



ISOM4740 Enterprise Resource Management Fall 2016

Department of Information Systems, Business Statistics &
Operations Management

COURSE: ISOM4740 Enterprise Resource Management (3-0-0:3)
This course introduces the basic concepts and practices of enterprise resource management. Popular enterprise resource planning software packages are used for discussing and building integrated business solutions.

Fall 2016

Time: Friday 3:00-5:50 pm

Venue: LSK-G021

INSTRUCTOR: Prof. Ronald S. Lau (rlau@ust.hk)
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Office hours: Friday 12:00 to 3:00 pm or by appointment

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TEXTBOOK: No required textbook; lecture notes and additional reading materials will be posted on Canvas.

GRADING POLICY: Final course grade will be determined by the following criteria and point distribution.

Participation	20
Case analyses	10
Lab exercises	10
ERP simulation games	10
Final exam	<u>50</u>
Total	100

Participation is determined primarily by class attendance (max 1 point per class day) and in-class participation (max 1 point per class day), after the drop/add deadline. You can also earn additional participation (top-up) points through some in-class exercises and the active use of Discussions on Canvas where points will be awarded according to the relevance, quality, and pattern of your postings. The maximum participation points will be 20 points for the term.

COURSE INTENDED LEARNING OUTCOMES:

1. Compare the strategic values and limitations of enterprise systems (PILO-1)
2. Discuss the basic concepts and practices of process-oriented management in a global, competitive environment (PILO-3)
3. Define the skills and knowledge to successfully implement an enterprise system in organizations (PILO-4)
4. Identify the new development of ERP software and applications for facilitating e-business (PILO-7)
5. Demonstrate examples of business process integration through the use of ERP core applications and modules (PILO-3, 7)
6. Identify the tangible benefits of enterprise integration for decision making using ERP in a simulated environment (PILO-3,7)

* Course goals are stated with matching PILO of the BBA-OM program.
(http://ihome.ust.hk/~bbaom/program/PILO_BBAOM_2014.pdf)

**SPECIFIC
KNOWLEDGE
AND SKILLS
DEVELOPED:**

By completing this course, you should be able to:

1. Describe the information systems evolution and its impacts on the development of ERP systems in global businesses as well as local small businesses.
2. Differentiate a business process from a business function.
3. Identify the kinds of data and information that each major functional area produces and needs.
4. Describe the benefits and limitations of system integration.
5. Compare and contrast different ERP architectures (including three-tier, web-based, and service oriented).
6. Explain why ERP system implementations often incorporate process redesign and industry best practices.
7. Construct a process flow diagram for major business processes.
8. Compare and contrast different enterprise system implementation strategies and processes.
9. Determine and analyze the total cost of ownership and vendor selection based on financial criteria such as net present value (NPV) and internal rate of return (IRR).
10. Describe how open source, SOA and SaaS will impact the future development of enterprise systems.
11. Describe the major functions and benefits of customer relationship management (CRM) and supply chain management (SCM) software, as an extension of ERP software.
12. Solve a material requirements planning (MRP) problem by determining the timing and quantity requirements for each material.
13. Perform proficiently an integrated business process involving sales and distribution, production planning and control, purchasing, warehouse management, and financial transactions using the ERP system.
14. Define the security, ethical, and legal issues related to ERP systems and their implementation.
15. Use basic reporting and analytical tools to analyze multidimensional data.
16. Demonstrate essential decision making skills in an ERP simulation game.

**ACADEMIC
INTEGRITY:**

Students at HKUST are expected to observe the Academic Honor Code at all times (see <http://www.ust.hk/vpao/integrity/> for more information). Zero tolerance is shown to those who are caught cheating on any exam. Any act of cheating in this course will result in a XF grade for the course. This XF grade will stay with your record until graduation. If you receive another XF or X grade, you will be dismissed from the University.

COURSE OUTLINE

<p>Class Day 1 September 2</p>	<p>Introduction</p> <ul style="list-style-type: none"> ■ Integrated business solutions ■ ERP markets and development
<p>Class Day 2 September 9</p>	<p>Contemporary Issues and Latest Development</p> <ul style="list-style-type: none"> ■ Open source ERP, SOA, and SaaS ■ Integration with SCM and CRM
<p>Class Day 3 September 23</p>	<p>Technology Enablers</p> <ul style="list-style-type: none"> ■ Enterprise system architectures ■ Relational database <p>Diagnosis of Business Process Problems</p>
<p>Class Day 4 September 30</p>	<p>Managing Business Process Change</p> <ul style="list-style-type: none"> ■ Business process reengineering ■ Modeling and automating business processes <p>Case Discussion</p> <ul style="list-style-type: none"> ■ Cathay Pacific (B): Implementing an integrated e-freight solution
<p>Class Day 5 October 7</p>	<p>Introduction to SAP</p> <ul style="list-style-type: none"> ■ SAP basic navigations ■ GBI dataset for homework assignments <p>Learning SAP-FI</p>
<p>Class Day 6 October 14</p>	<p>ERPsim Logistics Game (Platinum version)</p>
<p>Class Day 7 October 21</p>	<p>Enterprise Systems Implementation</p> <ul style="list-style-type: none"> ■ ERP implementation methodology ■ System selection and evaluation <p>Learning SAP-SD</p>
<p>Class Day 8 October 28</p>	<p>Case Discussion</p> <ul style="list-style-type: none"> ■ Bloom & Grow Asia (A): ERP strategy and planning <p>Learning SAP-MM and PP</p>
<p>Class Day 9 November 4</p>	<p>Case Discussion</p> <ul style="list-style-type: none"> ■ Bloom & Grow Asia (B): ERP selection <p>Integrated Business Process – 1</p> <ul style="list-style-type: none"> ■ Worksheet approach to MRP

