

## **COURSE MODULES**

### **LEVEL 1.1**

#### **Economics**

This module involves the study of the interactions between individuals, groups, organisations and institutions with regard to the use of resources to satisfy individual wants and societal needs to regulate economics activity within the socio-economic environment. In micro-economics, the topics examine how consumers, households and firms make economic decisions; how they interact to determine the quantity and price of goods, factors of production and the allocation of resources. In macro-economics, the topics examine the determination of real income, employment, price level and inflation in an open economy, and the conduct of macro-economy policy. The module will provide students with adequate entry level knowledge of economic theory for the critical analysis, logical reasoning and problem solving skills towards social policy formulation and individual decision-making.

#### **Environmental Health & Workplace Safety**

The module covers the general aspects of environmental health, including the study of pest and vector control and food hygiene. Students will also learn to apply these concepts and principles to health management, and to develop appropriate capabilities on the workplace safety and health. Students will also have an overview of solid waste management, characteristics of solid waste and the corresponding environmental and health impacts. Current methods of waste collection such as pneumatic waste conveyance system will also be introduced. Students will be able to attain bizSAFE Level 2 certification upon successful completion of the module.

#### **Introduction to Mechanical Facilities**

This module provides fundamental knowledge of the principles of operation of mechanical systems typically installed in modern high-rise buildings. Systems covered include potable water supply, sanitary plumbing and drainage, town gas supply, swimming pool water filtration, air-conditioning and mechanical ventilation. Emphasis will be placed on real-life applications in the operation and maintenance of these facilities in buildings and the reading of mechanical drawings and plans. Students will also learn the BCA Green Mark for Existing Non-residential Buildings as well as testing, commissioning, operational and maintenance requirements pertaining to the systems studied.

#### **Introduction to Real Estate Business**

This module provides an introduction to the business of real estate through examining the concept and characteristics of land as well as both the uses and users of land at the national, institutional, corporate organisation and individual level. An overview of the real estate product cycle is introduced by analyzing the different stages and processes involved. The real estate market and the real estate market cycle will also be examined.

#### **Real Estate Market Research & Statistics**

This module will provide students with an opportunity to understand the concepts and processes related to real estate market research and statistics. Students will learn to ask questions about market research reports and statistical data. They will have hands-on practice to look up reference sources of data and statistics as well as apply some of the tools for graphical presentations, survey, etc. With the statistical knowledge, students will attain an idea on how to analyze data and information and then present and report on their research.

### **LEVEL 1.2**

#### **Building Components & Finishes**

The topics in this module deal with the principles and practice of construction for low and high rise buildings. Major components of buildings include the forms and structures of the buildings. Students will be taught to identify the various forms of foundations, structural frames (column, beam and slab systems), and wall and roof systems.

The secondary elements such as doors, windows, staircases, partitioning walls and external envelope of the building, including the common building materials and finishes, will also be discussed. This provides the background knowledge for the students to progress on, to appreciate the green technologies that will be applied to existing

buildings for the enhancement of building performance; and also the pre-requisite to understanding the concepts of Elements of Sustainable Environment and Building Maintenance and Asset Enhancement in the later year of studies.

### Career & Professional Preparation 1

This first-year module helps to give students a foundational introduction to their three-year diploma course curriculum and how it prepares them for industry. It will help them to embark on their three-year course with the end in mind, through guided reflection of their personal characteristics, and producing an overall game plan for their future education and career goals. The module aims to deepen students' commitment to the sector that the course prepares them for.

### Introduction to Electrical Facilities

This module covers the different electrical facilities found in high-rise buildings. Topics covered include the electrical supply system, lifts and escalators. Emphasis will be placed on real-life applications in the operation and maintenance of these facilities in buildings and the reading of electrical drawings and plans. Students will also learn the BCA Green Mark for Existing Non-residential Buildings as well as testing, commissioning, operational and maintenance requirements pertaining to the systems studied.

### Principles of Accounting

This module covers basic concepts of accounting, including accounting equation, the double-entry system of bookkeeping and the preparation of financial statements. It provides students with the technical knowledge to prepare simple accounts and cash budget, and interpret financial reports for sole proprietor, partnership, and non-profit organisations.

### Principles of Law

The topics in Principles of Law involve a study of the legal obligations relating to the planning, design, construction, management, use and operation of the built environment within a business, building and real estate management environment. The Legal System introduces the nature and administration of law. Law of Contract and involves a study of self-imposed obligations by individuals. Law of Torts involves a study of state-imposed obligations on individuals for civil wrongs.

The module will provide students with knowledge of the concepts and principles of the law as well as the legal method of critical analysis, logical reasoning, problems-solving and management skills to face the many challenges of the building and real estate management profession in both the public and private sectors of the industry.

### Principles of Marketing

This module introduces the 4Ps of marketing, application of marketing concepts to Real Estate and market segmentation to different segments including public & private housing. Students learn the fundamentals of marketing concepts, marketing mix - its implications and strategies. This module helps students to understand consumer buying through the use of case studies that relate to the real estate environment. Students also learn the principles of marketing, ethics and respect during transactions so as to fully attract and engage consumers, and compel them to buy through a careful planning and execution of the marketing mix and effective communication.

