

**City University of Hong Kong
Course Syllabus**

**offered by Department of Information Systems
with effect from Semester A 2024 / 2025**

Part I Course Overview

Course Title:	eBusiness System Integration
Course Code:	IS5314
Course Duration:	One semester (13 weeks)
Credit Units:	3
Level:	P5
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: <i>(Course Code and Title)</i>	Nil
Precursors: <i>(Course Code and Title)</i>	Nil
Equivalent Courses: <i>(Course Code and Title)</i>	Nil
Exclusive Courses: <i>(Course Code and Title)</i>	Nil

Part II Course Details

1. Abstract

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)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

No.	CILOs	Weighting* (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	Explain the concepts of SI, benefits & challenges of SI, and implications of different types of SI approaches	35%			
2.	Discover and creatively model internal and external SI requirements of an organization	30%	✓	✓	✓
3.	Select and justify suitable technologies (middleware) for a given set of SI requirements	15%			
4.	Critically analyze SI implementations identifying merits and limitations	20%			
* If weighting is assigned to CILOs, they should add up to 100%.		100%			

A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

3. Learning and Teaching Activities (LTAs)

(LTAs designed to facilitate students' achievement of the CILOs.)

LTA	Brief Description	CILO No.						Hours/week (if applicable)
		1	2	3	4			
LTA1: Seminars	Students will learn the concepts of systems integration, modelling of integration requirements and architectures, integration solutions, and best practices 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.	✓	✓	✓	✓			
LTA2: 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.	✓	✓	✓	✓			

4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities	CILO No.						Weighting	Remarks
	1	2	3	4				
Continuous Assessment: 100%								
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%	
							100%	

5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

Applicable to students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
AT1: Class participation	Ability to collaboratively discover and creatively model internal and external SI requirements of an organization	High	Significant	Moderate	Basic	Not even reaching marginal levels
AT2: Group project work – report	Ability to explain the concepts of SI, benefits & challenges of SI, and implications of different types of SI approaches	High	Significant	Moderate	Basic	Not even reaching marginal levels
	Ability to collaboratively discover and creatively model internal and external SI requirements of an organization	High	Significant	Moderate	Basic	Not even reaching marginal levels
	Ability to select and justify suitable technologies (middleware) for a given set of SI requirements	High	Significant	Moderate	Basic	Not even reaching marginal levels
AT3: Group project work – Presentation	<i>Organization, Use of material; Coverage</i> <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. 	High	Significant	Moderate	Basic	Not even reaching marginal levels
	<i>Response to questions and comments</i> <ul style="list-style-type: none"> The group collectively demonstrates full knowledge by answering all questions with explanation and elaboration 	High	Significant	Moderate	Basic	Not even reaching marginal levels
	<i>Individual - comprehensibility, eye contact and elocution</i> <ul style="list-style-type: none"> Clear and easily understood 	High	Significant	Moderate	Basic	Not even reaching marginal levels

	<ul style="list-style-type: none"> Maintains eye contact with audience, seldom returns to notes Uses a clear voice and modulation so that all audience can hear presentation 					
AT4: Term paper	Ability to select and justify suitable technologies (middleware) for a given set of SI requirements	High	Significant	Moderate	Basic	Not even reaching marginal levels
	Capability to critically analyze SI implementations identifying merits and limitations	High	Significant	Moderate	Basic	Not even reaching marginal levels
AT5: Test	Ability to explain the concepts of SI, benefits & challenges of SI, and implications of different types of SI approaches	High	Significant	Moderate	Basic	Not even reaching marginal levels

Applicable to students admitted from Semester A 2022/23 to Summer Term 2024

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
AT1: Class participation	Ability to collaboratively discover and creatively model internal and external SI requirements of an organization	High	Moderate	Basic	Not even reaching marginal levels
AT2: Group project work – report	Ability to explain the concepts of SI, benefits & challenges of SI, and implications of different types of SI approaches	High	Moderate	Basic	Not even reaching marginal levels
	Ability to collaboratively discover and creatively model internal and external SI requirements of an organization	High	Moderate	Basic	Not even reaching marginal levels
	Ability to select and justify suitable technologies (middleware) for a given set of SI requirements	High	Moderate	Basic	Not even reaching marginal levels

AT3: Group project work – Presentation	<p><i>Organization, Use of material; Coverage</i></p> <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. 	High	Moderate	Basic	Not even reaching marginal levels
	<p><i>Response to questions and comments</i></p> <ul style="list-style-type: none"> The group collectively demonstrates full knowledge by answering all questions with explanation and elaboration 	High	Moderate	Basic	Not even reaching marginal levels
	<p><i>Individual - comprehensibility, eye contact and elocution</i></p> <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 	High	Moderate	Basic	Not even reaching marginal levels
AT4: Term paper	Ability to select and justify suitable technologies (middleware) for a given set of SI requirements	High	Moderate	Basic	Not even reaching marginal levels
	Capability to critically analyze SI implementations identifying merits and limitations	High	Moderate	Basic	Not even reaching marginal levels
AT5: Test	Ability to explain the concepts of SI, benefits & challenges of SI, and implications of different types of SI approaches	High	Moderate	Basic	Not even reaching marginal levels

Part III Other Information (more details can be provided separately in the teaching plan)

1. Keyword Syllabus

(An indication of the key topics of the course.)

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

2. Reading List

2.1 Compulsory Readings

(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)

1.	Nil
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2.2 Additional Readings

(Additional references for students to learn to expand their knowledge about the subject.)

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