GENERAL TERMS

Abstraction. A visual representation that may have little resemblance to the real world. Abstraction can occur through a process of simplification or distortion in an attempt to communicate an essential aspect of a form or concept.

Accent. A secondary focal point.

Achromatic. Denotes the absence of hue and refers to the neutrals of black, white, and gray. (See also Chromatic and Neutrals.)

Actual Grays. Uniform value achieved by the continuous deposit of drawing media, such as blended charcoal or ink wash. (See also Optical Grays.)

Additive Process. The creation of a specific three dimensional object by adding materials together to create a larger form.

Additive System. A color mixing system in which combinations of different wavelengths of light create visual sensations of color.

Aerial Perspective. The perception of less distinct contours and value contrasts as forms recede into the background. Colors appear to be washed out in the distance or take on the color of the atmosphere.

Aesthetics. A branch of philosophy concerned with the beautiful in art and how it is experienced by the viewer.

Afterimage. Occurs after staring at an area of intense color for a certain amount of time and then quickly glancing away toward a white surface where the complementary color seems to appear.

Allover Pattern. A composition that distributes emphasis uniformly throughout the two-dimensional surface by repetition of similar elements.

Alternating Rhythm. A rhythm that consists of successive patterns in which the same elements reappear in a regular order. The motifs alternate consistently with one another to produce a regular (and anticipated) sequence.

Ambiguity. Obscurity of motif or meaning.

Ambiguous Space. A visual phenomenon occurring when the spatial relationships between positive and negative shapes are perceptually unstable or uncertain. (See also Figure-Ground Shift, Interspace, and Positive-Negative Reversal.)

Amplified Perspective. A dynamic and dramatic illusionistic effect created when an object is pointed directly at the viewer.
**Analogous Colors.** A color scheme that combines several hues located next to each other on the color wheel.

**Angling.** The process of transferring perceived angles in the environment to a drawing surface.

**Anticipated Movement.** The implication of movement on a static two-dimensional surface caused by the viewer's past experience with a similar situation.

**Approximate Symmetry.** A form of visual balance which divides an image into similar halves but which avoids the potentially static quality of mirror-like opposites associated with symmetrical balance. Also called Informal Symmetry.

**Art Deco.** A decorative style, popular in the 1920s, characterized by its geometric patterns and reflecting the rise of industry and mass production in the early twentieth century.

**Artistic Block.** The interruption of an artist's natural creative output. Often accompanied by feelings of severe frustration and loss of confidence.

**Artistic Rut.** The feeling that you are doing the same thing over and over and not getting anywhere.

**Assemblage.** An assembly of found objects composed as a piece of sculpture (see Collage).

**Asymmetrical Balance.** Balance achieved with dissimilar objects, shapes or colors that have equal visual weight or equal eye attraction. This is also considered Informal Balance.

**Atmospheric Perspective.** A means for achieving the illusion of three-dimensional space in a pictorial work of art. Sometimes called aerial perspective, it is based on the fact that as objects recede into the distance their clarity of definition and surface contrast diminish appreciably.

**Axis.** A line of reference around which a form or composition is balanced. A straight implied line which divides a composition as a result of continuation.

**Background.** The most distant zone of space in a three-dimensional illusion (See also Foreground and Middleground.)

**Balance.** The equilibrium of opposing or interacting forces in a pictorial composition.

**Basetone.** The darkest tone on a form, located on that part of the surface which is turned away from the rays of light. (See also Chiaroscuro.)

**Bilateral Symmetry.** A quality of a composition or form wherein there is a precise correspondence of elements on either side of one central axis.
**Biomorphic.** A term which describes shapes and forms derived from organic or natural sources.

**Blind Contour.** Line drawings produced without looking at the paper. Such drawings are done to heighten the feeling for space and form and to improve eye-hand coordination.

**Blurred Outline.** A visual device in which most details and the edges of a form are lost in the rapidity of the implied movement.

**Brilliance.** The vividness of a color.

**Calligraphic.** Elegant, flowing lines suggestive of writing with an aesthetic value separate from its literal content.

**Cast Shadow.** The shadow thrown by a form onto an adjacent or nearby surface in a direction away from the light source. (See also Chiaroscuro.)

**Central Vanishing Point.** The point of convergence for all lines or edges perpendicular to the picture place.

**Chaos.** The random or stochastic organization of shape and forms which avoid any fixed rule.

**Chiaroscuro.** In the pictorial arts, chiaroscuro refers to the gradual transition of values used to create the illusion of light and shadow on a three-dimensional form. The gradations of light may be separated into five separate zones: highlight, quarter-tone, halftone, basetone, reflected light, and cast shadow.

**Chroma.** See Intensity.

**Chromatic Gray.** Gray created by adding hue to a neutral or by mixing complements to achieve a neutralized color. (See also Neutral).

**Chromatic.** Relating to the hue or saturation of color.

**Classical.** Suggestive of Greek and Roman ideals of beauty and purity of form, style, or technique.

**Closed Form.** The placement of objects by which a composition keeps the viewer's attention within the picture.

**Collage.** An artwork created by assembling and pasting a variety of materials to a two-dimensional surface.

**Color Climate.** Sensations of moisture or dryness associated with the color temperature of a hue.
Color Constancy. A psychological compensation for changes in light when observing a color. A viewer interprets the color to be the same under various light conditions.

Color Discord. A perception of dissonance in a color relationship

Color Harmony. Any one of a number of color relationships based on groupings within the color wheel (see Analogous Colors, Color Triad, and Complementary).

Color Scheme. An association of selected colors that establishes a color harmony and acts as a unifying factor in a work of art.

Color Symbolism. Employing color to signify human character traits or concepts.

Color Triad. Three colors equidistant on the color wheel.

Color Wheel. An arrangement of colors based on the sequence of hues in the visible spectrum.

