Continuing and Professional Development (CPD) Courses on the MSc Programme in Electronic Commerce and Internet Computing

offered by the Department of Computer Science The University of Hong Kong (Issued by the Programme Office in December 2016)

Introduction

MSc(ECom&IComp) Programme

The MSc in Electronic Commerce and Internet Computing programme at the University of Hong Kong was the first of its kind offered in the Asia Pacific region. Established in 1999, it is a one-year full-time and two-year part-time programme designed for business executives, policy and decision makers, managers and information technology professionals to equip them with the latest knowledge and skills about technology development and business opportunities in electronic commerce on the Internet.

Enrolled students could choose from well over twenty core and elective courses which provide state-of-the-art knowledge about the fundamentals of e-business operation and challenge them to analyse past failures and future directions of the networked economy. The curriculum of such courses is reviewed after every round of teaching and enhanced for the next by the expert instructors drawn from the University of Hong Kong and other overseas institutions and from industries.

Opening up the MSc(ECom&IComp) courses for CPD

Our rigorous effort at maintaining the academic quality of our courses is so well known that the Programme Office has received, over the years, continuous enquires from our graduates and the public alike about the possibility of enrolment in single courses for continuing and professional development purpose. The Hong Kong government and professional bodies, as we all know, are also encouraging people to undertake further studies to develop their potentials and improve on their productivity. Therefore the Programme Management Team, after consulting the University, has decided to open up a number of selected MSc(ECom&IComp) courses for public and graduates enrolment.

CPD courses and CPD participants

Information about CPD courses and application for enrolment is published on the MSc(ECom&IComp) programme's website at http://www.ecom-icom.hku.hk.

- Candidates approved to take our courses as CPD courses are called occasional students but are treated as our regular students for the enrolled course in that they can attend lectures, laboratory and tutorial sessions, and be supplied with course materials. However, they will not be examined.

- A Certificate of Attendance signed by the Programme Director and stamped with the name of the Department of Computer Science by the Programme Office of MSc(ECom&IComp) will be awarded to participants who achieves at least 70% attendance.

- Unlike our regular students, CPD participants will not have access to the libraries, Computer Centre facilities and various services provided by the University of Hong Kong.

- No official student card will be issued.

Entrance requirements

- The minimum entrance requirement is a bachelor degree.

- Candidates will be admitted on their articulated keenness for continuous and professional development and on their own confident assessment of their ability to meet the pre-requisites and academic demands of the courses.

CPD course fees

(1) MSc(ECom&IComp) CPD course:
Normal course fee is HK$6,000 per course, and for the programme's graduates who are subscribed MEICOM alumni members, it is HK$3,000.

Note:

1. Course fees are not refundable.
2. CPD participants enrolled in the CEF reimbursable course are not eligible to apply for the Continuing Education Fund (CEF) as the CPD participants will not be assessed.

Enquiries

Enquiries should be directed to Miss Ellen Lam
Office: P3-02, Graduate House, The University of Hong Kong, Pokfulam Road, HK
Phone: 3917-1828 E-mail: ellen@ecom-icom.hku.hk

The MSc Programme in Electronic Commerce and Internet Computing

Department of Computer Science
The University of Hong Kong

CPD courses
Enrolment Form
Second Semester, 2016-17

If you are interested in enrolling in the CPD course(s) on offer*, please study the syllabus to ensure that they meet your needs and that you can handle the demands of the course in terms of pre-requisites and schedule.

Please complete and post the form below and the Personal Information Collection Statement to the Programme Office, enclosing a crossed cheque of the right amount to "The University of Hong Kong" and photocopies of your academic records by December 29, 2016. We will inform you by email, no later than January 3, 2017, the result of your application. Your cheque will be returned if we cannot offer you a place. Upon your acceptance of a place, to facilitate your studies, we will open a special HKU Moodle account for you to access the course materials.

Enquiries should be directed to Miss Ellen Lam
Office: P3-02, Graduate House, The University of Hong Kong, Pokfulam Road, HK
Phone: 3917-1828 E-mail: ellen@ecom-icom.hku.hk

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To: Programme Office
P3-02, Graduate House, The University of Hong Kong
Pokfulam Road, Hong Kong

Full Name, title:				
HKID No.:				
MSc(ECom&IComp) courses applied to enroll (please tick as appropriate):	**ECOM6024 Mobile and pervasive commerce**		**ICOM6042 Designing apps for smart mobile phones**	
Contact phone no.:				
Correspondence Address:				
Email address:				

