

SUVA SANGAM COLLEGE

TECHNICAL DRAWING

YEAR 12

WEEK 1

DATE - 5/7 – 9/7

STRAND	2 DESIGN and ENTERPRISING
SUB STRAND	Landscaping
OUTCOME	- Identify different types of landscaping. - Explore and state the processes involved in landscaping.
REFERENCE	Txt Bk. Pg. 46

INTRODUCTION

Landscaping can make everyone an artist, displaying a palette of nature's textures and colors. There are endless ideas that can be transformed into beautiful natural arrangements to provide pleasure and satisfaction.

Important Qualities of Well-Planned Landscapes

Designing a landscape involves using color, shape, and texture to create visual and emotional pleasure. When conceiving a perfect landscape plan, the following ideas should be included in the design:

- Color: Colors should complement or contrast each other and come together in visual harmony without glaring shades that upset the palette.

- Texture and Shape: Delicate and more substantial shapes and textures can offset each other quite well, adding a depth to the design.
- Balance and Togetherness – Balance means having a good visual weight to the design so that it looks and feels visually balanced.
- Focal Point – It is important to have a focal point from which the design expands. It could be anything from a sculpture, pond, or even formation of rocks to a pattern with the same color and type of flowers.
- Variety – There are not only choices in color, shape and texture; there are also many different plant options to create desired effects, focal points, and patterns in the landscape.

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WEEK 2

DATE - 12/7 – 16/7

STRAND	2 DESIGN and ENTERPRISING
SUB STRAND	Interior Design
OUTCOME	a) Identify different types of interior designing. b) Explore and state the processes involved in interior designing.
REFERENCE	Txt Bk. Pg. 47

Interior design is "the art or process of designing the interior, often including the exterior, of a room or building". An **interior designer** is someone who coordinates and manages such projects. Interior design is a multifaceted profession that includes conceptual development, communicating with the stakeholders of a project and the management and execution of the design.

Interior Decorators and Interior Designers

An interior designer is a designer who designs interior spaces although their remit will often extend to the fascia and exterior design, especially in the instance of retail design. An interior designer can undertake projects that include arranging the basic layout of spaces within a building as well as projects that require an understanding of technical issues such as window and door positioning, acoustics, and lighting.

Residential Interior Design

Residential design is the design of the interior of private residences.

Commercial Interior Design

Commercial design encompasses a wide range of sub specialties.

- Retail: includes malls and shopping centers, department stores, specialty stores, visual merchandising and showrooms.
- Visual and Spatial Branding: The use of space as a medium to express the Corporate Brand.
- Corporate: office design for any kind of business such as banks.
- Healthcare: the design of hospitals, assisted living facilities, medical offices, dentist offices, psychiatric facilities, laboratories, medical specialist facilities.
- Hospitality and Recreation: includes hotels, motels, resorts, cruise ships, cafes, bars, casinos, nightclubs, theaters, music and concert halls, opera houses, sports venues, restaurants, gyms, health clubs and spas, etc.
- Institutional: government offices, financial institutions (banks and credit unions), schools and universities, religious facilities, etc.
- Industrial facilities: manufacturing and training facilities as well as import and export facilities.
- Teaching in a private institute that offers classes of Interior Design.
- Self-Employment.
- Employment in private sector firms.

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WEEK 3

DATE - 19/7 – 23/7

STRAND	2 DESIGN and ENTERPRISING
SUB STRAND	NATURAL RESOURCES
OUTCOME	a) Identify different types of natural resources. b) Explore methods of preserving natural resources.
REFERENCE	Txt Bk. Pg. 48

INTRODUCTION

Natural resources are useful raw materials that we get from the Earth. They occur naturally, which means that humans cannot make natural resources. Instead, we use and modify natural resources in ways that are beneficial to us. The materials used in human-made objects are natural resources. Some examples of natural resources and the ways we can use them are:

Natural Resource	Products or Services
Air	Wind energy, tires
Animals	Foods (milk, cheese, steak, bacon) and clothing (wool sweaters, silk shirts, leather belts)
Coal	Electricity
Minerals	Coins, wire, steel, aluminum cans, jewelry
Natural gas	Electricity, heating

Oil	Electricity, fuel for cars and airplanes, plastic
Plants	Wood, paper, cotton clothing, fruits, vegetables
Sunlight	Solar power, photosynthesis
Water	Hydroelectric energy, drinking, cleaning

Biotic and Abiotic Natural Resources

If natural resources come from living things or organic materials, then they are considered biotic resources. **Biotic resources** include plants, animals, and fossil fuels. The three fossil fuels are coal, oil, and natural gas. Fossil fuels are classified as biotic resources because they were formed from the decay of organic matter over millions of years. On the other hand, **abiotic resources** originate from non-living and inorganic materials. For example, air, sunlight, and water are abiotic natural resources. Minerals (gold, copper, iron, diamonds) are also considered abiotic.