Complementary Colors. Colors that are directly opposite one another on the color wheel and represent the strongest hue contrast, such as red and green, blue and orange, and yellow and purple. (See also Complementary Color Scheme.)

Complementary Scheme. A color scheme incorporating opposite hues on the color wheel. Complementary colors accentuate each other in juxtaposition and neutralize each other in mixture.

Complex Local Color. The natural range of hues of some objects that, under normal light, create the overall impression of a dominant local color. (See also Local Color.)

Composite Shape. A larger shape made up of smaller shapes.

Composition. The overall arrangement and organization of visual elements on the two-dimensional surface.

Compositions Analysis. Recording the major areas of an image in terms of flat shape usually for the purpose of analysis.

Conceptual. Artwork based on an idea. An art movement in which the idea is more important than the two- or three-dimensional artwork..

Content. The meanings inferred from the subject matter and for of a work of art.

Continuation. A line or edge that continues from one form to another allowing the eye to move smoothly through a composition.

Continuity. The visual relationship between two or more individual designs.

Contour. A line used to follow the edges of forms and thus describe their outlines.
Contrast. The relationship between values in a composition.

Convergence. In this system of linear perspective, parallel lines in nature appear to converge (come together) as they recede.

Cool Colors. Psychologically associated, for example, with streams, lakes, and foliage in the shade. Cool colors such as green, blue-green, blue, and blue-purple appear to recede in a relationship with warmer colors.


Cropping. The process of defining the final borders of an image and the elimination of extraneous elements.

Cropping. Using a format to mask out parts of an image's subject-matter.

Cross-Contour Lines. Contour lines that appear to conform to a depicted object's surface, thereby indicating the turn of its form.

Cross-Hatching. A drawing technique in which a series of lines are layered over each other to build up value and to suggest form and volume.

Crystallographic Balance. Balance with equal emphasis over an entire two-dimensional surface so that there is always the same visual weight or attraction wherever you may look. Also called allover pattern.

Curvilinear. Rounded and curving forms or shapes.

Dadaism. A nihilistic, anti-art movement resulting from the social, political and psychological dislocations of World War I. The movement is important historically as a generating force for surrealism.

Design. A planned arrangement of visual elements to construct an organized visual pattern.

Diagrammatic Marks. Those marks and lines artists use to analyze and express the relative position and scale of forms in space.

Dilation. The aspect of radial symmetry in which objects emanate evenly from a central point such as the rings of a bullseye.

Diminution. In linear perspective, the phenomenon of more distant objects appearing smaller.

Diminution. The gradual reduction in size as a result of linear perspective.

Discordant Color Scheme. A color arrangement based on hues that compete or conflict, resulting in a relationship of disharmony. (See also Color Scheme.)
Distortion. A departure from an accepted perception of a form or object. Distortion often manipulates established proportional standards.

Dominance and Subordination. The relative importance of design elements in a composition based on proportion and eye attraction. (See also Hierarchy)

Draftsmanship. The quality of drawing or rendering.

Dynamism. Implied movement.

Earthworks. Artworks created by altering a large area of land using natural and organic materials. Earthworks are usually large-scale projects that take formal advantage of the local topography.

Economy. The quality of successful composition using a minimum of design elements. The use of parsimony to find the essence of art or design.

Emotional Color. A subjective approach to color usage to elicit an emotional response in the viewer.

Enigmatic. Puzzling or cryptic in appearance or meaning.

Envisioned Images. Depictions that are based wholly or in part on the artist's imagination or recall.

Equivocal Space. An ambiguous space in which it is hard to distinguish the foreground from the background. Your perception seems to alternate from one to the other.

Expressionism. An artistic style in which an emotion is more important than adherence to any perceptual realism. It is characterized by the exaggeration and distortion of objects in order to evoke an emotional response from the viewer.

Eye Attraction. Attention is drawn to different areas within a design for a number of psychological and physiological reasons. (See also Focal Point)

Eye Movement. The direction the eye follows as it processes the elements of a design.

Eye-Level. The height at which your eyes are located in relation to the ground plane. Things seen by looking up are above eye-level (or seen from a "worm's eye view"); things seen by looking down are below eye-level (or seen from a "bird's eye" view).

Facade. The face or frontal aspect of a form.

Fauve. A French term meaning "wild beast" and descriptive of an artistic style characterized by the use of bright and intense expressionistic color schemes.
**Figure.** The representation of a recognizable object or nonrepresentational shape (such as a tree, a letter of the alphabet, or a human figure), which may be readily distinguished from its visual context in a drawing.

**Figure/Ground Relationship.** The relative impact of a shape or object in front of a background.

**Figure-Ground Shift.** A type of ambiguous space which combines aspects of interspace and positive-negative reversals. It is characterized by "active" or somewhat volumetric negative areas and by the perception that virtually all the shapes are slipping, or shifting, in and out of positive (figure) and negative (ground) identities. (See also Ambiguous Space, Interspace, and Positive-Negative Reversals.)

**Figure-Ground Stacking.** A sequential overlapping of forms in a drawing, making the terms figure and ground relative designations.

**Fixed Viewpoint.** Depicting an image in a way that is consistent with its appearance from one physical position.

**Focal Point.** A compositional device emphasizing a certain area or object to draw attention to the piece and to encourage closer scrutiny of the work. Also called emphasis.

**Force Lines.** Lines used to reveal the structure of a form by indicating the counterbalancing of one mass against another.

**Foreground.** The closest zone of space in a three-dimensional illusion. (See also Background and Middle ground.)

**Foreshortening.** In foreshortening, the longest dimension of an object is positioned at an angle to the picture plane.

**Form and Content.** Form is how a visual idea is expressed and content is what is being expressed.

**Form Summary.** Simplifying the form description of a complex or articulated object, usually for purposes of analysis or to render a subject's three-dimensional character more boldly.

**Form.** The structure, and volume of actual objects in our environment, or the depiction of three-dimensional objects in a work of art. Form also refers to a drawing's total visual structure or composition.

