

# NEW CONTINUING EDUCATION AND TRAINING (CET) COURSES TO SUPPORT THE CONSTRUCTION ITM

29 January 2018 – To build a pipeline of professionals, managers, executives and technicians (PMETs) to support the transformation of the Built Environment sector, the Building and Construction Authority (BCA), together with its industry partners, has awarded more than 130 scholarships and sponsorships (see Annex A for more details) to students pursuing built environment courses at the Institute of Technical Education (ITE). This is part of BCA's and industry firms' efforts to build up a skilled and competent workforce by attracting more Singaporeans into the sector while offering opportunities for continuing education and training (CET).

- 2. As part of industry transformation, BCA has partnered industry firms and institutes of higher learning (IHLs) to strengthen the quality of the workforce. Besides attracting new entrants through scholarship and sponsorship programmes, the tripartite partners are developing and progressively rolling out new CET courses for post-ITE and post-diploma graduates, to strengthen industry competency in the key transformation areas of Integrated Digital Delivery (IDD), Design for Manufacturing and Assembly (DfMA) and green buildings.
- 3. Starting from April 2018, ITE will begin offering the ITE Work-Learn Technical Diploma (WLTD) in Mechanical & Electrical Services Supervision for ITE graduates. This is to form a pipeline of Mechanical & Electrical Coordinators and Resident Technical Officers (RTOs) and deepen ITE graduates' technical and basic design knowledge. The programme will also train students to use Building Information Modeling (BIM) software to interpret, amend and update the Mechanical, Electrical and Plumbing (MEP) systems of a building and extract the necessary information for coordination works (see Annex B for more details).

- 4. For post-diploma graduates, there are two new BIM-related part-time Specialist Diplomas made available from this year. Both SkillsFuture Earn and Learn Programmes (ELPs) will offer diploma holders with skills deepening and continuing education in the area of IDD.
- 5. Temasek Polytechnic (TP) and BCA Academy (BCAA) will be rolling out the one-year Specialist Diploma in Building Information Modelling (Construction and Asset Management). Commencing in April 2018, this programme is open to polytechnic and BCAA graduates with relevant diplomas (see <u>Annex C</u> for more details).
- 6. In October 2018, Singapore Polytechnic will be launching its Specialist Diploma in BIM Management programme. This one-year work and study programme is open to fresh diploma graduates with diploma in architecture, civil engineering with business, landscape architecture, mechanical engineering and electrical and electronic engineering (see <u>Annex D</u> for more details).
- 7. The transformation of the Built Environment sector will result in better jobs for Singaporeans, requiring higher skills but also offering higher salaries. Under the Construction ITM, the tripartite partners are working to have 80,000 personnel trained in IDD, DfMA and green building capabilities by 2025.

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#### **About Building and Construction Authority (BCA)**

The Building and Construction Authority (BCA) of Singapore champions the development of an excellent built environment for Singapore. BCA's mission is to shape a safe, high quality, sustainable and friendly built environment, as these are four key elements where BCA has a significant influence. In doing so, it aims to differentiate Singapore's built environment from those of other cities and contribute to a better quality of life for everyone in Singapore. Hence, its vision is to have "a future-ready built environment for Singapore". Together with its education arm, the BCA Academy, BCA works closely with its industry partners to develop skills and expertise that help shape a future-ready built environment for Singapore. For more information, visit <a href="https://www.bca.gov.sg">www.bca.gov.sg</a>

#### About BCA Academy (BCAA)

The BCA Academy is the education and research arm of the Building and Construction Authority (BCA). With the industry undergoing transformation to drive up productivity using game-changing technologies, BCA Academy takes on a leading role to equip PMETs with necessary competencies to support the development of an excellent built environment. Today, the BCA Academy is possibly the only institution in the world that provides a full range of training and education programmes tailored to meet the diverse needs of the built environment industry at all levels. From pre-employment training such as Diploma and Degree Programmes to continuing education training such as Specialist Diplomas, Certification Courses, Seminars and Executive Management Programmes, BCA Academy offers a full suite of training programmes for all levels of the industry. For more information, visit www.bcaa.edu.sg.