*Appendix 1-2: Courses and Timetable

Education qualification(s)	
Working experience and current position:	
Are you a graduate of the ECom-IComp programme?	**No /** **Yes** **MSc(ECom&IComp) alumni ( )** **year of admission: degree: year of graduation:**
Reason(s) for wanting to enroll in the course(s)	
Fees enclosed	**(1) Alumni** **( ) MSc(ECom&IComp) course(s) x HK$3,000 = (HK$)** **(2) Others** **( ) MSc(ECom&IComp) course(s) x HK$6,000 = (HK$)**
Name & Signature:	
Date:	

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THE UNIVERSITY OF HONG KONG

Personal Information Collection Statement

1. This is a statement to inform you of your rights under the Personal Data (Privacy) Ordinance.

2. Personal information is provided by you as an applicant through the completion of application forms designated for various purposes, e.g. for admission to a programme of study, for an exchange programme, for hall admissions, and for provision of facilities or services. Data collected are used specifically for the purposes prescribed in the application forms and will serve

   a) as a basis for selection of applicants;
   b) as evidence for verification of the applicant's examination results, academic records and other information; and
   c) where applicable, as part of the applicant's official student records.

In the case of (c) above, information so incorporated into student files will be used for all purposes relating to the student's studies as required by the relevant regulations and procedures of the University.

3. Personal data will be kept confidential and handled by the University's staff members. The University may transfer some of the data to an agent or other persons appointed to undertake some of its academic and administrative functions.

4. Under the provisions of the Ordinance, you have the right to request the University to ascertain whether it holds your personal data, to be given a copy, and to apply for correction of the data, if deemed incorrect.

5. Applications for access to and correction of personal data should be made by using a special request form and on payment of a fee. Such applications as well as requests for information should be addressed to the Data Protection Officer, Registry, The University of Hong Kong.

Declaration

1. I have noted the general points pursuant to the Personal Data (Privacy) Ordinance.

2. I authorize the University of Hong Kong to use, check and process my data as required for my application.

3. I understand that upon successful application, my data will be a part of my student record and may be used for all purposes as prescribed under relevant rules and regulations as well as attendant procedures, so long as I remain student of this University.

4. I declare that the information given in support of this application is accurate and complete. I understand that any misrepresentation will disqualify my application.

Name

Signature _____

_____

Date _____

Appendix 1

ECOM6024 - Mobile and pervasive commerce

Instructor	Professor Norman Sadeh (sadeh@cs.cmu.edu)
Teaching assistant	Mr. Erwin Lau
Syllabus	With over 4.5 billion mobile phone users worldwide, new wireless and pervasive computing applications and services are changing the way enterprises interact with their customers and employees. The explosion in smartphone ownership along with the deployment of 4G networks is leading to a slew of new mobile applications and services. They range from mobile commerce services to wireless enterprise apps and mobile social networking apps, all the way to more futuristic Internet of Things and intelligent assistant solutions.
Objectives	The objective of the course is to introduce participants to the technologies, services and business models associated with Mobile and IoT Computing. It also provides an overview of future trends and ongoing research in this new and fast growing area.
Learning outcomes	1. Have a managerial understanding of the technologies of mobile and pervasive commerce as well as a practical understanding of the business, usability, security and privacy issues they give rise to. 2. Be able to evaluate critical design tradeoffs associated with different mobile technologies, architectures, interfaces and business models and how they impact the usability, security, privacy and commercial viability of mobile and pervasive computing applications and services.
Prior knowledge expected	Understanding of basic e-Commerce techniques and business models.
Topics covered *	Lecture 1: Context and Trends: The Forces Behind Mobile and IoT • Getting organized • Objectives of the course • Context and Trends: The Forces Behind Mobile and IoT • From i-Mode to the App Store: What are the ingredients for success in this space? • IoT: The Next Frontier – from health and fitness, to smart cities, smart homes and more Lecture 2: Mobile Internet Technologies, Mobile and IoT OSs, the Mobile Web, Mobile Web Development Environments, the Role of the Cloud • A Brief Managerial Overview of Mobile and Wireless Communication • A first managerial overview of Android, iPhone SDK, HTML5 and more • Understanding available sensors and external sources of contextual information • IoT Operating Systems • Understanding the importance of the cloud • A first look at usability considerations

- What does it all mean for application developers and businesses?

