ISE101x Course Syllabus

**General information**

The business landscape is changing so rapidly that traditional management, business and computing courses alone do not meet the needs for the next generation of workers in the business world. Focusing on Knowledge Management, Big Data and Cloud Computing and with particular emphases on the intrinsic relationships and the collective power of these three fields, we help to prepare future knowledge workers for the new sources and processes of knowledge creation, the transition to a new mindset and the adoption of tools and systems to exploit opportunities in the new knowledge economy.

**Pre-requisite**

Nil. No prior technical background is required

**Expected efforts**

6-8 hours per week over 6 weeks

**Learning objectives**

This course is designed to offer learners an introduction to Knowledge Management, its applications in the business world, together with case studies. We also highlight to learners that in an increasing data-rich society, data serves not only in the derivation of new knowledge but also, in the Big Data era, massive data provide alternative paradigms for factual validations and predictive analysis. We would also like our learners to tackle a range of challenging projects by applying the learnt principles and techniques.

**Learning outcomes**

1. Understand the role of Knowledge Management (KM) practitioners in creating business value
2. Become familiar with the techniques and tools for capturing, processing, classifying and organizing knowledge
3. How to analyze large quantities of data and information through analytics
4. Understand the role of social media and technologies in innovating new business services
5. Apply the principles you have learnt to company-based business projects
Learning content and pedagogy

There are altogether 6 modules in this course. Each module has multiple sections. Every week a new module is released. Typically, for each module, there is an introductory video and then for each section, there is a series of videos, supplemented by suggested readings and quizzes.

Live sessions

Two live sessions have also been planned. Please see the course schedule below for the time and date (and then work out your local time and date). Your instructor(s) will come online to deliver mini-lecture(s), provide clarifications on assignments, and to answer your questions.

Grading Policy

Quizzes are used throughout the course for assessment. All questions carry equal marks. The passing mark is 70% (out of max 100). There is no weekly deadline for the assessment components. If you want your effort to be graded, you just need to complete them by 11:30 p.m. Tuesday, 18th Oct. 2016 (GMT/UTC).

Discussion

Students are expected to visit the discussion forum at least twice a week. Pre-populated discussion thread(s) on specific topics will appear in the discussion forum each week. Please observe forum etiquette in all your discussions.

Course Schedule

The following table is the course schedule. Any new information will be posted in the Course Updates & News in the Home section.

Academic Policy

All learners are required to abide by PolyU's standards of academic integrity. You may review it on pages 59-60 of the Student Handbook.
<table>
<thead>
<tr>
<th>Event &amp; time</th>
<th>Content</th>
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| **Week 1**  
(Sep 6th - Sep 12th) | Module 1: What is Knowledge Management?  
1.1 Introduction  
1.2 A Brief History of Knowledge Management  
1.3 KM Processes and Frameworks  
1.4 KM Tools and Practices  
1.5 Technical KM Tools  
1.6 Soft KM Tools  
1.7 KM Projects and Programs  
1.8 Relationship between KM and Big Data |
| **Week 2**  
(Sep 13th- Sep 19th) | Module 2 – KM Applications and Case Studies  
2.1 Taxonomy & Folksonomy  
2.2 Search Engines  
2.3 Portal  
2.4 Knowledge Audit for Unstructured Business Process  
2.5 Hong Kong Police KM Journey |
| **Week 3**  
(Sep 20th - Sep 26th) | Module 3 – How to leverage the cloud for collaboration and innovation?  
3.1 Introduction to Cloud Computing  
3.2 Cloud Services & Cloud-based KM Systems  
3.3 The Knowledge Cloud  
3.4 Human-machine Co-operative Problem Solving  
3.5 Cloud for Learning & the Future of Cloud Services |
| **First Live Session**  
1pm to 2:30pm  
22nd Sep 2016 (GMT)* | Mini-lecture(s), clarifications on quizzes, Q&A etc. |
| **Week 4**  
(Sep 27th - Oct 3rd) | Module 4 – What is open, structured & Unstructured Information?  
4.1 Web of Document (Un-Structured Data)  
4.2 Web of Data Structured Data – Linked Open Data  
4.3 Web of Data - Library Take-up |
| Week 5  (Oct 4th- Oct 10th) | 4.4 Semantic Technology  
4.5 Social Media  
4.6 Sentiment Analysis  
4.7 Science 2.0 |
|---------------------------|---------------------------------------------------------------|
| Module 5 – Business Innovation Design using Big Data Analytics and Case Studies  
5.1 GE Aviation  
5.2 Komatsu Mining Equipment  
5.3 Truck Fleet Systems  
5.4 John Deere Agri Service System & Precision Farming  
5.5 Alstom High Speed Train  
5.6 Wision Furniture Foshan, China |
| Week 6  (Oct 11th- Oct 18th) | Module 6 – From Data Warehousing to Data Science & Big Data  
6.1 The basics: Databases and Data Mining  
6.2 The Application lifecycle in On-line Business  
6.3 Analytics: BI, OLAP, and Advanced Analytics  
6.4 Classic Data vs. Big Data  
6.5 Principles of Data Governance  
6.6 The Hadoop Stack Ecosystem  
6.7 Analytics & Applications and case studies  
6.8 Advanced Topics in Big Data Analytics  
6.9 Conclusions and Lessons Learned |
| Second Live Session  
1pm to 2:30pm  
13th Oct 2016 (GMT)* | Mini-lecture(s), clarifications on quizzes, Q&A etc. |
| Certificate Date  
(For verified students) | Oct 21st, 2016 |

*Please check the Course Updates & News area in the Home section for the URL to join the live session