### Factsheet on BCA-Industry Built Environment ITE Scholarship and Sponsorship

#### **BCA-Industry Built Environment ITE Scholarship**

- 1. The BCA-Industry Built Environment ITE Scholarship is offered by BCA in collaboration with industry firms, to students pursuing full-time built environment courses at the ITE. Through this programme, scholars will be able to embark on an exciting and rewarding career following their graduation.
- 2. The ITE Scholarship is structured in two stages:-
  - Stage 1 provides financial incentives during ITE study
  - Stage 2 provides a clear progression path and attractive starting salary for ITE graduates
- 3. Details of the ITE Scholarship:-

#### **Programme Structure**

#### Stage 1 (ITE Study Phase)

- Course Duration 2 years
- Funding support \$14,000 in total
- Bond period 2 years with sponsoring firm upon graduation and completion of National Service, if applicable

#### Stage 2 (Post-ITE Development Phase)

- Employment Duration
  - o 3 years
- Incentives
  - o For ITE graduate \$4,000 in total
  - o For sponsoring firm Up to \$15,000 in total
- Minimum monthly basic salaries
  - o \$1,850 in 1st year of employment
  - o \$2,050 in 2<sup>nd</sup> year of employment
  - o \$2,350 in 3<sup>rd</sup> year of employment
- Skills Development
  - Structured on-the-job training
  - Upgrading course/s

#### **Eligibility**

- Singapore Citizens and Permanent Residents
- Good academic results (GCE N-level, O-level or ITE results)
- Good CCA records

#### **Tenable Full-Time ITE Courses**

- Higher Nitec in Civil & Structural Engineering Design
- Higher Nitec in Electrical Engineering
- Higher Nitec in Facility Management
- Higher Nitec in Facility Systems Design

- Higher Nitec in Mechanical Engineering
- Higher Nitec in Space Design Technology
- Nitec in Electrical Technology (Power & Control)
- *Nitec* in Facility Technology (Air-Conditioning & Refrigeration)
- *Nitec* in Facility Technology (Mechanical & Electrical Services)
- *Nitec* in Facility Technology (Vertical Transportation)
- Nitec in Mechanical Technology
- *Nitec* in Space Design (Architecture)
- *Nitec* in Space Design (Interior & Exhibition)
- 4. For more details on BCA's suite of scholarship/sponsorship programmes, please visit the Building Careers Portal at <a href="https://www.buildingcareers.gov.sg">www.buildingcareers.gov.sg</a>.

### 2017 SPONSORING FIRMS OF THE BCA-INDUSTRY BUILT ENVIRONMENT ITE SCHOLARSHIP

1	Chevalier Singapore Holdings Pte Ltd
2	Fong Consult Pte Ltd
3	Hin Chong Engineering Construction Pte Ltd
4	Interconsultants Pte Ltd
5	Maintech Engineering & Supplies Pte Ltd
6	PH Consulting Pte Ltd
7	Right Construction Pte Ltd
8	SAA Architects Pte Ltd
9	Sigma Elevator Singapore Pte Ltd
10	Topzone E&C Pte Ltd
11	VivATA Pte Ltd
12	Woh Hup (Private) Limited

#### **BCA-Industry Built Environment Building Specialist Sponsorship**

- 1. The BCA-Industry Built Environment Building Specialist Sponsorship (BSS) is offered by BCA in collaboration with industry firms, to attract, upgrade and retain Singaporeans in jobs at the specialist and supervisor level of higher value-adding trades in the built environment sector.
- 2. The BSS programme provides a clear progression path with attractive salaries for sponsored employees and is structured in two stages:
  - Stage 1 (Specialist Development)
  - Stage 2 (Supervisor Development)
- 3. Details of the BSS Programme are as follows:-

#### **Programme Structure**

Stage 1 (Specialist Development)

Requirement for employee/firm

- New entrants or the firms' existing employees who possess less than 3 consecutive years of experience in the built environment sector
- Firm will pay the unsubsidised portion of the course fees.
- Sponsorship duration
  - o 2 years or end of part-time course (whichever is later)
- Incentives
  - o For BSS graduate \$9,000 in total
  - o For sponsoring firm Up to \$10,000 in total
- Minimum monthly basic salaries
  - o \$1,850 in 1st year of employment
  - \$2,100 in 2<sup>nd</sup> year of employment

#### Stage 2 (Supervisor Development)

- Requirement for employee/firm
  - Singaporeans who possess at least 3 years relevant experience in the built environment sector
  - Firm will pay the unsubsidised portion of the course fees
- Sponsorship duration
  - 2 years or end of part-time course (whichever is later)
- Incentives
  - o For BSS graduate \$9,600 in total
  - o For sponsoring firm Up to \$10,000 in total
- · Minimum monthly basic salaries
  - o \$2,300 in 1st year of employment
  - o \$2,600 in 2<sup>nd</sup> year of employment

