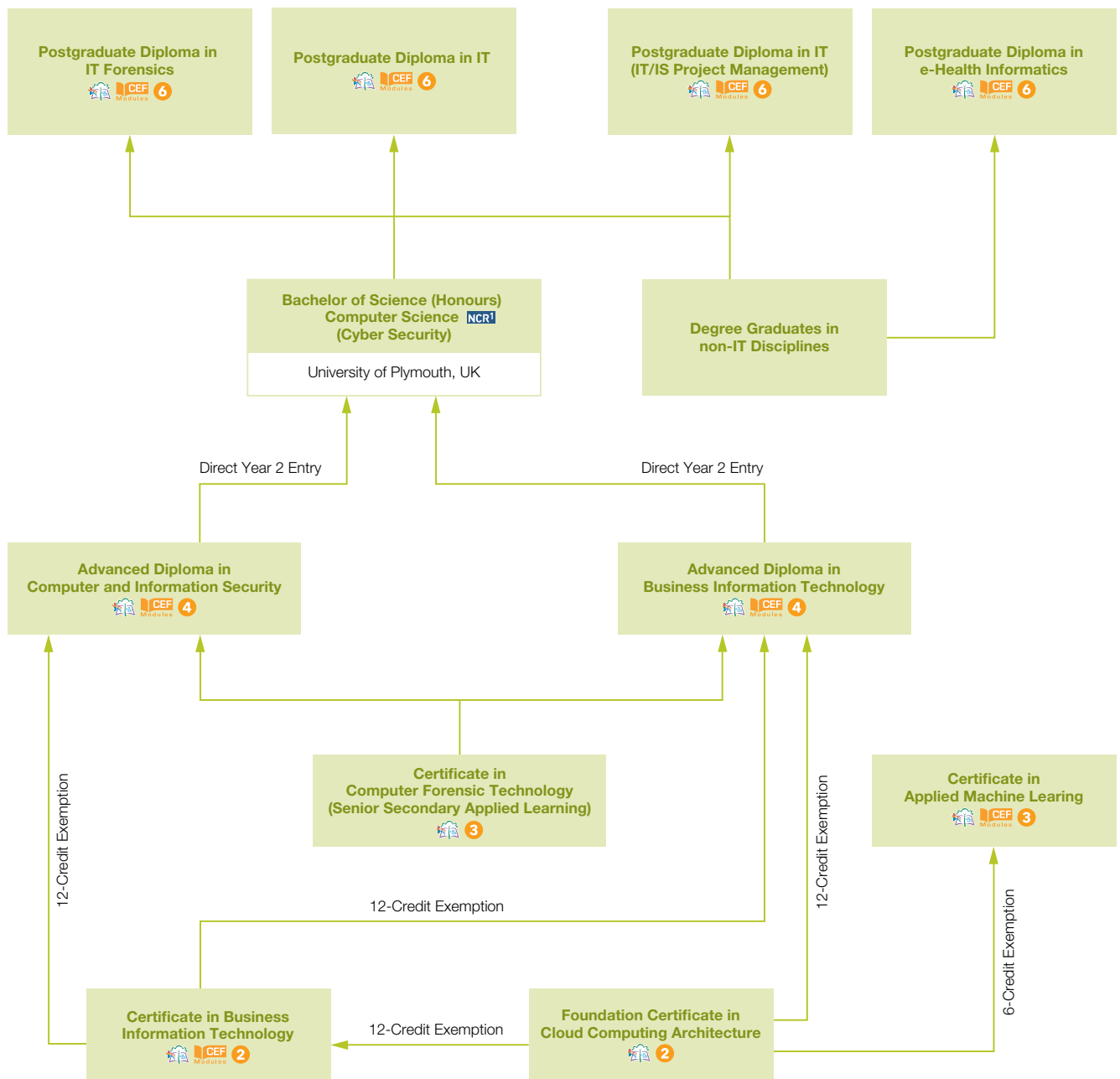


Advanced Technology and Computing

先進科技及電腦運算

Pathways to Undergraduate and Postgraduate Studies in Information Technology



See legend on page 031 圖像說明於第 031 頁

- R** Minimum Entry Requirements 基本入學要求 (P.017)
- S** Fee 學費
- D** Duration 修業期
- M** Medium of Instruction 教學語言
- Q** Qualifications Framework 資歷架構
- E** Exemption 豁免
- SC** Short Course 短期課程

For more and latest programme information, please visit our website
有關最新課程資訊及詳情，請瀏覽學院網站 hkuspace.hku.hk

Advanced Diploma in Computer and Information Security

Programme Code: IT051A

Application Code: 2265-IT051A



2587 3256

bobo.kung@hkuspace.hku.hk

Advanced Diploma in Computer and Information Security is a 20-month part-time programme designed for secondary school graduates who aspire to pursue a career in computer and information security.

