Integrated Facility Management

OVERVIEW

Have you wondered what it takes to be in charge of the amenities, aesthetics and functionality of Changi Airport's Jewel, or to oversee the security aspects of Marina Bay Sands or even ensure the smooth-running of the power and air-conditioning systems at large facilities like Sengkang General Hospital?

This course will teach you all this and more. You will be equipped with the knowledge and skill-sets to manage different facilities, ranging from integrated resorts to hotels, shopping complexes and even residences.

As the world's first diploma to be accredited by the International Facility Management Association as an Accredited Degree Programme, this course will give you a worldwide competitive edge.

Your Journey

Year 1

You will gain fundamental knowledge by taking subjects such as Facilities Operations & Maintenance, Security & Surveillance, and Virtual Design & Facility Planning. These will give you a strong foundation for your second and third years.

Year 2

Study exciting subjects such as Contract Management, Energy Management & Audit and Sustainable Facility Management. In addition, you can choose three electives from the Hospitality Facilities or Aviation Facilities cluster, so as to gain more specialised career opportunities.

Year 3

You are now ready to study subjects like Service Quality & Management and Total Building Performance, which prepare you for your Major Project. Also, look forward to gaining practical work experience in a facility management environment during your internship.

ENTRY REQUIREMENTS

Minimum Entry Requirements

To be eligible for consideration for admission, applicants must obtain 26 points or better for the net ELR2B2 aggregate score (i.e. English Language, 2 relevant subjects and best 2 other subjects, including CCA Bonus Points) and meet the minimum entry requirements of this course. CCA cannot be used to meet the minimum entry requirements.

English Language (EL1)*	Grades 1-7
Mathematics (E or A)	Grades 1-6
Any one of the listed subjects^	Grades 1-6
Any two other subjects, excluding CCA	

Note: *Applicants should not be suffering from severe vision impairment.*

* SPM / UEC holders must have a minimum of grade 6 for the Bahasa Inggeris (English Language) subject.

^ List of acceptable subjects: Biology, Biotechnology, Chemistry, Combined Science, Computing/Computer Studies, Design & Technology, Electronics/Fundamentals of Electronics, Physics/Engineering Science, Science (Chemistry, Biology), Science (Physics, Biology), Science (Physics, Chemistry)/Physical Science.

See also the minimum entry requirements for:

- ITE Certificate Holders
- International Students

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COURSE STRUCTURE

TP Fundamentals Subjects

Subject code	Subject	Level	Credit Units
ECS1005	Communication & Information Literacy In this subject, you will learn how to conduct research for relevant information and validate information sources. You will also learn to recognise and avoid plagiarism, and follow standard citation and referencing guidelines when presenting information. In the course of learning, you will be required to plan, prepare and present information appropriately in written and oral form. You will also be taught to consider the Message, Audience, Purpose and Strategy (MAPS) when writing and delivering oral presentations.	1	2
ECS1006	Workplace Communication In this subject, you will be taught how to conduct effective meetings while applying team communication strategies and the skills for documenting meeting notes. You will be required to write clear emails, using the appropriate format, language, tone and style for an audience. You will also be taught to communicate appropriately in and for an organisation when using various platforms. In all aspects, the principles of applying Message, Audience, Purpose and Strategy (MAPS) will be covered.	1	2
ECS1007	Persuasive Communication In this subject, you will be taught how to use persuasive language in written documents. You will be required to use information to your advantage to verbally communicate and convince an audience about your idea, product or service. Skills such as persuasive vocabulary, language features, graphical illustrations, tone and style would also be covered. The Message, Audience, Purpose and Strategy (MAPS) will also be applied when engaging in verbal and written communication.	1	2
GCC1001	Current Issues & Critical Thinking This subject presents you with a panoramic view of current local and global issues, which may have long term implications for Singapore. You will learn to apply critical thinking tools to examine current issues, support your views with relevant research and up-to-date data, articulate an informed opinion and mature as civic-minded individuals.	1	2