Lecture 3: Designing for Mobile and IoT Usage Scenarios

- Designing Mobile Internet Applications: Usability Challenges
- Results of recent mobile usability studies (e.g. native apps vs. web apps, impact of touch screens, mobile vs fixed)
- User-Centered Design Principles and Methodologies
- Mobile Usability Best Practices
- Case Studies

Lecture 4: Mobile & IoT Security

- Introduction to Lab Exercises
- A managerial overview of the unique security challenges associated with mobility
    - Physical threats
    - Network threats
    - Web-based threats
    - App-based threats
- The implications of Bring Your Own Device (BYOD)
- Mobile Device Management (MDM): How much can you control?
- IoT Security
- Securing the Mobile and IoT Users
- The importance and challenges of security awareness and training

Lecture 5: Mobile and IoT Applications Today

- Understanding prevailing and emerging business models
- A Closer look at the iTUnes App Store and Android Markets: Who makes money and how?
- Understanding Mobile Advertising
- Mobile health and fitness applications
- Mobile enterprise applications

Lecture 6: Mobile Payment Solutions & Location-Based Services

Mobile Payments

- Mobile Payment: Understanding the value proposition
- Mobile Payment: Understanding the design space and key business, security, usability, interoperability, and privacy tradeoffs
- Looking at different mobile solutions and understanding how they address the above tradeoffs

- We will look at and compare a number of different solutions

Location-Based Services

- Overview of positioning/location tracking technologies
- GPS, A-GPS, WiFi-based location tracking, hybrid solutions, combining 3-axis gyroscope and 3-axis accelerometer readings, etc.
- Overview of Location-Based Services (LBS)
    - Services, Technologies and Business Models
- Indoor navigation (malls, airports, corporations)
- Understanding mobility patterns and mining location data
- A first look at issues of location privacy

Lecture 7: Context Awareness & Intelligent Personal Assistants

- Context Awareness
- Revisiting the growing collection of APIs, cell phone based sensors and external sensors
- How much can we tell about the user's context today? The power of data mining
- Intelligent Personal Assistants: Understanding How Siri Works
- Google Now versus Siri
- Siri as the new mobile operating system
- Siri and mobile advertising

Lecture 8: IoT Today

- Mapping the IoT Landscape
- Smart Buildings
- Smart Cities and Urban Computing
- Smart Cars
- Wearable Devices
- Robots and Drones

Lecture 9: Mobile and IoT Privacy

- Understanding Privacy: Fundamental concepts
- Privacy: Understanding the legal and regulatory framework, including the Hong Data Privacy Ordinance, the EU Data Protection Directive and US regulatory system
- Privacy: Understanding the usability challenges
- Mobile Privacy: the complexity of the value chain
- Mobile privacy studies: Do users care? How much do they understand?

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Mobile privacy: understanding cognitive and behavioral biases
Mobile App Privacy: How bad is it? – A Customer's Perspective
Mobile App Privacy: Best Practices – A Developer's Perspective
IoT Privacy: Unique challenges & ongoing research

Lecture 10: Future Mobile & IoT Computing; Final Review & Closer Look at the Exercise

A Closer Look at the Exercises including Q&A
Selective Overview of Mobile and IoT Efforts in Industry and Academia
The emerging Internet of Things: Understanding the trends and the vision
The Internet of Things: understanding the pitfalls – including security, privacy and usability challenges
The Internet of Things and Big Data: What does it mean?
Looking at MIT's Sixth Sense Project
Review in Preparation for the Final Exam

* Tentative
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<tr><td>Teaching format</td><td>Ten 3-hour sessions including lectures and class discussions.</td></tr>
<tr><td>Course materials</td><td>There is no required textbook for this course. In general, the slides used in each lecture are the required material. At the end of each lecture, the instructor will provide a list of optional readings for students interested in more in-depth look at some topics.

For some lectures, the instructor will also provide one or two short article for students to read in preparation for discussions in class.</td></tr>
<tr><td>Session dates</td><td>
<table>
<tr><th></th><th>Date</th><th>Start Time</th><th>End Time</th></tr>
<tr><td>Session 1</td><td>10 Mar, 2017 (Fri)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Session 2</td><td>12 Mar, 2017 (Sun)</td><td>09:30</td><td>12:30</td></tr>
<tr><td>Session 3</td><td>12 Mar, 2017 (Sun)</td><td>14:00</td><td>17:00</td></tr>
<tr><td>Session 4</td><td>13 Mar, 2017 (Mon)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Session 5</td><td>15 Mar, 2017 (Wed)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Session 6</td><td>17 Mar, 2017 (Fri)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Session 7</td><td>19 Mar, 2017 (Sun)</td><td>09:30</td><td>12:30</td></tr>
<tr><td>Session 8</td><td>19 Mar, 2017 (Sun)</td><td>14:00</td><td>17:00</td></tr>
<tr><td>Session 9</td><td>20 Mar, 2017 (Mon)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Session 10</td><td>22 Mar, 2017 (Wed)</td><td>19:00</td><td>22:00</td></tr>
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Appendix 2

