

Unit 5: Flowering and Foliage Plants (Structures and Processes)

Unit code:	Y/601/9229
QCF Level 3:	BTEC National
Credit value:	10
Guided learning hours:	60

● Aim and purpose

This unit aims to introduce learners to the skills and knowledge associated with flowering and foliage plants and how these can be applied in practice. It is designed for learners in centre-based settings looking to progress into the sector or onto further/higher education.

● Unit introduction

Although not every florist outlet sells indoor plants, flowering or foliage, it is essential that qualified florists know about them and the role they play in the floristry industry. What are commonly called 'indoor plants' in the northern hemisphere are, in general, tropical and semi-tropical (sub-tropical) outdoor plants which have been grown commercially and have adapted to living in a soil-filled container instead of the earth.

They are frequently used to enhance home or commercial premises and are often subject to 'trends' in fashionable interior design.

It has been proven that plants help to promote a healthy environment where the supply of fresh air is reduced, such as in a hospital ward or office. In this unit learners have the opportunity to investigate a wide range of plants, both flowering and foliage, and the environmental factors needed to promote a healthy shelf life within a floristry outlet. They will also have the opportunity to give after care advice to customers.

In learning outcome 1, learners identify indoor flowering and foliage plants and become familiar with their botanical and common names. Leaf and flower shapes will be identified and learners will need to analyse and understand their leaf, stem and root structures/systems and functions. Plants which are known to be poisonous or irritant will also be considered.

For learning outcome 2, learners need to research and identify the growing areas for these plants in the UK and overseas. Learners will consider how the plants reach the retailer, including types of packaging, transportation methods and usual packing quantities. Plant regulations and plant 'passports' are included within this.

Learning outcome 3 covers the care of flowering and foliage plants, their watering and feeding requirements together with necessary light levels, daylight length, temperature, storage etc. Common pests affecting these plants will be identified together with prevention and control methods.

Learning outcome 4 gives learners the opportunity to develop an understanding of the environmental requirements of varying types of indoor plant, exploring the compatibility of indoor plants within a range of planted designs and holistic benefits of plants. Learners will devise suitable maintenance regimes for these designs.

● Learning outcomes

On completion of this unit a learner should:

- 1 Know commercial flowering and foliage indoor plants
- 2 Understand commercial supply and availability of flowering and foliage indoor plants
- 3 Be able to develop a flowering and foliage plant system of care
- 4 Understand ideal environments and surroundings for flowering and foliage plants.

Unit content

1 Know commercial flowering and foliage indoor plants

Identification: readily available commercial flowering and foliage indoor plants eg succulents, cacti, bromeliads, climbers, trailing, palm, ferns, bulbs, latex stems, air plants, larger leaved, small leaved, long term, short term; colours of leaves and flowers; Latin names; common names; variety names; leaf and flower shape; leaf, stem and root structures/systems and functions; poisonous and irritant plant materials

2 Understand commercial supply and availability of flowering and foliage indoor plants

Research: where plants are commercially grown (growing areas in the UK and abroad); how plants reach the retailer; how plants are packaged for transportation; plant health and presentation; current relevant regulations eg plant 'passports'

3 Be able to develop a flowering and foliage plant system of care

Instructions: water, temperature, light, safe handling and storage for plants; effective communication of instructions to customers; advice on poisonous or irritant plant material; health and safety

Pests and diseases: common pests and diseases of indoor plants; methods used to prevent/control and eradicate pests and diseases; indication of pests and diseases

Legislation: compliance with current legislation relating to eg pesticides, import of plants

4 Understand ideal environments and surroundings for flowering and foliage plants

Surroundings: flowering and foliage indoor plants for all parts of the home eg lounge, kitchen, conservatory; for use within a commercial environment eg office, boardroom, reception, conference, event; high and low maintenance flowering and foliage indoor plants; light; temperature; humidity; ventilation; contrasting environments eg air conditioned office, shady room, bright conservatory; health and safety

Plants within the environment, surroundings and their subsequent effects: holistic effects and the rewards to be gained from a mental and physical health point of view eg effects to be gained from colour, specimen plants, indoor screens, pebble trays, planted designs with compatible planting/groupings; benefits of using a variety of plant structures eg trailing, upright and horizontal growth

Assessment and grading criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria for a pass grade describe the level of achievement required to pass this unit.

