香港學術及職業資歷評審局
Hong Kong Council for Accreditation of
Academic & Vocational Qualifications

SUMMARY ACCREDITATION REPORT

SCHOOL FOR HIGHER AND PROFESSIONAL EDUCATION, VOCATIONAL TRAINING COUNCIL

AND

UNIVERSITY OF THE WEST OF ENGLAND, BRISTOL

LEARNING PROGRAMME ACCREDITATION OF

BSC (HONS) ARCHITECTURAL TECHNOLOGY AND DESIGN

AND

BENG (HONS) ELECTRONIC AND COMPUTER ENGINEERING

JUNE 2018

This accreditation report is issued by the Hong Kong Council for Accreditation of Academic and Vocational Qualifications (HKCAAVQ) in its capacity as the Accreditation Authority as provided for under the Accreditation of Academic and Vocational Qualifications Ordinance (Cap. 592) (AAVQO). This report outlines the HKCAAVQ's determination, the validity period of the determination as well as any conditions or restrictions on the determination.

1. Introduction

1.1 The School for Higher and Professional Education (SHAPE) was established in 2003 as a member institution of the Vocational Training Council (VTC).

1.2 The University of the West of England, Bristol (UWE) was granted degree awarding status under the United Kingdom Further and Higher Education Act (1992). It has established collaborative networks in different countries, such as Vietnam and Singapore to offer its programmes.

1.3 In 2014, the SHAPE-UWE collaborative partnership attained from HKCAAVQ an Initial Evaluation status as an Operator at HKQF Level 5. Currently, the Operator is operating three Bachelor's degree programmes accredited by HKCAAVQ.

1.4 HKCAAVQ was commissioned by SHAPE, VTC and UWE, jointly as the Operator, to conduct an accreditation exercise with the following Terms of Reference:

(a) To conduct an accreditation test as provided for in the AAVQO to determine whether the BSc (Hons) Architectural Technology and Design (BScATD) and BEng (Hons) Electronic and Computer Engineering (BEngECE) programmes of the Operator meet the stated objectives and Hong Kong Qualifications Framework (HKQF) standard and can be offered as accredited programmes from the date as specified in the accreditation report, where appropriate; and

(b) To issue to the Operator an accreditation report setting out the results of the determination in relation to (a) by HKCAAVQ.

1.5 The accreditation exercise was conducted according to the relevant accreditation guidelines referred to in the Service Agreement and the Terms of Reference stated therein. A site visit took place from 25 to 27 April 2018.

2. HKCAAVQ's Accreditation Determination

Having due consideration of the accreditation panel's observations and comments as presented in this Report, HKCAAVQ makes the following accreditation determination:

2.1 Learning Programme Accreditation

☑ Approval

Name of Local Operator	School for Higher and Professional Education, Vocational Training Council 職業訓練局 才晉高等教育學院	
Name of Non-local Operator	University of the West of England, Bristol	
Name of Award Granting Body	University of the West of England, Bristol	
Title of Learning Programme	BSc (Hons) Architectural Technology and Design	BEng (Hons) Electronic and Computer Engineering
Title of Qualification (Exit Award)	BSc (Hons) Architectural Technology and Design	BEng (Hons) Electronic and Computer Engineering
Primary Area of Study and Training	Architecture and Town Planning	Engineering and Technology
Sub-area (Primary Area of Study and Training)	Architecture, Construction and Town Planning	Electrical, Electronic and Mechanical Engineering and Services
Other Area of Study and Training	Not applicable	
Sub-area (Other Area of Study and Training)	Not applicable	
HKQF Level	Level 5	
HKQF Credits	120	
Mode(s) of Delivery and Programme Length	Full-time, 1 year Part-time, 1.5 years	

Start Date of Validity Period	1 September 2018	
End Date of Validity Period	31 August 2022	
Number of Enrolment(s)	One enrolment per year	
Maximum Number of New Students	Full-time, 90 per year Part-time, 90 per year	Full-time, 60 per year Part-time, 90 per year
Address of Teaching / Training Venue(s)	Hong Kong Institute of Vocational Education (IVE) (Morrison Hill) 6 Oi Kwan Road, Wan Chai, Hong Kong	Hong Kong Institute of Vocational Education (IVE) (Sha Tin) 21 Yuen Wo Road, Sha Tin, New Territories, Hong Kong

2.1.1 Recommendations

HKCAAVQ offers the following recommendations for continuous improvement of the two programmes.