This programme aims to enhance students' comprehension of fundamental concepts, principles, and theories in computer & information security, which has been spurred by the pervasive use of computer-based applications such as information systems, databases, and computer programming. Students are also given an understanding of computer system and architecture, access control mechanisms, cryptography algorithms, software security, physical security, security management and risk management as well as computer forensics.

- R** Applicants shall:
- have gained in the HKDSE Examination Level 2 in 5 subjects, including English Language; or
 - have gained in the HKALE Grade E in 1 AL or 2 AS subjects, and HKCEE Level 2 in English Language or equivalent; or
 - be aged at 21 or above with at least 1 year relevant work experience.

\$ HK\$48,000 paid in 3 instalments
Application Fee: HK\$150

D 20 months English

Q Level 4 (Reg. No.: 16/000264/L4) Validity Period: 07 Apr 2016 - on-going

證書 (單元：進階雲計算技術)

課程編號：IT106A

2587 3227

sp.wong@hkuspace.hku.hk

本課程旨在向學生介紹雲計算的概念，讓他們了解雲架構的知識和管理簡單的雲計算服務。

D 30小時

Q 資歷架構級別：3 資歷名冊登記號碼：23/000622/L3
資歷名冊登記有效期：2023年6月1日 - 持續有效

證書 (單元：用戶體驗 / 用戶界面中階)

課程編號：IT109A

2587 3294

eve.cheung@hkuspace.hku.hk

本課程旨在向學生介紹用戶體驗 / 用戶界面 (UX/UI) 的概念，讓他們了解 UX/UI 的設計過程。此外，課程將教授學生把 UX/UI 應用於實際設計中，並透過設計概念來加強與用戶溝通和互動。

D 24小時

Q 資歷架構級別：2 資歷名冊登記號碼：24/000007/L2
資歷名冊登記有效期：2023年12月1日 - 持續有效

證書 (單元：用戶體驗 / 用戶界面基礎)

課程編號：IT107A

2587 3294

eve.cheung@hkuspace.hku.hk

本課程旨在向學生介紹用戶體驗 / 用戶界面 (UX/UI) 的基本概念，讓他們了解甚麼是 UX/UI。學生將學習業界標準的數碼設計工具，並透過實際數碼設計來加強與用戶溝通和互動。

D 24小時

Q 資歷架構級別：2 資歷名冊登記號碼：23/000827/L2
資歷名冊登記有效期：2023年9月1日 - 持續有效

數碼電影製作證書

課程編號：IT037A

Application Code: 2250-IT037A



2975 5887

connie.wkc.cheng@hkuspace.hku.hk

本課程旨在介紹數碼電影拍攝、執導、剪輯的基本知識，培訓學員有系統地闡述故事和構想的能力，並且教導學員對電影製作的實際技術，從而能夠掌握製作數碼影像格式並於不同平台上播放。本課程適合對影像製作（如電影、網上影片）感興趣的人士，或已加入相關行業的在職人士進修。

\$ HK\$13,200
報名費用：HK\$150

D 6個月

Q 資歷架構級別：2 資歷名冊登記號碼：11/000173/2
資歷名冊登記有效期：2011年1月13日 - 持續有效

Postgraduate Diploma in Information Technology

Programme Code: IT040A

Application Code: 2275-IT040A



2587 3256

bobo.kung@hkuspace.hku.hk

This programme aims to provide a comprehensive range of IT knowledge and training for non-IT graduates who are facing the challenges of IT in work or looking for new career opportunities in IT fields.