**Formal.** Refers to an emphasis on the organizational form, or composition, of a work of art.

**Format.** The overall shape and size of the drawing surface or the borders of a design.
Form-Meaning. That aspect of content which is derived from an artwork's form, that is, the character of its lines, shapes, colors, etc., and the nature of their organizational relationships overall.

Fresco. A mural painting technique in which pigments mixed in water are used to form the desired color. These pigments are then applied to wet lime plaster, thereby binding with and becoming an integral part of a wall.

Geometric Shapes. Those shapes created by the exact mathematical laws of geometry.

Gestalt. A unified configuration or pattern of visual elements whose properties cannot be derived from a simple summation of its parts.

Gesture Drawing. A spontaneous representation of the dominant physical and expressive attitudes of an object or space.

Glyph. An easily executable and readily remembered letter, number or symbol.

Golden Mean. A mathematical ratio in which width is to length as length is to length plus width. This ratio has been employed in design since the time of the ancient Greeks. It can also be found in natural forms.

Golden Rectangle. The ancient Greek ideal of a perfectly proportioned rectangle using a mathematical ratio called the Golden Mean.

Graphic. Forms drawn or painted onto a two-dimensional surface. Any illustration or design.

Grid. A network of horizontal and vertical intersecting lines that divide spaces and create a framework of areas.

Grisaille. The arrangement of an image into varied steps of gray values.

Ground Plane. A horizontal plane parallel to the eye-level's plane. In nature this plane may correspond, for instance, to flat terrain, a floor, or a table top.

Ground. The actual flat surface of a drawing, synonymous with a drawing's opaque picture plane. In a three-dimensional illusion, ground also refers to the area behind an object (or figure).

Halftone. After the highlight and quarter-tone, the next brightest area of illumination on a form. The halftone is located on that part of the surface which is parallel to the rays of light. (See also Chiaroscuro.)

Harmony. The pleasing combination of parts which make up a whole composition.

Hatched Line. Massed strokes that are parallel or roughly parallel to each other. Used to produce optical gray tones. (See also Cross-Hatching and Optical Grays.)
Hierarchy. The relative visual importance between different elements within a composition.

Hieratic Scale. A composition in which the size of figures is determined by their thematic importance.

Highlight. The brightest area of illumination on a form, which appears on that part of the surface most perpendicular to the light source. (See also Chiaroscuro.)

History Painting. A picture which is usually painted in a grand or academic manner and which represents themes from history, literature, or even the Bible.

Horizon Line. The farthest point we can see where the delineation between the sky and ground becomes distinct. The line on the picture plane that indicates the extent of illusionistic space and on which are located the vanishing points.

Hue. A property of color defined by distinctions within the visual spectrum or color wheel. "Red," "blue," "yellow," and "green" are examples of hue names.

Idealism. An artistic theory in which the world is not reproduced as it is, but as it should be. All flaws, accidents, and incongruities of the visual world are corrected.

Illustration. A picture created to clarify or accompany a text.

Imbalance. Occurs when opposing or interacting forms are out of equilibrium in a pictorial composition.

Impasto. A painting technique in which pigments are applied in thick layers or strokes to create a rough three-dimensional paint surface on the two-dimensional surface.

Implied Line. An invisible line created by positioning a series of points so that the eye will connect them and thus create movement across the picture plane.

Impressionism. An artistic style that sought to recreate the artist's perception of the changing quality of light and color in nature.

Informal Balance. Synonymous with asymmetrical balance. It gives a less rigid, more casual impression.

Installation Art. A form of mixed media, multidisciplinary art that interfaces with the architectural space or environment in which it is shown.

Integration. The degree to which shapes or forms relate to the confines of a format

Intensity. The saturation of hue perceived in a color.

Interspace. Sometimes considered synonymous with negative space. In many works of modern art, however, it is more accurately described as a type of ambiguous space, in
which negative shapes have been given, to a certain degree, the illusion of mass and volume.

**Intuition.** Direct mental insight gained without a process of rational thought.

**Isometric Projection.** A spatial illusion that occurs when lines receding on the diagonal remain parallel instead of converging toward a common vanishing point. Used commonly in Oriental and Far Eastern art.

**Juxtaposition.** When one image or shape is placed next to or in comparison to another image or shape.

**Kinesthetic Empathy.** A mental process in which the viewer consciously or unconsciously recreates or feels an action or motion he or she only observes.

**Kinetic.** Artworks that actually move or have moving parts.

**Layout.** The placement of an image within a two-dimensional format.

**Leading Edge.** The closest edge to the viewer.

**Legato.** A connecting and flowing rhythm.

**Line Quality.** Any one of a number of characteristics of line determined by its weight, direction, uniformity or other features.

**Line:** A mark used to define a shape or represent a contour. The path traced by a moving point. A line marking the outer contours or boundaries of an object or figure. The shape of an object or figure.

**Linear Perspective.** A spatial system used in two-dimensional artworks to create the illusion of space. It is based on the perception that if parallel lines are extended to the horizon line, they appear to converge and meet at a common point, called the vanishing point.

**Lines of Force.** Lines that show the pathway of movement and add strong visual emphasis to a suggestion of motion.

**Local Color.** The actual color of an object, free of variable or unnatural lighting conditions.

**Local Value.** The inherent tonality of an object's surface, regardless of incidental lighting effects or surface texture.

**Lost-and-Found Contour.** A description of a form in which an object is revealed by distinct contours in some areas while other edges simply vanish or dissolve into the ground.

**Luminosity.** Refers to the appearance of light glowing from inside an area of color.
Mandala. A radial concentric organization of geometric shapes and images commonly used in Hindu and Buddhist art.

Mass Gesture. A complex of gestural marks used to express the density and weight of a form.

Mass. The weight or density of an object.

Measuring. A proportioning technique using a pencil to gauge the relative sizes of the longest and shortest dimensions of an object.