<u>BScATD and BEngECE</u>

(a) The Operator should have proper documentation of the mapping of non-feeder programmes against the first two years of BScATD and BEngECE programmes to help diagnosis of any issues that may arise should they admit Associate Degree graduates.

(b) The Operator should closely monitor the effectiveness of support for students' independent learning and, if necessary, consider increasing the level of support provided by academic and technical staff.

<u>BScATD</u>

(c) The Operator should pay particular attention to the changing needs of employers and industry in annual monitoring of the programme.

BEngECE

(d) The Operator should have more explicit coverage of the understanding of customer and user needs and their translation into specifications and technical solutions for electronic communication products and projects in *Individual Project*.

(e) The Operator should ensure staff recruited would be able to use flipped learning mode effectively and if necessary provide relevant training to teaching staff.

3. Programme Details

The following programme information is provided by the operator.

3.1 Programme Aims (PA) and Programme Learning Outcomes (PLOs)

BScATD

PAs

The PAs of the programme are to:

(a) Instil in each student an understanding and enthusiasm for Architectural Technology and Design;
(b) Provide an intellectually stimulating environment for learning and understanding;
(c) Integrate the conceptual understanding of technology and design realisation;
(d) Reflect upon, evaluate and discuss aspects of technological design;
(e) Identify and encourage the essential features of good integrated design and practice (including the use of computers in the design, production and management processes), through observed current good practice and historical precedents and practice;
(f) Use knowledge of scientific principles and materials properties to develop and design productive solutions to technological problems within defined constraints;
(g) Consider the “buildability”, sustainability and performance of building design solutions within legal, ecological, economic and technological constraints;
(h) Provide an environment for personal and skills development, the development of team-working skills for the construction industry and a multidisciplinary ethos;

(i) Motivate and equip graduates to meet the challenges of change in the industry, for example, resulting from globalisation, the emphasis on sustainability, rising client expectations and changing organisational strategies; (j) Develop each student's analytical and creative skills and encourage the development of mature and independent judgment, leading to effective decision making and synthesising skills; and (k) Identify and evaluate research and innovation needs in buildings.	
PLOs Graduates of the programme are expected to be able to achieve the following PLOs:	
Knowledge and Understanding (KU)	
KU1	To demonstrate an understanding of the essential facts, concepts and theories relating to architectural design and its relationship to technology;
KU2	To understand the principles of building structure and construction including the properties of materials;
KU3	To be aware of the nature of building fabric and systems as modifiers of the physical environment in providing a sustainable environment;
KU4	To analyse the performance of a building from a technical and functional perspective and recognise their inter-relationship;
KU5	To understand the relevant statutory frameworks and other constraints and gain an appreciation of the legal principles of practice pertaining to construction contracts;
KU6	To understand the role of the parties to the building development process and to gain an appreciation of other professional perspectives;
Intellectual Skills (IS)	
IS1	To analyse a problem and evaluate critically, evidence and alternative points of view;
IS2	To interpret, analyse and communicate qualitative and quantitative data;
IS3	To synthesise ideas and information from a variety of sources in reaching judgments about issues, problems and solutions;
IS4	To demonstrate the ability to question and evaluate current theories and practice;
IS5	To initiate and execute research and subsequently analyse and exploit the findings;

Subject or Professional Skills (PS)	
PS1	To apply knowledge of structure, construction, materials and environmental performance in building design;
PS2	To apply the principles of good practice to design and the design process, including use of CAD and design systems;
PS3	To create appropriate design solutions in a variety of contexts which are also technically competent and viable building design solutions of quality which meet client's requirements;
PS4	To appreciate the health and safety responsibilities associated with specific aspects of the built environment;
PS5	To be able to apply experimental method, including laboratory investigations, to the analysis of technical problems;
PS6	To be able to observe, describe and record information about building design and condition accurately;
PS7	To interpret plans and three dimensional diagrams accurately;
Key Transferable Skills and Other Attributes (KS)	
KS1	To be able to communicate design solutions through a variety of media and with a variety of stakeholders in the development process and construction industry;
KS2	To demonstrate an understanding of the conventions of architectural drawing;
KS3	To appreciate the limitations and use of computers and apply IT to the context of learning and building technology and design;
KS4	To have acquired skills in the use and processing of physical quantities and numerical data;
KS5	To demonstrate an appreciation of the importance of inter-professional and collaborative working, and develop respect for other people's perspective; and
KS6	To develop the skill of independent learning.

