**Module 2.2**

**Photography**

A painting is not, strictly speaking, an actual likeness of an object; rather it is a likeness of what exists in the artist’s mind, which may or may not resemble anything in the actual world at all. A photograph on the other hand, is an actual likeness, the production of which may not actually involve an artist’s creativity. One only has to press a button on a camera to produce this actual likeness. And, as a matter of fact, nowadays a camera connected to a simple trigger device can take pictures all by itself. It is this exlusion of the artist that accounts for photography’s not being regarded as an art by many people.

But technological development and experiments on the camera’s potential have produced photographers like Edward Steichen whose creativity extends far beyond just technical expertise. Consequently, not a few now consider photography a legitimate art like painting.

Photography is, literally, drawing or writing with light. It is a three-step process that involves the use of such equipment and materials as a camera fitted with a lens, shutter nd diaphragm; filters, film, either black and white or colored; a special kind of paper onto which the image is transferred and other materials for developing the negative and producing the print.

The first step – that of choosing the subject – requires the wise judgment and artistic sense of the photographer. The second step is a mechanical one. A light-sensitized film contained in a darkened box (camera) is exposed to the light from the object being photographed. The lens on the front of the camera captures the light reflected from the object and transmits it to the film. The shutter opens and closes to admit light to the film for certain interval of time. The result is an image created by the light of the object itself and so fixed on the sensitive film that is will not affected by the further exposure of hte material to light.

The third step is a chemical process. After the film is exposed, it is treated with a series of chemical solutions to develop the film and to produce a permanent negative. A photographic print is produced from the negative.

It is now possible to produce a photographic image without the use of a camera and film. A photogram is a permanently recorded image made by placing objects directly on light-sensitive paper and exposing the paper to light.

**Sculpture**

**The Techniques of Sculpture**

A work of sculpture is a three dimensional form constructed to represent a natural or imaginary shape. It can be *free-standing, carved in relief, or kinetic*.

Free-standing sculpture, or sculpture in the round, is one which can be seen from more than on position. The status of saints in our churches are examples of free-standing sculpture. Some contemporary critics and museum curators refer to this kind of sculpture as statuary, reserving the term sculpture for those in the round but penetrated or pervaded by space as in the works of Jacques Lipchitz and Henry Moore.

The figures of relief sculpture project from a flat background. When the forms are slightly raised, the sculpture is called a bas relief. Coins and medals are of this kind. High relief sculptures are those whose figures project to the extent of one half their thickness or more, so that they are almost round.

Mobiles , a kind of kinetic sculpture, are made of strips of metal, glass, wood or plastic arranged with wires and hung where they can move. Mobiles are usually associated with Alexander Calder who first created the in the 1930’s.

The traditional methods employed in making sculpture are carving, modeling and casting.

**Carving**. Carving is a substractive process; that is, it involves removing unwanted portions of the raw material to reveal the form that the artist has visualized. Wood, stone and ivoy are the materials employed in this process.

Carving has always been regarded as the most difficult of the sculpture processes. Before beginning his work, the carver musthave a clear concept of how his finished product will look. He cannot afford a trial and error method because once the material has been chiseled way, it can no longer be restored. He has to be very careful with his strokes, too, lest he chip off material that he cannot afford to lose and so destroy the form.

Some sculptors still carve the materials themselves. They enjoy meeting the challenge posed by the medium. Recent carving practices, however, allow the sculptor tofirst make a miniature model in plaster, scaled to proper proportions. This he gives to an assistant who uses it as a guide for a pointing machine to transfer the exact contours of hte model to marble or stone. The assistant roughs out the form on the block of stone and the sculptor just give the statue its finishing touches; he refines the details and polishes the surface. This is a less laborious task.

**Modeling**. Modeling on the other hand, is an additive process. It means building the form, using highly plastic material such as clay or wax. This results in a type of creative spontaneity. Unlike carving, the additive process permits the artist to rework his material and introduce details as he sees fit. It is possible for him to build up, tear down and modify without ruining his material and destroying the finished product. An armature is frequently used as a skeleton for the form. The metal wire holds the clay together so that the sculpture will not collapse under its own weight. When the form is finished, it is then fired or cast.

