

LESSON 1

INTRODUCTION TO LANDSCAPING

Aim:

Discuss the principles Garden Design.

This lesson has a far smaller quantity of set reading than any of the other lessons in Landscaping. The reason for this is that the reading set in this subject is very important. You should read it over several times and be certain you have a very firm grasp of the basic concepts of landscaping before proceeding with any other lessons.

A landscape consists of both living and non living things. These are the components of the landscape. Examples of non living components might be rocks, gravel paths, timber, walls etc. These non living components can be looked on in two ways:

- as the materials which they are made up of; and
- as the structures or things which the materials are used to make.

The living components of the landscape are the plants (and perhaps the animals which inhabit it). A landscape is made good or bad by the way in which these components are both selected and are arranged together.

The landscape is constantly changing, and a good designer must foresee and account for changes which are likely to occur. Plants grow, flower and die. Wooden structures rot and metal ones rust. Earth can erode. The garden continually changes through the cycle of the season. A skilled landscape designer will not only be aware of, but will use these changes.

PRINCIPLES OF LANDSCAPE DESIGN

The basic principles of landscape design are those things which influence the way in which the components are used. For example, the over-riding principle in Chinese gardens is unity – between rocks, plants and water. For Le Notre, a famous 17th Century French designer, a very important principle was that of symmetry, while for Capability Brown, an influential 18th century English landscaper, the most important principle was for landscapes to be natural in appearance.

Ground form, structures and plants all need to be organised into a pleasing composition of spaces to satisfy the principles chosen by the designer with an emphasis to suit the client. Some of the principles which can be used are discussed below:

Unity

Unity is achieved by grouping, placing or arranging in such a way that several individual components appear to have a sense of oneness. A desirable appearance needs to be achieved from all points of view. A repetitive pattern can be used to create unity. For example, if you are placing rocks in the garden, use the same type of rock throughout the garden, rather than an assortment of rocks with varying shapes, colours and textures.



Pink used to create tie the whole area together creating unity. Repetition through use of identical planters at the back adds further to a sense of unity.

Balance

This refers to equilibrium, which can be either symmetrical or asymmetrical. With symmetrical balance there is duplication on either side of an imaginary line of landscape components in terms of line, form or colour - for example, two similarly shaped garden beds in front of a house. Symmetry is an important feature of formal landscapes.



Symmetrical Balance



Asymmetrical Balance

Asymmetrical balance involves dissimilar placement of different objects or masses on either side of the same sort of imaginary line, but in a way that equilibrium still exists – for example, three or five silver birch trees planted in a group. Asymmetry gives the garden a more relaxed, natural appearance.

Proportion

This refers to proper sizing or scaling of components in relation to each other and to the total landscape; for example, tall trees are not in proportion if used in a small courtyard, nor is a small shrub in proportion in the middle of a large expanse of lawn.



This garden furniture is in proportion to the space. Larger furniture would dominate the visual image and be awkward from a practical viewpoint. A small setting like this would be equally out of proportion in a very large landscape.



This sculpture is in proportion to the plants. It is partially obscured and appears to belong here, a much smaller sculpture would be hidden and out of proportion, and if the statue was too large the plants would not be noticed.

Harmony

This refers to the way different parts of the landscape fit together. Overall, most designers strive to achieve harmony.



Contrast

Contrast is in opposition to harmony and should not be overdone. Occasional contrasts are used to create an eye catching feature in a garden; for example, contrasting foliage texture, colour or form provides a focal point in the garden.



Round shapes contrast with straight lines



Hot colours contrast with pale concrete

Rhythm

Rhythm is a conscious repetition of equal or similar components in the garden. It is usually created by repetition and transition (the slow change from one thing to another).



Design Elements

The components which are used in a landscape design have a number of qualities or characteristics which need to be considered when trying to achieve the principles of design. These qualities can be controlled by the designer not only in the selection which is made of the components, but also in the way those components are used. These qualities are sometimes referred to as design elements:

Line

Line can be either fixed or moving. Examples of fixed lines are borders of paths, fences, walls, the outline of a building, the shape of a statue and the edge of a lawn. Examples of moving lines are the edge of a shadow and the outline of a fast-growing plant.



