

City University of Hong Kong

Information on a Course
offered by Department of Information Systems
with effect from Semester A in 2012 / 2013

Part I

Course Title:	eBusiness System Integration
Course Code:	IS5314
Course Duration:	One Semester (13 weeks)
Credit Units:	3
Level:	P5
Medium of Instruction:	English
Prerequisites:	Nil
Precursors:	Nil
Equivalent Courses:	Nil
Exclusive Courses:	Nil

Part II

1. Course Aims

This course aims to introduce concepts and practical issues associated with integrating information systems and applications in organizations. Special emphasis is placed on identifying systems integration requirements, selection of appropriate technologies, and analyzing integration solutions.

2. Course Intended Learning Outcomes (CILOs)

Upon successful completion of this course, students should be able to:

No.	CILOs	Weighting (if applicable)
1.	Explain the concepts of SI, benefits & challenges of SI, and implications of different types of SI approaches	3
2.	Discover and creatively model internal and external SI requirements of an organization	3
3.	Select and justify suitable technologies (middleware) for a given set of SI requirements	2
4.	Critically analyze SI implementations identifying merits and limitations	2

3. Teaching and Learning Activities (TLAs)

(Indicative of likely activities and tasks designed to facilitate students' achievement of the CILOs. Final details will be provided to students in their first week of attendance in this course)

TLA1: Seminars

Concepts of systems integration, modeling of integration requirements and architectures, integration solutions, and best practices are discussed supplemented with selected case studies. Additional activities are used to reinforce and practice of various integration concepts and techniques using exercises, discussions and short presentations.

TLA2: Project work

Students would have to complete a group project requiring them to perform activities aimed at capturing integration requirements of an organization in business sector. The group project work will be submitted at different phases for review and comments by the instructor/tutors.

CILO No.	TLAs	Hours/week (if applicable)
CILO 1	Test, Project work, Presentations, Discussions	--
CILO 2	Seminars, Project work	--
CILO 3	Seminars, Project work, Term paper	--
CILO 4	Case studies, Presentations	--

4. Assessment Tasks/Activities

(Indicative of likely activities and tasks designed to assess how well the students achieve the CILOs. Final details will be provided to students in their first week of attendance in this course)

AT1: Class participation (15%)

AT2: Group project work – report (10%+15%)

AT3: Group project work – Presentation (10%+5%)

AT4: Term paper (25%)

AT5: Test (20%)

ILO No	AT1	AT2	AT3	AT4	AT5
CILO 1		2	1		2
CILO 2	1	2	2		
CILO 3		1	1	1	
CILO 4			1	2	

(1: Minor focus on the ILO; 2: Main focus on the ILO)

5. Grading of Student Achievement:

Refer to Grading of Courses in the Academic Regulations for Taught Postgraduate Degrees.

See attachments for the assessment details

Part III

Keyword Syllabus

Introduction to eBusiness systems integration

Integration Requirements & Architectures

- Modeling integration requirements
- Enterprise integration architecture
- Technical integration architecture
- Service integration architecture
- Information integration architecture
- Process integration architecture

Integration Solutions

- Application integration solutions and technologies
- Information integration
- Composite application integration
- Process-driven integration

Integration Strategy and Best Practices

- Integration strategies
- Best practices for enterprise integration

Recommended Reading

Text(s)

1. Beth Gold-Bernstein and William Ruth, Enterprise Integration: The Essential Guide to Integration Solutions, Addison-Wesley Professional, 2005 (Course textbook)
2. Dirk Krafzig, Karl Banke, Dirk Slama, Enterprise SOA: Service-oriented Architecture Best Practices, Prentice Hall PTR, 2005.
3. Thomas Erl, Service-Oriented Architecture: Concepts, Technology, and Design, Prentice Hall PTR, 2005.
4. Alex Berson and Larry Dubov, Master Data management and Customer Data Integration for a Global Enterprise, McGraw Hill, 2007.
5. Matjaz B. Juric, Benny Mathew, Poornachandra Sarang, Business Process Execution Language for Web Services: BPEL and BPEL4WS, Packt Publishing, 2004.
6. Markus, M. L., Paradigm Shifts - E-Business and Business/Systems Integration, Communications of the AIS, 4:10, November 2000.
7. Hasselbring, W., Information system integration, Communications of the ACM, 43:6, June 2000, pp. 32 – 38.
8. Linthicum, D., Next Generation Application Integration: From Simple Information to Web Services, 2003: Addison-Wesley Professional.
9. Trowbridge, D., et al., Integration Patterns. Patterns & Practices, 2004, Microsoft Press.
10. Hohpe, G. and B. Woolf, Enterprise integration patterns, 2004: Addison-Wesley Boston.
11. Umar, A., e-Business and Distributed Systems Handbook (Overview module and Integration module), NGE Solutions, 2003.

Related articles from journals and magazines (e.g., www.eaijournal.com, www.inteligenteai.com, Web Services Journal, etc.) and whitepapers from systems integration vendors.

AT1: Class Participation (15 marks)

SELF-EVALUATION OF CLASS PARTICIPATION

Name: _____ Student ID: _____

Directions: For each type of participation, please assign yourself a grade (A, A-, ..., C, C-, D) that you believe applies to you for that section. Then, please explain why you believe this is an appropriate grade for that section. Please type your comments right into the document (take as much space as you like) and print out the completed version of the evaluation for me. You must submit a hardcopy of your self-evaluation before/after the TEST in Week 13.

A. Attendance, Punctuality, and Preparedness (3 marks)

Grade A for this section indicates that you (a) have perfect attendance in both lecture and tutorial sessions; (b) have no late entries; and (c) have assignments (e.g., readings) completed thoughtfully ahead of time for every class.