**Casting**. Casting can faithfully reproduce in bronze or other metals the spontaneity achieved in the modeling process. Casting is a complex process. It begins with the production of a negative mold. The artist covers the original model with a mold, usually of ceramic material, in such a way that a faithful negative reproduction is created. This mold usually consists of two or more tightly fitting parts that can be taken apart and reassembled with ease. Some separating material is first applied on the model so that the mold can be easily removed. When the mold is done, it is then fired. The nthe plaster or metal is introduced into the mold to form the solid mass. Metal used for casting must be in a molten state when it is poured into the mold. Then it is allowed to cool and solidify, and the outer mold is peeled off. Big solid –cast metal sculpture is rare because it consumes much metal, which is expensive, and it is very heavy to move around.

Metal casting is most often done with the cire-perdue or lost wax method. In this process a core of clay is shaped roughly into the form of the finished work. Over this a coating of was is laid on whch the sculptor does the final modeling. The wax is next carefully covered with plaster. Whenthe thick firm shell has been formed, the wholemass is heated. The wax melts and runs out through openings provided for the purpose, leving in its place a thin space between the inner core and the outer shell. Molten metal, often bronze, is poured into this space. When themetal has set, the outer mold is removed and the inner mold is dug out. The metal sculpture is the polished. Sculpture of this kind requires less metal is lighter and easier handle and is stronger despite thefact that it is hollow.

**Fabrication**. A fourth method developed in the 20th century is fabrication. This method came about because of the rising cost of traditional materials and the difficulty in getting them. The more popular mediums ofstone and wood are now scarce and expensive. But scrap metal readily available and easy to work with, provided one has the necessary equipment.

Fabrication is an additive process but it has its own characteristics which differentiate it from modeling. It employes any method of joining orfastening, such as nailing, stapling, soldering and welding. In this process ,the artist builds his form piece by piece. He may even combine differen materials together.

Welding is done by joining pieces of metal with oxyacetylene torch. Today, welded metal is getting to be more popular as artists have moved away from the representation of traditional human forms to the creation of abstract works.

With hammered sculpture, the artist uses metal sheets, usually copper or lead, which he fastens in such a way that bothsides are exposed for him to work on. Then he hammers themetal from one side or the other, pushing out some portions and pushing in others, until the work is complete.

A sculptor can also make fabrications with other materials besides metal. He can work, for instance, with laminated wood and plastics. Found objects – parts retrieved from junkyards may also be incorporated into a type of construction known as assemblage. This has emerged from the concept of collage; images are created by putting together pieces of discarded materials into a three-dimensional form.

**The Materials of Sculpture**

There are many kinds of materials that a sculptor can work with. Each presents a particular challenge to him.

*Stone*. Limestone nad sandstone are relatively soft and porous. They are fairly easy to carve but theydo not weather as well as the harder stones. Their finish is dull and granular, and they are suited for strong, generally simple effects.

Granite and basalt both stones of volcanic origin, on the other hand, are very difficult to chisel. That is why they are good for large works with only a few details. The Egyptian sculptures of the Pharaohs were mostly done in granite.

Marble is easier to carve than granite because it is softer. The ancient Greeks produced sculpture in marble not only because the material was easy to work with but also because it was capable of a very smooth and lustrous surface that could represent the human flesh very convincingly.

An internationally famous marble sculpture is Michelangelo’s Piet at St. Peter’s Basilica in the Vatican City. We have an exact copy of the sculpture at the Loyola Memorial Park in Marikina, done in Carrar marble too, by Bruno Bearzzi. In the Philippines, marble and plaster are extensively used for religious sculptures.

Jade, the various types of quartz, including rock crystal, and alabaster are other materials for sculpture. Jade is a fine, colorful stone used widely in ancient China. Later, its use as limited to religious objects or those with certain social significance. It has been employed to symbolize certain virtues, such as faithfulness, wisdom, and charity, thus it is considered a precious stone.

*Wood*. Wood is lighter and softer to work with than stone. It can be intricately carved and subjected to a variety of treatment not possible with stone. It has greater tensile strength than stone, hence, it can be used in long pieces without breaking. In thin sheets it can even be permanently bent and molded. Grain and color are the most interesting qualities of wood. Without proper treatment, though, wood gets destroyed rather quickly. Hence, it is usually smooth with sandpaper an finished with oils, varnish, lacquer or opaque paints.

