warm, happy, cheerful reactions. Cooler blues and greens are automatically associated with quieter, less outgoing feelings and can express melancholy or depression. These are generalities, of course, for the combination of colors is vital, and the artist can also influence our reactions by the values and intensities of the colors selected."

Of course, it is also important to recognize that our reaction to color is contingent upon such variables as culture and language. Lauer points out (p. 212) that we will have widely varying responses to color because of different cultural references. The color of mourning in our culture is black; but in India it is white, in Turkey it is violet, in Ethiopia it is brown, and in Burma it is yellow. One could argue that the more specific and complex the cultural reference, the more likely it is that one will encounter unique expressions of color use and color symbolism. (This can't be proven but it's an interesting thought)

As regards language, we use a lot of references to color—often without realizing it or understanding its significance. Consider the differences in the following statements (quoted by Lauer):

"Ever since our argument, I've been blue." (Emotional) "Don't worry, he's true blue." (Symbolic)

Can you think of any other references to color that we use in our everyday language?

VOCABULARY:

emotional color, symbolic color, warm colors, cool colors, (Review vocabulary from unit I)

READING:

Color, Chapter 4 (review)

ARTIST/CULTURAL REFERENCES:

from your book: David Hicks (4.1), Luis Ortega (4.2), Funerary face (4.4), Larry Bell (4.5), George Segal (4.6), Mark Rothko (4.7), Paul Gauguin (10.14), Andre Derain (10.1S), Franz Kline (10.18), Helen Frankenthaler (10.19), Karel Appel's *Sky with Clouds* (frontispiece). *from the lecture*: Georges Seurat, The "Nabis", Pablo Picasso (his "blue period), Christian Iconography, Hindu color symbolism, Chinese color symbolism, signage...

ASSIGNMENTS:

1) Write out as many phrases or aphorisms that you can think of that contain references to color (e.g., "Green with envy"). Illustrate three of your phrases with ink line drawings or with xerox images. Color your black and white images with prismacolor pencils to heighten their emotional qualities. Refinement: Combine all three images into one composition.

- 2) Illustrate three of your phrases with either three quick tom/cut paper collages or assemblages ("found color") or prismacolor over xerox or ink drawing. These are to be small studies (3-6") for your notebook. Label them for the emotion or symbolism you intend to convey. Indicate color scheme if appropriate.
- 3) Do a "self-portrait" (not necessarily representational) using tom/cut paper, prismacolor, or gouache (or a combination). Use a color scheme that conveys an emotional state or expresses an idea.
- 4) Think of how color is used symbolically in your world. Make simple line drawings or xerox images of objects that have come to always be certain colors: e.g., a red stop sign, a white bridal gown, a black hearse, a green light, a yellow school bus, a red, white and blue flag. Render your drawings in colors that violate your culturally held views. Make a composition or collage that includes one or more of your drawings or xeroxes. Variation: Take photographs of the objects above. Use a color xerox machine or Canon Laser Printer to alter the colors as much as possible.
- 6) Find a literary source—a short story, a poem, the lyrics to a song—that refers to color in some way. Do a painting that uses the written description in ways that heighten our appreciation of the text. (See Visual Workouts, p. 71, "Literary Source," and pp. 72-73, "Object/Place Illustration")

UNIT III: Additive Color (Light Theory)

OBJECTIVE: To introduce the basic physics of Color as it relates to light. To differentiate "Additive" mixing from "Subtractive" mixing (latter is the one most artists are familiar with...)

DISCUSSION: Physicists explain color as a function of light (Zelanski). However, our understanding of color as artists is complicated by the fact that the physics of pure light differs in fundamental ways from the physics of pigments or other coloring matter. "Additive" color mixtures refer to colors in light (as in a transparent gel). The more colors in light are mixed together, the lighter they become. When equal mixtures of the "light primaries" red-orange, green, and blue-violet are projected in overlapping circles, they will mix to form the "light secondaries" yellow, magenta, and cyan. Where all three primaries overlap, they produce white (see Zelanski, p. 13).

White light was first proven to contain all of the colors by the physicist Sir Isaac Newton in the 17th century. Newton passed a ray of white light through a glass prism. By the principle of "refraction", the beam of light was broken into its constituent parts—the same familiar rainbow pattern one sees in oil slicks, on the walls of a sunlit room filled with "power crystals", or in a sky filled with moisture and light.

Remember: The "Light Primaries" are different from the "Pigment Primaries". The Light Primaries are, basically, Red, Green and Blue. The Pigment Primaries are Red, Blue, and Yellow.