Medium. The tools or materials used to create an artwork.

Merging: to unite, combine, or coalesce

Metamorphosis. The gradual development of one form or shape into a different form or shape.

Middle ground. The intermediate zone of space in a three-dimensional illusion. (See also background and Foreground.)

Minimalism. A style of art characterized by economy and conceptualization.

Minimalism. An artistic style that stresses purity of form above subject matter, emotion, or other extraneous elements.

Mixed Media. The combination of two or more different media in a single work of art.

Mode: When you choose a different color mode for an image, you permanently change the color values in the image. For example, when you convert an RGB image to CMYK mode, RGB color values outside the CMYK gamut (defined by the CMYK working space setting in the Color Settings dialog box) are adjusted to fall within gamut.

Module. A specific measured area or standard unit.

Monochromatic Color Scheme. A color arrangement consisting of a value and intensity variations of one hue

Monocular Vision. Vision which uses only one eye, and therefore only one cone of vision, to perceive an object.

Montage. A recombination of images from different sources to form a new picture.

Multiple Image. A visual device used to suggest the movement that occurs when a figure is shown in a sequence of slightly overlapping poses in which each successive position suggests movement from the prior position.
**Multipoint Perspective.** A system of spatial illusion with different vanishing points for different sets of parallel lines.

**Naturalism.** The skillful representation of the visual image, forms, and proportions as seen in nature with an illusion of volume and three-dimensional space.

**Negative Shape.** The pictorial, flat counterpart of negative space in the real world.

**Negative Space.** Unoccupied areas or empty space surrounding the objects or figures in a composition.

**Neutrals.** Refers to black, white, and gray. (See also Achromatic and Chromatic Gray.)

**Nonobjective.** A Type of artwork with absolutely no reference to, or representation of, the natural world. The artwork is the reality.

**Objective.** Having to do with reality and fidelity to perception.

**Occlusion.** The inability to see all aspects of an object due to overlap.

**One-Point Perspective.** In one-point perspective, a rectangular volume is centered on the line of vision, thus causing all receding (horizontal) parallel lines to appear to converge, or meet, at one point on the horizon line.

**Opacity:** the degree to which something reduces the passage of light

**Opaque.** A surface impenetrable by light.

**Open Form.** The placement of elements in a composition so that they are cut off by the boundary of the design. This implies that the picture is a partial view of a larger scene.

**Optical Color.** Refers to the eye's tendency to mix small strokes of color that are placed side by side or overlapped.

**Optical Grays.** The eye's involuntary blending of hatched or cross-hatched lines to produce the sensation of a tone. (See also Actual Grays and Cross-Hatching.)

**Outline.** Usually a mechanical-looking line of uniform thickness, tone, and speed which serves as a boundary between a form and its environment.

**Overall Image.** The sum total of all the shapes, positive and negative, in a drawing.

**Overlapping.** A device for creating an illusion of depth in which some shapes are in front of and partially hide or obscure others.

**Patina.** The aged or chemical color of a metal's surface.
**Pattern.** The repetition of a visual element or module in a regular and anticipated sequence.

**Perceived Color.** The observed modification in the local color of an object which is caused by changes in lighting or by the influence of reflected colors from surrounding objects.

**Pictorial.** Refers to a picture, not only its actual two-dimensional space but also its potential for three-dimensional illusion.

**Picture Plane.** The actual flat surface, or opaque plane, on which a drawing is produced. It also refers to the imaginary, transparent "window on nature" that represents the format of a drawing mentally superimposed over real-world subject matter.

**Planar Analysis.** A structural description of a form in which its complex curves are generalized into major planar zones.

**Plane.** The two-dimensional surface of a shape.

**Point:** A dimensionless geometric object having no properties except location. An element in a geometrically described set.

**Pointillism.** A system of color mixing based on the juxtaposition of small bits of pure color. Also called divisionism.

**Polychromatic.** Consisting of many colors. (See also Monochromatic.)

**Pop Art.** An art movement originating in the 1960s that sought inspiration from everyday popular culture and the techniques of commercial art.

**Positive Shape.** The pictorial, flat counterparts of forms in the real world.

**Positive-Negative Reversal.** A visual phenomenon occurring when shapes in a drawing alternate between positive and negative identities. (See also Ambiguous Space.)

**Primary Colors.** The three colors from which all other colors can theoretically be mixed. The primaries of pigments are traditionally presented as red, yellow, and blue, while the primaries of light are red, blue, and green.

**Principles of Design.** The means by which artists organize and integrate the visual elements into a unified arrangement, including unity and variety, contrast, emphasis, balance, movement, repetition, rhythm, and economy.

**Progressive Rhythm.** Repetition of shape that changes in a regular pattern.

**Proportion.** The relative size of one or more objects in a composition.
**Proportion.** The relative size of part to part and part to whole within an object or composition.

**Proximity.** The degree of closeness in the placement of elements.

**Psychic Line.** A mental connection between two points or elements. This occurs when a figure is pointing or looking in a certain direction, which causes the eye to follow toward the intended focus.

**Push-Pull.** Spatial tension created by color interaction.

**Quadrilateral Symmetry.** A quality of a composition or form wherein there is a precise correspondence of elements on either side of two central axes.

**Quarter-Tone.** After the highlight, the next brightest area of illumination on a form. (See also Chiaroscuro.)

**Radial Balance.** A composition in which all visual elements are balanced around and radiate from a central point.

**Radial Symmetry.** A quality of a composition or form wherein there is a precise correspondence of elements around a center point.

**Realism.** An approach to artwork based on the faithful reproduction of surface appearances with a fidelity to visual perception.

**Rectilinear.** Composed of straight lines.

**Reflected Light.** The relatively weak light which bounces off a nearby surface onto the shadowed side of a form. (See also Chiaroscuro.)

**Relative Position.** A means by which to represent and judge the spatial position of an object in a three-dimensional illusion. Generally, the higher something has been depicted on a surface, the farther away it will appear.

