

LANDSCAPE DESIGN & HORTICULTURE COURSE MODULES (YEAR 2)

Our City in a Garden didn't get its moniker by chance. You too can be the drive behind our green landscape! If you have a love for nature and a flair for design, the Diploma in Landscape Design & Horticulture [LOH] will put you on the right track to develop and enrich Singapore's green spaces. Combining landscape design, plant science and horticulture management, LOH is the only diploma-level course of its kind in Singapore. Thanks to our strong partnership with National Parks Board, much of your practical training, field training and outdoor lessons will take place at the Singapore Botanic Gardens and other parks.

In your first year, you will develop skills in landscape design and learn about urban ecology and conservation, as well as plant taxonomy. You will progress on to learn about horticulture and turf management, genetics and breeding of plants, and hardscape and softscape designs in your second year

In your final year, you will get to go for a 22-week internship that provides you with an opportunity to put your learning into practice in a work environment. You will also be able to undertake a project to apply your horticulture and plant science knowledge to develop innovative landscape designs or deepen your horticultural knowledge and skills.

In addition, this course will provide you with the opportunity to hone your horticultural and project management skills at the Singapore Botanic Gardens and many other parks and project sites in Singapore.

LEVEL 2.1

Hardscape Design

In this module, students will be introduced to materials used for landscape design, designing and detailing hardscape elements as an extension of hardscape design and as a means of conveying design intent. Students will apply CAD techniques to prepare hardscape working drawings.

Horticulture & Turf Management

In this module, students will learn topics on site preparation, planting and maintenance of turf and shrubs, drafting of maintenance schedule and horticultural management. Through fieldwork, students will demonstrate their competence in planting, forking, weeding, mowing and shrub pruning. Topics on types of media used, application of fertilizers and pesticides, mulching, turf establishment and its cultural practices are also covered.

Plant Biochemistry & Physiology

This module examines the molecular basis of living processes in plants, metabolism of carbohydrates, plant growth regulators, and environmental and plant stress physiology. Topics include comparative physiological and biochemical processes during growth, maturation, ripening and senescence in fruits, vegetables and flowers in relation to changes to quality and storage life.

Plant Identification 2

In this module, students will learn an additional 100 plants commonly used in the horticulture and landscaping industry in Singapore. Characteristics of plants from selected plant families will also be studied.

Plant Pathology & Entomology

This module explores various plant pathogens and diseases as well as their classification and morphology. Topics covered include the biology of bacteria, fungi, nematodes and viruses attacking economic crops; etiology and the control of plant bacterial diseases; the biology of insect pests of horticultural plants; and the application of an integrated pest management system.

Softscape Design

This module covers planting design and documentation for different scales of landscape. Topics include the recognition of the visual and ecological characteristics of plants used in landscape design and the basic principles of planting design. Students will apply CAD techniques to prepare softscape plans. They will be introduced to bill of

quantities, plant specifications and quantifying plants.

World Issues: A Singapore Perspective[^]

This module develops a student's ability to think critically on world issues. Students will discuss a wide range of social, political and cultural issues from the Singapore perspective. It also looks at how city-state Singapore defied the odds and witnessed close to half a century of rapid economic growth, strong political ties and social harmony.

LEVEL 2.2

Arboriculture

This module outlines the aims and objectives of an urban forest, leading to an understanding of the value of non-commodity trees in our society. It addresses the theoretical and practical aspects of arboriculture in a city setting with emphasis on the selection, establishment and maintenance of trees. Basic field machinery and safety precautions are also included.

Career & Professional Preparation II

This module is part of the Education and Career Guidance framework to provide students with the tools and resources necessary for their further career and/or education. In this module, students will explore basic job search strategies, practise writing effective resumes and cover letters, and learn interview skills. Students will also learn professional and intercultural communication skills to prepare them for a dynamic and diverse workplace.

Genetics & Plant Breeding

This module explores the organisation and expression of nuclear and plastid genomes of plants. Topics include the transcriptional regulation and structure of plant genes, gene regulation during plant development and techniques in molecular plant biology for plant research, genetics and breeding of tropical fruit and nut crops, and the classification, culture, cytogenetics and breeding of orchids (orchidology).

Landscape Design Communication 2

In this module, students will apply the skills and techniques learned in CAD & Graphic Applications, to digitally plan, draw and communicate their landscape designs. Students will further advance their presentation techniques and develop progressive skills in visual communication and digital representation in landscape design.

Landscape Studio 2 - Design Process

This module introduces landscape design from around the world, including historic landscapes and gardens, urban plazas and pedestrian areas, as well as parks and infrastructure. Topics include the arrangement of buildings, circulation, and other landscape design elements, as well as the development of landscape design processes as applied to small-scale projects.

Propagation & Nursery Management

This module focuses on plant propagation using seeds, different plant parts, plant tissue culture techniques and nursery management. Topics include sexual and asexual propagation techniques, propagation media, plant growth management, nursery facility planning and work organisation, irrigation systems, nursery operations and management practices.

COURSE CURRICULUM (YEAR 2)

Module Name	Credit Units
YEAR 2	
Level 2.1 (28 hours per week)	
Hardscape Design	4
Horticulture & Turf Management	5

Plant Biochemistry & Physiology	6
Plant Identification 2	2
Plant Pathology & Entomology	5
Softscape Design	4
World Issues: A Singapore Perspective ^	2
Level 2.2 (26.5 hours per week)	
Arboriculture	3.5
Career & Professional Preparation II	2
Genetics & Plant Breeding	6
Landscape Design Communication 2	3
Landscape Studio 2 – Design Process	5
Propagation & Nursery Management	5
Interdisciplinary Studies (IS) elective ^	2

Notes:

^ For more details on Interdisciplinary Studies (IS) electives, please log on to www.np.edu.sg/is/

IS Modules

The School of Interdisciplinary Studies (IS) delivers a broad-based curriculum, which nurtures a new generation of professionals with multidisciplinary skills and an innovative and entrepreneurial spirit to meet the challenges of a knowledge economy. IS offers both prescribed modules and electives to challenge boundaries. Prescribed modules develop students’ competencies in core areas such as Communication, Innovation and Enterprise, Culture and Communication, and Personal Mastery and Development, while elective modules provide insights into Arts and Humanities, Business, Design, and Science and Technology.