Form

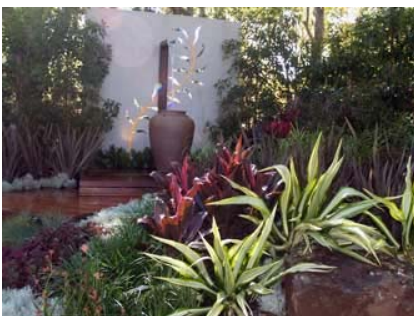
Form is the outline or three-dimensional shape of an object.



Plants with different forms create different effects

Mass

Mass is the degree of solidity of forms. Heavier, denser or darker foliage will create the effect of greater mass.



Mass of plants varies. Some have dense foliage and some more open. Deciduous plants have more mass when in leaf and less mass when leaves drop.

Space

Space is the volume defined by physical boundaries such as walls, trees, shrubs, ground surface and the sky or canopy of plants above.



Texture

Texture refers to the patterning of the components of the landscape: coarse or fine, rough or smooth etc. Texture is significant when considering scale, particularly in more intimate, smaller areas. There is texture in plants, wood, stone, gravel, and even in water as the wind blows over its surface.



Colour

Colour can be used for harmony or contrast. Generally (but not always) designers use contrasting colours sparingly. In general pale, cool colours (blue, green, white, silver and pastel shades) create a relaxing atmosphere in the garden, while hot, vibrant colours (reds, yellows, orange, bright pink) demand attention and subconsciously encourage activity.



Different spaces with different dominant colours

Tone

Tone is the relationship between colour, light and texture.



Consider that gardens change as shade changes throughout the day.

CREATING LANDSCAPE EFFECTS

- Close mowing tends to make an area seem larger.
- A smooth boundary will make an area seem larger.
- Shadows or openings at one side of an area will make it seem wider.
- Looking downhill makes a distance seem longer.
- Looking uphill makes a distance seem shorter.
- Too much repetition and harmony is monotonous.
- Too much contrast is chaotic.
- Spaces which are too small can be oppressive.
- Large spaces are empty and hollow unless there are a large number of people in those spaces.
- Long spaces (in large scale public landscapes) can be overdone becoming psychologically exhausting.
- To achieve a harmony in space in enclosed areas the ratio of building height to space width should be no more than 1:4.
- Introduced landforms, reshaping of land, should blend in with existing topography.
- Coarse textures decrease the apparent size of spaces.
- Fine textures will make small spaces look bigger.
- Flowing curved lines are passive, soft and pleasant.
- Geometric lines and shapes are solid, strong and formal.
- Sharp, straight irregular lines create an active, vigorous feeling in a garden.
- A garden can be made to appear larger by making trees and other features from adjoining appear to be part of itself.

Using space

Rather than having a single area in which every plant and feature can be seen with one glance, try breaking up the space into a series of areas or garden 'rooms'. If your garden area is too small to divide up into several areas, remember that even two small areas create more interest in the garden than one larger area.

Each area or room should be distinctly defined from the other areas by partial enclosure, using plants or structures such as pergolas, or by a change in landscaping materials. For example, immediately outside the back door you could have a paved outdoor entertainment area, which leads on to a lawn surrounded by gently curving garden beds, which then leads on to a pond surrounded by water plants, and so on. Each area has a distinct character which draws the viewer from one area to the next to see what lies beyond.

The divisions between each area need only be subtle, otherwise you'll end up with an even more boxed in feeling than you started with. A low hedge, a lattice screen, a small change of level, or even just a sweep or curve in the bed are sufficient for separating and linking one area to the next.

Making a small garden look larger

Some small gardens make you feel hemmed in, even claustrophobic. Other gardens, although no larger, are full of interest, giving a sense of space and freedom. How do they do it? Below are some tricks used by professional landscape designers to enhance the feeling of space in the garden.

When designing the beds and paths, avoid using too many straight lines as they tend to create strong boundaries that make spaces appear smaller. Curved lines (even slight ones) can help increase the feel of spaciousness.

Construct paths so that they narrow slightly as they progress away from main viewing locations, such as verandas or where you sit in the garden. This makes an optical illusion of increased distance. Smooth surfaces and small fine textured landscaping materials will make the area seem larger. For example, if the area is paved or pebbled use small sized pavers and small diameter pebbles.

If you use mulch on your beds use a mulch with small particle size, such as rice hulls or fine milled pine bark, rather than coarse pine bark or large-sized wood chips.

Choosing the Plants

Avoid placing too much in the garden. Often less is more, creating an impression of more space. An open area centrally located and framed by small-leaved plants can create a sense of both space and openness.