**Relative Scale.** A means by which to represent and judge the spatial position of an object in a three-dimensional illusion. Generally, things that are larger in scale seem closer; when there is a relative decrease in the scale of forms (especially if we know them to be of similar size) we judge them to be receding into the distance.

**Relief.** Partial projection from a main mass.

**Rendering.** A very refined type of drawing where a form is meticulously drawn in terms of values and textures, often this is associated with chiaroscuro.

**Repeated Figure.** A compositional device in which a recognizable figure appears within the same composition in different positions and situations so as to relate a narrative to the viewer.
Repetition. Using the same visual element over again within the same composition.

Representational. An image suggestive of the appearance of an object that actually exists.

Rhythm. An element of design based on the repetition of recurrent motifs.

Rotation. The aspect of radial symmetry in which an object is turned around a central point such as the spokes of a wheel.

Saturation. See Intensity.

Scale. The actual size of the object in a drawing in relation to the size of the subject in reality.

Secondary Colors. The three hues - orange, purple, and green - that are each the result of mixing two primaries.

Shade. A hue mixed with black. The part of a form which does not receive direct illumination.

Shape Aspect. The shape of something seen from any one vantage point.

Shape Summary. Recording the major areas of a three-dimensional form in terms of flat shape, usually for purposes of analysis.

Shape. A two dimensional visually perceived area created either by an enclosing line or by color and value changes defining the outer edges.

Silhouette. The area between the contours of a shape.

Simultaneous Contrast. The effect created by two complementary colors seen in juxtaposition. Each color seems more intense in this context.

Site Specific. A work of art in which the content and aesthetic value is dependent on the artwork's location.

Space. In the environment, space may be defined as area, volume, or distance. In drawing, space may be experienced as either a three-dimensional illusion or as the actual two-dimensional area upon which a drawing is produced. (See also Picture Plane.)

Spatial Configuration. The flat shape or image produced by connecting various points in a spatial field.

Spatial Gesture. The gestural movement implied by a perceived linkage of objects distributed in space.
**Special Vanishing Point.** Established for measuring foreshortened lines or edges or planes for construction purposes.

**Spectrum.** The range of visible color created when white light is passed through a prism.

**Staccato.** Abrupt changes and dynamic contrast within the visual rhythm.

**Station Point.** The actual or imagined location of the viewer in a perspective drawing and indicates how close or far from the picture plane the viewer is positioned.

**Stereoscopic Vision.** Normal perception using two eyes. In stereoscopic vision two slightly different views of an object - i.e., two separate cones of vision - are combined to produce a single image.

**Style.** The specific artistic character and dominant form trends noted in art movements or during specific periods of history.

**Subject Matter.** Those things which are represented in a work of art, such as a landscape, portrait, or imaginary event.

**Subject Meaning.** That aspect of content which is derived from subject matter in a work of art.

**Subject.** The content of an artwork.

**Subjective Color.** Refers to arbitrary color choices. Such arbitrary color choices can be used to convey emotional or imaginative responses to a subject and to compose more intuitively or expressively.

**Subjective.** Reflecting a personal bias.

**Subtractive Process.** The creation of a specific three dimensional object by eliminating material from a larger form.

**Subtractive System.** A color mixing system in which pigment (physical substance) is combined to create visual sensations of color. Wavelengths of light absorbed by the substance are subtracted, and the reflected wavelengths constitute the perceived color.

**Surrealism.** An artistic style that stresses fantastic and subconscious approaches to art making and often results in images that cannot be rationally explained.

**Symbol.** An element of design that communicates an idea or meaning beyond that of its literal form.

**Symmetry.** A quality of a composition or form wherein there is a precise correspondence of elements on either side of a center axis or point.
Synesthesia. In synesthesia, a subjective sensation accompanies an actual sensory experience - for example, you hear a sound in response to seeing a color.

Tactile Texture. The use of actual materials to create a surface that can actually be felt or touched.

Tactile. Perceptions gained directly from or through memories of the sense of touch.

Technique. The manner and skill with which the artist employs their tools and materials to achieve a predetermined expressive effect.

Tertiary Colors. Colors made by mixing a primary and a secondary color. Mixing red with orange, for example, produces the tertiary red-orange.

Texture. The surface quality of objects that appeals to the tactile sense.

Three-dimensional Space. The actual space of our environment, or the representation of it in the form of a pictorial illusion.

Three-Point Perspective. The kind of linear perspective used to draw a very large, or very close, object. In three-point perspective, the object is positioned at an angle to the picture plane and is seen from an extreme eye-level point of view, with the result that both the horizontal and the vertical parallel lines appear to converge, or meet, respectively at three separate vanishing points.

Tint. A hue mixed with white.

Tonal Key. The coordination of a group of values in a drawing for purposes of organization and to establish a pervasive mood. Tonal keys may be high, middle, or low.

Tone. A hue mixed with its complement.

Tonality. A single color or hue that dominates the entire color structure despite the presence of other colors.

Tone. The reduction of intensity by mixing a neutral of the same value.

Topographical Marks. Any marks or lines used to analyze and indicate the surface terrain of a depicted object. Cross-contour lines and hatched lines used to describe the inflections of planes are both topographical marks.

Trace: To draw (a line or figure); sketch; delineate.

Translational Symmetry. A quality of a composition or form wherein there is a precise correspondence of elements along one axis. A regular pattern is formed when translational symmetry occurs simultaneously along both the x and y axes.
Translucent. A situation in which objects, forms, or planes transmit and diffuse light but have a degree of opacity that does not allow clear visibility through the form.

Transparency. A situation in which an object or form allows light to pass through it. In two-dimensional art, two forms overlap, but they are both seen in their entirety.

Triadic. A color scheme involving three equally spaced colors on the color wheel.

Triangulation. Angling between a set of three points on the picture plane to accurately proportion the overall image of your drawing.