EIN1001	Innovation & Entrepreneurship The Innovation & Entrepreneurship subject is designed for learners from all disciplines to embrace innovation in either their specialised fields or beyond. You will first learn the Design Thinking framework, where you will develop problem statements and ideate solutions. Next, you will discover the tools for prototyping and innovation, such as 3D printing and laser cutting, at TP's Makerspace+ facility. Finally, you will acquire commercial awareness through the LEAN Startup framework of idea crystallisation, prototype building, customer testing and validation, refinement of business model canvas, and crowdfunding or crowdsourcing avenues.	1	2
LEA1011	Leadership: Essential Attributes & Practice 1 LEAP 1, 2 and 3 are three fundamental subjects that seek to cultivate in you, the attitude, skills and knowledge for the development of your leadership competencies. This character-based leadership programme enables you to develop your life-skills through establishing personal core values, which will become the foundation for your leadership credibility and influence.	1	1
LEA1012	Leadership: Essential Attributes & Practice 2 LEAP 1, 2 and 3 are three fundamental subjects that seek to cultivate in you, the attitude, skills and knowledge for the development of your leadership competencies. This character-based leadership programme enables you to develop your life-skills through establishing personal core values, which will become the foundation for your leadership credibility and influence.	1	1
LEA1013	Leadership: Essential Attributes & Practice 3 LEAP 1, 2 and 3 are three fundamental subjects that seek to cultivate in you, the attitude, skills and knowledge for the development of your leadership competencies. This character-based leadership programme enables you to develop your life-skills through establishing personal core values, which will become the foundation for your leadership credibility and influence.	1	1
LSW1002	Sports & Wellness This subject will help you develop both the physical and technical skills in your chosen sports or fitness activities. Through a structured curriculum that facilitates group participation, practice sessions and mini competitions, you will learn to build lifelong skills such as resilience, leadership, communication and teamwork. Physical activity sessions will be supplemented by health-related topics to provide you with a holistic approach to healthy living.	1	2
MCR1001	Career Readiness 1 This Career Readiness programme comprises three core subjects – Personal Management, Career Preparation and Career Management. It seeks to help you understand your career interests, values, personality and skills for career success. It also equips you with the necessary skills for seeking and securing jobs, and to develop professional work ethics.	1	1

MCR1002	Career Readiness 2 This Career Readiness programme comprises three core subjects – Personal Management, Career Preparation and Career Management. It seeks to help you understand your career interests, values, personality and skills for career success. It also equips you with the necessary skills for seeking and securing jobs, and to develop professional work ethics.	1	1
MCR1003	Career Readiness 3 This Career Readiness programme comprises three core subjects – Personal Management, Career Preparation and Career Management. It seeks to help you understand your career interests, values, personality and skills for career success. It also equips you with the necessary skills for seeking and securing jobs, and to develop professional work ethics.	1	1
EGS1002	Global Studies This subject provides essential skills and knowledge to prepare you for an overseas experience. You will examine the elements of culture and learn the key principles of cross-cultural communication. In addition, you will gain an appreciation and awareness of the political, economic, technological and social landscape to function effectively in a global environment.	1	3
EGS1003	Managing Diversity at Work* This subject explores the concepts of identity, diversity and inclusion at the workplace. It examines the relationship between identity and diversity, the benefits and challenges of diversity and the strategies that promote inclusion and inspire collaboration in a diverse workplace. Examples of the elements of diversity covered in this subject include nationality, generation, ethnicity and gender.	1	3
EGS1004	Global Citizenship & Community Development* Students will examine the meaning and responsibilities of being a Global Citizen, in order to contribute towards a more equitable and sustainable world.? In addition, students will learn how sustainable solutions can support community development, and, execute and critique a community action plan that addresses the needs of a specific community/cause.	1	3
EGS1005	Expressions of Culture* This subject provides a platform for an understanding of culture and heritage through modes of expression. Students will be introduced to global and local cultures via everyday objects, places and human behaviour seen through time and space. Students will explore issues and challenges in culture and heritage sustainability in community, national and global contexts.	1	3
TGL1001	Guided Learning The subject introduces students to the concepts and process of self-directed learning in a chosen area of inquiry. The process focusses on four stages: planning, performing, monitoring and reflecting. Students get to plan their individual learning project, refine and execute the learning plan, as well as monitor and reflect on their learning progress and project. The learning will be captured and showcased through a curated portfolio. The self-directed learning project will broaden and/or deepen a student’s knowledge and skills.	1	3

ESI3001	Student Internship Programme The on-the-job training nature of the programme allows you to gain some industrial experience. Through this programme, you will be exposed to the work environment so that you can better appreciate and understand the problems and issues at the work place. The content and scope of learning varies from organisation to organisation. However, it is envisaged that after the programme, you would have, in general, developed your communication and interpersonal skills as well as the right work ethics, and also become more mature, confident and independent, and have a more realistic expectation of what a working environment is like.	3	12