In general it is better to use fine-leaved plants rather than broad-leaved ones, and/or use dwarf or compact plants. If you want to include broader-leaved plants, put them at the front of the bed backed up by plants with progressively smaller foliage.

The colour of the plants – foliage colour, as well as flower colour – can be used to create the illusion of distance. Hot, bright colours, eg. red, yellow, orange, will stand out and make the garden seem smaller than the cooler coloured plants (blue, green, soft pinks, purple, silver) which recede into the distance.

You can make the garden appear as though it is merging into the house by careful selection and placement of plants and furniture. For example, a creeper growing on the entrance wall of a house or placing large garden pots near the entranceway will extend the garden area.

'Borrowing' your neighbours plants is another strategy for enhancing space.

Instead of completely blocking out your neighbours' garden with tall fences and screening plants, grow boundary plants to filter out the unwanted views (their house, washing line, etc.) but retain the attractive parts of their garden (especially the trees). Grow climbers on boundaries rather than thick bushes that encroach on the garden. Growing plants on walls in boxes, as climbers, or as espaliers is a good way to make more use of available space.

Using Colour

Get greater impact from colour by being careful about how you combine colours in the landscape. Colourful contrasts in the garden grab your attention and have the potential to turn an ordinary landscape into a memorable garden scene. For the best effect, choose those colours that give the strongest contrasts such as blue and yellow or purple and light green.

Remember the colourful contrasts don't have to come from flowers. Some of the best colour schemes are based on foliage, using evergreen plants for year-round colour or deciduous plants for seasonal highlights. Also look at how the non-living components in your garden could be used to create colourful contrasts – a painted wall, fence or lattice screen is an excellent way to provide a permanent contrasting backdrop to plants grown in beds. On a smaller scale, you could use garden furniture, pots or other decorative features to create small splashes of contrasting colours.

The Colour Wheel

Colour can be thought of in terms of a circle made up of a progression of different colours: each one only slightly different to the one next to it. Red has pink on one side and orange on the other, which are both colours that are created by mixing red with other colours.

Opposite Colours

Colours which are on opposite sides of the colour wheel have the greatest contrast so if you want to create an impact, place two opposite colours beside each other. Contrasting combinations include:

- Yellow contrasts with blue or purple
- Purple contrasts with light green
- Darker greens contrast with pinks and reds
- Light blue contrasts with red
- Darker blue contrasts with orange
- White contrasts with dark greens, gold
- Silver contrasts with dark reds, purple and lime green

The simplest contrasts are based on pairs of opposite colours; for a more complex scheme use three or more contrasting colours.

Decorative Touches

Avoid using tall, bulky decorative structures, eg. statues, heavy garden furniture, as they tend to dominate the rest of the garden. Wire garden furniture is ideal as it is light in appearance and is easy to move around.

Mirrors and *tromp l'oeils* (realistically painted scenes) are currently popular in courtyard gardens. Strategically placed mirrors (e.g. on walls) are used to catch light and reflect other parts of the garden. Painted scenes on courtyard walls give the impression that the garden stretches further than it actually does. By making the painted scene narrow towards the rear of the image it gives the impression of greater distance.

Good placement of garden lighting can increase the feeling of space in a garden at night. You can set up series of lights that turn on and off (using a timer) at various times to create a changing vista.

Light and colour

The image depends on the type of light and where it is coming from. For example, the colour of a statue looks quite different when it is hit by bright sunlight compared to when the sun is behind and filtered through a canopy of trees.

Light and Colour Work Together

It doesn't matter how brilliant any flower or feature is: without the appropriate lighting, the colour will never be seen at its full potential

Time of Day

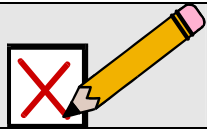
The colour of a plant or feature in the garden will change throughout the day. The sun gives off energy waves or vibrations – and this is what we see as colour. These vibrations vary in rate and that rate is what creates different colours.

During the day, faster vibrations occur, with the sunlight penetrating the atmosphere at right angles more directly, and the faster vibrations cause the sky to appear blue.

At sunset, the sunlight is coming into the atmosphere at a greater angle, and this causes slower vibrations that make the sky appear more yellow or orange.

Similarly, the colour of flowers may vary during the day. Sapphire blue colours can look more lilac or purple in late afternoon light.

At night, things appear as shades of black grey or white unless lit artificially; and then the type of light source can change the colour.



SELF ASSESSMENT

Perform the self assessment test titled 'test 1.1'

If you answer incorrectly, review the notes and try the test again.