#### **Eligibility**

- Singapore Citizens and Permanent Residents
- Possess minimum GCE N-level, O-level, NITEC certification etc

### Tenable Part-Time Courses From Approved Training Providers Institute of Technical Education (ITE)

- Part-time Technical Diploma in Mechanical & Electrical Services Supervision
- Part-time Higher Nitec in Technology (Mechatronics Engineering)
- Part-time Higher Nitec in Technology (Facility Management)
- Part-time Nitec in Technology, Facility Technology (Vertical Transportation)
- Part-time Nitec in Technology, Facility Technology (Mechanical & Electrical Services)
- Part-time Nitec in Technology, Electrical Technology (Power & Control)
- Part-time Nitec in Technology (Mechatronics)

#### **BCA Academy**

- National Building Qualification (NBQ) & Higher NBQ (inclusive of CoreTrade Supervisor course)
- Trade Diploma in Electrical Technology
- Trade Diploma in Plumbing Technology
- Trade Diploma in Reinforced Concrete Construction

#### Singapore Polytechnic

Part-time Diploma in Engineering (Power Engineering)

4. For more details on BCA's suite of scholarship/sponsorship programmes, please visit the Building Careers Portal at <a href="www.buildingcareers.gov.sg">www.buildingcareers.gov.sg</a>.

## 2017 SPONSORING LIFT FIRMS OF THE BCA-INDUSTRY BUILT ENVIRONMENT BUILDING SPECIALIST SPONSORSHIP

1	Chevalier Singapore Holdings Pte Ltd
2	Hitachi Elevator Asia Pte Ltd
3	Schindler Lifts (Singapore) Pte Ltd

### Factsheet on ITE Work-Learn Technical Diploma (WLTD) in Mechanical & Electrical Services Supervision

- 1. Objectives of the Work-Learn Technical Diploma (WLTD) Programme
  - For participants to acquire knowledge and skills which are highly relevant to the industry:
    - Interpret construction drawings such as Civil and Structural drawings,
       Mechanical & Electrical drawings and Architectural drawings.
    - Identify Building Information Model (BIM) for Architectural model, Structural model & Mechanical & Electrical model.
    - Inspect power distribution system, distribution switchboard and electrical outgoing circuit.
    - Inspect chiller installation, electrical control panel, air handling unit, exhaust & supply fans and fan coil units and residential air-conditioner systems.
    - Inspect wet / dry risers systems, sprinkler system, fire suppression system and emergency voice communication systems.
    - Inspect underground pipes layout, above ground sanitary & plumbing pipes installation, water tank and gas pipes layout and fittings.
- 2. Details of the WLTD programme
  - (a) Duration and venue
    - This is a 2.5 year course and is available at:
      - ITE College East for 1.5 days per week; and
      - Sponsoring firms for On-the-Job Training (ITE will help match a sponsoring firm.)

#### (b) Eligibility for programme

 This course is open to both fresh and in-employment ITE graduates who are Singapore Citizens or Permanent Residents.

#### (c) Entry Requirements

 To apply for the Work-Learn Technical Diploma in Mechanical & Electrical Services Supervision course, you need to have:

### Graduates from Related *Nitec* Courses (Minimum GPA 2.0)

- Electrical Technology (Lighting & Sound)
- Electrical Technology (Power & Control)
- Facility Technology (Air-Conditioning & Refrigeration)
- Facility Technology (Landscaping Services)
- Facility Technology (Mechanical & Electrical Services)
- Facility Technology (Vertical Transportation)
- Mechanical Technology
- Mechatronics
- Space Design (Architecture)

### Graduates from Related *Higher Nitec* Courses

- Civil & Structural Engineering Design
- Electrical Engineering
- Facility Management
- Facility Systems Design
- Marine Engineering
- Marine & Offshore Technology
- Mechanical Engineering
- Mechatronics Engineering
- Offshore & Marine Engineering Design
- Process Plant Design

 Any Nitec/Higher Nitec holders with relevant work experience, and support from their employers. Employers must be participants of the WLTD programme. Non-ITE graduates with relevant experience and strong employer endorsement will also be considered.

#### (d) Career Prospects

- Work-Learn Technical Diploma in Mechanical & Electrical Services Supervision graduates are employed by consulting firms or M&E contractors. Some of the job titles held by graduates include M&E coordinator and M&E Registered Technical Officer.
- There are excellent opportunities for career advancement to M&E Site Engineer or M&E Resident Engineer.

#### (e) Start date

o April 2018.