** Students must choose to take either one of these three subjects or TGL1001 Guided Learning.*

Core Subjects

Subject code	**Subject**	**Level**	**Credit Units**
EBD1004	Virtual Design & Facility Planning This subject develops your skills to visualise facility design and planning. You will learn facility planning concepts with the use of digital tools for visualisation, simulation and documentation. The knowledge gained can be applied to create virtual design projects in the built environment sector.	1	3
EBT1003	Facility Operations & Maintenance Air-conditioning and ventilation, cold water distribution systems, electrical installations, lifts and escalators are the key systems in facilities operations. Knowledge of a system's operation and its maintenance requirements are essential to facility management. Facility management is about the stewardship of existing facilities in a real estate to enable effective operation and better business performance, thus leading to a higher level of work satisfaction and increased productivity.	1	4
EER1001	Electrical Services for Facilities This subject provides the basic theoretical and practical knowledge for the design of electrical distribution and installation in facilities. It also introduces the safety requirements and regulations governing electrical distribution and installation.	1	4
EFM1002	Workplace Safety & Health for Facility Management This subject gives you an overview of a safe working environment in the area of facilities management. You will be equipped with the skills of identifying and reducing workplace related risks at source, and you will also be exposed to common practices taken in the industry to ensure a safe workplace.	1	4
EMA1002	Engineering Mathematics 2 This subject introduces the basic concepts of calculus and statistical method to test a hypothesis. Basic concepts in calculus include limits, derivatives and integrals. Applications of the derivative and integrals in engineering will be discussed. Basic statistical method in hypothesis testing includes normal distribution, confidence interval of population mean and procedure to test hypothesis for a claim made about a population mean.	1	4

EMA1003	Engineering Mathematics 1 This subject teaches pre-calculus techniques required for an engineering course. It trains you in engineering problem-solving approaches using the appropriate mathematical tools. Topics such as simultaneous equations, matrices, trigonometric, exponential and logarithmic functions, complex numbers and vectors will be covered.	1	4
ESE1006	Computer Programming for Problem Solving This subject covers the process of decomposing a problem into a sequence of smaller abstractions. The abstractions are implemented in software in a structured top-down approach. Software implementation includes the process of designing, writing, testing, and debugging program code.	1	4
ESE1008	Data Visualisation & Analytics This subject covers the data analytics lifecycle, including gathering, cleaning, processing and visualising of data. Exploratory data analysis methods, descriptive and predictive analytics, and the presentation of insights, will also be covered.	1	3
EBD2005	Security & Surveillance This subject gives an overview of security and surveillance, including the entire process of security and surveillance design and integration. The main emphasis is placed on applying scientific and engineering principles for the design of the system and the use of component performance measures to establish the effectiveness of such systems when applied across various business sectors.	2	4
EBD2009	Building Information Modelling Collaboration This subject emphasises the use of Building Information Modelling (BIM) software to design and develop building services systems that meet the intended objectives. You will learn the processes of incorporating established architectural models with Mechanical, Electrical, Plumbing (MEP) and Fire Protection systems and inter-disciplines collaboration work. The use of the as-built models and the information contained therein for BIM Facility Management (BIMFM) and other simulation tools such as energy modelling will also be discussed.	2	3
EBM2004	Project Management This subject aims to provide an overview of the principles and concepts in project management and equip you with the theoretical foundation and skills in using project management tools. It emphasises the knowledge and practices which are widely applied in project management. Topics covered include the project management framework, project management processes and project management knowledge areas.	2	4
EBM2005	Fire & Life Safety Management This subject introduces the roles and responsibilities of a Fire Safety Manager for both commercial buildings and industrial premises. You will be exposed to the procedure adopted in running a fire command centre, the use of detection, protection and control systems, fire investigation and formulation of a fire emergency plan.	2	4

EBZ2006	Service Quality & Management This subject introduces the key concepts and principles of Service Quality and Management. Topics covered include concepts of quality services, essential skills in customer services, principles and strategy of service management, methods for service quality measurements and service recovery.	2	4
EFM2004	Contract Management This subject covers the knowledge of contract management that is aligned to the practices in the real estate industry. Students will learn all aspects of contract management which include administration, procurement procedures, evaluation of services and products, tenant management, and service delivery.	2	4
EGB2002	Air Conditioning & Mechanical Ventilation The Air Conditioning and Mechanical Ventilation (ACMV) system is one of the most important systems of a building and represents a significant portion of its total energy consumption. Hence, an understanding of the operating principles of a typical ACMV system is critical to maximizing the overall energy efficiency of a building.	2	4
EBM3005	Energy Management & Audit This subject covers two main areas: energy management and energy audit. For the former, the subject illustrates the intrinsic value and concept of energy management and the implementation consideration and steps involved. On Energy Audit, the emphasis is on energy audit methodology and procedures; and methods used to evaluate energy performance of buildings and its sub-systems. These will include use of energy performance benchmarks and comparison with acceptable practices and prevailing codes and regulations. Finally, the subject discusses the application of life cycle cost concept to evaluate the economic viability of proposals on improving energy performance.	3	4
EFM3001	Sustainable Facility Management This subject covers the roles of Facility Management (FM) in environmental sustainability. It will cover the integration of both areas so that you can see a connection between reducing carbon footprint and emission of the assets/properties under effective and thoughtful FM. It will also examine the policies and practices that FM should implement to achieve the said goals. The subject will describe the framework and strategies for achieving ‘greener’ results at the inception, design, construction to operational stage of a building. The subject will also provide an overview of the standards or rating systems that can be used to gauge the attainment of the sustainable goals.	3	4
EGB3003	Total Building Performance This module provides an overview of the key factors that affect the performance and efficiency of buildings. It introduces the performance mandates of building and focuses on integrated approaches to meet the building performance criteria. Topics include spatial performance, thermal comfort and evaluation, air quality and acoustic performance, lighting aspects and building integrity performance.	3	4