- R** Applicants shall hold a bachelor's degree awarded by a recognized institution. If the degree or equivalent qualification is from an institution where the language of teaching and assessment is not English, applicants shall provide evidence of English proficiency, such as:
- an overall band of 6.0 or above with no subtests lower than 5.5 in the IELTS; or
 - a score of 550 or above in the paper-based TOEFL, or a score of 213 or above in the computer-based TOEFL, or a score of 80 or above in the internet-based TOEFL; or
 - HKALE Use of English at Grade E or above; or
 - HKDSE Examination English Language at Level 3 or above; or
 - equivalent qualifications.

Applicants with other qualifications will be considered on individual merit.

\$ HK\$48,400 to be paid in 2 instalments
1st instalment: HK\$26,400
2nd instalment: HK\$22,000

D 1 year English

Q Level 6 (Reg. No.: 11/001236/6) Validity Period: 01 Oct 2011 - on-going

Postgraduate Diploma in e-Health Informatics

Programme Code: IT029A

Application Code: 2355-IT029A



2587 3233

hnh.tang@hkuspace.hku.hk

The programme aims to train healthcare professionals and those from related disciplines to develop the knowledge, understanding and competencies in mastering the advanced use of Information Technology skills in healthcare settings.

- R** Applicants shall hold a bachelor's degree awarded by a recognized institution. If the degree or equivalent qualification is from an institution where the language of teaching and assessment is not English, applicant should provide evidence of English proficiency such as:
- an overall band of 6.0 with no subtests lower than 5.5 in the IELTS; OR
 - a score of 550 in the paper-based TOEFL, a score of 213 in the computer-based TOEFL, or a score of 80 in the internet-based TOEFL; OR
 - HKALE Use of English at Grade E;
 - HKDSE Examination English Language at Level 3 or above; or
 - equivalent qualifications.

Applicants with other qualifications will be considered on individual merit.

\$ HK\$51,000 to be paid in 2 instalment
1st instalment: HK\$28,050; 2nd instalment: HK\$22,950

D 1 year English

Q Level 6 (Reg. No.: 13/000171/L6) Validity Period: 08 Oct 2013 - on-going

NCR1

This is an exempted course under the Non-Local Higher and Professional Education (Regulation) Ordinance. 根據《非本地高等及專業教育（規管）條例》，本課程屬獲豁免課程。It is a matter of discretion for individual employers to recognize any qualification to which this course may lead. 個別僱主可酌情決定是否承認本課程可令學員獲取的任何資格。

NCR2

These are exempted courses under the Non-Local Higher and Professional Education (Regulation) Ordinance. 根據《非本地高等及專業教育（規管）條例》，這些課程屬獲豁免課程。It is a matter of discretion for individual employers to recognize any qualification to which these courses may lead. 個別僱主可酌情決定是否承認這些課程可令學員獲取的任何資格。

NCR3

The course operator is applying for exemption under the Non-local Higher and Professional Education (Regulation) Ordinance. 課程主辦人正根據《非本地高等及專業教育（規管）條例》辦理豁免註冊手續。It is a matter of discretion for individual employers to recognize any qualification to which this course may lead. 個別僱主可酌情決定是否承認本課程可令學員獲取的任何資格。

Advanced Technology and Computing

先進科技及電腦運算

Postgraduate Diploma in IT Forensics

Programme Code: IT014A

Application Code: 2275-IT014A



2587 3223

stephanie.ny.leung@hkuspace.hku.hk

This programme will provide professionals with an excellent opportunity to enhance their forensics IT knowledge for developing their career as a crime laboratory analyst, forensic engineer and crime scene examiner. Graduates from IT, business or accounting are encouraged to enrol in this programme.

- R** Applicants shall:
- (a) (i) Hold a bachelor's degree in a related discipline (e.g. Computer Science, Information Technology, Business Systems) awarded by a recognized university;
- or
- (ii) Be practitioners with 5 years or more experience in the related field and hold recognized professional qualifications in the relevant discipline. (Practitioner includes IT/Computer engineer, Accountant/Forensic accountant, Auditor, Lawyer/Judiciary, Forensic scientist/Laboratory specialist, IT security professional, Senior Executive/CIO/IT manager);
- and
- (b) Provide evidence of English proficiency (if the degree or equivalent qualification is from an institution where the language of teaching and assessment is not English), such as
- HKALE Use of English at Grade E or above; or
 - HKDSE Examination English Language at Level 3 or above; or
 - An overall band of 6 with subtest lower than 5.5 in the IELTS; or
 - A score of 550 in the paper-based TOEFL or a score of 213 in the computer-based TOEFL or a score of 80 in the internet-based TOEFL; or
 - equivalent qualifications