My grade for this section: ____

My explanation for this grade:

B. Large-Group Participation (4 marks)

Grade A for this section indicates that you (a) regularly participate in large group discussions, activities, exercises and presentations; and (b) do so in a respectful, appropriate, and thoughtful way.

My grade for this section: ____

My explanation for this grade:

C. Small-Group Participation (8 marks)

Grade A for this section indicates that you (a) actively participate in small-group discussions, activities, exercises and presentations; (b) do so in a respectful, appropriate, and thoughtful way; and (c) engage in active listening while in small group.

My grade for this section: ____

My explanation for this grade:

Other comments about my Participation in the course:

AT 2: Group Project Work (25 marks)

We will assign randomly one of the six topics for each group in Week 2. Each group should have 3 to 5 students (group size 4 is preferred). The group project report (structure is provided below) should be submitted according to the following schedule:

- Week 8 – Interim Report: Overview and Integration Requirements sections [hardcopy must be submitted before the class begins]
- Week 14 - Final Report: All three sections (first two should be revised) [softcopy into Blackboard → Assignments → Group Report and, hardcopies of your marked interim report and final report in your instructor's mailbox at IS department]

Your tutor will provide feedback on your interim report. Interim reports will be marked with an expected grade and the final grade can go up 2 steps up (e.g., from a B+ to A; from a C to B-) depending on the revisions and improvements made.

Group Report Structure

1. Overview (6 marks) [3 to 4 pages]

1.1 Background_

1.2 Products and Services_

1.3 Systems Integration Drivers, Benefits and Challenges

2. Integration Requirements (10 marks) [6 to 8 pages]

2.1 Internal Systems (brief descriptions 8-10 lines)

2.2 External Systems (brief descriptions 8-10 lines)

2.3 Business Process Scenarios (one for each student in project team; description of major business processes which spread across multiple systems)

2.4 Integration Requirements Models (one for each student in project team using the modeling technique taught + one integrated requirements model)

3. Implementation Details (9 marks) [8 to 10 pages]

3.1 Enterprise Integration Architecture

3.2 Integration Technologies Suitable for Implementation

3.3 Implementation Designs (one for each students & it should correspond to requirements model)

AT3: Group Project presentation

Criteria	Wt.	A	B	C	D
Organization, Use of material; Coverage	8	<ul style="list-style-type: none"> - Well-structured and presented in a logical sequence, used time wisely - The group collectively covered all the major topics/issues. 	<ul style="list-style-type: none"> - Mostly structured, precise but parts may be unconnected to the rest of the presentation - The group collectively covered most of the topics/issues. 	<ul style="list-style-type: none"> - Somewhat structured but too much time spent on unimportant material. Disjointed sequence - A few of the individuals covered many of the topics/issues 	<ul style="list-style-type: none"> - Unstructured, strays from the subject. Much of the presentation out of logical order. Goes over time limit - The group presented the topics in such a manner that the audience could not follow/understand
Response to questions and comments	2	<ul style="list-style-type: none"> - The group collectively demonstrates full knowledge by answering all questions with explanation and elaboration 	<ul style="list-style-type: none"> - The group is at ease with expected answers to all questions, but fails to elaborate. 	<ul style="list-style-type: none"> - The group is able to answer only rudimentary questions 	<ul style="list-style-type: none"> - The group cannot answer questions about subject
<u>Individual</u> – comprehensibility, eye contact and elocution	5	<ul style="list-style-type: none"> - Clear and easily understood - Maintains eye contact with audience, seldom returns to notes - Uses a clear voice and modulation so that all audience can hear presentation 	<ul style="list-style-type: none"> - Mostly clear but some confusion in the presentation - Maintains eye contact most of the time, but frequently returns to notes - Voice is clear; most audience can hear presentation 	<ul style="list-style-type: none"> - Somewhat clear but leaves the listener a little lost. - Occasionally uses eye contact, but still reads most of report - Voice is low; audience have difficulty hearing presentation 	<ul style="list-style-type: none"> - Unclear and confusing. Not understood. - Reads all of report with no eye contact - Mumbles and speaks too quietly for students in the back of class to hear

AT4: Term Paper (25 marks)

- Term paper (8-10 A4 pages excluding appendices; Times Roman font size 12; single-spaced) should focus on a real-world systems integration in an organization. It is expected that you will use the organization for which you are working. If this is not possible, you can select any other organization from which you can gather relevant data. If you are currently not employed, your tutor will assign a different topic for the term paper.

- You are expected to interview a senior IT professional in that organization (using a structured template to be provided) for this purpose. Please remove all identifiable information from your term paper (give a different name to the organization and alter description if required).

Section Details:

1 - Executive summary (150-200 words)

Provide a complete summary highlighting integration requirements and your analysis

2 - Company overview (1 page)

Brief description of the business (gathered in the questionnaire), and its customers, suppliers, partners, etc

3 - E-Business systems description (2-3 pages)

Describe major systems functionality (the systems do not have to be web-based systems) and the IT environment they operate

4 - Description of major systems integration requirements and expected benefits (2 to 3 pages)

Contents for this section should be developed based on the data collected through the questionnaire; Include requirement, need and expected benefits (strategic, operational, technical)

5 - Analysis of implementation details (2 to 3 pages)

Elaborate implementation details (for the implemented integrations); Expand on why the other integrations were not planned or dropped; Provide your analysis on both the above (strengths/weaknesses/comments)

6 – Conclusion (1/2 page)

Data collected in interview (4 pages)

Include a scanned copy of the questionnaire in your submission (otherwise, the hand-written hard copy would be sufficient)

AT 5: Test (20 marks)

A 1-hour test will be conducted in Week 13 during your TUTORIAL SESSION.

The test will require you to answer about 10 to 15 short answer questions.