Renewable and Non-renewable Resources

Renewable resources are those that can be replenished during our lifetime, such as sunlight, wind, water, plants, and animals. The rate at which renewable resources are replenished may differ. For example, we will never run out of sun and wind in our lifetime because the Earth constantly supplies these resources.

Conservation of the Environment

By using the environment sustainably, the environment and the natural resources it provides will not be depleted or destroyed permanently - and will be available for human use for a very long time.

Preservation of the Environment

Under preservation of the environment, lands and their natural resources should not be consumed by humans and should instead be maintained in their pristine form.

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WEEK 4

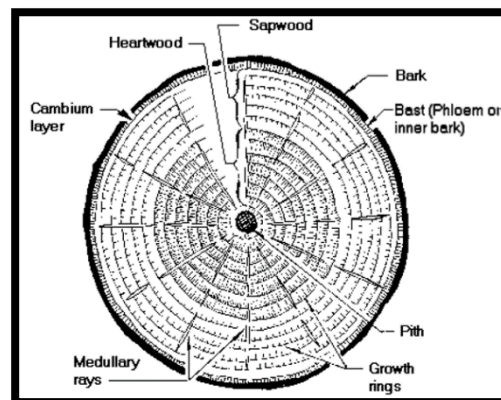
DATE - 26/7 – 30/7

STRAND	2 DESIGN and ENTERPRISING
SUB STRAND	WOOD
OUTCOME	Identify the properties and behavior of Wood and their functions.
REFERENCE	Txt Bk. Pg. 50

Wood is an extremely important, versatile and beautiful raw material. Wood comes from living, growing trees and therefore is renewable material.

Wood comes from the trunk (main stem) of trees. A **tree's stem serves two main purposes:**

1. Support the branches, leaves and flowers of the tree, holding these firmly, even against the buffeting of wind and storms.
2. Transport water and nutrients from the roots to the leaves, and sugar and other food stuffs from the leaves to all the other areas of the living tree.



The **outer layer** is made up of epidermal cells that protect the stem from damage and from drying out. The phloem contains cells which form tall and thin tubes, like capillaries, which transport the sugars and other materials made in the leaves to all the other living cells in the tree.

The next layer is the **cambium**, which usually feels slimy in a freshly cut stem. This thin layer is made of cells which produce phloem and xylem, the next layer of the stem. The cambium is the only place in a stem where new growth takes place, and its cells are constantly dividing to form new wood and new bark. As a result of the continual division of cells, the cambium layer slowly moves outwards as the tree increases in girth.

The innermost layer of a stem is the xylem. Living xylem cells carry water and minerals from the roots to the leaves. Dead xylem cells make up heartwood which is the tissue (group of cells) in the center of the stem.

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WEEK 5

DATE - 2/8 – 6/8

STRAND	2 DESIGN and ENTERPRISING
SUB STRAND	WOOD
OUTCOME	Identify the properties and conversion of Wood
REFERENCE	Txt Bk. Pg. 50

Properties of wood

Certain woods have outstanding physical appearance, while others are tough, rot-resistant, or aromatic. This unit presents a study of wood properties, with particular attention to their importance in product applications. A good beginning will be to examine the way moisture content and specific gravity affects the other properties and characteristics of wood.

Moisture content

Moisture content is the term which describes the total amount of water in a given piece of wood. This measurement is expressed as a percentage of the oven dry weight of the wood. These values are determined according to the following formula:

$$MC = \frac{\text{weight of water in wood}}{\text{oven dry weight of wood}} \times 100$$

Measures of moisture content are important because of the effects of moisture on both the mechanical and non-mechanical properties of wood materials.

Conversional of Timber

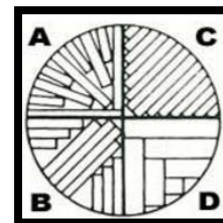
In reducing timber from the log or bulk to scantlings, the dimensions and form that the timber ought to possess when actually in use should be borne in mind

There are two main methods of converting timber:

- Through and through (or Plain or Crown sawn) which produces tangential boards; and
- Quarter Sawn which produces radial boards.

1.

1. The **Quarter sawn** is far more expensive because of the need to double (or more) handle the log. There is also more wastage. It is however more decorative and less prone to cup or distort. Note also there are two ways of sawing the quarter.



2. **Through and through;** produces mostly tangentially sawn timber and some quarter sawn stuff. Tangential timber is the most economical to produce because of the relatively less repetitive production methods. It is used extensively in the building industry.



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REVIEW QUESTIONS

1. Define landscaping.
2. Explain the reason for landscaping.
3. Identify different types of interior designing.
4. Identify different types of natural resources and state their uses.
5. Identify two methods of preserving natural resources.
6. Draw and label the timber cross section.
7. Explain moisture content of timber.
8. State and explain the two main methods of converting timber.