\$ HK\$60,000 (To be paid in 2 instalments)

D 1 year

E English

Q Level 6 (Reg. No.: 09/000157/6) Validity Period: 20 Jan 2009 - on-going

Postgraduate Diploma in Information Technology (IT/IS Project Management)

Programme Code: IT002A

Application Code: 2255-IT002A



3762 0842

judy.cheung@hkuspace.hku.hk

This programme is designed for IT professionals and IT project owners who would like to advance their career to the management level. The latest technical and project management skills including planning, design, auditing, budgeting, quality control and social media application of IT projects will be covered.

- R** Applicants shall:
- (1) a) possess a Degree in a IT related subject with at least 2 years of project development or project management experience; OR
- b) possess a Degree in a non-IT related subject with at least 3 years of project development or project management experience; OR
- c) possess Professional membership status of a IT industry professional organization
- AND
- (2) provide evidence of English proficiency (if the degree or equivalent qualification is from an institution where the language of teaching and assessment is not English), such as
- HKALE Use of English at Grade E or above; OR
 - HKDSE Examination English Language at Level 3 or above; OR
 - an overall band of 6.0 with no subtest lower than 5.5 in the IELTS; OR
 - a score of 550 in the paper-based TOEFL, or a score of 213 in the computer-based TOEFL, or a score of 80 in the internet-based TOEFL; OR
 - equivalent qualifications

AND

(3) be aged 21 or above
Applicants with other equivalent qualifications and relevant work experience will be considered on individual merit.

\$ HK\$32,000

Application Fee: HK\$150

D 12 months

E English

Q Level 6 (Reg. No.: 09/001879/6) Validity Period: 05 May 2008 - on-going

Advanced Diploma in Business Information Technology

Programme Code: IT033A

Application Code: 2275-IT033A



2587 3233

hmh.tang@hkuspace.hku.hk

Advanced Diploma in Business Information Technology programme is a 20-month part-time programme designed for secondary school graduates who have aspirations to pursue a career in the Information and Communication Technologies (ICT) field. This programme offers a unique blend of theory and practical training. Students will learn about the latest technologies and trends and how to apply them in real-world business scenarios.

The programme aims to equip students with a broad and solid grounding in the field of information technology and to enhance students' technical knowledge and problem-solving skills. The development and application of some emerging technologies, such as Artificial Intelligence, Big Data Applications and Analytics, and Cloud Computing will also be covered in the programme.

- R** Applicants shall
- have gained in the HKALE Grade E in 1 AL or 2AS subjects, and HKCEE Level 2 in English Language or equivalent; OR
 - have gained in the Hong Kong Diploma of Secondary Education Examination 5 subjects at Level 2, including English Language; OR
 - hold a degree or diploma from a recognised institution; OR
 - be aged at 21 or above with at least 1 year relevant work experience.

\$ HK\$51,000 paid in 3 instalments
(1st instalment: HK\$17,600; 2nd instalment: HK\$16,700; 3rd instalment: HK\$16,700)
Application Fee: HK\$150

D 20 months to 4 years

E English

Q Level 4 (Reg. No.: 11/001653/4) Validity Period: 03 Feb 2012 - on-going

Certificate in Business Information Technology

Programme Code: IT001A

Application Code: 2275-IT001A



2587 3233

hmh.tang@hkuspace.hku.hk

The programme aims to

- equip students with fundamental English communication skills.
- provide students with basic concepts of organisation and management.
- equip students with basic IT-oriented skills of computer programming, web page development and computer networking that support business operations.
- provide students with a foundation knowledge of computer systems, operating systems and information systems which are used in the market.

- R** APPLICANTS SHALL:
- have gained in the HKDSE Examination Level 2 in 5 subjects, including Chinese Language and English Language; or
 - have 5 passes in HKCEE, including Chinese Language and English Language before 2007, or equivalent; or
 - have 3 passes in HKCEE plus Level 2 or above in Chinese Language and English Language in the HKCEE from 2007 to 2011, or equivalent; or
 - have successfully completed the Project Yi Jin (毅進計劃) Programme; or
 - be aged at 18 or above and complete Form 5 study with at least 1 year's relevant work experience plus interview, if required.

