

What's new in Biodiversity, Ecology and Horticultural Sustainability Studies

A career in biodiversity, ecology and sustainable horticulture can lead to a varied and fulfilling career for someone who has an interest in growing plants, food production and enjoys working in the outdoors. Biodiversity, Ecology and Horticulture touches on so many aspects of our day-to-day lives; from the food we eat, to the flowers we buy for gifts and for our own enjoyment, to the parks and sports grounds we visit for play and recreation. A recent KMPG report entitled *Opportunities for Irish Horticulture Sector* identified 'education and training' and 'knowledge transfer' as two of key cross cutting factors to be addressed to support the sustainability of the biodiversity, ecology and horticulture sector.

TU Dublin's Biodiversity, Ecology and Horticulture programmes based at the School of Culinary Arts and Food Technology have recently developed a series of part-time and full-time programmes to meet these challenges, our hands-on teaching approach will give you opportunities to develop skills through real-life practical projects engaging with real life problem solving, while specialising in areas that interest you most. Full details below;



TU Dublin Honours Degree: BSc (Hons) in Horticulture

TU Code: TU884 / TU884P.

Duration: 1 Year full time (TU884), 2 Years part time (TU884P).

Full Details: TU884 (Full-time) www.tudublin.ie/study/undergraduate/courses/horticulture-tu884/
TU884P (Part-time) <https://www.tudublin.ie/study/part-time/courses/horticulture-tu884p-/>

Apply Now / Contact: School office scaft@tudublin.ie Programme Chair Rachel.freeman@tudublin.ie

TU Dublin Special Purpose Award: Plant Identification and Management

Application Details

- **Closing date for applications:** 1st September 2024 / **Teaching commences:** September 2024
- **Programme fee:** €1,200

Programme Details

- **TU Code:** TU5159 / **Level:** NFQ Level 6 / **Location:** Blanchardstown Campus
- **Award:** Special Purpose Certificate in Science in Plant Identification and Management (TU Dublin)
- **Course type:** Undergraduate / **Mode of Study:** Part time / **Method of Delivery:** Blended
- **Contacts:** email scaft@tudublin.ie ciarnad.ryan@tudublin.ie Rachel.freeman@tudublin.ie

Overview

This programme was designed after research with industry leaders in nursery, landscape and civic horticulture where it was clearly identified that a major knowledge gap exists with plant identification and plant care within these sectors. The modules of *Plant Identification and Classification* and *Plant Use and Management* will enhance the botanical skills of students, a fundamental pillar of gardening and horticultural knowledge.

Minimum Entry Requirements

LC Min grade (Maths 06/H7; English or Irish 06/H7) **OR** A full level 5/6 award **OR** Meeting TU Dublin assessment criteria for mature entry.

Programme Content (2 modules)

Plant Identification and Classification (HTSC H1013). / Plant Identification – Use and Management (HTSC H1025).

Schedule-Duration

This course runs over two Semester for 24 weeks.

- Semester 1: September – December, Tuesdays 9-1 am.
- Semester 2: January- May, Tuesdays 9-1 am.

TU Dublin Special Purpose Award: Sustainable Horticulture

Application Details

- **Closing date for applications:** 1st September 2024 / **Teaching commences:** September 2024
- **Module fee:** €2,400

Module Details

- **TU Code:** TU5160 / **Level:** NFQ Level 7 / **Location:** Blanchardstown Campus
- **Award:** Special Purpose Certificate in Science in Sustainable Horticulture (TU Dublin)
- **Course type:** Undergraduate / **Mode of Study:** Part time / **Method of Delivery:** Blended
- **Contacts:** email scaft@tudublin.ie ciarnad.ryan@tudublin.ie Rachel.freeman@tudublin.ie

Overview

The interest in biodiversity, ecology and sustainability has expanded hugely in the last ten years and firms are attempting to frame how their activities impact on the environment, clients expect horticulture practitioners to understand the current issues around biodiversity, carbon use and climate change and landscape firms need to evolve quickly to more sustainable systems and present their firm's environmental commitment positively. This programmes modules of *environmental protection, ecology and biodiversity and organic and sustainable horticulture, trees and woodlands* will educate the gardeners, town planners and estate managers of the future. Students will also learn about solutions to the challenges of sustainable food production, waste management and climate change.

