

Color Theory

Test 1 Review: Fall 2019

- Exam: 1 Tuesday, September 17
- Sources covered on exam: Course text (*Color/6th ed.*) Ch. 1, Ch. 2, Ch. 3, p. 77-81 (mixing) p. 120-127 (major hue schemes: www.harding.edu/gclayton/color/topics/005_schemesintro.html).
- Liquitex Acrylic Book reading (p. 5-13) Note: numbers in braces (45) (97-102) are pages in text.
- Be *able to chart* colors and hue schemes using color wheel & value staff, and by noting limitations and dominants. (see course web-posted content: www.harding.edu/gclayton/color/assignments/cht01_chartingintro.html)
- Be *able to mix* using the straight-line method and Y-method. (79)

Topics (note... the numbers, below are page numbers from 6th ed. of the course textbook.)

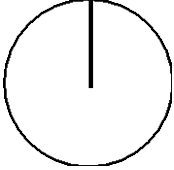
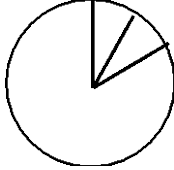
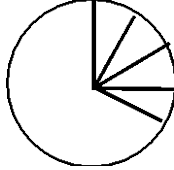
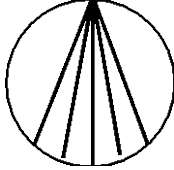
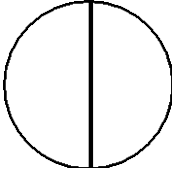
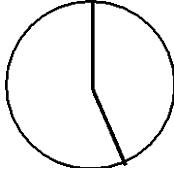
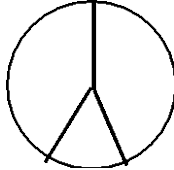
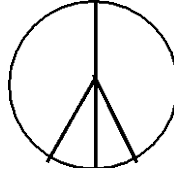
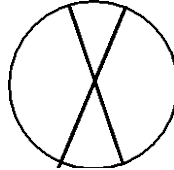
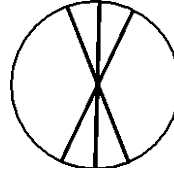

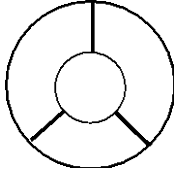
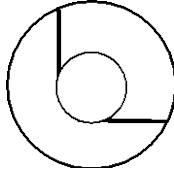
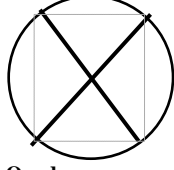
Three dimensions of color:	Trichromatic Theory vs. Opponent Theory (27)
Hue, Value, Chroma (19)	Additive color (light), primaries, secondaries. (16)
Chroma [alts: intensity, saturation, brightness]	Subtractive color (pigment), primaries, secondaries, tertiaries (15-18).
Chromatic neutral, near-neutral, low chroma	Subtractive vs. Additive color (how are they different? Why are they so named?) (15, 16, 22)
Achromatic, neutral, true neutral (21)	Additive vs Subtractive primaries & secondaries.
Complement, Analogous/Adjacent	Munsell's color wheel vs. 'traditional' wheel. (18)
Inherent-, intrinsic- or natural value	Munsell color tree (f. 2.18): explain its 3-dimensions, and varied row lengths. (f. 2.10)
Pigment, binder, medium (18)	Munsell hue notation system (e.g. 8R 5 12) (p. 71)
High key (high-value-dominated scheme)	Liquitex color map & straight-line mixing techniques, (see p.78-79) (21, 22, 70, 71)
Low key (low-value-dominated scheme)	Surface quality effects on color (33)
Tint, Shade, Tone	Weber-Fechner mixing (98-99) (Geometric vs. arithmetic mixing)
Tonalist designer/painter vs. Colorist (lect.: e.g. Leonardo vs. Monet)	(painted) Glaze, Tint (80)
Atmospheric vs. local color (49/52)	Browns, tans, beiges in terms of H/V/C
Impact of prevalent color printing, digital color editing, and dye/pigment chemistry advances on color design.	Warm, Cool, relative color 'temperature'
Physical basis of color variation (wavelengths and frequency, selective absorption, nanometers.) (14)	Analogous or adjacent color (120-4)
Color coding of information. (11)	Dominance, Subordinance (from color charting)
Current scientific understanding of color phenomena.(12)	Limitation (limited palette), benefits to unity.
Theory vs. practice in learning color (12)	Simultaneous contrast: each color "pushes" the appearance of its neighbors away in hue, in value and in chroma. Juxtaposition matters. (see also p 136-7; web links)
Electromagnetic- & visible spectrums (14, 15)	"the only hard and fast rule" (32)
Newton's color wheel (origin/inspiration)	Color constancy, Monet's series (29, 34-6)
Sunlight, color of daylight. The "color" of White light (33, 14)	Color vision in animals, bees, worms (30 & web)
Reflection, transmission, absorption & refraction (text p. 38, fig. 3.23)	Color blindness, prevalence, common types. color/hue perception variations due to culture. Color field size in relation to clr perception. (31)
Retina (25),	Illumination's impact on perceived color, (34-5)
Ganglion cells, opponent theory & color blindness.	North light, "full-spectrum" lights, color critical matching. (36-7)
Cones, (3 types) Rods & their function (26)	Non-visual perception/ synesthesia (37)
Narrow field of color accuracy (p. 26) & fovea (function & traits) (26)	Color proportions/proportion studies. (fig.3.11)
Optic nerve, blind spots and their cause.	Impact of color juxtaposition (placement)(fig.3.13)
The eye's lens & iris (role/function) (25)	Acrylic as a medium; solvent; binder; cleanup; advantages; wet-to-dry color shift. (The Acrylic Book)
Color afterimage (successive contrast) (also p132-3) , exhaustion of rods (rhodopsin) & cones (iodopsin), night vision. (26/27)	

B. Hue schemes graphically outlined.

These diagrams represent the most common structured hue schemes.

Note that each structure — the black bars, below — can be rotated freely around the center of the color wheel.

Thus, the hues can vary, but the relationship between the hues within a scheme holds constant.

Family of Schemes	Schemes					
Similarity-Based Schemes: Monochromatic & Adjacent & Saturation	 Monochromatic	 3-Hue Adjacent	 5-Hue Adjacent			 Saturation
Opposition-Based Schemes: various Complementary	 Complementary	 Near-Complement	 Split-Complement	 Split-Complement-Bridged	 Double-Complement	 Double-Split Complement Bridged
Distribution-Based Schemes: Triadic and Quad	 Triadic (strict)	 Triadic w. Neutral	 Triadic w. Neutral as 3 rd Hue	 Quad		