VOCABULARY: refraction, visible spectrum, wavelength, spectral hues, additive mixing, transparency, color wheel, pigment color reflected light, subtractive mixing

READING: Color, Chapter 2, "Color," Tim McGinty, School of Architecture, ASU. See also, Sargeant, Walter, The Enjoyment and Use of Color.

POSSIBLE ASSIGNMENTS/ACTIVITIES:

- 1) Using commercially produced transparent "gels", demonstrate the effect of "additive mixture." (Ed Shipp has the apparatus to do this neat piece of theater...) We also have the necessary Kodak "Wratten" filters in slide form." These can be projected in three overlapping slide projectors to produce the same effect.
- 2) Using the light from a slide projector and a prism, reconstruct Sir Isaac Newton's 17th century experiment in which he refracted a beam of sunlight and broke it down into its constituent parts. (There is a prism in the Core Office)
- 3) Have a professional photographer adept at additive color mixing demonstrate how a color photograph is produced.
- 4) Take a field trip to the theater department and have the lighting technician demonstrate the lighting system and how lights are mixed on stage.
- 5) Demonstrate a computer graphics system with color capability. Show how video display monitors use additive mixture (see Zelanski, Chapter 8).
- 6) Have students do oral or written reports on the early discoveries concerning the physics of light.
- 7) Using a color polaroid camera, have the students shoot different objects under different colored lights. Experiment with combinations of lights and/or multiple exposures. (from a problem by Mark Weiss)

UNIT IV: Subtractive Color (Pigment Theory)

OBJECTIVE: To introduce the physics behind "pigment theory" (the color system most familiar to artists). To differentiate "Subtractive color mixing" (pigment) from "Additive color mixing" (light). Introduction of the color wheel.

DISCUSSION: While most artists are aware of how to mix pigments in order to achieve desired color mixtures, few have any idea about the physics involved. The words used to describe different mixture systems leads to confusion. "Additive" as we have seen refers to colored light. "Subtractive" refers to pigment. Even though you may be physically "adding" pigments together—this does not mean that you are using an "Additive" system!

"Pigments reflect and absorb light: the particular wave-length reflected to our eye is identified as the ~ or color of that pigment, all other wavelengths having been absorbed!" (McGinty)

The Pigment Primaries are Red, Yellow, and Blue. They can be mixed to form all of the other hues.

Theoretically,

The color wheel is an effective way of introducing subtractive color mixing. I would suggest bringing an already constructed diagram of the color wheel to class, then filling in some of the sections as a demonstration. This will also introduce them to the proper ways of mixing color and handling their brushes.

VOCABULARY: subtractive color, pigment colors, reflected light, *hue* (the actual wavelength of the color—e.g., green and red are both "hues" but have different wavelengths), *saturation* (also chroma, intensity, strength or brilliance), *value* (lightness or darkness, sometimes known as "brightness"), primary, secondary, tertiary, neutrals, tints, shades, complements

READING: Color, Chapter 2 (continued), "Color," McGinty (continued), Reading Packet: pages 4-12 and 21-25.

POSSIBLE ASSIGNMENTS:

- 1) Construct a 12 step color wheel (see p. 5 of reading packet). Paint the "pie slices" with gouache or acrylic. On the same panel, include a nine or ten step value scale, a tint/shade scale, and a "neutral" scale (mixed complements).
- 2) Invent your own color wheel that organizes pigment colors into a logical and coherent system. Include a method for including either tints and shades or degrees of intensity.
- 3) Make a presentation to the class on the history of the color wheel.

UNIT V: Color Schemes and Beyond

OBJECTIVE: To introduce the basic color schemes as well as a few variations.

VOCABULARY: color scheme, monochromatic, analogous, complementary, triadic, split complementary, double complementary

READING: Color, Chapter 9

POSSIBLE ASSIGNMENTS:

1) One Photo/Multiple Meanings: Have a friend take a picture of you in a particular setting. Try to get a good range of values and colors in the scene. Make at least six xerox copies of the original photograph. Color each of the six xeroxes with a different color scheme in prismacolor. Do each of the following: monochromatic, analogous, complementary, as well as variations to include a warm figure on a cool ground, a cool figure on a warm ground, and a "fantasy landscape." Mount all of the finished drawings on matt board. (Thanks to Denis Gillingwater)

2) Four of Everything: Make a painting that combines four disparate ways of looking at a single object image as subject matter, done in four different painting styles and four specific color systems. (See Visual Workouts, p. 56)

UNIT VI: Local Color

OBJECTIVE: To introduce our varied perception of the “actual” color of an object. To compare and contrast “local color” with “optical color.”