<u>BEngECE</u>

PAs

The PAs of the programme are to:

(a) Ensure students gain a sound knowledge and understanding of the fundamental principles governing the behaviour of electronic, digital and embedded systems and of the related mathematics;

(b) Ensure students are capable of analysing the behaviour of complex electronic, digital electronic or embedded systems;

(c) Enable students to demonstrate a capacity for innovative and creative design and be able to draw on knowledge of fundamental principles and proven systems to further develop existing systems and to generate new systems which meet required specifications; (d) Provide students with a broad knowledge and understanding of engineering theory, practices and applications and enable them to use advanced techniques of analysis, synthesis and implementation in the field of electronic and computer engineering; (e) Ensure that students develop the ability, interest and motivation to conduct independent study and keep abreast of future changes in technology and engineering practices; (f) Enable students to develop the ability to work in a largely unsupervised way to undertake an individual research project and present the findings in a professional manner; and (g) Provide students with necessary skills and competencies to communicate clearly, concisely and persuasively with individuals and groups, using a professional standard of English, both orally and in writing.	
PLOs Graduates of the programme are expected to be able to achieve the following PLOs:	
Knowledge and Understanding (KU)	
KU1	Demonstrate knowledge and understanding of scientific principles and methodology necessary to underpin electronic and systems engineering; and to enable appreciation of its scientific and engineering context in support of understanding of future developments and technologies;
KU2	Demonstrate understanding of mathematical principles necessary to underpin electrical and electronic engineering and mathematical methods, tools and notations used in the analysis and solution of electrical and electronic engineering problems, number systems and their applications;
KU3	Show understanding of electronic components, digital circuits and logic families and demonstrate an ability to characterise them; together with an ability to use combinatorial and sequential logic circuits, HDL systems and techniques, and basic computer structure (microcomputer and DSP) for use within real-time applications;
KU4	Demonstrate knowledge and understanding of program design, implementation concepts, together with implementation and integration methods, and notations;

KU5	Understand the commercial, ethical, economic and legal context of engineering processes, including sustainable development, risk management, health and safety and environmental legislation;
KU6	Demonstrate knowledge and understanding of principles of operating systems, real time systems, and distributing computing;
Intellectual Skills (IS)	
IS1	Demonstrate an understanding of the need for a high level of professional and ethical conduct in engineering;
IS2	Develop and demonstrate the ability to investigate and define a problem and identify constraints including environmental and sustainability limitations, health and safety and risk assessment issues;
IS3	Demonstrate skills to critically analyse and review available literature relevant to the subject disciplines;
IS4	Demonstrate the competencies involved in problem identification, analysis, design and development of a computer system, together with relevant and appropriate documentation;
IS5	Show an understanding of a range of problem solving and evaluation skills, together with an ability to marshal supporting evidence in favour of the chosen approach;
IS6	Demonstrate competencies and the ability to understand issues relating to the marketing of products and the management processes associated with their design and manufacture;
Subject or Professional Skills (PS)	
PS1	Select and apply appropriate quantitative methods and computer software tools for the evaluation, analysis and solution of electronic and systems engineering problems and situations;
PS2	Apply experimental methods in the laboratory relating to engineering design, manufacture and testing;
PS3	Use relevant design, test and measurement equipment;
PS4	Undertake practical testing of design ideas through laboratory work or simulation with technical analysis and critical evaluation of results;
PS5	Apply engineering techniques taking account of environmental, industrial and commercial constraints;
Transferable Skills and Other Attributes (TS)	
TS1	To communicate using professional standards of English, both orally and in writing, including, for instance, the results of technical investigations, to peers and/or to “problem owners”;

TS2	To manage his or her own time; to meet deadlines;
TS3	To work with others, being aware of the benefits and problems which teamwork can bring, having gained insights into the problems of team-based systems development;
TS4	To use software in the context of problem-solving investigations, and to interpret findings;
TS5	To express problems in appropriate notations;
TS6	To gain experience of, and to develop skills in, learning independently of structured class work, including the use of on-line facilities to further self-study; and
TS7	To read and to use literature sources appropriate to the discipline to support learning activities.