Minimum Entry Requirements

LC Min grade (Maths 06/H7; English or Irish 06/H7) **OR** A full level 5/6 award **OR** Meeting TU Dublin assessment criteria for mature entry.

Course Content (4 Modules)

Ecology and Biodiversity (HTSC H2028) / Trees and Woodlands (HTSC H3018).
Organic and Sustainable Horticulture (HTSC H3021) / Environmental Management (HTSC H4027).

This course runs over two semesters for 24 weeks.

- Semester 1: September – December, Wednesday 9-1 am ; HTSC H4027-Time to confirm.
- Semester 2: January- May, Tuesday 9-1 am ; Thursday 9-1 am.

TU Dublin- Single Module Certificates

Plant Identification and Classification (HTSC H1013)

Application Details

- **Closing date for applications:** 1st September 2024 / **Teaching commences:** September 2024
- **Module fee:** €600

Module Details

- **TU Code:** BN_EHORT_SS (BN995) / **Level:** NFQ Level 6 / **Location:** Blanchardstown Campus
- **Award:** Certificate in Plant Identification and Classification (TU Dublin)
- **Course type:** Undergraduate / **Mode of Study:** Part time / **Method of Delivery:** Blended
- **Contact:** email ciarnad.ryan@tudublin.ie

Overview

The student will acquire knowledge of a wide a range as possible of plants, naming systems and the taxonomy necessary to carry out confident plant identification. The knowledge acquired here forms the basis for the students' continued engagement with plant identification.

Minimum Entry Requirements

LC Min grade (Maths 06/H7; English or Irish 06/H7) **OR** A full level 5/6 award **OR** Meeting TU Dublin assessment criteria for mature entry.

Course Content

- Plant taxonomy and in particular the binomial system in plant identification.
- The usage of botanical Latin and how it may relate to a plant's origin, shape, form colour and smell.
- The identification of plants based on a knowledge of the system of plant identification keys, appearance and characteristics.
- The original plant hunters and the emergence of the designed landscape.
- The landscape use of conifers, evergreen trees and shrubs and other plants known for autumn foliage and winter interest.

Schedule-Duration

This module runs for 12 weeks in Semester 1.

- Semester 1: September – December, Tuesdays 9-1 am.

Plant Identification – Use and Management (HTSC H1025)

Application Details

- **Closing date for applications:** 3rd January 2025
- **Teaching commences:** January 2025
- **Module fee:** €600

Module Details

- **TU Code:** BN_EHORT_SS (BN995) / **Level:** NFQ Level 6 / **Location:** Blanchardstown Campus
- **Award:** Certificate in Plant Identification-Use and Management (TU Dublin)
- **Course type:** Undergraduate / **Mode of Study:** Part time / **Method of Delivery:** Blended
- **Contact:** email Rachel.freeman@tudublin.ie

Overview

This module builds on the knowledge and skills developed on the course (HTSC 1013). A range of landscape sites are presented, each with specific attributes and the student will develop the skills to select the right range of plants suitable while also determining the appropriate maintenance regime necessary to establish the plant choices successfully.

Minimum Entry Requirements

LC Min grade (Maths 06/H7; English or Irish 06/H7) **OR** A full level 5/6 award **OR** Meeting TU Dublin assessment criteria for mature entry.