VOCABULARY: local color, local value, optical color, context, light source

READING: *Color*, Zelanski and Fisher, Chapter 4

Note: Zelanski and Fisher do not use the term “optical color” in their discussion of local color. However, we have found that projects that compare and contrast these two very different approaches to color use can be very helpful in solidifying students’ understanding of both.

POSSIBLE ASSIGNMENTS:

- 1) Do a pair of still-life compositions in which one utilizes strict local color and the other is radically modified by an unusual light source.
- 2) Box Problem. See *Visual Workouts*, p. 48.
- 3) Photograph a single object in such a way that its innate color is as “pure” as possible (use temperature balanced light source and film...or daylight film outdoors). Do a series of photos in which the color of the object changes relative to the context and light source. Produce a single presentation from all the photographs.

UNIT VII: Theories of Joseph Albers and Color

OBJECTIVE: To familiarize the students with the work and Joseph Albers, the great colorist and teacher

ARTISTS/CULTURAL REFERENCES: Joseph Albers (there are a great many slides in the Core Slide Files)

POSSIBLE ASSIGNMENTS:

For this Unit, I would recommend first having the students execute the five "Albers Assignments" as found in the Syllabus by JoAnn Boehmer (see Color Syllabi File, Core Resource Office, 1988). Then you may want to embellish this basic introduction to Albers with some other projects.

- 1) Do an "after-image" (successive contrast) project using plaster relief castings of actual objects (fruit works well...) Make two identical plaster reliefs. Paint the first plaster relief the "complement" of its real-life color. Keep the second relief pure white. Stare at the colored relief for 60 seconds, then quickly shift your gaze to the unpainted relief. The unpainted relief should glow with the "correct" colors of the original fruit. For example, a plaster banana painted purple would appear as a yellow after-image.
- 2) Do a painting in gouache or acrylic that illustrates how an object can appear to stand in front *of*, be in the same plane as, or be behind another object or set *of* objects simply by manipulating the color *of* the object. (See Albers slides)
- 3) Format: do all of the suggested Albers exercises in a book (from a problem by DeAnne Furr)

UNIT VIII: Depth Cues in Color

OBJECTIVE: To introduce the variety of methods for creating the effect or illusion of spatial depth through the use of color.

VOCABULARY: opacity, atmospheric (aerial perspective), transparency, overlap

READING: Color, Chapter 5, Reading packet: pp. 26-27

ARTISTS/CULTURAL REFERENCES: Jean-Luc Manz (5.1), Beverly Dickinson (5.2), David Bomberg (5.3), Gene Davis (5.4), Bridget Riley

POSSIBLE ASSIGNMENTS:

1) Personal Still Life: Using a box as a kind of three-dimensional frame (dimensions variable), construct a "personal still-life" (a kind of self-portrait with objects, textures, and colors) inside the box. Using gouache or acrylic, do a painting which accurately renders the objects in your still life, yet gives the sensation that the objects sit in an infinite space. Variation: Cut a hole in the "floor" or "ceiling" of the box and insert your own head. (Inspired by a problem by Robin Van Rooyen)

2) OP painting: Construct a hard-edged painting that gives the sensation of infinite depth.

3) Thousand Veils: Use overlap, opacity and transparency to create a painting with a minimum of ten rectilinear shapes. Consider using both geometric and organic line qualities.

UNIT IX: Color as a Compositional Device

OBJECTIVE: To introduce the many ways artists have used color to organize the picture plane—both laterally (as an actual flat surface) and in depth (as a virtual space.)

VOCABULARY: "push/pull" (advance/recede), "flatness", and proportion, saturation vs. value, emphasis, unity, balance, gestalt

READING: Color, Chapter 5 Johannes Itten, pp. 59-63., Elements of Color (continued)

ARTISTS/CULTURAL REFERENCES: Hans Hoffman, Andreas Agas (5.6), George Herriman (5.7), Advertisement for Deneuve perfume (5.8), Vera Lehdorff and Holger Trulzsch (5.9), Mark Rothko (4.7),

POSSIBLE ASSIGNMENTS:

- 1) Contradictory Space: set out to make a painting that deliberately contradicts the "depth cues" used in Unit VII. This could be done with either representational or non-objective shapes.
- 2) Two paneled painting: Using two identical panels, make a diptych that uses radically different colors and painting styles yet feels as if it occupies the same spatial plane. (See illustration 5.6)
- 3) The Even Tempered Quilt: Make a grid that includes all of the 12 colors of the color wheel scattered at random. Adjust the value and saturation of each colored square to give the "flattest" effect.
- 4) Make a chart that illustrates in graphic terms the proportional relationships of color relative to saturation and value. (See Itten readings)
- 5) Camouflage: Paint an actual three-dimensional object so that it is camouflaged against a background of found pattern or texture. (See Visual Workouts, p. 75)

UNIT X: Process Color

OBJECTIVE: To introduce the slightly different system of primary colors in use by the printing industry.