\$ HK\$22,600 per year
Application Fee: HK\$150

D 1 year

E English, supplemented with Cantonese

Q Level 2 (Reg. No.: 10/000431/2) Validity Period: 03 Jun 2010 - on-going

See legend on page 031 圖像說明於第031頁

R Minimum Entry Requirements 基本入學要求 (P.017)

\$ Fee 學費

D Duration 修業期

E Medium of Instruction 教學語言

Q Qualifications Framework 資歷架構

E Exemption 豁免

S Short Course 短期課程

For more and latest programme information, please visit our website
有關最新課程資訊及詳情，請瀏覽學院網站 hkuspace.hku.hk

Certificate in Applied Machine Learning

Programme Code: IT104A

Application Code: 2365-IT104A



2587 3233

hmh.tang@hkuspace.hku.hk

The programme aims to equip students with the knowledge to design, build and deploy Machine Learning (ML) solutions for given problems on a cloud platform. Students will learn the basic functions of cloud computing platforms, fundamental concepts in programming and ML concepts.

- R** Applicants shall:
- hold the "Foundation Certificate in Cloud Computing Architecture" awarded within the HKU system through HKU SPACE; OR
 - hold a Certificate in IT related discipline; OR
 - be aged at 21 or above with at least 2-year relevant work experience.
- Applicants with other equivalent qualifications will be considered on individual merit.

\$ HK\$15,000
Course fee with credit exemption: HK\$12,000
Application Fee: HK\$150

D 6 months to 12 months **ECP** English, supplemented with Cantonese

Q Level 3 (Reg. No.: 22/001010/L3) Validity Period: 01 Dec 2022 - on-going

Foundation Certificate in Cloud Computing Architecture

Programme Code: IT061A

Application Code: 2275-IT061A



2587 3210

csb.lam@hkuspace.hku.hk

The cloud computing market in Hong Kong continues to grow since 2016. With the maturity of cloud computing architecture, foundation and technologies. The adoption of cloud technologies keeps increasing. Many Hong Kong enterprises have realized the advantages of cloud. They are willing to leverage cloud services to boost their business performance and to create innovative service offerings. With the increasing volume of data will be stored on clouds, there is a strong demand for cloud computing technology professionals in Hong Kong.

- R** Applicants shall:
- 1) Have completed Senior Secondary Curriculum and gained Level 2 in English Language in the DSE Examination; OR
 - 2) Have completed Secondary 5 education and gained Level 2 (obtained in or after 2007) or Grade E (obtained before 2007) in English Language in the HKCEE.
- Applicants with other equivalent qualifications will be considered on individual merit.

\$ HK\$6,600
Application Fee: HK\$150

D 2 months to 3 months **ECP** English, supplemented with Cantonese

Q Level 2 (Reg. No.: 18/000100/L2) Validity Period: 03 Apr 2018 - on-going

Certificate for Module (AI Robotics and Vision Programming)

Programme Code: IT082A

Application Code: 2335-IT082A



2587 3210

csb.lam@hkuspace.hku.hk

This programme introduces the history of Artificial Intelligence (AI) and Robotics and the concepts, theories and algorithms of machine learning. Students would learn how to control a robot to recognise objects, navigate around and avoid collision with objects by using computer vision programming.

After completing this programme, students can pursue further study or professional training in the advanced area of AI and robotics vision.

- R** Applicants shall:
- 1) Have completed Senior Secondary Curriculum and gained Level 2 in English Language in the DSE Examination; OR
 - 2) Have completed Secondary 5 education and gained Level 2 (obtained in or after 2007) or Grade E (obtained before 2007) in English Language in the HKCEE.
- Applicants with other equivalent qualifications will be considered on individual merit.

\$ HK\$9,000

D 1 month to 2 months **ECP** English, supplemented with Cantonese

Q Level 3 (Reg. No.: 21/000248/L3) Validity Period: 01 May 2021 - on-going

Certificate for Module (Agile Project Management and Practice)

Programme Code: IT077A

Application Code: 2275-IT077A



2587 3227

sp.wong@hkuspace.hku.hk

This programme would introduce the concept and methodology of Agile project management. The programme would also emphasize the key components in Agile project management framework and how Agile can apply to software project development.