Assessment and grading criteria		
To achieve a pass grade the evidence must show that the learner is able to:	To achieve a merit grade the evidence must show that, in addition to the pass criteria, the learner is able to:	To achieve a distinction grade the evidence must show that, in addition to the pass and merit criteria, the learner is able to:
P1 describe selected commercial flowering and foliage indoor plants using Latin and common names [IE]	M1 explain the leaf and flower shape of selected commercial flowering and foliage indoor plants	D1 analyse root and stem structures/systems of selected commercial flowering and foliage indoor plants
P2 explain commercial growing areas for selected flowering and foliage indoor plants [IE]	M2 explain how selected flowering and foliage indoor plants make their journey from commercial grower to the florist environment	
P3 explain the availability of selected flowering and foliage indoor plants		
P4 develop a system of care for a customer to follow for selected flowering and foliage indoor plants [IE, CT, RL]	M3 identify and describe indications of common pests and diseases for selected flowering and foliage indoor plants and appropriate procedures to prevent and treat these	D2 evaluate the methods used to prevent/control and eradicate pests and diseases for selected flowering and foliage indoor plants.
P5 explain ideal environments for selected flowering and foliage indoor plants [IE, CT, RL]	M4 discuss the holistic benefits of specimen plants, plant groups and planted designs.	
P6 recommend environments ideal for selected flowering and foliage indoor plants. [IE, CT, RL]		

PLTS: This summary references where applicable, in the square brackets, the elements of the personal, learning and thinking skills applicable in the pass criteria. It identifies opportunities for learners to demonstrate effective application of the referenced elements of the skills.

Key	IE – independent enquirers	RL – reflective learners	SM – self-managers
	CT – creative thinkers	TW – team workers	EP – effective participators

Essential guidance for tutors

Delivery

Delivery of this unit will involve practical assessments, written assessment, visits to suitable collections and will link to work experience placements.

Tutors delivering this unit have opportunities to use as wide a range of techniques as possible. Lectures, discussions, seminar presentations, site visits, internet and/or library-based research and the use of personal and/or industrial experience would all be suitable. Delivery should stimulate, motivate, educate and enthuse learners.

Work placements should be monitored regularly in order to ensure the quality of the learning experience. It would be beneficial if learners and supervisors were made aware of the requirements of this unit before any work-related activities so that naturally occurring evidence can be collected at the time. For example, learners may have the opportunity to observe and discuss recommended environments and maintenance regimes for commercial designs, and they should ask for observation records and/or witness statements to be provided as evidence of this. Guidance on the use of observation records and witness statements is provided on the Edexcel website.

Whichever delivery methods are used, it is essential that tutors stress the importance of being in a safe learning environment.

Health and safety issues relating to working with flowering and foliage plants must be stressed and reinforced regularly, and risk assessments must be undertaken before any practical activities.

Tutors should consider integrating the delivery, private study and assessment for this unit with other relevant units and assessment instruments learners are taking as part of their programme of study.

Learning outcomes 1 and 2 are directly linked. These are likely to be delivered through formal lectures, discussion, site visits and independent learner research.

Visits to growers, independent wholesalers, wholesale markets and packaging companies should be encouraged. The use of websites will also help learners to source information, particularly on current legislation relating to the import of plants.

Health and safety measures and centre procedures must be followed to ensure a safe learning environment. Visiting expert speakers could add to the relevance of the subject learners. For example, representatives from a commercial grower/interior plant display company could give learners opportunities to obtain first hand information relevant to this unit.

Learning outcomes 3 and 4 are directly linked. In particular, learners should, ideally, be given sufficient exposure to professional practice in order to identify indoor plants and give advice to customers in a commercial context. Visiting speakers and demonstrators would help to reinforce learners' knowledge of the subject area and encourage independent learning linked to designing planted arrangements to meet specifications and the maintenance regimes associated with these.

Outline learning plan

The outline learning plan has been included in this unit as guidance and can be used in conjunction with the programme of suggested assignments.

The outline learning plan gives **an indication of the volume of learning it would take the average learner** to achieve the learning outcomes. It is **indicative and is one way of achieving the credit value**.

Learning time should address all learning (including assessment) relevant to the learning outcomes, regardless

of where, when and how the learning has taken place.

Topic and suggested assignments/activities and/assessment
Introduction to the unit.
Assignment 1: Flowering and Foliage Plants (P1, P2, M1, M2, D1)
Theory/practical – commercial flowering and foliage indoor plants.
Theory – understanding commercial growers and availability.
Assignment 2: Care Guide for Plants (P4, P5, M3, M4, D2)
Theory/practical – systems of care.
Theory/practical – ideal environments and surroundings.
Unit review.

Assessment

To achieve a pass grade learners must meet the six pass criteria listed in the grading grid.

For P1, learners must identify and describe selected commercial flowering and foliage indoor plants using their Latin and common names. Tutors should identify the commercial flowering and foliage indoor plants or agree them through discussion with learners. Where possible, to ensure assessment is fair the size and complexity of the tasks should be the same for all learners.

Evidence for P1 could take the form of a pictorial presentation with notes (possibly using appropriate software or an overhead projector), an annotated poster or a project. Assessment could be linked to that for P2.