Trompe l’oeil. A French term meaning "to fool the eye." The objects are in sharp focus and delineated with meticulous care to create an artwork that almost fools the viewer into believing that the images are the actual objects.

Two-Dimensional Space. The flat, actual surface area of a drawing, which is the product of the length times the width of your paper or drawing support. Synonymous with the opaque picture plane and flat ground of a drawing.

Two-Point Perspective. In two-point perspective, a rectangular volume is positioned off-center - i.e., it is not centered on the line of vision - thus causing the receding (horizontal) parallel lines of each fact to appear to meet at two separate points on the horizon line.

Ultraforeground. A two dimensional illusion of nearness created by allowing objects to break out of the given boundaries of the composition.

Unity. The degree of agreement existing among the elements in a design. (See also Harmony).

Value Black. White, and the gradations of gray tones between them, or the lightness or darkness of a color when compared with a gray scale.

Value Emphasis. When a light and dark contrast is used to create a focal point within a composition.

Value Pattern. The arrangement and amount of variation in light and dark values independent of any colors used.

Value Shapes. The major areas of light and shade on a subject organized into shapes, each of which is assigned a particular tone that is coordinated with the values of other shapes in the drawing.

Vanishing Point. In linear perspective, the point on the horizon line at which receding parallel lines appear to converge, or meet.

Variety. The lack of precise unity in order to create visual interest within a composition.
Vernacular. A prevailing or commonplace style in a specific geographical location, group of people, or time period.

Vertical Location. A spatial device in which elevation on the page or format indicates a recession into depth. The higher an object, the farther back it is assumed to be.

Vibrating Colors. Colors that create a flickering effect at their border. This effect is usually dependent on an equal value relationship and strong hue contrast.

Viewfinder. A homemade device that functions as a rectangular "window" on your subject. It is a useful aid for proportioning and layout.

Visual Color Mixing. The optical mixture of small units of color so that the eye perceives the mixture rather than the individual component colors.

Visual Elements. The means by which artists make visible their ideas and responses to the world, including line, value (or tone), shape, texture, and color.

Visual Literacy. The accumulation of perceptual, intuitive and intellectual knowledge about the visual world.

Visual Squeeze. The eye attraction that occurs when two forms or shapes are within close proximity.

Visual Texture. A two-dimensional illusion suggestive of a tactile quality.

Visual Weight. The potential of any element or area of a drawing to attract the eye.

Void. The penetration of an object to its other side allowing for the passage of space. An enclosed negative shape.

Volume. The overall size of an object, and by extension the quantity of three-dimensional space it occupies.

Warm Colors. Psychologically associated, for example, with sunlight or fire. Warm colors such as red, red-orange, yellow, and yellow-orange appear to advance in a relationship with cooler colors.

Working Drawings. The studies artists make in preparation for a final work of art.

X, Y and Z Axes. X represents measurements made along a horizontal axis (width). Y represents measurements made along a vertical axis (height). Z represents measurements made along an axis perpendicular to the picture plane (depth).
DIGITAL TECHNOLOGY TERMS

**Bitmap**: A set of bits that represents a graphic image, with each bit or group of bits corresponding to a pixel in the image.

**File**: A collection of related data or program records stored as a unit with a single name.

**Fill**: You can fill a selection or layer with the foreground color, the background color, or a pattern. In Photoshop, you can use patterns from the pattern libraries provided or create your own patterns. You can also fill a shape using the Color, Gradient, or Pattern Overlay effects or the Solid Color, Gradient, or Pattern fill layers on the Layers palette.

**Format**: The arrangement of data for storage or display.

**Gradient**: A fill generated by blending between two or more colors. There are four basic types: *Radial Gradient*: to shade from the starting point to the ending point in a circular pattern. *Angle Gradient*: to shade in a counterclockwise sweep around the starting point. *Reflected Gradient*: to shade using symmetric linear gradients on either side of the starting point. *Diamond Gradient*: to shade from the starting point outward in a diamond pattern. The ending point defines one corner of the diamond.

**Guides**: A device, such as a ruler, tab, or bar, that serves as an indicator or acts to regulate a motion or operation. Guides appear as lines that float over the entire image and do not print. You can move, remove, or lock a guide to avoid accidentally moving it.

**Interpolation**: To insert or introduce between other elements or parts, often resampled color data resulting from resizing an image.

**Keyframe**: A frame in an animated sequence of frames which was drawn or otherwise constructed directly by the user rather than generated automatically, e.g. by tweening.

**Layers**: Layers allow you to work on one element of an image without disturbing the others. Think of layers as sheets of acetate stacked one on top of the other. Where there is no image on a layer, you can see through to the layers below. You can change the composition of an image by changing the order and attributes of layers. In addition, special features such as adjustment layers, fill layers, and layer styles let you create sophisticated effects. *Linear gradient*: to shade from the starting point to the ending point in a straight line.

**Line**: A visual element of length. It can be created by setting a point in motion.

**Mask**: Masks let you isolate and protect areas of an image as you apply color changes, filters, or other effects to the rest of the image. When you select part of an image, the
area that is not selected is "masked" or protected from editing. You can also use masks for complex image editing such as gradually applying color or filter effects to an image.

**Merging:** to unite, combine, or coalesce

**Mode:** When you choose a different color mode for an image, you permanently change the color values in the image. For example, when you convert an RGB image to CMYK mode, RGB color values outside the CMYK gamut (defined by the CMYK working space setting in the Color Settings dialog box) are adjusted to fall within gamut.

**Opacity:** the degree to which something reduces the passage of light

**Pattern:** The Pattern Maker generates patterns by rearranging the pixels in a sampled area to create a tile. The size of a tile can vary, from 1 pixel by 1 pixel to the dimensions of the active layer. If the tile is smaller than the active layer, the pattern is made up of multiple tiles that are laid out in a grid to fill the layer. If the tile is the same size as the active layer, it comprises the entire pattern.