*Ivory*. Ivory which comes fromthe tusks of elephants and wild boar, in intrinsically beautiful and easy to carve into themost intricate designs. Ivory is actually worked by scraping with a sharp knife. Because it is rather expensive and does not come in very big chunks, it is frequently used only for small religious images.

*Metals*. Metal possess three unique qualities: tensile strength, ductility and malleability. Metal resists breakage from stress palced upon it. Being ductile, it can be drawn into the fine wires or threads. And it can be shaped into any form under great pressure without cracking.

The metals traditionally used for sculpture are copper, brass, bronze, gold, silver, and lead. Aluminum is a recent addition to the list.

Bronze continues tobe one of the most universally popular metals for sculpture. It is suited for dramatic subjects because it permits the artist to arrange his figures in poses that would not be possible in stone or any other brittle material. Because bronze is strong, durable, and resistant to atmospheric corrosion, it is the ideal material for sculptures placed in open places like parks. It takes an excellent polish and develops a rich patina with age.

Brass, an alloy of copper and zinc, is used to a limited extent. It has many practical uses because it does not rust and it takes a high polish.

Copper was used in its pure form in ancient times as a casting medium. It is normally shaped by hammering. It may be handled in sheets and fashioned into relief forms as well as fully round ones. Its rich, reddish color, great strength and resistance to corrosion offer many possibilities to the sculptor as well as to the craftsman who uses it for making kitchenware.

Gold and silver are employed as casting materials for small pieces only, like commemorative medals and coins. Rare and expensive, they are primarily used for either religious purposes or personal adornments.

Lead is used for casting, iron for forging and some casting. With the help of a welding torch, iron can be worked into a variety of exciting abstract forms.

Aluminium has been used as a casting material. It is also employed in the production of fabricated sculpture. The fact that it is very light and that it can be treated in a variety of ways has been an advantage in the making of architectural pieces, kitchen utensils and even pieces of furniture.

*Plaste*r. Plaster is finely ground gypsum or burned limestone. When mixed with water, it forms a solid material with new qualities of workability. When the material has set, the artist can easily carve away excess parts, or he can add plaster where he needs to. The setting process of plaster can be slowed down or speeded up as desired.

*Clay*. Clay has been used for ceramics and sculpture since hte earliest times. Moistened to a putty-like plasticity, it is kneaded and coaxed into form by the sculptor’s bare hands. Clay is fragile, so that it is often necessary for works built in this medium to be cast in another, more durable material. The surface of clay forms may be waxed, painted or glazed.

Earthenware and stoneware are commonly referred to as terra cotta, baked clay or clay fired at a relatively high temperature. Firing or baking the clay causes its form to become permanent and keeps the work from decaying or eroding. Terra cotta breaks and chips easily, however and it cannot survive great stain or carry much weight. It is not suited for large works.

Porcelain is made from mixed clay containing a generous amount of koalin and feldspar. Fired at a high temperature, the result is a thin type of ceramics of a translucent, white or bluish-white material that is impervious to liquid. It is often used for figurines and bric-a-brac as well as dinnerware.

Plasticine is a synthetic nonhardening compound of earth clays, sulfur, and oil or grease. Extremely plastic, it is almost exclusively used for sculptural sketching and model-making.

*Glass*. Glass can also be used to make beautiful but very fragile sculptures. It can be molded in various colors and shapes. Hand-blown glass is produced without the use of molds or machinery. It is made by gathering an amount of molten glass with the tip of a blowpipe, rolling it on a polished iron plate, and then blowing it into a bubble and twisting and shaping it with tools while the glass is still hot and plastic. The excess glass is cracked off or melted away by very intense flame.

*Plastics*. One of man’s successful inventions in hsi search for new materials to meet his construction and designing needs is plastic. Transformed by chemical procsses from organic materials like wood, natural resins and coal, plastic are durable substances tht ca nbe made to look and feel like glass, ceramics , leather, wood or even metal. They can be molded into a variety of forms, cast like metal, pressed into sheets, shaped into tubes or rods, or even sprayed like paint onto materials. They are lightweight, easy to handle and remrkably scratch and stain-resistant.