For P2, learners are required to explain commercial growing areas and the availability of selected flowering and foliage indoor plants. Tutors should identify the commercial flowering and foliage indoor plants or agree them through discussion with learners.

Where possible, to ensure assessment is fair the size and complexity of the tasks should be the same for all learners.

P2 could be assessed in the same format as suggested for P1, or directly during practical activities. If the latter format is used then suitable evidence from guided activities would be detailed observation records completed by learners and the tutor.

If learners are assessed during a placement, witness statements should be provided by a suitable representative and verified by the tutor.

For P4, learners must develop a system of care for a customer to follow for selected flowering and foliage indoor plants. Tutors should identify the commercial flowering and foliage indoor plants or agree them through discussion with learners. Where possible, to ensure assessment is fair the size and complexity of the tasks should be the same for all learners. Evidence could be in the same format as for P1.

P5 requires learners to recommend and describe environments which would be ideal for selected flowering and foliage indoor plants. Tutors should identify the flowering and foliage indoor plants or agree them through discussion with learners. Where possible, to ensure assessment is fair the size and complexity of the tasks should be the same for all learners. Evidence may be in the same format as for P2.

To achieve a merit grade learners must meet all of the pass criteria and the four merit criteria.

For M1, learners must explain the leaf and flower shape of selected commercial flowering and foliage indoor. Tutors should identify the commercial flowering and foliage indoor plants or agree them through discussion with learners. Where possible, to ensure assessment is fair the size and complexity of the tasks should be the

same for all learners.

Tutors should give guidance on the appropriate materials used in designs during theory inputs for M1 which could be assessed directly by the tutor through assignments/theory tests. If this format is used then suitable evidence from guided activities would be observation records completed by learners and the tutor. Alternatively, evidence could be in the form of a project or presentation.

For M2, learners must explain how selected flowering and foliage indoor plants make their journey from commercial grower to the florist environment. Tutors should identify the flowering and foliage indoor plants or agree them through discussion with learners. Where possible, to ensure assessment is fair the size and complexity of the tasks should be the same for all learners. Learners should consider all aspects of the operations they are describing and give examples of the methods described. Evidence may be in the same format as for M1.

M3 requires learners to identify and describe indications of common pests and diseases for selected flowering and foliage indoor plants and the appropriate procedures to prevent and treat these. M3 could be assessed directly by the tutor during practical activities. If this format is used then suitable evidence from guided activities would be observation records completed by learners and the tutor. Alternatively, evidence could be in the form of a project or presentation.

M4 requires learners to discuss the holistic benefits of specimen plants, plant groups and planted designs. M4 could be linked to P5 and D2. Evidence could be in the form of illustrated designs showing benefits of plants within different surroundings/environment. Evidence for M4 could take the form of assignments or learner presentations.

To achieve a distinction grade learners must meet all of the pass and merit criteria and the two distinction criteria.

For D1, learners need to analyse root and stem structures/systems of selected commercial flowering and foliage indoor plants. This must cover their function. Tutors should identify the commercial flowering and foliage indoor plants or agree them through discussion with learners. Where possible, to ensure assessment is fair the size and complexity of the tasks should be the same for all learners. Evidence may be in the same format as for M3.

D2 requires learners to evaluate the methods used to prevent/control and eradicate pests and diseases for selected flowering and foliage indoor plants. Tutors should identify the commercial flowering and foliage indoor plants or agree them through discussion with learners. Where possible, to ensure assessment is fair the size and complexity of the tasks should be the same for all learners.

Programme of suggested assignments

The following table shows a programme of suggested assignments that cover the pass, merit and distinction criteria in the grading grid. This is for guidance and it is recommended that centres either write their own assignments or adapt any Edexcel assignments to meet local needs and resources.

Criteria covered	Assignment title	Scenario	Assessment method
P1, P2, M1, M2, D1	Flowering and Foliage Plants	You work in a florist which specialises in corporate work. Recently your customers are requesting planted displays rather than weekly cut flower arrangements. You have been asked to help train staff and raise their awareness of flowering and foliage plants.	Presentation, Report.

Criteria covered	Assignment title	Scenario	Assessment method
P4, P5, M3, M4, D2	Care Guide for Plants	You are part of the plant display team in a large florist shop. As part of your service to customers each planted design that leaves the workroom has a care guide sent with it. You are in charge of developing these.	Booklet. Leaflet. Web guide, Frequently Asked Questions. Report. Presentation. Essay.

