

Build Your Future Shape the World

Start your journey with an Integrated Work-Study Diploma



Diploma in
Digital and
Sustainable
Architecture



Diploma in Digital
and Smart Facilities
Management



Diploma in
Digital Engineering



Diploma in
Construction
Engineering
(Digital)

DIPLOMA IN DIGITAL ENGINEERING

Shape how buildings are designed and constructed through digital innovation and collaboration like a 3D video game.



Ready to reshape how buildings are designed and constructed? All of us live, work and play in the Built Environment (BE) which are the buildings, spaces and infrastructure around us. And it's going digital! Picture yourself in a dynamic, tech-driven environment, creating projects with Building Information Modelling (BIM), digital twins, and AI-powered design tools. BIM is like a 3D video game for buildings where you can design, test, and refine every detail while collaborating with architects, engineers, contractors and facility managers in real time. Major projects like Changi Airport Terminal 5 and the new Marina Bay Sands expansion are already using these tools to build smarter and faster.

With the Diploma in Digital Engineering, you'll master digital delivery skills and workflows transforming Singapore's construction industry. Build smarter, design faster, and create the future—digitally!



CAREER PROSPECTS

- Assistant Specialist (Digital Delivery)
- Assistant BIM Manager
- BIM Coordinator
- Assistant Integrated Digital Delivery Manager

SCAN HERE TO FIND OUT MORE!



WHAT YOU WILL LEARN

FIRST YEAR SEM 1

- Anatomy of Buildings
- BIM Design & Coordination
- Data & Automation Systems
- Design Thinking
- Design Tools
- Digital Construction Drawings
- Singapore & BE Sector

FIRST YEAR SEM 2

- BE Regulations 1
- Common Data Environment
- Computational Architecture
- Construction Technology
- Digital Design & Building Science 1 (BIM for Architecture & Structural)
- Digital Design & Construction Coordination

SECOND YEAR SEM 1

- BIM Customisation (Advanced Architectural Digital Design)
- BE Regulations 2
- Digital Design & Building Science 2
- Interdisciplinary Virtual Design and Construction Project
- Professional Communications 1
- Programming & AI
- Sustainable Design Strategies

SECOND YEAR SEM 2

- Industrial Attachment (6 months)

THIRD YEAR SEM 1 & 2

- Workplace Learning (1 year)
- Project & Quality Management
- Professional Communications 2
- Sustainable Construction & Construction Tech in Sustainability

DIPLOMA IN DIGITAL AND SUSTAINABLE ARCHITECTURE

Create iconic, eco-friendly buildings using digital tools. Help design buildings like Jewel Changi Airport!



Ready to build the future with green buildings to save the day? Have these questions crossed your mind: What exactly makes a building “green”? Can you really design iconic structures like Jewel or the Sports Hub with just a few clicks? And how can we ensure our buildings are accessible to everyone?

With the Diploma in Digital and Sustainable Architecture you'll master the art of designing eco-friendly buildings that not only look amazing but work like a dream. Play with the latest digital tools to turn bold, complex designs into reality while staying on top of the rules. Construction and buildings account for about a third of the world's carbon footprint, let's reduce that and build a greener, more sustainable future!



CAREER PROSPECTS

- Architectural Assistant / Executive
- Assistant Specialist (Digital Delivery)
- Sustainability Technologist
- Computational BIM Designer

SCAN HERE TO FIND OUT MORE!



WHAT YOU WILL LEARN

FIRST YEAR SEM 1

- Anatomy of Buildings
- Architectural Placemaking
- Data & Automation Systems
- Design Thinking
- Design Tools
- Digital Construction Drawings
- Singapore & BE Sector

FIRST YEAR SEM 2

- Advanced Architecture Digital Design
- Architectural Detailing
- Architectural Regulatory Clearance and Submission I
- Common Data Environment
- Sustainable Design Strategies

SECOND YEAR SEM 1

- Architectural Regulatory Clearance and Submission II
- BIM Design & Coordination
- Computational Architecture
- Environmental Modelling
- Interdisciplinary VDC Project
- Professional Communications 1
- Whole Life Carbon

SECOND YEAR SEM 2

- Industrial Attachment (6 months)

THIRD YEAR SEM 1 & 2

- Workplace Learning (1 year)
- Project & Quality Management
- Professional Communications 2
- Green Building and Sustainability

DIPLOMA IN CONSTRUCTION ENGINEERING (DIGITAL)

Bring building projects to life using digital tools and engineering know-how. Use 3D digital twins to plan projects before construction starts!



Ready to move beyond the traditional ways of construction? The construction industry is getting a massive upgrade. Think smart, sustainable, and efficient. In this new era of innovation and digital revolution, imagine yourself sitting in a cool, sleek and tech-filled space, where you're working with 3D models and digital twins to design the future, before even a single brick is laid.

With the Diploma in Construction Engineering (Digital), you'll develop essential engineering knowledge and digital expertise to transform how buildings are created. Let's make construction cool again and build the future!



CAREER PROSPECTS

- Assistant Civil & Structural Engineer
- Assistant Project / Site Engineer
- Resident Technical Officer
- Construction Technologist

SCAN HERE TO FIND OUT MORE!



