

**BCA ACADEMY**  
of the built environment



# **Diploma Programmes** **(Part-time)**

# Diploma in **CONSTRUCTION ENGINEERING** (Part-time)

There is an increasing demand for knowledge-based skilled workforce as the industry restructures itself following the transition of our nation into a knowledge-based economy. A new generation of knowledge-based specialist subcontractors, supervisors or Resident Technical Officers who possess adequate practical skills and technical knowledge is needed. They will have the skills to supervise construction workers directly in this new economy to ensure that construction sites are safe, highly productive with good quality standards.

The Diploma in Construction Engineering is accepted for registration as a Resident Technical Officer under the Building Control Act.

## PROGRAMME OBJECTIVES

This programme has been structured to equip students with the skills and knowledge to:

- keep abreast of the current construction technologies in the industry;
- perform and supervise the construction works on site effectively;
- plan and schedule construction works effectively to achieve high productivity and minimise delay;
- perform designs for steel, reinforced concrete, precast and prestressed concrete structures;
- manage the safety aspects of construction; and
- apply supervisory, managerial and financial know-how for business

## ENTRY REQUIREMENTS

- a) GCE 'O' LEVEL English (Grade 1 - 7);  
b) GCE 'O' LEVEL Mathematics (Grade 1 - 6);  
c) a relevant GCE 'O' LEVEL subject (Grade 1 - 7), and at least 3 years of relevant working experience.

OR

Workplace Literacy and Numeracy Level 6, and at least 3 years of relevant working experience.

OR

HIGHER NITEC / ITC or GCE 'N' LEVEL and NITEC/NTC 2 with minimum GPA of 2.75 in relevant disciplines, and at least 1 year relevant working experience.

OR

Any ONE of the following certificates with at least 3 years of relevant working experience:

- Advanced National Building Qualification (NBQ)

- National Certificate in Construction Supervision
- Certificate in Interior Finishing Coordination
- Certificate in Waterproofing Supervision
- Certificate in Precast Concrete Construction Supervision
- Certificate in Building Measurement

## AWARD OF CERTIFICATE

A participant must attain at least 75% of physical attendance and complete all assignments to acceptable standards to be eligible to take the examination at the end of the course. Students who pass all semester examinations and the four compulsory courses\* will be awarded a Diploma in Construction Engineering and a certificate for successful completion of a course in ISO14001:2004 (Env), and OHSAS 18001:2007 (Health & Safety) and IQA on ISO9001:2008 (Quality).

\* Students taking the Diploma in Construction Engineering are also required to attend the following four compulsory courses:

- Certificate in Levelling and Setting Out;
- Certificate in Precast Concrete Construction Supervision;
- Building Construction Supervisors Safety Course; and
- Certificate in Formwork Safety for Supervisors.

Students are required to enrol for these four compulsory courses separately and must complete them successfully within six years from the date of commencement for Year One Diploma programme.

## COURSES

- Construction Materials
- Reinforced Concrete Construction
- Structural Mechanics
- Construction Equipments
- Technical Drawings
- Mathematics 1
- Mathematics 2
- Building Services
- Life Skills A & PPD878 Life Skills B
- Basic Business Law
- Reinforced Concrete Design 1
- Structural Analysis
- Management Systems For Construction

- Structural Detailing
- Building Measurement
- Procurement Management
- Project Management
- Management Skills A & PPD 880
- Bim For Structure
- Advanced Concrete Technology
- Construction Technology
- Reinforced Concrete Design 2
- Geotechnical Engineering
- Steel Design And Construction
- Structural Appraisal And Repair
- Precast Design And Construction
- Technical Communications

# Diploma in **ELECTRICAL ENGINEERING & CLEAN ENERGY** (Part-time)

This programme aims to provide an upgrading path for working adults who aspire to obtain a BCA-accredited diploma in electrical engineering, and to expand their career opportunities in high-growth market segments such as clean energy, green building and energy management.

Besides equipping students with the fundamentals of electrical engineering, the programme incorporates a comprehensive treatment of cleantech subjects which includes clean energy generation, energy management, Green Mark assessment and building management systems.