Links to National Occupational Standards, other BTEC units, other BTEC qualifications and other relevant units and qualifications

This unit forms part of the BTEC Land-based sector suite. This unit has particular links with:

Level 2	Level 3
Floristry Display Techniques	Work placement
	Understanding Floristry Marketing Strategies

Essential resources

Learners will need access to a workshop or studio/classroom with benches or tables of a suitable height, good lighting and water for practical sessions. Access to a wide range of flowering and foliage indoor plants and a conservatory/greenhouse/garden room is desirable, together with examples of pests and diseases. Learners should also have access to library facilities, textbooks, journals/magazines. IT and internet support should be available.

Where possible visits to wholesalers, growers, trade fairs, major floristry events, demonstrations, large retailing venues (ie plant nurseries), imaginative florist shops and garden centres should be arranged.

Equipment required includes a range of containers/pots, scissors, knives, leaf shine, leaf wipes, plant food (liquid, sticks, mats etc), watering cans, water misters, soils/composts and protective clothing where necessary.

Tutors delivering this unit should be competent and experienced in floristry and/or horticulture. Ideally, they should have recent industrial experience within the floristry industry or show regular contact with the industry and/or technical updating.

Indicative reading for learners

Textbooks

Anderson M and Hewitt T – *The Complete Guide to Growing Cacti and Succulents: A Comprehensive Guide to Identification, Care and Cultivation* (Lorenz Books, 2003) ISBN 9780754812630

Ball A – *A Plant Form: An Illustrated Guide to Flowering Plant Morphology* (Oxford University Press, 1991) ISBN 9780198542193

Hessayon D – *The House Plant Expert: Book Two, 2nd Edition* (Expert, 2005) ISBN 9780903505611

Johnson A – *Plant Names Simplified* (Landsmans Bookshop, 1972) ISBN 9780900513046

March K and Thomas J – *Complete Guide to Indoor and Conservatory Plants* (Kingfisher Books, 1994) ISBN 9781856971539

Perry F – *The MacDonal Encyclopedia of Plants and Flowers* (Little, Brown Book Group, 1980) ISBN 9780356103990

Royal Horticultural Society – *Encyclopedia of House Plants* (Whitecap Books, 1995) ISBN 9781551103075

Journals

Flora Dania Seasonal booklets – Flora Dania

Flower Business International

Horticulture Week

Houseplants Care and Handling booklet – The Flower Council of Holland

The Bromeliad booklet – The Flower Council of Holland

The Florist and Wholesale Buyer

The Greenhouse

Websites

www.floradania.dk

Flora Dania

www.flowercouncil.org

Flower Council of Holland

www.flowers.org.uk

The Flowers and Plants Association

www.rbgekew.org.uk

Kew Royal Botanical Gardens

www.metz.nl

Metz Flowers and Plants

Delivery of personal, learning and thinking skills (PLTS)

The following table identifies the PLTS opportunities that have been included within the assessment criteria of this unit:

Skill	When learners are ...
Independent enquirers	identifying and describing plants, their growing areas and availability
Creative thinkers	developing care systems for plants and recommending environments suitable for plants
Reflective learners	developing care systems for plants and recommending environments suitable for plants identifying and evaluating control methods for pests and diseases for plants.

Although PLTS opportunities are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are ...
Independent enquirers	researching flowering and foliage plants
Creative thinkers	developing an understanding of how plants can be beneficial to commercial floristry
Team workers	creating large planted displays safely as part of a group
Self-managers	working on practical tasks in a timely manner
Effective participators	contributing to discussions and giving peers feedback.

● Functional Skills – Level 2

Skill	When learners are ...
ICT – Use ICT systems	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	researching flowering and foliage plants, pests and diseases
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	
Manage information storage to enable efficient retrieval	saving ongoing assessment work
Follow and understand the need for safety and security practices	
Troubleshoot	
ICT – Find and select information	
Select and use a variety of sources of information independently for a complex task	developing reports and presentations
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	researching flowering and foliage plants
ICT – Develop, present and communicate information	
Enter, develop and format information independently to suit its meaning and purpose including: <ul style="list-style-type: none"> • text and tables • images • numbers • records 	developing posters, presentations, leaflets and reports
Bring together information to suit content and purpose	developing posters, presentations, leaflets and reports
Present information in ways that are fit for purpose and audience	developing posters, presentations, leaflets and reports
Evaluate the selection and use of ICT tools and facilities used to present information	
Select and use ICT to communicate and exchange information safely, responsibly and effectively including storage of messages and contact lists	

Skill	When learners are ...
Mathematics	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	
Identify the situation or problem and the mathematical methods needed to tackle it	
Select and apply a range of skills to find solutions	
Use appropriate checking procedures and evaluate their effectiveness at each stage	
Interpret and communicate solutions to practical problems in familiar and unfamiliar routine contexts and situations	
Draw conclusions and provide mathematical justifications	
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	investigating flowering and foliage plants and discussing them as a group
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	researching flowering and foliage plants, pests and diseases and care regimes
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively	developing leaflets, posters, reports and presentations.