**Pixel:** The basic unit of the composition of an image on a television screen, computer monitor, or similar display.

**Point:** A dimensionless geometric object having no properties except location. An element in a geometrically described set. In printing, a unit of type size equal to 0.01384 inch, or approximately 1/72 of an inch.

**Raster:** A scanning pattern of parallel lines that form the display of an image projected on a cathode-ray tube of a television set or display screen.

**Resolution:** The fineness of detail that can be distinguished in an image, as on a video display terminal. \(<\text{hardware}>\) the maximum number of pixels that can be displayed on a monitor, expressed as (number of horizontal pixels) x (number of vertical pixels), i.e., 1024x768. The ratio of horizontal to vertical resolution is usually 4:3, the same as that of conventional television sets.

**Stacking order:** The relationship between windows that (partially) obscure each other. A window manager will include commands to alter the stacking order by bringing a chosen window to the front (top) or back (bottom) of the stack.

**Texture:** A measure of the variation of the intensity of a surface, quantifying properties such as smoothness, coarseness and regularity. It's often used as a region descriptor in image analysis and computer vision.

**Trace:** To draw (a line or figure); sketch; delineate.

**Transformations:** a function that changes the position or direction of the axes of a coordinate system.
**Tweening:** An interpolation technique where an animation program generates extra frames between the key frames that the user has created. This gives smoother animation without the user having to draw every frame.

**Vector:** (Sometimes called "object-oriented" graphics, though it's nothing to do with object-oriented programming). The representation of separate shapes such as lines, polygons and text, and groups of such objects, as opposed to bitmaps. The advantage of vector graphics ("drawing") programs over bitmap ("paint") editors is that multiple overlapping elements can be manipulated independently without using different layers for each one. It is also easier to render an object at different sizes and to transform it in other ways without worrying about image resolution and pixels.
COLOR RELATIONSHIPS

COLOR WHEELS:
- **Primary Colors**
- **Secondary Colors**
- **Tertiary Colors**

COOL COLORS:
- Green
- Blue
- Blue Green
- Red Violet

WARM COLORS:
- Yellow
- Orange
- Red

COLOR RELATIONSHIPS IN A TRICOLOR SYSTEM:
- Primary Colors: Red, Yellow, Blue
- Secondary Colors: Orange, Green, Blue Green
- Tertiary Colors: Yellow Orange, Yellow Green, Blue Violet
2D DEPICTION OF 3D FORM

I. Background

A. Traditionally, designers and architects have found that it is easier to design 3D forms on a 2D surface without the added complication of perspective.

1. Architectural plans most often show a bird's eye view of a room or building.
   a. The corners are drawn at their true 90 degree orientations.
   b. Since most lines are parallel or at right angles, the drawing (or drafting) process is much simpler.

2. All people who work in three dimensions (industrial design, sculpture, crafts, etc.) can benefit from this visual approach.
   a. Even reading and following "simple" assembly instructions can become more clear with this visual language.

B. An important feature of designing in a "flat" manner, or with an orthographic view, is that the object's true proportions can be represented and evaluated.

II. Orthographic Drawing

A. An orthographic (flat-image) view depicts the principal surface (or side) of an object parallel to the picture plane.

1. This allows us to understand two of its three dimensions.

C. Several orthographic views of the object are necessary in order to ascertain all three dimensions.

1. These views contain height, width and depth information.
   a. For example, one view may show height and width (with the object viewed from the front), while another view may show height and depth (with the object viewed from the side).
   b. Typically, three views - TOP, FRONT and SIDE - are enough to understand the object.

D. The arrangement of the orthographic views is important for clarity and ease of drawing.

1. If the views are arranged side by side or one over another, measurements may be transferred between them.

2. Most commonly, the FRONT is placed to the bottom left, the TOP is placed directly over the FRONT and the SIDE is placed to the right of the FRONT.
   a. The FRONT and SIDE share height dimensions.
   b. The FRONT and TOP share width dimensions.
   c. The SIDE and TOP share depth dimensions. A 45 degree construction line may be used to transfer depth dimensions.
2D DEPICTION OF 3D FORM

E. Lines

1. Lines are used to show the edges of surfaces.

2. Hidden lines (drawn as dashed lines) are used to show internal features such as a hole in the object.

3. Some features may "line up" in an orthographic view and can only be portrayed with one line. In this case, the features at the back of the object would normally appear as hidden lines in the front view but are covered by the visible lines at the front of the object.

F. Foreshortening

1. If the object has an angled surface (any surface not parallel to the picture plane), the orthographic view will not show the true proportions of that surface. In this case, the top and side views are foreshortened.
III. Isometric Drawing

A. Pictorial drawing

1. Isometric drawing and perspective drawing are both types of pictorial drawing. They are similar in that they both show an illusion of depth, yet the terms should not be confused.

2. Isometric (equal-measure) drawing is simpler than perspective because...
   a. there are no vanishing points.
   b. all lines which are parallel on the object remain parallel in the drawing.
   c. direct measurements may be made right on the drawing.
   d. a T-square and triangle may be used for the bulk of the drawing.

3. The trade off is that isometric drawings do not always look as natural as perspective drawings.

G. Isometric Views

1. An isometric "box" may be created and viewed from a number of angles.
   a. We will use a view where the FRONT view of an orthographic drawing will correspond to the left side of this box, the SIDE view will be seen on the right side of the box, and the TOP view will be seen from the top of the box.

2. It is best to think of this box as "clear" or as a wire frame.
   b. Make it a habit to "see through it" in order to also visualize and include the back corner.
      (a) The trick for this way of drawing is to lightly draw everything first, then darken just the parts that we can see. The use of tracing paper overlays is an excellent way to develop more complicated objects by working on individual areas separately.

H. Isometric construction - See figure

1. Work "general to specific". This is true of all life's problems.

2. Use a T-square and a 30/60 triangle only to lay off a box where the front corner is defined by equal 120 degree angles.