PRE-PLANNING INFORMATION

Before commencing a landscape design it is very important to collate certain information upon which the design will be based. The type of information you collect will vary depending on the site characteristics and the subsequent landscaping plan. However, you will want to be as informed as possible about the site and the resources available. Examples of pre planning information you might wish to collect include:

1. What is the soil like? Be aware that the soil can vary in its character over very small distances. Do not rely on a single sample from one place. Dig holes, either with a spade or an auger and study changes in the soil as you progress through the profile (ie. go deeper). Measure the pH (ie. level of acidity or alkalinity) and note the texture of each sample. Mark your findings down on a sketch plan of the site.

2. Record the dimensions, and other measurements. Often this work can largely be avoided if a plan of the site is available. Always double check though, as official plans have been known to be wrong. The following details should be accurately recorded here: site dimensions, building dimensions and placement, position of drains, pipes, easements, power lines, location of doors and windows on buildings, position of existing landscape components such as paths, trees, fences, etc.

You should also have a record of the contours of the site, note badly drained parts and note good and bad views.

3. Consult the local government authority, or other relevant bodies. Some by-laws are important to the design, but they vary from place to place. For example, there may be legislation dictating how far from a boundary a building is able to be located; or legislation that dictates what changes can be made to an existing property.

4. Study the environment of the locality. Climate, wind, temperature, frost, rainfall, etc. can vary greatly from place to place, even in the same town or city. Drive around nearby areas and see what plants are growing successfully there.

5. What resources are available to do the job? There is not much sense in designing a good landscape if the money is not available to build it; or even if the money is there - if the materials are simply not on the market. Know how much money is available. Investigate the materials available locally (local quarries, garden centres, etc).

6. What preferences and priorities does the client or owner have? What relative importance is placed on the following:

- function (the way the landscape is used)
- aesthetics (the way it looks)
- maintenance (the money and/or effort to keep it in an acceptable condition)
- safety

Are there any particular things which must be included? If so, make a list of these. Are there any particular likes or dislikes? For example, does the client like a particular type of plant, a certain type of material whether gravel, stone, timber or brick, or do they want certain personally relevant things incorporated into the garden?

7. If you are not familiar with the site, it can be useful to take a number of photographs to look at when drawing the design.


HEALTHY GARDENS

Your garden can be a great contributor to promoting and maintaining a more comfortable healthy life. The immediate environment surrounding a house (or any building) can have a dramatic affect upon the health of people both inside and outside (nearby) the house. Consider the following ideas to use in your garden:

- Organic materials outside a building will help buffer temperature fluctuations. Organic mulches, such as wood chips or pine bark, or vegetation covering the ground, will not heat up so rapidly in hot weather, and will not cool down as fast in cold weather as would many other materials. Such materials will also help reduce water loss from the soil, and provide valuable nutrients that will help keep your plants growing healthily.
- Surrounding trees can provide protection from excessive heat and light in summer, and also help protect from adverse conditions such as cold winds or frost. Deciduous trees lose their leaves and let the sun penetrate in winter, while providing leafy shade in summer. Be careful to choose tree varieties which do not have very invasive roots, or not to place your trees too near buildings or paving where root damage may occur, or dropped branches and leaves may be a real problem.