## PROGRAMME OBJECTIVES

The programme content has been structured to equip students with the fundamental knowledge and specialised skills necessary to assists engineers and managers in:

- designing, operating and maintaining electrical services for building
- performing and supervising effectively various electrical works on-site
- conducting energy audits
- conserving and optimising energy usage in buildings

## ENTRY REQUIREMENTS

- a) GCE 'O' LEVEL English (Grade 1 - 7);  
b) GCE 'O' LEVEL Mathematics (Grade 1 - 6);  
c) a relevant GCE 'O' LEVEL subject (Grade 1 - 7), and at least 3 years of relevant working experience.

OR

Workplace Literacy and Numeracy Level 6, and at least 3 years of relevant working experience.

OR

## COURSES

- Building Technology
- Electric Circuit Analysis 1
- Analogue Electronics
- Introduction To Electrical Power Systems
- Life Skills
- Economics
- Mathematics 1
- Technical Drawings
- Procurement Management
- Clean Energy Technology
- Digital Electronics
- Mathematics 2
- Renewable Energy Conversion And Storage Systems
- ACMV Fundamentals
- Project Management
- Management Skills
- Embedded Systems
- Power Electronics
- Basic Engineering Mechanics
- Green Building Technology
- Electric Circuit Analysis 2
- Electrical Power Distribution And Installation
- Computer Programming
- Electrical Machines

HIGHER NITEC / ITC or GCE 'N' LEVEL and NITEC/NTC 2 with minimum GPA of 2.75 in relevant disciplines, and at least 1 year relevant working experience.

## AWARD OF CERTIFICATE

A participant must attain at least 75% of physical attendance and complete all assignments to acceptable standards to be eligible to take the examination at the end of the course. Students who pass all semester examinations will be awarded a Diploma in Electrical Engineering and Clean Energy and a certificate for successful completion of a course in ISO14001:2004 (Env), and OHSAS 18001:2007 (Health & Safety) and IQA on ISO9001:2008 (Quality).

In addition, graduates will be awarded the following qualification:

- Singapore Certified Energy Manager (Associate)

- CAD
- Green Mark Manager
- Building Control Networks
- Design And Operation Of Pv Systems
- Modern Power Systems
- Technical Communications
- Management Systems For Construction
- Integrated Building Management
- BIM For M&E
- Renewable Energy Integration
- Singapore Certified Energy Manager (Associate) (Module 5: Lighting Systems)
- Singapore Certified Energy Manager (Associate) (Module 6: Building Envelope)
- Singapore Certified Energy Manager (Associate) (Module 1: Energy Management & Economics)
- Singapore Certified Energy Manager (Associate) (Module 2: Energy Audit & Measurements)
- Singapore Certified Energy Manager (Associate) (Module 3: Air Conditioning & Mechanical Ventilations Systems)
- Singapore Certified Energy Manager (Associate) (Module 4: Motor Driven Systems)

# Diploma in **GEO-SPATIAL INFORMATION AND TECHNOLOGY** (Part-time)

Geographic Information System (GIS) applications are in great demand nowadays due to many of their value-added services. To generate any recommended solution using GIS applications, there must be accurate data collected by the land surveyors. In addition, the development of many new challenging construction and civil engineering projects also requires a higher level of service from the land surveyors.

The part-time Diploma in Geo-Spatial Information and Technology which was developed in collaboration with Singapore Institute of Surveyors and Valuers (SISV) offers graduates the integrated domain knowledge of various surveying techniques and GIS applications with the use of latest technology and equipment. This diploma creates a unique opportunity for graduates to venture into different aspects of the surveying services. With this, graduates are able to begin or advance their career further in the surveying and geospatial profession.

## PROGRAMME OBJECTIVES

This programme has been structured to:  
(I) Enable Graduates to comprehend the fundamental principles and knowledge in the following domains:

- Land surveying
- Engineering surveying
- Cadastral surveying
- Satellite-based surveying
- Underground surveying
- Hydrographic surveying
- Geographical Information System (GIS)
- (II) Equip Graduates with the domain relevant skills such as:
  - Operating surveying equipment
  - Collecting data
  - Applying GIS / GPS software
  - Setting out physical sites for engineering works
  - Mapping the earth and the sea floor
  - Establishing property boundaries
  - Analysing data information about land, water and other natural resources for environment & resource management
  - Evaluating data obtained to consult clients on optimal alternatives
- (III) Equip graduates with necessary problem-solving and management skills such as:
  - Effective communication across all levels in an organisation
  - Creative and think-out-of-the-box problem-solving skills
  - Contract administration and project management skills
- (IV) Cultivate graduates with positive attitudes such as:
  - Being meticulous in data collection
  - Ensuring integrity and accuracy in data