DISCUSSION: From *Visual Workouts*, by Mary Frisbee Johnson: "To print a color photo on a printing press, an image is broken down photomechanically into halftone dot separations of three primaries: magenta, yellow, and cyan, the separations are then printed in transparent inks that blend together on the paper to form all the colors found in the original photo. The white of the paper and a fourth run in black, respectively, provide tints and shades of the colors." One can find examples of the three process colors almost anywhere: look at a color photo in a newspaper or a magazine; the back of a cereal box; or even in your textbook (see page 67 for a blow-up of the photos on 68-69)

VOCABULARY: process colors, pointillism, optical mixture

READING: *Color*, Chapter 7

ARTISTS/CULTURAL REFERENCES: Lichtenstein, Andy Warhol, George Seurat, Chuck Close, Roy Lichtenstein

POSSIBLE ASSIGNMENTS:

- 1) Pointillist Self-Portrait: Enlarge a Polaroid SX-70 color self-portrait onto an illustration board in a pointillist painting technique using only the three primary process colors and black. (See handout below from *Visual Workouts*, page 66-67, and hand-out "Pointillist Self-Portrait Problem: Color Swatch Exercise.")
- 2) Cut out a fragment of any commercially printed material Using the three process colors in the form of felt markers (available at Simmons), do a pointillist version of the fragment Consider including the fragment in the final composition.
- 3) Take a field trip to a large printing company. Do a layout of photographs and actual printed stock that illustrates in strictly visual terms the printing process used at the company.

POINTILLIST SELF-PORTRAIT

Taken from *Visual Workouts: A Collection of Art-Making Problems*, by Mary Frisbee Johnson.

PROBLEM:

Enlarge a Polaroid SX-70 color self-portrait onto illustration board in a pointillist painting technique using only the three primary process colors and black.

The appeal of this problem lies in the unbelievable quality of a basic color theory rule: in pigments all colors can be made from the three primary colors of red, yellow, and blue. In this problem, all the subtleties of a color photo will be reproduced through the use of the slightly different primaries used by the printing industry.

To print a color photo on a printing press, an image is broken down photomechanically into halftone dot separations of three primaries: magenta, yellow, and cyan. The separations are then printed in transparent inks that blend together on the paper to form all the colors found in the original photo. The white of the paper and a fourth run in black, respectively, provide tints and shades of the colors. It is possible to approximate the printing of a color photo by the use of a painting technique called pointillism. This technique involves the juxtaposition of small dots of color so that the colors blend in the viewer's eye to produce, through optical mixture, the effect of another color. Many dots of yellow and blue, for instance, would appear at a short distance as green.

Concentrating on the head and face, use a Polaroid SX-70 or any other instant color film camera to obtain a small photographic self-portrait. Try for a well-composed image with a wide range of both warm and cool color. Superimpose a grid system drawn on acetate over the photo and grid up to a sheet of illustration board approximately eight times larger. (A Polaroid image is 3" by 3"; if it is blown up onto a board eight times larger, then the board must be 24" by 24". If the Polaroid is gridded in 1/8" squares, then it follows that the board must be gridded in 1" squares.) Working in light pencil, translate the essential information from each square of the photograph onto the corresponding square in the grid system drawn on the board.

Using dots of the three colors, try to match the intensity and value of the colors in the photo. Use tempera, gouache, or acrylic paint mixed to match the three process colors, or purchase special felt-tipped markers that are available in these colors. To match the three process primaries, simply look in your kitchen. Almost any kind of package printed with a color photo of the contents (for example, a cereal box) will have a printer's test strip or series of dots on one of the tuck-in flaps. These dots or strips represent pure process colors. Do a test strip to get the feel of combining these primaries to make a large variety of color. Use sparse dots for tints and dense dots for intense color, and add black dots for shades. Think carefully about the size of the dots: large dots will not allow enough detail and tiny dots become impossibly obsessive. Varying dot size and pattern will give a sense of in and out-of-focus areas. Using only the three primaries sets up a situation in which one is forced to form given color with limited resources.

Much can be learned about the basics of color mixture, value, and intensity. Another objective, of course, is to master a pointillist painting or drawing technique to render a clear self-portrait with a shimmering, alive surface that maintains a sense of the photographic original.

Reference

LEM, DEAN PHILIP. *Graphic Master 2*. Los Angeles, Calif.: Dean Lem Associates. 1977.

RELATED ARTISTS:

George Seurat, Henri-Edmond Cross, Paul Signac, Chuck Close, Roy Lichtenstein, Andy Warhol