- R** Applicants shall:
- (1) a) possess a Degree in a IT related subject with at least 2 years of project development or project management experience; OR
b) possess Professional membership status of a IT industry professional organization AND
 - (2) provide evidence of English proficiency (if the degree or equivalent qualification is from an institution where the language of teaching and assessment is not English), such as
a) HKALE Use of English at Grade E or above; OR
b) HKDSE Examination English Language at Level 3 or above; OR
c) an overall band of 6.0 with no subtest lower than 5.5 in the IELTS; OR
d) a score of 550 in the paper-based TOEFL, or a score of 213 in the computer-based TOEFL, or a score of 80 in the internet-based TOEFL; OR
e) equivalent qualifications
- Applicants with other equivalent qualifications and relevant work experience will be considered on individual merit.

\$ HK\$6,000 per programme
Application Fee: HK\$150

D 30 hours **ECP** English

Q Level 6 (Reg. No.: 20/000104/L6) Validity Period: 01 Apr 2020 - on-going

證書 (單元：基礎雲計算技術)

課程編號：IT101A

2587 3227

sp.wong@hkuspace.hku.hk

本課程旨在向學生介紹雲計算的概念，讓他們了解雲架構的基本知識，彈性計算機、網絡和雲存儲技術的操作與應用。

D 30小時

Q 資歷架構級別：2 資歷名冊登記號碼：22/000822/L2
資歷名冊登記有效期：2022年9月1日 - 持續有效

證書 (單元：雲計算元素)

課程編號：IT102A

2587 3227

sp.wong@hkuspace.hku.hk

本課程旨在向學生介紹雲計算的基本概念，讓他們了解雲計算的基本功能類型，操作模式，安全問題和不同的工具和技術用於雲環境的開發與操作。

D 30小時

Q 資歷架構級別：2 資歷名冊登記號碼：22/000812/L2
資歷名冊登記有效期：2022年9月1日 - 持續有效

Certificate for Module (Professional Examination Preparatory Course for CISA Examination)

Programme Code: IT046A

Application Code: 2275-IT046A

2587 3233

hmh.tang@hkuspace.hku.hk

This course aims to equip students with knowledge in information systems auditing and security in taking the Certified Information Systems Auditor (CISA) Examination of Information Systems Audit and Control Association (ISACA).

- R** Applicants shall hold an associate degree or a higher diploma awarded by a recognized institution or have 2 years relevant work experience.

\$ HK\$5,000

D 3 months to 4 months **ECP** English, supplemented with Cantonese

Q Level 3 (Reg. No.: 14/003537/L3) Validity Period: 04 Nov 2014 - on-going

Advanced Technology and Computing

先進科技及電腦運算

Managing IT Projects in Government

Programme Code: IMAT9147

S

☎ 2975 5887

✉ connie.wkc.cheng@hkuspace.hku.hk

The government is always one of the biggest customer spending billions of dollars on IT market every year. This 2-days workshop aims to provide useful and practical knowledge about managing IT project under the HKSARG environment. These series of workshops are designed for working professionals (especially those working on VENDOR side) who need to participate in HKSARG's IT project and want to deliver the result satisfactorily.

💰 HK\$2,250

D 15 hours

Preparatory Courses for BSc Computer Science (Machine Learning and Artificial Intelligence)

Programme Code: IMAT9151

S

☎ 2587 3223

✉ stephanie.ny.leung@hkuspace.hku.hk

With the BSc Computer Science (Machine Learning and Artificial Intelligence), students will be able to apply for a range of technical, problem-solving jobs in a rapidly growing area. Machine learning (ML) provides a means for computer systems to extract useful information from data. These techniques are widely used in the technology industry for a variety of applications, for example, recommending music and products to people, identifying faces in photos and predicting trends in financial markets. Companies and institutions are applying ML and AI (artificial intelligence) to a wide range of problems in business, finance, medicine, education, video games, engineering and science as well as new application areas such as music and other creative work.