- handling
  - Being open-minded in upgrading themselves and adopting new technology to enhance productivity

## ENTRY REQUIREMENTS

The candidate must be a Singapore Citizen or Permanent Resident or holder of valid employment pass/work permit; and possesses any ONE of the following criteria:  
a) GCE 'O' LEVEL English (Grade 1 - 7);  
b) GCE 'O' LEVEL Mathematics (Grade 1 - 6);  
c) a relevant GCE 'O' LEVEL subject (Grade 1 - 6), OR  
Workplace Literacy and Numeracy Level 6, and at least 1 year of relevant working experience.  
OR  
5 GCE 'N' LEVEL results,  
a) English (Grade 1 - 8);  
b) Mathematics (Grade 1 - 7);  
c) 3 other subjects (Grade 1 - 8); and at least 1 year of relevant working experience.  
OR  
ESS Workplace Literacy and Numeracy Level 5; and at least 3 years of relevant working experience.  
OR  
HIGHER NITEC / ITC OR NITEC / NTC and at least 1 year of relevant working experience.

## AWARD OF CERTIFICATE

A participant must attain at least 75% of physical attendance and complete all assignments to acceptable standards to be eligible to take the examination at the end of the course. Students who pass all semester examinations will be awarded a Diploma in Geo-Spatial Information and Technology.

## COURSES

- Land Surveying
- Mathematics 1
- Technical Communications
- Engineering Surveying
- Information and Communication Technology
- Surveying Computation and Statistics
- Satellite-based Surveying
- Project Management
- CAD for Surveying
- Spatial Data Infrastructure 1
- Cadastral Surveying
- Principles of Land Administration
- BIM for Surveying
- Spatial Data Infrastructure 2
- Underground Surveying
- Geo-Spatial Information Systems 1
- Special Topics
- Applied Geo-Spatial Applications
- Hydrographic Surveying
- Geo-Spatial Information Systems 2

# Diploma in **STRATEGIC FACILITIES MANAGEMENT** (Part-time)

The Diploma in Strategic Facilities Management will equip students with a wide range of technical knowledge and functional skills to manage the built environment. The areas covered in the programme range from principles of facilities management, green building technology, energy management, event planning and marketing to business continuity. The focus of the programme will be on sustainable practices. Participants of the diploma programme will graduate as competent and confident associate professionals in the built environment industry.

## PROGRAMME OBJECTIVES

The programme aims to equip students with the fundamental knowledge and specialised skills necessary to:

- formulate and implement strategic facilities management and maintenance policies to achieve efficient resource utilisation.
- create an environment that meets human physiological needs.
- formulate and implement practices to achieve high level of environmental sustainability.
- plan, manage and market events.
- apply management and financial know-how of business to the industry.

## ENTRY REQUIREMENTS

a) GCE 'O' LEVEL English (Grade 1 - 7);  
b) GCE 'O' LEVEL Mathematics (Grade 1 - 6);  
c) a relevant GCE 'O' LEVEL subject (Grade 1 - 7), and at least 3 years of relevant working experience.  
OR  
Workplace Literacy and Numeracy Level 6, and at least 3 years of relevant

working experience.

OR

HIGHER NITEC / ITC or GCE 'N' LEVEL and NITEC/NTC 2 with minimum GPA of 2.75 in relevant disciplines, and at least 1 year relevant working experience.

## AWARD OF CERTIFICATE

A participant must attain at least 75% of physical attendance and complete all assignments to acceptable standards to be eligible to take the examination at the end of the course. Students who pass all semester examinations will be awarded a Diploma in Strategic Facilities Management and a certificate for successful completion of a course in ISO14001:2004 (Env), and OHSAS 18001:2007 (Health & Safety) and IQA on ISO9001:2008 (Quality).