## COURSE CURRICULUM

Module Name	Credit Units
<b>YEAR 1</b>	
<b>Level 1.1 (25 hours per week)</b>	
Economics	3
Environmental Health & Workplace Safety	4
Introduction to Mechanical Facilities	5
Introduction to Real Estate Business	4
Real Estate Market Research & Statistics	6
Innovation Toolkit ^	4

Sports & Wellness ^	2
<b>Level 1.2 (25.5 hours per week)</b>	
Building Components & Finishes	4
Career & Professional Preparation 1	1.5
Introduction to Electrical Facilities	4
Principles of Accounting	4
Principles of Law	5
Principles of Marketing	3
Communication & Contemporary Issues ^	4

**Notes:**

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

**COURSE MODULES**

**LEVEL 2.1**

**Career & Professional Preparation 2**

This second-year module helps to equip students with skills necessary to seek and secure work. They will also be equipped to communicate their personal brand in a positive way. As students sharpen their communication skills, they will also learn how to market themselves effectively.

**Project Management**

This module introduces students to the functions and methods of project management in new construction projects and facility maintenance such as addition and alteration works. The module covers the fundamentals of project management, procurement, management of site operations, as well as management tools for project planning, budgeting and cash flow planning and project risk assessments.

**Property Management 1**

This module complements the module on Property Management II. It provides a perspective of the main functions in property management, including legislation and interpersonal concerns involving everyday issues relating to maintenance and management activities. It also details specific practices and problems in the management of different types of properties – strata-titled and otherwise; hostel and dormitory developments. The module aims to equip students with adequate supervisory management knowledge and problem-solving skills to face the many challenges of the Property Management profession in both the public and private sectors of the industry.

**Real Estate Marketing**

This module provides students with the fundamentals of real estate marketing concepts in sales and leasing of various property types in both private and public sectors. For public sector, it focuses on the processes, policies and regulations involved in the sale, resale, leasing and subletting of public housing. Students are exposed to marketing and negotiation techniques. They will learn to identify problems and apply problem-solving skills to face the challenges of the real estate marketing profession. Current happenings and relevant case studies will be highlighted.

**Space Planning**

Space within a building is often compartmentalised for different functional usages. Change of use may take place due to the changing needs of the users or trades of the occupiers. This is more so for the management of commercial retail and office spaces where there are relatively high turnover of the tenants leasing the spaces. This module will equip the students with basic software skills that allow them to perform space planning within a building, and to tag and calculate the rentable spaces that are valuable to the landlord. The space modelling software like Revit will also allow students to model the changes for fit-out works, generate and interpret extracted 2D drawings and use the information for cost estimating purpose.

### **Urban Planning & Sustainability**

The topics covered in this module include a study of the concept of land as an economic resource, the real estate market and planning system in Singapore. This module will provide students with an adequate knowledge of urban planning and urban economics, as well as analytical skills to face the many challenges of the real estate profession in both the public and private sectors of the industry. Students will learn how the planning of a city has to be sustainable in terms of growth of space, connectivity and eco-friendliness.

## LEVEL 2.2

### Client Relationship Management

CRM Students will learn to manage all aspects of working relationships with clients to render high quality service delivery and to maximize client satisfaction which are part of real estate business. Students will learn to be an effective single point-of-contact between internal and external customers as well as how to manage such communication.

### Elements of Sustainable Environment

This module is an extension of Building Components and Finishes with emphasis on understanding the concept of improving building performance through application of green technologies, materials and systems to create green building solutions. The module will cover the prevailing criteria of the Green Mark Scheme for the different categories of building stocks. Topics on green materials, technologies and systems will be discussed to broaden the students' understanding of the possible technologies that can be adopted to achieve a sustainable green building environment.

### Property Management 2

The topics in this module cover broadly the issues involved in managing service contracts following the contract award and a study of the management of public housing. It will equip students with the supervisory skills and knowledge required for entry-level in property management and train them to manage service contracts to give value for money and improvement performance.

### Property Valuation

This module covers the basic concepts and principles of property valuation, the time value of money and the application of the six functions of a dollar. These basics provide students with the foundation to appreciate and apply the various methods of valuation used in determining the market value of a property for general purposes and of property tax assessment and development charge calculation. Students will be given a good working knowledge of the valuation of real estate interests for the purposes of sale and purchase, investment, mortgage, development charge and property tax.

### Real Estate Law

Students will study the area of law relating to the various types of interests in land, the rights and duties attached to these interests, and the legal consequences of infringing these rights. The Law of Real Property includes the study of land law concepts, landlord and tenant law, interests in land, and property registration. Topics covered under Public Administration and Control of Land include law of taxation relating to property, legislation governing sale of residential and commercial properties, and restrictions on foreign ownership of residential properties.