3.2 Programme Structure

BScATD

The programme is a one-year full-time or 1.5 years part-time top-up degree programme with five modules as follows:

Modules	Contact hours	Non-contact hours	Notional learning hours	HKQF Credits
Technology and Design Studio 3	108	342	450	45
Collaborative Practices in Building Information Management & Modelling	72	228	300	30
Conserving Buildings and Places	36	114	150	15
Energy Management and Performance Evaluation	36	114	150	15
Procurement and Contract Law	36	114	150	15
Total	**288**	**912**	**1200**	**120**

BEngECE

The programme is a one-year full-time or 1.5 years part-time top-up degree programme. Students are required to complete five core modules and one elective module as follows:

Modules	Contact hours	Non-contact hours	Notional learning hours	HKQF Credits
Group Design & Integration Project	36	114	150	15
Individual Project	30	270	300	30
Business Environment	36	114	150	15
Digital Signal Processing	36	114	150	15
Internet of Things Engineering	36	114	150	15

*Embedded Systems Development**	72	228	300	30
*Control and Automation**				
Total	**246**	**954**	**1200**	**120**

*Note: Students are required to choose one of the electives.

3.3 Graduation Requirements

BScATD and BEngECE

- The graduation requirement for the Honours award of the programmes is a pass in the studied modules accumulating to an achievement of 120 HKQF credits.

3.4 Admission Requirements

BScATD	Applicants from VTC Feeder Programmes Graduates of the following VTC feeder programmes: • Higher Diploma (HD) in Building Technology with Interior Design • HD in Building Technology and Interior Design • HD in Architectural Studies • HD in Architectural Technology and Design • HD in Architectural Design and Technology Applicants from Non-Feeder Programmes Applicants with non-feeder qualifications will be considered on a case-by-case basis. Applicants who are not from the approved VTC feeder programmes should have successfully completed a relevant post-secondary qualification (e.g. a HD or an Associate Degree (AD)) from a recognised institution in Hong Kong. English Language Proficiency Requirements for Applicants from VTC Feeder Programmes and Non-Feeder Programmes At least an overall IELTS score of 6.5 with 5.5 in each component; or an overall IELTS score of 6.0 with 6.0 in each component or equivalent. Applicants holding post-secondary qualifications taught and assessed in English will be considered to have met the English language requirements for entry to the top-up programme.

	VTC HD graduates are considered to have met the English language requirements of the top-up programme in Hong Kong.
BEngECE	<u>Applicants from VTC Feeder Programmes</u> Graduates of the following VTC feeder programmes: • HD in Digital Electronics and Embedded System Design • HD in Computer and Information Engineering • HD in Internet and Multimedia Engineering • HD in Computer Engineering • HD in Electronic and Communications Engineering <u>Applicants from Non-Feeder Programmes</u> Applicants with non-feeder qualifications will be considered on a case-by-case basis. Applicants who are not from the approved VTC feeder programmes should have successfully completed a relevant post-secondary qualification (e.g. a HD or an AD) from a recognised institution in Hong Kong. <u>English Language Proficiency Requirements for Applicants from VTC Feeder Programmes and Non-Feeder Programmes</u> At least an overall IELTS score of 6.5 with 5.5 in each component; or an overall IELTS score of 6.0 with 6.0 in each component or equivalent. Applicants holding post-secondary qualifications taught and assessed in English will be considered to have met the English language requirements for entry to the top-up programme. VTC HD graduates are considered to have met the English language requirements of the top-up programme in Hong Kong.

4. Substantial Change

4.1 HKCAAVQ may vary or withdraw the Accreditation Report if it is satisfied that any of the grounds set out in section 5 (2) of the AAVQO apply. This includes where HKCAAVQ is satisfied that the Operator is no longer competent to achieve the relevant objectives and/or the

Programme no longer meets the standard to achieve the relevant objectives as claimed by the Operator (whether by reference to the Operator's failure to fulfil any conditions and/or comply with any restrictions stipulated in this Accreditation Report or otherwise) or where at any time during the validity period there has/have been substantial change(s) introduced by the Operator after HKCAAVQ has issued the accreditation report(s) to the Operator and which has/have not been approved by HKCAAVQ. Please refer to the '*Guidance Notes on Substantial Change to Accreditation Status*' in seeking approval for proposed changes. These Guidance Notes can be downloaded from the HKCAAVQ website. The accreditation status of the Operator and/or Programme will lapse immediately upon the expiry of the validity period or upon the issuance of a notice of withdrawal of the Accreditation Report.

5. Qualifications Register

5.1 Qualifications accredited by HKCAAVQ are eligible for entry into the Qualifications Register (QR) at http://www.hkqr.gov.hk for recognition under the Hong Kong Qualifications Framework (HKQF). The Operator should apply separately to have their quality-assured qualifications entered into the QR.

5.2 Only learners who commence the study of the named accredited learning programme during the validity period and who have graduated with the named qualification listed in the QR will be considered to have acquired a qualification recognised under the HKQF.

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