Class Day 10 November 11	Integrated Business Process – 2 <ul style="list-style-type: none"> ■ Lab exercise 1: Master data ■ Lab exercise 2: Make-to-stock scenario
Class Day 11 November 18	Business Analytics <ul style="list-style-type: none"> ■ Analytics framework and technology, in-memory analytics ERP Reporting and Analytical Tools <ul style="list-style-type: none"> ■ Excel's pivot tables ■ Data visualization ■ BI exercises
Class Day 12 November 25	ERPsim Logistics Game (Extended version with business intelligence)
Exam Week	Exam

CASE DISCUSSION ASSIGNMENTS

The case assignment is done in group of no more than 4 students. Each group member should study the case first and then meet to discuss. On behalf of the group, a group representative will submit only one analysis (with names of all group members).

It is up to the group to divide the work to write a short analysis of about 2 pages long, single spaced between lines but double spaced between paragraphs. *Please note that all written assignments will be checked by Turnitin for plagiarism (including the extensive use of exact wordings in the case). Penalty will be imposed for any submission with a high similarity score.*

For each case, a list of suggested questions is given (below) but you don't really need to follow them exactly. You can organize your answer any way you think best. A submission link is provided in the "Case assignment" folder in Canvas for you to upload the analysis. Late assignment will not be accepted unless it is accompanied by a valid excuse.

Assignment 1. Cathay Pacific (B): Implementing an integrated e-freight solution

Due by September 30, 3 pm

- (a) How crucial was an integrated process and information sharing to Cathay Pacific's cargo operations?
- (b) What were the major roles of Cathay Pacific in introducing the e-freight process? How to overcome the challenges when implementing it?
- (c) Describe how Cathay Pacific's ultimate success in its air cargo business depended on an alignment of people, process, and technology.

Assignment 2. Bloom & Grow Asia (A): ERP strategy and planning

Due by October 28, 3 pm

- (a) For Bloom & Grow Asia, what specific reasons were presented to justify the first ERP implementation project? Did these reasons warrant an ERP implementation project?
- (b) What prompted the consideration of a second ERP implementation? Should Bloom & Grow upgrade its existing X2Pro system or replace it with a new one?
- (c) What other recommendations would you give Peter Deacon to ensure a successful implementation and deployment of ERP in the future? What were the major lessons learned in the previous two implementations?

Grading Criteria and Rubrics for Case Analysis

Name: _____

Evaluation summary (20 points each for each criterion for a total of 100 points per case)

Scoring rubrics	Well exceed expectation (19-20)	Exceed expectation (17-18)	Meet expectation (12-16)	Below expectation (0-11)	Score
Identification of the main issues and/or problems	Identify and understand completely all the main issues and problems	Identify and understand most of the main issues and problems	Identify and understand some of the main issues and problems	Identify and understand only few of the main issues and problems	
Analysis of the issues	Insightful and thorough analysis of all the issues	Thorough analysis of most of the issues	Superficial analysis of some of the issues	Incomplete analysis of the issues	
Comments on effective solutions or business practices	Well identified, reasoned and appropriate comments or proposal on solutions to all issues	Appropriate, well thought-out comments on solutions or proposal for solutions to most issues	Superficial and/or inappropriate solutions to some of the issues	Little or no action suggested, and/or inappropriate solutions to the issues	
Connection to theoretical frameworks or concepts	Effectively integrate other sources of knowledge and make insightful connections	Appropriate connections between most of the issues in the case and relevant theory	Appropriate connections between some of the issues in the case and relevant theory	Little or no connection between the issues in the case and relevant theory	
Use of language	Free of any grammatical or spelling error; good choice of words	A few grammatical or spelling errors; should have better choice of words	Some grammatical or spelling errors	Lots of grammatical or spelling errors	
<p>Total: Use the following ranges to reflect the overall performance. 96-100 (exceptional report writing and extremely effective); 90-95 (very good report writing and very effective); 80-89 (good and effective); 70-79 (acceptable and somewhat effective); 69 or below (weak and not effective).</p>					

Grading Criteria and Rubrics for Participation

Name: _____

Evaluation will be taken for each class day

Score	10	8-9	6-7	0-5
In-class participation (Level of engagement)	Come to class with an attitude to learn, well versed on the assigned readings and are able to ask and answer questions. Actively contribute to class discussion and share his/ her experience as well application of concepts.	Come to class with an attitude to learn and familiar with assigned readings and are able to ask and answer questions. Do not volunteer but are able to answer questions without any assistance.	Demonstrate a surface/minimum understanding of the assigned readings and are able to answer some questions. Can only respond if questions are repeated or when clarifications provided. <i>(Default = 6 points)</i>	Do not come to class with an attitude to learn and do not demonstrate any familiarity with assigned readings. Not able to answer questions. Appear to be distract or sleeping in class.
Class attendance	Attend all sessions (2 per class day) on time or not being late more than 5 minutes. <i>(Default = 10 points)</i>	Late by 5 to 15 minutes: 2 points deducted for each session Miss a session or being late more than 15 minutes: 4 points deducted for each session Miss class with or without a valid excuse: Various points deducted		
<p>Total: Use the following ranges to reflect the overall performance. 20 (exceptional participation in class); 18-19 (good participation in class); 16-17 (acceptable participation in class); 15 or below (not enough participation).</p>				