In addition, graduates will be awarded the following qualifications:

- Certificate in Fire Safety Manager
- Singapore Certified Energy Manager (Associate)

## COURSES

- Building Materials
- Building Technology
- Technical Drawings
- Conservancy Practices
- Mechanical Services
- Strategic Facilities Management
- Event Planning & Management
- Life Skills A & Life Skills B
- Statistics For Management
- Basic Business Law
- BIM For Architecture
- Information And Communication Technology
- Management Systems For Construction
- Electrical & Communication Services
- Environmental Ergonomics
- Procurement Management
- Cost Management
- Event Marketing & Customer Service
- ACMV Fundamental S
- Green Building Technology
- Facilities Management Law
- Elements Of Business
- Management Skills A & Management Skills B
- Data Base Management
- Software Engineering & Web Application
- Green Building Operation
- Fire Safety Management
- Green Mark FM
- Event Service Management
- Risk Management & Business Continuity
- Technical Communications
- Energy Management & Economics
- Energy Audit & Measurements
- Management Of ACMV
- Motor Driven Systems
- Building Envelope
- Lighting Systems
- Bim FM
- Building Regulations



# Administration Details and General Information

PART TIME DIPLOMA PROGRAMMES	PROGRAMME FEES (incl GST)	DURATION	COURSE TENTATIVE STARTING DATE
Construction Engineering	S\$12,210.00	3 years - 6 semesters	April 2014
Electrical Engineering & Clean Energy	S\$14,630.00	3.5 years - 7 semesters	
Strategic Facilities Management	S\$12,210.00	3 years - 6 semesters	
Geo-Spatial Information Technology	S\$18,315.00	3 years - 6 semesters	

**\*FREQUENCY:** 3 to 4 times a week.

**\*TIME:** 6.30pm to 10.00pm on weekdays. There may also be lessons on Saturdays.

**VENUE:** BCA Academy, 200 Braddell Road, Singapore 579700.

**COURSE DELIVERY:** English

**APPLICATION CLOSING DATE:** 24 Feb 2014

*\*Depends on the programme applied for.*

## SKILLS DEVELOPMENT FUND (SDF)

Companies who wish to apply for SDF are required to enrol their staff (Singaporean or Singapore Permanent Resident) through WDA's SkillsConnect system @ [www.skillsconnect.gov.sg](http://www.skillsconnect.gov.sg).

Eligible applicant of these programmes will pay the full programme fees and submit their SDF subsidy to WDA directly.

Amounts shown are subject to change from year to year. All fees quoted throughout this prospectus are in Singapore Dollars. They are correct at the time of printing this prospectus. They are inclusive of Goods & Services Tax (GST) of 7% which is the prevailing GST at the time of printing this prospectus.

**For enquiries, please call 6248-9999; or email to [bca\\_academy@bca.gov.sg](mailto:bca_academy@bca.gov.sg)**

**BCA ACADEMY**  
of the built environment

200 Braddell Road Singapore 579700

Tel: 6248 9999 Fax: 6258 0558

[www.bcaa.edu.sg](http://www.bcaa.edu.sg)

## FURTHER EDUCATION

### UNIVERSITY OF NEWCASTLE, AUSTRALIA

Bachelor of Construction Management (Building)  
Bachelor of Engineering (Civil)

### UNIVERSITY OF WOLLONGONG, AUSTRALIA

Bachelor of Engineering (Civil)  
Bachelor of Engineering (Civil and Environmental)

### QUEENSLAND UNIVERSITY OF TECHNOLOGY

Bachelor of Applied Science (Construction Management)  
Bachelor of Applied Science (Quantity Surveying)

### UNIVERSITY OF SOUTH AUSTRALIA

Bachelor of Construction Management & Economics

### JAMES COOK UNIVERSITY

Bachelor of Engineering (Civil)

### RMIT UNIVERSITY

Bachelor of Civil Engineering  
Bachelor of Applied Science in Construction Management (BCM)

### CURTIN UNIVERSITY OF TECHNOLOGY

Bachelor of Applied Science (Construction Management and Economics)

### SIM UNIVERSITY

Bachelor of Science in Integrated Events and Sustainable Facilities Management  
Bachelor of Science (Honours) in Integrated Events and Sustainable Facilities Management (by invitation only)

*NOTE: BCA diplomas are also recognised for admission into universities other than those specifically mentioned. Students are advised to make enquiries with the universities and institutions directly on recognition of qualifications before making their choices.*

PTDIP.070214.0002

## APPLICATION FORM: **Part-time Programme Only**

Incomplete forms will not be processed

For Official Use	Yes	No
Meet Entry Requirement		
Meet Special Qualification		
Officer-in-charge's name/signature/date		

