

BCA ACADEMY



Full-time DIPLOMA PROGRAMMES

- Diploma in Construction Engineering
- Diploma in Digital Engineering
- Diploma in Quantity Surveying



Diploma in **CONSTRUCTION ENGINEERING**

As we move towards a knowledge-based economy, the industry must restructure itself to ensure that those who work on construction sites are highly productive, safe and have high standards. These high standards will translate to a stronger demand for knowledge-based skilled workforce in the near future, making the Diploma in Construction Engineering a premium qualification for those aspiring to be successful builders in this new millennium.

The Diploma in Construction Engineering provides graduates with a head-start in their career in the construction industry. This qualification is acceptable for registration as a Resident Technical Officer under the Building Control Act.

CAREER PROSPECTS

Assistant Project Engineer, Assistant Design Engineer, Site Engineer, Resident Technical Officer

PROGRAMME OBJECTIVES

- Acquire supervisory, managerial and financial know-how for business
- Acquire skills to supervise on site construction works effectively
- Acquire knowledge to perform designs for steel, reinforced concrete, precast and prestressed concrete structures
- Learn to plan and schedule construction works effectively to achieve high productivity and minimise delay
- Learn to manage safety aspects of construction

CURRICULUM

YEAR 1

- Academic English
- BIM for Architecture
- BIM for Structure
- Cognitive Skills for Communication
- Construction Materials
- Digital Drawing
- Education & Career Preparation
- Life Skills
- Mathematics 1
- Mathematics 2
- Structural Mechanics
- Surveying
- Technical Drawings

YEAR 2

- Construction Technology
- Formwork Safety Course for Supervisors
- Management Skills
- Management Systems for Construction
- Project Management
- Reinforced Concrete Construction
- Reinforced Concrete Design 1
- Structural Analysis
- Steel Design and Construction
- Supervise Construction Work for Workplace Safety Health
- Technical Communications

YEAR 3

- Geotechnical Engineering
- Interdisciplinary VDC Project
- Precast Concrete Design and Construction
- Prestressed Concrete Design and Construction
- Reinforced Concrete Design 2
- Internship or Final Year Project

Diploma in **DIGITAL ENGINEERING**

This programme is designed to equip students with the knowledge of using 3D technology in the building industry. It covers fundamental knowledge of the building lifecycle through the use of Building Information Modelling (BIM). Students will focus on BIM application for design analysis, productive design and construction coordination, and facility management. Students will also build a good foundation in various IT software, web application, digital media and 3D presentation.

CAREER PROSPECTS

Assistant BIM Manager, Project Coordinator in BIM, BIM Specialist

PROGRAMME OBJECTIVES

- Develop building drawings and documentation that conform to industry standards and practices through the use of Building Information Modelling (BIM)
- Acquire skills to analyse building design
- Manage data integrity from design to construction and facility management

CURRICULUM

YEAR 1

- Academic English
- BIM for Architecture
- BIM for MEP
- BIM for Structure
- Building Science and Digital Design 1A
- Building Science and Digital Design 1B
- Cognitive Skills for Communication
- Design Visualisation A
- Design Visualisation B
- Digital Drawing
- Digital Media Presentation
- Education & Career Preparation
- Information and Communication Technology
- Life Skills
- Programming 1
- Technical Drawings

YEAR 2

- Advanced BIM for Architecture
- BIM Construction & Coordination
- BIM for FM
- BIM for QS
- Building Regulations
- Building Science and Digital Design 2A
- Building Science and Digital Design 2B
- Green Building Technology
- IOT for Smart Building
- Management Skills
- Programming 2
- Project Management
- Technical Communications

YEAR 3

- BIM Customisation
- BIM Design & Coordination
- Data Analytics and Visualisation
- Interdisciplinary VDC Project
- Programming 3
- Sustainable Building with BIM
- Internship or Final Year Project

Diploma in **QUANTITY SURVEYING**

This programme was launched to meet the increasing demand for more Quantity Surveyors in the construction industry. The programme will provide students with a strong foundation in construction technologies and processes as well as train them in important areas such as contractual laws and administration, quality management systems and Building Information Modelling etc.

CAREER PROSPECTS

Assistant Contracts Manager, Assistant Project Manager, Assistant Quantity Surveyor, Project Coordinator in Building Information Modelling (BIM)

PROGRAMME OBJECTIVES

- Acquire knowledge on building technology and various methods of construction
- Learn to read and understand drawings and specifications
- Develop ability to perform accurate quantity taking off and compile Bills of Quantities
- Understand different forms of Conditions of Contract
- Acquire knowledge in contract law
- Acquire knowledge in computer drafting and BIM

CURRICULUM

YEAR 1

- Academic English
- BIM for Architecture
- Building Materials
- Building Technology
- Cognitive Skills for Communication
- Construction Equipment
- Digital Drawing
- Economics
- Education & Career Preparation
- Electrical and Communication Services
- Elements of Business
- Introduction to Surveying
- Life Skills
- Mechanical Services
- Reinforced Concrete Construction
- Statistics for Management
- Technical Drawings

YEAR 2

- BIM for QS
- Building Measurement
- Contract Administration
- Construction Law
- Construction Technology
- Cost Management
- Introduction to Steel Construction
- Management Skills
- Management Systems for Construction
- Precast & Prestressed Concrete Construction
- Procurement Management
- Project Management
- Technical Communications

YEAR 3

- Advanced Building Measurement
- Advanced Procurement Management
- Building Economics
- Integrated Supply Chain Management for DfMA
- Interdisciplinary VDC Project
- Value Engineering & Management
- Internship or Final Year Project

PROGRAMME FEES

DIPLOMA PROGRAMMES	MINIMUM ENTRY REQUIREMENTS	GRADE	FEES (per academic year incl. of GST)		
Programmes	Applicant with GCE 'O' Level		Singapore Citizen	Permanent Resident	International Student
<ul style="list-style-type: none"> • Construction Engineering • Digital Engineering • Quantity Surveying 	- English Language (EL1), and - Mathematics, and - One relevant subject: <ul style="list-style-type: none"> • Physics • Chemistry • Biology • Science (Physics, Biology) • Science (Chemistry, Biology) • Science (Physics, Chemistry) • Design & Technology • Science (Physics, Chemistry, Biology) 	1 – 7 1 – 6 1 – 6	S\$3,100 Singapore Citizen can use their PSEA* to pay (up to 4 accounts) + Cash	S\$6,180	S\$11,330
	• Applicant whose GCE 'O' level results did not meet the required grade in English or Mathematics or Art/D&T may still apply. Applicant may be invited to sit for the Admission Screening Test. This will help BCA Academy to assess the applicant's suitability into the diploma programme. • Applicant with other academic qualification and experience may be considered for admission on a case by case basis.				
	APPLICANT FROM INSTITUTE OF TECHNICAL EDUCATION, SINGAPORE Higher NITEC in a relevant discipline OR NITEC in a relevant discipline with a minimum GPA of 2.75		*PSEA = Post-Secondary Education Account		

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200 Braddell Road Singapore 579700 • www.bcaa.edu.sg

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