- Hard paving (including pavers, concrete or asphalt) can become very hot in summer and very cool in winter. Shade from trees can help keep such areas cool in summer, particularly the hot afternoon sun, if trees are located carefully. Try to avoid placing trees or large shrubs in positions where they will create heavy shade in winter, as the paving may remain damp for much of the day, encouraging moss, and becoming slippery. Lawns can provide a living alternative that will help moderate the temperature in your garden.
- The use of pergolas, verandas or wide eaves can also be used to buffer the outside walls of a building from excessive heat, cold or rain, or create the ideal conditions in your garden to relax, protected from the worst of the weather. Many modern cladding materials, such as polycarbonate sheeting, will also reduce the passage of UV light, reducing the risk of skin cancers.
- Ventilation plays a major role in maintaining air quality. Fresh air circulating into a home increases oxygen levels, and flushes out carbon dioxide build up resulting from human respiration, as well as flushing out odours, fumes, dusts, pollutants, etc. resulting from human activities. Air moving through a clean garden will be purified, and cooled before it enters a building, and if you have lots of sweet smelling flowers can help brighten up the house with delightful fragrances. Installing good quality, well fitting insect screens on windows and doors will enable you to enjoy fresh air from outside without any of the “nasties”. For added security consider mesh security doors with insect screens, particularly for front entries.
- House plants will help filter out air-borne toxins to make the air cleaner indoors. They will also help moisten dry air that often occurs when ducted and combustion heating systems are used. Regularly taking your plants outside during good weather conditions, and lightly hosing them down will help remove dust, and other residues that have settled onto the foliage, which will help keep your plants in top condition. Colourful foliage and flowers indoor will also be very visually pleasing, and really brighten up your house.
- Colour has both a physical and psychological affect upon people. Colour choice can have a very real affect upon people’s health. Colours are sometimes divided into two broad groups: Hot colours include reds, orange, & yellow. Cool colours include blues and greens. Hot colours have the psychological affect of making people feel active encouraging work. Cool colours are more relaxing. Choose your plants based on colours (flowers, foliage, bark, fruit), and place them to help create the mood you desire, for example, bright colours in play areas or work areas, and cool colours in areas where you like to sit and relax. Such colours can be complemented by careful selection of similar coloured paints for exterior buildings and structures.
- The scents released from many plants have very definite medical benefits, while the scent from others can actually aggravate many people, causing allergies. Herbs such as conifers, mint and thyme release scents that help clear the sinuses (ie. are a decongestant); but some plants like wattles, gardenias and jasmine can give allergy sufferers a headache, particularly if ventilation is poor in the garden.
- The exhausts from engines used to propel machinery such as mowers, edgers, chainsaws, etc contribute to air pollution. The noise they create can be extremely annoying, especially to someone trying to sleep in on a Sunday morning. They can also throw up stones or other debris at high speed, which can cause injury to people and pets, or damage to property, such as windows. Where possible try to use gardening methods that don't require engines. This can also be a great way to get some exercise. For example:
 - Instead of using a powered lawn mower use a hand pushed one. Regular cutting will ensure that the grass doesn't get to big to make cutting difficult.
 - Instead of using a brush cutter or whipper snipper use a scythe.
 - In place of a chainsaw use a hand-saw or axe.
 - Use hand tools such as hedging shears to trim plants instead of powered trimmers.

- Ensure any machines you do use are operating at peak performance (well maintained) to minimise noise and fumes, and that you use them at times when their noise will not create too much disturbance to others.
- Try to avoid using incinerators at anytime. As a general rule if you can burn it you can probably compost or recycle it. This means you don't waste useful material, and you don't pollute the atmosphere with smelly, even toxic fumes, or upset your neighbour when the wind blows smoke or ashes into their garden or over their washing. Many councils have now banned burning off in gardens in suburban areas.

	<p>SELF ASSESSMENT Perform the self assessment test titled 'test 1.2' If you answer incorrectly, review the notes and try the test again.</p>
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PLANT REVIEW WORKSHEETS

With each lesson assignment you will be required to prepare plant review worksheets. Each plant collection should include three trees, four shrubs, two native plants, one non-native (exotic), one climber and one indoor plant. Each lesson will require reviews of twelve plants to be submitted. Each plant should be named, described and illustrated.

Naming the plant

Include the common name, scientific name; and the plant family name. If you cannot provide one of these, ask your tutor for assistance. Your tutor will often be able to help at least partly identify the odd unidentified plant; if you submit an illustration and good description (ideally presenting not only a leaf, but also a flower, fruit or seed head). You can access a plant directory at the following site on www.acsgarden.com there are many more sites that also have plant directories you might useful in plant identification

You should always make a serious attempt to find out the name of a plant by yourself, not because that is going to get the plant named more correctly, but because by going through the process of trying to identify the plant you are forcing yourself to handle the plant, placing it in the forefront of your mind, considering its features, and assessing its similarities and differences to other plants. By giving a particular plant this degree of attention, you are far more likely to remember both its name and other things about it, when you finally find out what it is.

The first place to start is to look through books and at photographs of plants that look similar. Try to match the plant you have with photos in books or magazines. If you think you have a match, then it should be cross referenced (i.e. look the same plant up in another publication which describes the plant which you think you have identified). Compare the description to the plant you are identifying. Keep in mind that there is room for variation, particularly if the written description comes from another state or country where the climate may be different, hence the plant may grow differently.

If you still have difficulty, you might look around a nursery or botanic garden to see if you can find the variety of plant you are trying to identify.