*Luminal sculpture*. The newest materials for sculpture are electronic devices – cathode tubes, photoelectric cells and the like – that make beams to light travel in patterns or just remain in place to subtly light up a sculptural form. These lights may blink alternately or glow steadily. Onfte, they are made part of the sculptural form itself. Intriguing constructions made with these lights together with other man-made materials, somehow typify the spirit of the technological age.

**Architecture And The Related/Complimentary Arts**

**THE MEDIUMS OF ARCHITECTURE**

Architecture is the art of designing and constructing a building which will serve a definite function, ranging from providing the simplest shelter to meetin the technological demands of our modern cities.

The usefulness of beauty of a buidling are directly related to the choice and handling of the materials employed in the construction. And the nature of the materials chosen inevitably determines the construction principle to be employed.

**The Principles of Construction**

1. Post-and-lintel, the oldest construction systems, which makes use of two vertical supports sapnned by a horizontal beam. Most of our houses are built on this principle.
2. The arch, which consists of separate pieces of wedgeshaped blocks called voussoirs, arranged in a semicircle. The keystone, which is the last set stone at top center, locks the pieces together into a single curved structure. This form relies on a buttressing force from the side to counteract the outward thrust of the curve of the arch.
3. The truss, which is a system of triangular forms assembled into a rigid framework and fucntioning like a beam or lintel. It is employed in bridges assembly plants, theaters, gymnasiums, and halls where wide spaces must be spanned with very few interior supports.
4. Skeleton construction which employs reinforced concrete and steel. Concrete construction makes use of concrete poured, while still in its semifluid state, into a hollow frame. Steel rods are embedded in the concrete to make the structure strong enough to support great weight. The introduction of steel has also made possible the construction style which relieves the exterior walls of their function as supports so that they serve only as protective “skin” or sheathing to the building. Steel beams are used for the framework of the building. The steel skeleton or cage formed is sufficiency strong to hold up the floor, the roof and the partitions; it does not buckle under tremendous weight.
5. The cantilever, which makes use of a beam or slab extending horizontally into space beyond its supporting post, yet strong enough to support walls and floors. Steel and ferroconcrete are ideal cantilever materials. Cantilever relies on the material’s resistance to breaking and on the safe anchoring of its supported end.

Stone and brick can withstand compression forces without crushing out of shape. Concrete also has compressive strength, which makes it ideal for foundation walls. Steel has tensile strength. That is why steel calbes are the best supports for suspension bridges. Structural steel has enabled the architect to overcome the problems of space and weight posed by other materials. It has allowed him to design longer bridges with wider spaces and to keep safety factor without much trouble. Reinforced concrete combines the compressive strength of concrete and the tensile strength of steel.

**Interior Design**

A well-designed interior should cap the architect’s work of providing his client with a comfortable place to live and work in.

Interior design is concerned with the selection of space and furnishings to transform an empty shell of a building into a livable area. The interior designer works with such articles as pieces of furniture, appliances, fixtures, draperies and rugs with an eye for texture and color that would bringabout both unity and variety in the place. With the tastes and the needs of the occupants in mind, he selects furnishings on he basis of use, appropriateness, and beauty, and organizes them in the alloted space for convenience and ease of movement.

**Landscaping**

A building does not exist in a world of its own. It must be harmoniously related to its natural setting as well as to the other buildings in the area. Thus, most architects are much concerned about the planning and utilization of the spaces between and around these buildings. Thsi involves the arts of landscaping and environmental planning.

The artificial arrangement of outdoor areas to achieve a purely aesthetic effect is known as landscaping. The landscape artist makes use of the terrain as his basic medium along with the sand, rocks, water and growing plants found on it. Occasionally, he gives artificial forms to trees and shrubbery by pruning and shaping them to blend structurally with the architecture. Sometimes he adds such emblishments as fountains, pools, lanterns, and benches, depending on the desires of his clients.

Landscape design is determined by many factors. Among them are the site and size of the building; the building’s relationship to other existing buildings in the area; the topography, or the nature of the terrain; the amount of privacy desire, which would determine the height and type of fence needed; the soil and the climate of the area, which would influence the choice and arrangement of plants and the embellishments that the owner wants to include in his lot.