3. Use 30 degree angles for width and depth lines. Use vertical lines for height.
   a. You may measure these lines directly or if you are using a grid, count out the units.

4. In order to locate angled surfaces or other features, you must measure only along the isometric box lines (or parallel to them). Do not measure along angled or non-isometric lines.

5. Think in terms of planes, not lines.
   b. It is easier to "saw" away parts of the box first using complete cutting planes rather than deal with features line by line.
      (a) We will eventually make a model in which this method will be used three-dimensionally.
2D DEPICTION OF 3D FORM

  c. Remember that the intersection of two planes creates a straight line.

I. Holes and curves - See figure below

  1. A foreshortened circle always appears as an ellipse.

       d. Create a foreshortened square first in order to correctly visualize the ellipse.

          (a) If you have an ellipse template (use only one especially designed for isometric drawing), this may be most effective.

          e. The short axis (minor axis) of an ellipse always aims in the direction of the hole or sides of a cylinder.

             (b) This is very difficult to remember but very important to do. Practice the concept.

  2. Always create a straight line "version" of an irregular curve first, then "round" it out

     A circle turned away becomes an ellipse and then a line.

     Every ellipse has a Major (large) and Minor (small) axis.

     The Minor axis always is in line with the sides of a cylinder or hole.
2D DEPICTION OF 3D FORM

Figure A

Figure B

Figure C
1. CUBE

2. CYLINDER

3. CONE
4. PYRAMID

5. SPHERE

NOT RECOMMENDED IN STYROFOAM
4. CUTTING PLANES

5. HIDDEN LINES
Matting Principles

1. Think of a mat as a vehicle for protecting and presenting your artwork. The mat is not an actual part of the work and should never be signed directly. White is the preferred color for most professional matting results. Occasionally black might be appropriate, and only rarely are color mats effective. Consult with your instructor.

2. All mats should be at least 3” around the top and sides, with 3.5” at the bottom.

3. All mats should be hinged to the top of a separate backing board. The artwork is then mounted onto the backing board, never directly onto the mat.

4. Museum quality mat board is best. It is made from a rag content rather than cellulose or wood fibers. Since it contains no acids, the work will not discolor over time. It is best if the backing board is also acid free, though it might be slightly thinner. Never use chipboard or corrugated cardboard as backing boards.

5. Use archival tape to hinge the mat and to secure the artwork onto the backing board. **Never ever** use masking or drafting tape when matting.

6. Don’t use the window to crop your work. Leave about a quarter of an inch space around the format of your work and the window of the mat. You might choose to have a larger gap if you want a title or signature to show.

Cutting the Mat

1. Wash your hands.

2. Determine the size of your image and add .5” in both directions to allow for a .25” gap between the mat and the artwork boundary. Do not use the mat to crop your artwork. Plot the rectangle for the window on the back of the mat board with a sharp pencil. Make sure your lines are square and accurate. “Measure twice and cut once.”

3. Cut the mat to size on the paper cutter. Have someone help you hold it from slipping as you cut.

4. Make sure the mat cutter has a sharp blade installed and that there is a smooth piece of support cardboard underneath the cutting guide rail.
5. Place the mat under the cutting guide rail with the pencil lines facing up. **Make sure the mat border, not the window area, is directly underneath the cutter.** Carefully align the cutting guide rail with one of the pencil lines.

6. Place the cutter into the slot of the cutting guide rail and align the mark on the cutter with the pencil line indicating the beginning of the cut.

7. Steady the cutter with one hand and firmly push the blade into the mat with the other.

8. With the blade pushed in, slide the cutter forward to the second pencil line indicating the length of your cut. Slow down towards the end of the cut so you don’t accidentally go too far. Push down on the guide rail at the same time so the mat won’t slip.

9. Turn the mat clockwise and make the next three cuts, always cutting to the previous cut.

10. Trace the mat onto a second piece to make the backing board and cut it out on the paper cutter.

**Assembling the Mat**

1. On a clean surface, place the mat with the backside face up and align its top (smaller) edge with the top edge of the backing board.

2. Moisten a precut length of matting tape with a damp rag or sponge and tape the two pieces together. Fold the mat over onto the backing sheet right away and press the two pieces together firmly making sure the two pieces are aligned. Allow the tape to dry for several minutes.

3. Position the art work between the two pieces and within the window.

4. Lift up the mat and tape the work to the backing board. Each connection consists of a two or three inch piece taped to the back of the work and a second piece pasted to the first piece and the backing board itself. See the diagram. Two or three connections along the top edge of the work are sufficient. **Never** tape all four edges of the artwork down.
I. DESCRIPTION
A. What do you see? What is the form? Identify the different elements of design.
   1. Size, Medium, Technique, Format, etc.
   2. Elements of Design
      i. Line – Quality, type
      ii. Shape - Dominate/Subordinate, Organic/Rectilinear
      iii. Value – high key, low key
      iv. Texture – Actual/illusion, rough/fine
      v. Space or depth – Actual/Illusion, deep /shallow
      vi. Color – natural/artificial, intense/muted
      vii. Time - kinetic

II. ANALYSIS
A. How is the artist using these elements of design? What principles of design are present?
   1. Symmetry
      i. Translational
      ii. Bilateral
      iii. Radial –Rotational and Dilatational
   2. Asymmetrical balance
   3. Rhythm
   4. Unity / Variety
   5. Pattern
   6. Contrast
   7. Proportion

III. INTERPRETATION
A. What is the artist’s intention? What kind of response does it evoke? What is the content?
   1. Scheme or theme
   2. Overall concept
   3. Emotional response
   4. Kinesthetic response

IV. EVALUATION
A. What are the objective successes and failures of the work?
   B. Do the form (Description, Analysis) and content (Interpretation) work together successfully?
   C. Is it well crafted?
   D. Does it follow the parameters of the assignment?

Based on Victor Feldman’s approach in Varieties of Visual Experience