Course Content

- Selecting the right plant for a range of sites and locations.
- Growing requirements of plants, such as mulching, pruning, sunlight, soil type, plant nutrition and drainage.
- The use of non-native or exotic plants in Ireland.
- The causes and symptoms of common non-pathogenic plant problems and how to reduce or eliminate them.
- The identification of plants based on a knowledge of the system of plant identification keys, appearance and characteristics.
- The use of spring and summer flowering trees and shrubs, spring bulbs, alpines and herbaceous plants.

Schedule

This module runs for 12 weeks in Semester 2.

- Semester 2: January- May, Tuesdays 9-1 am.

Ecology and Biodiversity (HTSC H2028)

Application Details

- **Closing date for applications:** 1st September 2024 / **Teaching commences:** September 2024
- **Module fee:** €600

Module Details

- **TU Code:** BN_EHORT_SS (BN995) / **Level:** NFQ Level 6 / **Location:** Blanchardstown Campus
- **Award:** Certificate in Ecology and Biodiversity (TU Dublin)
- **Course type:** Undergraduate / **Mode of Study:** Part time / **Method of Delivery:** Blended
- **Contact:** email ciarnad.ryan@tudublin.ie

Overview

This module introduces the principles of ecology, how animal and plant species live and the interactions between species and their habitats. Concepts of biodiversity are also explored which includes descriptions of the variety of

life, encompassing all living organisms and their adaptations within ecosystems. Environmental issues relevant to the Irish landscape, including the impact of economic development on habitats and biodiversity indices and the ecological impacts of climate change and sustainable strategies for mitigation and adaptation are presented as part of a wider understanding of the importance of habitat protection and restoration.

Minimum Entry Requirements

LC Min grade (Maths 06/H7; English or Irish 06/H7) **OR** A full level 5/6 award **OR** Meeting TU Dublin assessment criteria for mature entry.

Course Content

- The principles of ecology, biodiversity and its relevance to environmental sustainability.
- Climate change and its relevance to the impact of Irish conservation measures, including carbon reduction.
- Surveys and classification of habitats for their ecological value and developing a biodiversity index.
- Environmental protection measures by Irish government at national and local levels for environmental protection, including the National Biodiversity Plan.
- Carbon, nitrogen and other cycles in ecology and the effects of their disruption.
- Special Areas of Conservation (SAC) in Ireland, the reasons why they are so designated and the implication for local authority development plans.

Schedule

This module runs for 12 weeks in Semester 1.

- Semester 1: September – December, Wednesdays 9-1 am.

Trees and Woodlands (HTSC H3018)

Application Details

- **Closing date for applications:** 3rd January 2025 / **Teaching commences:** January 2025
- **Module fee:** €600

Module Details

- **TU Code:** BN_EHORT_SS (BN995) / **Level:** NFQ Level 7 / **Location:** Blanchardstown Campus
- **Award:** Certificate in Trees and Woodlands (TU Dublin)
- **Course type:** Undergraduate / **Mode of Study:** Part time / **Method of Delivery:** Blended
- **Contact:** email Rachel.freeman@tudublin.ie

Overview

This module introduces the learner to the role and importance of trees and woodlands in urban and rural environments. The successful learner will be able to identify, appraise, protect and maintain trees.

Minimum Entry Requirements

LC Min grade (Maths 06/H7; English or Irish 06/H7) **OR** A full level 5/6 award **OR** Meeting TU Dublin assessment criteria for mature entry.

Course Content

- Identify a wide range of tree and shrub species, cultivars and varieties (native and introduced), growing in parks and urban areas as well as woodlands in other areas and be familiar with their cultural requirements.
- Demonstrate the principles of pruning trees and shrubs, recognise when pruning may be required and have a knowledge of the techniques to be applied in pruning.
- Identify hazards in relation to trees.
- Conduct a trees survey. State the information to be included in a tree survey report, know how this information should be collected, including by what recognised practitioners.
- Define the process of Compartmentalisation of Decay in Trees.

Schedule-Duration

This module runs for 12 weeks in Semester 2.

- Semester 2: January- May, Thursdays 9-1 am.