WHAT YOU WILL LEARN

FIRST YEAR SEM 1

- Anatomy of Buildings
- Construction Materials
- Data & Automation Systems
- Design Thinking
- Structural Mechanics
- Digital Construction Drawings
- Singapore & BE Sector

FIRST YEAR SEM 2

- Basics of Design (Steel)
- Common Data Environment
- Basics of Design (Reinforced Concrete)
- Structural Analysis
- Construction Technology
- Regulatory Requirements on Design Submission

SECOND YEAR SEM 1

- Basics of Design (Geo)
- Basics of Design (Prefab/Prestress)
- Surveying
- Interdisciplinary Virtual Design & Construction Project
- Professional Communications 1
- Contract Costing & Management
- Regulatory Requirements on Construction, Safety & Handover
- Digital Design & Construction Coordination

SECOND YEAR SEM 2

- Industrial Attachment (6 months)

THIRD YEAR SEM 1 & 2

- Workplace Learning (1 year)
- Project & Quality Management
- Professional Communications 2

DIPLOMA IN DIGITAL AND SMART FACILITIES MANAGEMENT

Keep buildings running smoothly and efficiently with smart digital systems. Monitor and control building systems with digital tools!



Ready to become the mastermind keeping buildings running like clockwork? As a Facilities Management (FM) professional, you'll combine technical know-how with digital savvy to create the perfect environment for everyone who steps through the doors. You'll be the architect of well-being and the champion of workplace happiness, ensuring every corner of a building is comfortable for its occupants, and creating offices where people can thrive.

With the Diploma in Digital and Smart Facilities Management, you'll harness the power of data analytics and digital twins, while driving sustainable practices to create energy-efficient spaces. Shape the future of sustainable, occupant-friendly buildings with technical wizardry today!



CAREER PROSPECTS

- Technical Officer / Facilities Officer
- Digital FM Executive
- Assistant Facilities Manager
- Assistant Digital Asset Manager

SCAN HERE TO FIND OUT MORE!



WHAT YOU WILL LEARN

FIRST YEAR SEM 1

- Anatomy of Buildings
- Architectural Placemaking
- Data & Automation Systems
- Design Thinking
- Design Tools
- Digital Construction Drawings
- Singapore & BE Sector

FIRST YEAR SEM 2

- Building Cooling System
- Common Data Environment
- Building Mechanical System
- Building Electrical System
- Design for Maintainability

SECOND YEAR SEM 1

- Facility Management System
- Digitization in FM
- Data Analytics and Management in FM (IoT)
- Interdisciplinary Virtual Design & Construction Project
- Professional Communications 1
- Energy Audit & Management

SECOND YEAR SEM 2

- Industrial Attachment (6 months)

THIRD YEAR SEM 1 & 2

- Workplace Learning (1 year)
- Project & Quality Management
- Professional Communications 2
- Green Building and Sustainability

LEARN AS YOU WORK, WORK AS YOU LEARN

An integrated & fast-tracked educational format



Recognised Qualifications

- Register as a Resident Technical Officer with Diploma in Construction Engineering (Digital)
- Earn a Green Mark Accredited Professional (GM AP) Certificate with Diploma in Digital and Sustainable Architecture and Diploma in Digital and Smart Facilities Management
- Earn a Digital Delivery Management (DDM) recognition from buildingSMART Singapore for all Integrated Work-Study Diplomas

BCA Academy Graduate Employment Survey Results 2025



* full-time employment within 6 months from completion of studies

PROGRAMME DETAILS

DIPLOMA	MINIMUM ENTRY REQUIREMENTS	FEES* (per year including 9% GST)		
Programmes	GCE 'O' level graduates	Singapore Citizen	Permanent Resident	International Student
Diploma in • Digital Engineering • Digital and Sustainable Architecture • Construction Engineering (Digital) • Digital and Smart Facilities Management	• 4 GCE 'O' levels • English Language (EL1) - Grade 1 to 7 • Mathematics - Grade 1 to 6 • Two relevant subjects - Grade 1 to 6	S\$3,379	S\$8,175	S\$15,260
	ITE graduates from relevant courses			
	• Nitec with GPA ≥ 3 • Higher Nitec ≥ 1.5			
	Existing working professionals looking for upgrade or switch careers			
	Those with at least 3 years working experience and Workplace Literacy Numeracy (WPLN) level 6 and above.			

ABOUT BCA ACADEMY

BCA Academy is the dedicated specialist institution for the Built Environment (BE) sector in Singapore. As an integral part of the Building and Construction Authority (BCA) under the Ministry of National Development (MND), we offer rigorous and practice-oriented programmes for both young learners and industry practitioners seeking to upskill. Established in 1984, BCA Academy is recognised by the Ministry of Education (MOE) as a Government-affiliated post-secondary educational institute.

HEAR FROM OUR STUDENTS



My journey has been transformative. The programme has honed my technical skills and fostered my passion for sustainable design. I am now equipped to contribute meaningfully to the built environment by creating buildings that are both aesthetically pleasing and environmentally sustainable.

~ **Muhammad 'Izz Bin Sulaiman**
IWSD Diploma in Digital and Sustainable Architecture



The programme provides me with in-depth classroom knowledge in civil engineering, particularly in geotechnical engineering, which has been invaluable for my internship project. This strong foundation has helped me quickly adapt, apply structural and cost management skills, and use critical thinking to tackle challenges systematically in my workplace learning.

~ **Liang Jinbin**
IWSD Diploma in Construction Engineering (Digital)



The programme equipped me with knowledge in facility management and skills in Building Information Modelling (BIM), Internet of Things (IoT), data analytics, and sustainability. I learnt to leverage digital and smart technologies to enhance efficiency, reduce costs, and improve user experience, while team projects and internships strengthened my practical skills and teamwork abilities.

~ **Zhang Chunmiao**
IWSD Diploma in Digital and Smart Facilities Management



The programme has been an eye-opening experience that showed me how digital technology can transform the way we design, build, and manage projects. The programme strengthened my technical and problem-solving skills through hands-on learning with BIM and real-world applications. It gave me the confidence and passion to contribute to the future of the built environment.

~ **Joaquin Ibanez** *Diploma in Digital Engineering*



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