There are well in excess of 100,000 different plant varieties commonly cultivated. It is impossible to purchase any book, anywhere in the world, which is comprehensive. Even the good references for just the common plants are likely to be expensive.

Because of the diversity of plants grown, and the range of books needed to provide a reasonable reference library, it is not normally considered practical to provide books on plant identification as part of your course.

If you have any books already, these will no doubt be of some help. You may also find it useful to visit your local library and perhaps borrow books. If you have no books at all, it is probably worth while buying one or more of the following; though it is possible to complete your course without doing so....by using your tutor more to help you identify plants the names of which you cannot pick up by other means.

Useful plant knowledge books for beginners can be purchased through the ACS online bookshop at www.acsbookshop.com

Describing the plant

- Height How high can it grow in your locality?
- Width.... How wide can it grow in your locality?
- Propagation... How the plant is best propagated?
- Flowers...What colour and when does it flower? Are the flowers scented?
- Leaf colour, shape, texture... What colour are the leaves when and mature? Are the leaves round, feathery, lobed, or spiky? Are the leaves fine or coarse textured?
- Season... Does the plant have any seasonal tendencies such as dying back periodically?
- Hardiness.... Is it frost tender? How does the wind affect it?
- Culture.... Are there any special things the plant requires? How hard should it be pruned and how often? Does it need good drainage? How often should it be fertilised? ...etc.
- Pests and Diseases.... List any pests and diseases that are a particular problem for this plant.
- Maintenance... Are there any maintenance requirements for the plant such as pruning or raking fallen leaves in winter?

Illustrating the plant

This may be done any of the following ways:

- Submit a photograph or drawing of parts of the plant
- Submit a digital photograph or drawing (Do not send large graphics files over the internet. Consult your student manual for details)
- Refer to a web site page location where you have found the plant illustrated on the internet.

Submit a photograph of a pressed specimen (Note: Do not send pressed specimens across state or national borders.To do so may be illegal and in breach of Quarantine Regulations).

Some students find it helpful to compile a herbarium to aid plant identification skills. Do not send in the plant herbarium but keep it for your personal use as a resource for future reference. In our experience, students who prepare a collection of pressed, dried plants (known as a herbarium) have a better ability to remember the names of the plants they have been working with.

HOW TO PRESENT YOUR PLANT REVIEW WOKSHEETS

PLANT SPECIMEN NO.1

Plant Family

Genus

Species

Common Name

Propagation

Height..... Width.....

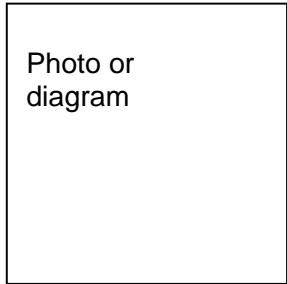
Flowers

Season

Hardiness

Culture.....

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PLANT SPECIMEN NO.2

Plant Family

Genus

Species

Common Name

Propagation

Height..... Width.....

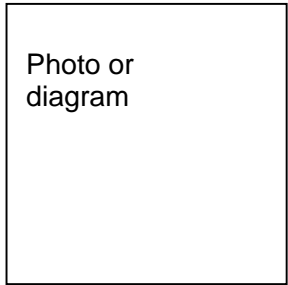
Flowers

Season

Hardiness

Culture.....

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SPECIAL ASSIGNMENT

Lesson 30 assignment is a major design project. It can be completed and submitted to your tutor any time after completion of the first ten assignments. The work involved will be as follows:

1. Preparation of a landscape plan for either development or redevelopment of a park or a home garden. The student is completely free to select any project they wish. The type of garden and the size of the project are not important. It can be your own home garden, a park down the street from where you live, or an office courtyard where you work ... anything! The one stipulation we do place, is that your design is your own work.
2. A description of the reasoning behind your design. Use sketches if you wish. This description should explain what you were trying to achieve in the design, the decisions you made to achieve those things, and why you decided the way you did rather than another way.
3. A specification to accompany the plan.
(Refer to Basic Landscaping text).

This assignment should require a minimum of 25 hours work. Obviously, if a student chose to, they could spend many times this amount of effort on this special assignment. You are free to put in a greater effort if you wish, but it is not expected. The main purpose of this assignment is for your tutor to see that you are developing a total concept - a proper perspective of landscape design. We wish to see that you are able to put all of the "bits & pieces" you are learning about, together in the one subject.



ASSIGNMENT

Download and do the assignment called 'Lesson 1 Assignment'.