ICOM6042 - Designing apps for smart mobile phones

Instructor	Dr. Tat Wing Chim (twchim@cs.hku.hk)
Teaching assistant	Mr. Tony Kwan
Syllabus	Smart phones have dominated the technology market in recent years, led by the major brands of iPhones, Android and Windows phones. These increasingly powerful phones are supported by a whole range of applications (abbreviated to "Apps") developed and uploaded for commercial or free distribution by professional as well as aspiring programmers that a whole new worldwide market has sprung up. More and more of these apps have been specially designed and developed for corporations that they are now beginning to play an important role in e-business operations. This course introduces the design principles of these apps, their development, testing, and marketing as well as the technology platforms and programming languages for use on small screens. Hands-on practice is provided for students to gain confidence and some expertise, so that they can be on their way to exploit this new emerging career opportunity.
Objectives	This course aims at introducing the design issues of smart phone apps. For examples, the smart phone screen is usually much smaller than the computer monitor. We have to pay special attention to this aspect in order to develop attractive and successful apps. Different smart phone apps development environments and programming techniques (such as Java for Android phones and Swift for iPhones) will be introduced to facilitate students to develop their own apps.
Learning outcomes	On successful completion of this course, students should be able to: • understand basic mathematics and the use of proper data structures for smart phone apps development • analyze and design attractive smart phone apps based on different user requirements • implement smart phone apps using proper Integrated Development Environments (IDEs) • work comfortably on platforms such as iOS and Android
Enrolment counselling	1. Only students who know basic programming such as Java or C++ should enrol, otherwise they may not be able to follow the lectures or undertake the lab work. To review if you have sufficient entry skill, you will be asked to take a self-test before enrolment. 2. There will be a number of labs where you can learn how to programme Android apps and iOS apps, and you will be required to develop and present a smart phone app on either banking, finance, retail, entertainment, sports, games, news, weather, navigation, map or others. 3. The first two lectures will be made available here to non-enrolled students who wish to know generally about the subject for self-development purpose. 4. Students will find "ECOM6024 Mobile and pervasive commerce" a good course to study before or after this course.

Topics covered	**Part I: Design basics of smart mobile phone apps** Lecture 1: Introduction to mobile apps • Samples and features of mobile apps in various categories • Business importance of mobile apps • Key steps for mobile apps development • Evolution of the smart phones including Android phones and iPhones Lecture 2: Introduction to mobile apps development • IDE (Integrated Development Environment) • Cross-platform development: Titanium, Cocos2d, Unit • Console programming vs GUI programming • Audio, image and hardware considerations **Part II: Mobile apps development** Lecture 3, 4, 5: Java programming for Android apps • Programming techniques • Lab 1: Basic Java Programming • Lab 2: Programming a simple Android application Lecture 6, 7, 8: Xcode programming for iPhone apps • Programming techniques • Lab 3: Programming a simple iOS application **Part III: Advanced topics** Lecture 9: Mobile game design • Game design concepts • Lab 4: Programming a simple game using Unity Lecture 10: Mobile apps business • Testing of mobile apps • Publication of mobile apps • Security issues **Part IV: Presentation** Lecture 11: Project presentation in class *# Topics are subject to modifications*
Teaching format	• Lectures

<table>
<tr><td></td><td>Q&A on Moodle Discussion Forum
Four labs, some parts have to be completed at home
A study guide and schedule will be published on Moodle for your reference</td></tr>
<tr><td>Course materials</td><td>No prescribed textbook.
Reference material will be given after each lecture, some for advanced self-study.</td></tr>
<tr><td>Session dates</td><td>
<table>
<tr><th></th><th>Date</th><th>Start Time</th><th>End Time</th></tr>
<tr><td>Session 1</td><td>3 Jan, 2017 (Tue)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Session 2</td><td>6 Jan, 2017 (Fri)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Session 3</td><td>10 Jan, 2017 (Tue)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Session 4</td><td>17 Jan, 2017 (Tue)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Session 5</td><td>20 Jan, 2017 (Fri)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Session 6</td><td>24 Jan, 2017 (Tue)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Session 7</td><td>7 Feb, 2017 (Tue)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Session 8</td><td>10 Feb, 2017 (Fri)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Session 9</td><td>17 Feb, 2017 (Fri)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Session 10</td><td>21 Feb, 2017 (Tue)</td><td>19:00</td><td>22:00</td></tr>
<tr><td>Presentation</td><td>25 Mar, 2017 (Sat)</td><td>14:00</td><td>17:00</td></tr>
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