Organic and Sustainable Horticulture (HTSC H3021)

Application Details

- **Closing date for applications:** 3rd January 2025 / **Teaching commences:** January 2025
- **Module fee:** €600

Module Details

- **TU Code:** BN_EHORT_SS (BN995) / **Level:** NFQ Level 7 / **Location:** Blanchardstown Campus
- **Award:** Certificate in Organic and Sustainable Horticulture (TU Dublin)
- **Course type:** Undergraduate / **Mode of Study:** Part time / **Method of Delivery:** Blended
- **Contact:** email ciarnad.ryan@tudublin.ie

Overview

The module explores the principles of organic growing, with a particular emphasis the production methods employed both in the field and within protected structures, when growing organic fruit, vegetables and herbs. Concepts such as integrated pest management, managing soil health for intensive cropping, plant nutrition, crop rotation, permaculture, biodynamic growing and marketing the farm produce are also explored. Spotting market trends and responding to consumer demand as well as being an expert grower are essential skills for the organic grower and the module explores the supports offered by the Department of Agriculture Food and the Marine.

Minimum Entry Requirements

LC Min grade (Maths 06/H7; English or Irish 06/H7) **OR** A full level 5/6 award **OR** Meeting TU Dublin assessment criteria for mature entry.

Course Content

- Principles of organic growing to general horticultural practices, including their applications to domestic gardens and commercial cropping arrangements, including a variety of production methods such as field, protected cropping arrangements and general ornamental garden growing techniques and practices.
- The implications of organic practice for species choice including vegetable and fruit crops, herbs and ornamental plants, and the full production cycle, including extended season crops.
- The conversion process to an organic system.
- Good soil management in an organic production context and its relationship to plant nutrition; identify preventative and control methods for a range of common plant pest and diseases.
- Relevant EU and Irish legislation and the organic certification procedures.
- Design and implement organic crop production plans, year-round production systems including out of season/extended season crops and crops produced under protection.
- Getting the produce to market, business supports for the organic grower.

Schedule-Duration

This module runs for 12 weeks in Semester 2.

- Semester 2: January- May, Tuesdays 9-1 am.

Environmental Management (HTSC H4027)

Application Details

- **Closing date for applications:** 1st September 2024 / **Teaching commences:** September 2024
- **Module fee:** €600

Module Details

- **TU Code:** BN_EHORT_SS (BN995) / **Level:** NFQ Level 8 / **Location:** Blanchardstown Campus
- **Award:** Certificate in Environmental Management (TU Dublin)
- **Course type:** Undergraduate / **Mode of Study:** Part time / **Method of Delivery:** Blended
- **Contact:** email ciarnad.ryan@tudublin.ie

Overview

The module introduces the student to current environmental policy and legislation, principles of water quality control, the planning process, waste water treatment and energy use in Ireland. Environmental management systems which include the prevention of air pollution, waste management plus health and safety in the workplace will be also examined with discussion of national and global environmental and sustainability issues.

Minimum Entry Requirements

LC Min grade (Maths 06/H7; English or Irish 06/H7) **OR** A full level 5/6 award **OR** Meeting TU Dublin assessment criteria for mature entry.

Course Content

- The causes of physical, biological and chemical degradation of soil.
- The state of water quality in Ireland, the major pollution sources and their impacts on river basin districts and describe the methods applied in the measurement of water quality.

- The role of environmental legislation and government agencies, particularly the Environmental Protection Agency and local authorities with responsibility for the collection and analysis of environmental indicators and waste management.
- The Irish planning process and its role in environmental protection, the role of county development plans and the preparation of an environmental impact statement.
- The expansion of "green" business practices, using environmental indicators and life cycle product assessment to evaluate the impact of business on the environment.

Schedule-Duration

This module runs for 12 weeks in Semester 1.

- Semester 1: Tues 10-12 and Thursday 1-3, September – December.