### Factsheet on Temasek Polytechnic - BCA Academy Specialist Diploma in Building Information Modelling (Construction and Asset Management)

#### 1. Objectives of the TP-BCAA ELP

- For participants to get a head-start in their career by acquiring relevant work experience and deepening their BIM skills, by being actively matched to an employer in a relevant job with mentoring and identified career progression pathway
- To offer built environment employers an early opportunity to identify and plan ahead to recruit students with BIM specialist skills and who have decided to pursue a career in the built environment after they have completed a diploma in a relevant field of study

#### 2. Details of the TP-BCAA ELP programme

#### (a) **Duration**

One year

#### (b) Eligibility for programme

- o Singapore Citizens and Permanent Residents, and
- Have a related Built Environment or Design diploma, and whose diploma graduation or Operational Ready Date for National Servicemen (ORD) following diploma graduation was not more than 3 years before the start of the ELP, and

#### (c) Feeder diplomas

S/N	Courses Name	Institutions
1	Diploma in Integrated Facility Management	Temasek Polytechnic
2	Diploma in Green Building & Sustainability	Temasek Polytechnic
3	Diploma in Interior Architecture and Design	Temasek Polytechnic
4	Diploma in Environment Design	Temasek Polytechnic
5	Diploma in Spatial Design	Nanyang Polytechnic
6	Diploma in Sustainable Urban Design & Engineering	Ngee Ann Polytechnic
7	Diploma in Real Estate Business	Ngee Ann Polytechnic
8	Diploma in Green Building and Energy Management	Republic Polytechnic

9	Diploma in Civil Engineering with Business	Singapore Polytechnic
10	Diploma in Architecture	Singapore Polytechnic
11	Diploma in Landscape Architecture	Singapore Polytechnic
12	Diploma in Interior Design	Singapore Polytechnic
13	Diploma in Architectural (Technology)	BCA Academy
14	Diploma in Construction Engineering	BCA Academy
15	Diploma in Construction IT	BCA Academy
16	Diploma in Design (Interior & Landscape)	BCA Academy
17	Diploma in Electrical Engineering & Clean Energy	BCA Academy
18	Diploma in Facilities Management	BCA Academy
19	Diploma in Mechanical Engineering	BCA Academy
20	Diploma in Quantity Surveying	BCA Academy

#### (d) Programme structure

Participants will undergo a 12-month structured training programme, including facilitated learning, e-learning and on-job training. They are required to complete a total of 2 Post Diploma Certificates (PDCs). Each PDC can be completed in 1 semester, i.e. 6 months. The PDCs will be issued once the requirements for each PDC are met, each by respective institution: Temasek Polytechnic and BCA Academy. Teaching is delivered by TP and BCAA with the first half practise-oriented exposure at Temasek Polytechnic campus and the next half at BCA Academy's industry oriented facilitation.

#### (e) Start date

- o April 2018.
- (f) Interested applicants can apply through:
  - BCA Academy: http://www.bcaa.edu.sg/tp-bcaa-elp
  - o Temasek Polytechnic: Please send an email to tsa\_ELP@tp.edu.sg
- (g) More information can be found at <a href="http://www.bcaa.edu.sg/tp-bcaa-elp">http://www.tp.edu.sg/tp-bcaa-elp</a> or <a href="http://www.tp.edu.sg/tp-bcaa-elp">http://www.tp.edu.sg/tp-bcaa-elp</a>

### Factsheet on Singapore Polytechnic Specialist Diploma in Building Information Modeling (BIM) Management programme

- 1. Objectives of the Specialist Diploma in BIM Management
  - o To build BIM capabilities and capabilities in Built Environment Sector
  - 12 months' work and study programme leading to Specialist Diploma in BIM Management
  - Trained in BIM Management to implement BIM in Organisation and Execute BIM in Building Projects
- 2. Details of the Specialist Diploma in BIM Management

#### (a) **Duration**

12 month at Singapore Polytechnic

#### (b) Eligibility for programme

- Fresh Diploma Graduates with
  - Diploma in Architecture
  - Diploma in Civil Engineering with Business
  - Diploma in Landscape Architecture
  - Diploma in Mechanical Engineering
  - Diploma in Electrical and Electronic Engineering

#### (c) Career Prospects

- Skills deepening through formal course and on the job training
- Upgrading of skills to stay relevant
- Attractive salary
- o Promotion opportunities

#### (d) Programme structure

- On Campus Training Programme
  - Two nights per week
  - Three hours per lesson
- Work within Companies
  - Structured On-the-job Training to apply BIM knowledge to work environment.

#### (e) Start date

o Oct 2018.