EMP3002	Major Project The Major Project gives you an opportunity to integrate and apply your knowledge in a practical learning situation. Besides research, design and project management skills, the emphasis will also be on innovation, creativity, teamwork and enterprise.	3	8

Cluster Elective Subjects

- Aviation Facilities elective cluster

Subject code	Subject	Level	Credit Units
EAM1001	Airport Operations & Management This subject introduces the fundamental concepts and principles involved in the management and operation of modern international airports. You will learn about the principles of airport management and the various aspects of airport operations, including, airport terminal layout and planning, terminal signage systems, gate and baggage belt assignments, terminal contingency planning, airport emergency systems, airport support services and equipment, estate management and terminal landscaping.	1	4
EAT2006	Airport Systems This subject provides an overview of the key facilities and systems in both the landside and airside of an airport. Topics covered in landside will include passenger check-in systems, the Flight Information Display Systems (FIDS) and the various airport IT support systems. Other topics include the operation of the fully automated baggage handling system, the People Mover System (PMS) and the Passenger Loading Bridges system. On the airside, topics covered include the causes of wear and tear of aircraft pavements, methods of assessing the condition of aircraft pavements, the programming of maintenance works and techniques of repairs and their compliance to international operational standards and requirements.	2	4
EAM3002	Airport Administration This subject introduces the fundamental concepts and principles involved in the organisational, political and financial administration of modern international airports. Topics covered include airport performance, airport commercial management, estate management and airport finance. An overview of the various airport ownership models is also included.	3	4

- Hospitality Facilities elective cluster

Subject code	Subject	Level	Credit Units
BHT1010	Introduction to Hospitality & Tourism This subject provides an overview of the multifaceted nature of the hospitality and tourism industry. You will gain an insight into how the key sectors are organised and structured and how they relate to each other as an industry. The concept of tourism demands and tourism consumer behaviour will be introduced. Lastly, you will explore trends, issues and challenges facing the industry.	1	4

BHT2003	Club & Resort Business This subject provides you with good foundation knowledge of the Club, Resort and Spa Business. It is designed to give you a basic understanding of the organization and management of various types of private clubs, resorts and spa businesses. You will discuss issues concerning the successful marketing, management and development of the three types of businesses and will also get to appreciate the opportunities and challenges faced by these businesses.	2	4
BHT2005	Event Management The subject introduces the scope of events and their application in the context of the tourism industry. From this macro perspective, you will build a foundation in event conceptualisation, development and production, covering topics such as marketing of events, human resource management and budgeting, and staging.	2	4

Special Electives

Students can opt to take Special Electives when offered. These optional subjects aim to stretch the students' potential to enable them to meet their aspirations. They are taken in addition to the diploma cluster elective subjects.

Subject code	Subject	Level	Credit Units
EED3009	Special Project 1 The focus of this subject is on the application of students' existing domain knowledge to develop a deliverable. The subject will introduce new skills and knowledge specific to the project, as and when required.	3	2
EED3010	Special Project 2 This subject provides opportunities for students to apply the acquired knowledge and skills, along with their fundamental and in-depth knowledge from different subjects to designing, developing, and implementing a well-engineered project solution.	3	2
EED3011	Higher Engineering Skills 1 Higher Engineering Skills 1 and 2 aim to impart some special design and hands-on skills that allow you to acquire knowledge and skills that are not normally incorporated into a diploma programme. These Special Elective subjects will equip you with the skills and knowledge to participate in competitions and enable you to tackle real challenges.	3	2
EED3012	Higher Engineering Skills 2 Higher Engineering Skills 1 and 2 aim to impart some special design and hands-on skills that allow you to acquire knowledge and skills that are not normally incorporated into a diploma programme. These Special Elective subjects will equip you with the skills and knowledge to participate in competitions and enable you to tackle real challenges.	3	2

Graduation Requirements

Cumulative Grade Point Average	min 1.0

TP Fundamental Subjects	36 credit units
Diploma Core Subjects	77 credit units
Diploma Cluster Elective Subjects	12 credit units
Total Credit Units Completed	**min 125 credit units**