**Programme Applied:** \_\_\_\_\_

### 1. PERSONAL PARTICULARS

Given Name (as in Passport / NRIC): (in BLOCK letters / underline surname)		NRIC / FIN No:	
Preferred Name:		Date of Birth: (DD/MM/YYYY)	
Chinese Characters: (if applicable)		IC Type: Pink / Blue (please circle) * <b>For Singaporeans / PR Only</b>	
		Gender: Male / Female (please circle)	
Nationality:		Place of Birth:	
Work Permit No.: (for foreign applicants)		Passport Expiry Date:	
Home Address:			
	Postal Code:		
Email:	Home No.:		
Alternative Email:	Mobile No.:		

### 2. CURRENT EMPLOYMENT

Company UEN No.:		WDA's SkillsConnect Account No: (if relevant)	
Training Grant Application No (TG): (if relevant)		Office Contact No.:	
Company Name:		GST Registered Company : YES / NO (please circle)	
Company Address:			
	Postal Code:		
Contact Person:	Designation:		
Contact Person Email:	Date Joined Company:		
Nature of Business (Briefly describe):			
Brief description of your duties:			

### 3. QUALIFICATIONS (Highest Academic and Technical Qualifications)

From Year	To Year	Qualification	Institution	Country

Please enclose a copy of academic qualification together with the application.

#### 4. PREVIOUS EMPLOYMENT

Company	Designation	Duration	Job Description
		From:	
		To:	
		From:	
		To:	
		From:	
		To:	

#### 5. APPLICATION FOR EXEMPTION

In view of my formal qualification(s) as listed in Item 3, I would like to apply exemption for the following courses:

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_

Others: \_\_\_\_\_

#### 6. PAYMENT MODE

☐ \*Cash / Nets / Credit Card *(Cash payment must be made personally at BCA Academy)*

☐ Payment by GIRO - Bank Account No.: \_\_\_\_\_  
*(should be the same bank account as indicated in the Direct Debit Authorisation form submitted to BCA Academy)*

☐ Payment by Cheque - Cheque No.: \_\_\_\_\_ Dated: \_\_\_\_\_ for \$ \_\_\_\_\_  
*(Cheque should be crossed, marked "account payee only" and made payable to "Building and Construction Authority")*

#### 7. How did you find out about BCA Academy and its programme? (Please tick accordingly)

☐ Friends ☐ Newspaper ☐ Website ☐ Others (please specify) \_\_\_\_\_

#### 8. DECLARATION (Please tick accordingly)

By submitting this application/registration form, I/We hereby declare that:

a) BCA can disclose to other government agencies and/or the Government any information relating to me/us in connection with, arising from or relating to this application, including but not limited to my/our personal particulars and my/our test results.

b) Particulars given in the form are true and correct in every respect, and understand that the application will be disqualified if any information given is found to be untrue and the fees paid will be forfeited.

c) The above applicant meets the entry requirements as stated in this brochure.

d) BCA Academy reserves the right to accept or reject the application for whatever reason and no refund of fees will be made for withdrawal on or after the commencement of the course which the applicant has been accepted.

e) **The company will sponsor the above applicant and apply for SDF subsidy**

We, the applicant company, agree and undertake to pay BCA Academy the Skillsconnect Training Grant amount in full if the registered trainee(s) does not satisfy or comply with the terms and conditions of the course and/or the Skillsconnect Training Grant and/or WDA Training Assistance scheme. We, the applicant company, further agree and undertake to pay the full subsidy amount or any portion of the subsidy amount in the event that, for whatever reasons, the WDA does not pay to BCA Academy the subsidy amount or any part thereof.

f) **For company using GIRO for payment**

Our Direct Debit and Direct Credit Authorisation for GIRO application with the Building and Construction Authority (BCA) still remain in force. We authorise BCA to issue instructions to our bank/finance company to debit our account for the total amount shown above for the purpose of course registration.

Name: \_\_\_\_\_

Signature / Date: \_\_\_\_\_

\*Company / Individual Applicant

Company Stamp (For company application)

Funding and subsidies offered by third party organisations for BCA Academy courses and programmes under the Skills Development Fund (SDF), Workforce Training and Upgrading Scheme (WTU), Skills Re-development Programme (SRP) and other relevant schemes or programmes, are subject to approval. BCA Academy is not to be held liable if funding and subsidies are either granted at a reduced amount or not granted at all. Further, BCA Academy reserves the right to amend the details of any course or programme, revise the course or programme fees without prior notice, cancel or postpone the course or programme and change the venue of the course or programme.

#### FOR OFFICIAL USE

Application No.: \_\_\_\_\_

Official Receipt No.: \_\_\_\_\_