## COURSE CURRICULUM

Module Name	Credit Units
<b>YEAR 2</b>	
<b>Level 2.1 (25 hours per week)</b>	
Career & Professional Preparation II	2
Project Management	4
Property Management 1	5
Real Estate Marketing	5
Space Planning	3
Urban Planning & Sustainability	4
Interdisciplinary Studies (IS) elective ^	2
<b>Level 2.2 (24 hours per week)</b>	
Client Relationship Management	5
Elements of Sustainable Environment	4
Property Management 2	3
Property Valuation	5

Real Estate Law	5
Interdisciplinary Studies (IS) elective ^	2

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**COURSE MODULES**

**LEVEL 3.1**

**Building Maintenance & Asset Enhancement**

The *Building Maintenance* component of the module deals essentially with the study of building defects, including their causes, effects, remedies and prevention. The topics cover problems associated with the substructure and superstructure as well as the various materials and components in a building. The *Asset Enhancement* component focuses on the reasons and need for refurbishment; the technology and management of refurbishment; and the brief concept of refurbishment as a form of asset enhancement strategy.

**Fire Safety Management**

This module lays a basic grounding on the principles of Fire Safety Engineering before the student embarks on to the segment of Fire Safety Management. In Fire Safety Engineering, students will be given an understanding on the importance of fire safety in high-rise buildings. Primary emphasis will be placed on a comprehensive study of the active and passive fire protection measures applicable to buildings. This is supported by practical work in the laboratory. In the Fire Safety Management portion, students will be given an understanding of the legislative framework pertaining to the Fire Safety Act.

This is followed by a study on the specialised aspects of fire safety management: preparation of fire emergency plans, use of emergency voice communication systems, setting up of a company emergency response team, submission of building plans for approval, dealing with hazardous fire materials, casualty management and the provision of first aid during an emergency.

This module will provide students with sound technical knowledge, supervisory management and problem solving skills to face the many challenges of a fire safety professional in the operation, maintenance and management of fire protection systems in buildings.

**Global Business & Entrepreneurship**

This module will provide the students with an understanding of the criticality of the global business environment we are operating in and the opportunities available as part of our global-smart graduates initiative; and the entrepreneurial skills to stretch their imagination as well as to stimulate their passion to convert their dreams into reality in a world whose growth is driven much by innovation. This module will apply a mixture of case studies, guest lectures, real estate game simulations as well as field visits where applicable. Where available, we will expose the students to existing available programmes, casestudies, field trips and lectures related to entrepreneurship and global real estate. Further, students gain a full understanding of the practice of entrepreneurship through exposure to the experience of successful entrepreneurs and are given a solid understanding of the realities of business start-up.

**Real Estate Finance**

The module provides students with an understanding of the financial system and institutions and an overview of risks and returns in real estate financing and investment. It teaches the basic financial skills to compute (with the use of 6 functions of \$1 formulae and excel), analyse and evaluate different financing options and scenarios. This module focuses on sources of financing for residential properties such as CPF funds and different mortgage housing loans from HDB and financial institutions, as well as the related regulatory measures and policies on lending, and credit assessment.

### Real Estate Investment

Students will learn the basics of corporate finance and investment pertaining to real estate. The students will understand the real estate investment decision-making process and the fundamental concepts of risks and returns. It introduces the various debt and equity financing and investment options relevant to real estate. It focuses on how to conduct market analysis and financial analysis for a feasibility study. Topics include sensitivity analysis, risk management and investment exit strategies.

## LEVEL 3.2

Option 1:

### 6-Month Internship

In this module, students will be attached to organisations for a period of six months. This is to prepare them for future employment in their particular discipline of study. During their internship, they will undertake projects and tasks assigned by the organisations. This allows them the opportunity to take initiative as well as to develop their self-confidence, interpersonal and adaptation skills.

Option 2:

### 3-Month Internship

This module provides students with the opportunity to gain experience and apply their knowledge and skills in a working environment relevant to their course. Students will be able to enhance their abilities in problem-solving, communication and interpersonal skills. The internship may be conducted locally or overseas. Students are required to submit weekly reports, interim and final reports, and make an oral presentation of their experiences at the end of the internship.

### Final-Year Project

This module allows students to undertake a project related to their course of study. They are required to carry out applied research, design or development tasks. The nature of the project may vary from industrial collaborative projects such as continuing work from their internship to working on industrial projects and even multidisciplinary projects that involve students from different courses.

## COURSE CURRICULUM

Module Name	Credit Units
<b>YEAR 3</b>	
<b>Level 3.1 (26 hours per week)</b>	
Building Maintenance & Asset Enhancement	5
Fire Safety Management	6
Global Business & Entrepreneurship	3
Real Estate Finance	3
Real Estate Investment	5
Interdisciplinary Studies (IS) elective ^	2
World Issues: A Singapore Perspective ^	2
<b>Level 3.2 (22 hours per week)</b>	
6-Month Internship	22

**OR**

3-Month Internship	12
Final-Year Project	10

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