Title	Programme code	Duration	Fee
Algorithms and Data Structures I	IMAT9149	12 hours	HK\$4,800
Discrete Mathematics	IMAT9150	12 hours	HK\$4,800
Fundamentals of Computer Science	IMAT9151	12 hours	HK\$4,800
How Computers Work	IMAT9152	12 hours	HK\$4,800
Introduction to programming I	IMAT9153	12 hours	HK\$4,800
Introduction to programming II	IMAT9154	12 hours	HK\$4,800
Numerical Mathematics	IMAT9155	12 hours	HK\$4,800
Web Development	IMAT9156	12 hours	HK\$4,800

Cyber Security

網絡保安

BSc (Hons) Computer Science (Cyber Security)

Programme Code: IT053F

NCR1

University of Plymouth, UK
Application Code: 2350-IT053F

☎ 2587 3223

✉ stephanie.ny.leung@hkuspace.hku.hk

Cyber security is now widely recognised as an international priority, with hacking, malicious code, and data theft being just three of the many reasons why its vital in the design, development and implementation of today's IT systems. Unlike traditional bachelor degree programme (BSc) in Computer Science, the BSc (Honours) Cyber Security program at the University of Plymouth is a hands-on degree program that prepares students for the dynamic world of cybersecurity. With a focus on practical experience, students will study topics such as security architectures, cryptography, security management, and computer forensics, as well as offensive security and ethical hacking. Graduates will be equipped to pursue various careers in cybersecurity, including information security analyst, cyber security engineer, network security architect, and cyber operations specialist.

- R** Applicants should:
- Hold an Advanced Diploma in Computer and Information Security or a Higher Diploma in Information Technology awarded within the HKU system through HKU SPACE; OR
 - Hold an IT-related Associate Degree awarded within the HKU system through HKU SPACE or a Higher Diploma or an Associate Degree in IT-related disciplines awarded from other tertiary institutions, recognized by University of Plymouth;
- If the above academic qualification is from an institution where the language of teaching and assessment is not English, applicants shall provide evidence of English proficiency such as:
- an overall band of 6.0 in the IELTS (with minimum component scores of 5.5 in all four components: listening, reading, speaking and writing); or
 - an overall score 76 or above in the TOEFL iBT (with minimum component scores of listening 17, reading 18, speaking 20, writing 18)
- * According to University of Plymouth regulation, mature students and applicants with other equivalent qualifications will be considered on a case-by-case basis.

💰 HK\$108,000 in four instalments (Year 2: HK\$45,000; Year 3: HK\$63,000)
Application Fee: HK\$150

D 2 years

🇬🇧 English

Advanced Diploma in Computer and Information Security

Programme Code: IT051A

Application Code: 2265-IT051A

CEP 4 Modules

☎ 2587 3256

✉ bobo.kung@hkuspace.hku.hk

Advanced Diploma in Computer and Information Security is a 20-month part-time programme designed for secondary school graduates who aspire to pursue a career in computer and information security.

This programme aims to enhance students' comprehension of fundamental concepts, principles, and theories in computer & information security, which has been spurred by the pervasive use of computer-based applications such as information systems, databases, and computer programming. Students are also given an understanding of computer system and architecture, access control mechanisms, cryptography algorithms, software security, physical security, security management and risk management as well as computer forensics.

- R** Applicants shall:
- have gained in the HKDSE Examination Level 2 in 5 subjects, including English Language; or
 - have gained in the HKALE Grade E in 1 AL or 2 AS subjects, and HKCEE Level 2 in English Language or equivalent; or
 - be aged at 21 or above with at least 1 year relevant work experience.
- 💰 HK\$48,000 paid in 3 instalments
Application Fee: HK\$150
- D 20 months
- 🇬🇧 English
- Q Level 4 (Reg. No.: 16/000264/L4) Validity Period: 07 Apr 2016 - on-going

See legend on page 031 圖像說明於第031頁

- R** Minimum Entry Requirements 基本入學要求 (P.017) **S** Fee 學費 **D** Duration 修業期
🇬🇧 Medium of Instruction 教學語言 **Q** Qualifications Framework 資歷架構 **E** Exemption 豁免 **S** Short Course 短期課程

For more and latest programme information, please visit our website
有關最新課程資訊及詳情，請瀏覽學院網站 hkuspace.hku.hk