ISOM4740 Enterprise Resource Management
Winter 2024

Department of Information Systems, Business Statistics and 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.

Winter 2024
Class meeting: MWF, 2 to 5:20 pm, January 3 to 26, LSK-G001
Final exam: Monday, January 29, 2 to 4 pm, LSK-G001

This course will use a blended learning approach and you should review those lecture videos before/after class if needed. Class attendance and participation are expected for the best learning experience.

INSTRUCTOR

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TEXTBOOK

The instructor's text book, *Enterprise Systems for Digital Transformation*, is available in Canvas for your reference and further study. Other learning materials will be posted in Canvas.

GRADING POLICY

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

iPRS quizzes (best 4 out of 5)	20
Case analyses	10
Lab exercises	20
Final exam	50
Total	100

Each iPRS quiz needs to be completed in class on the date as indicated in the syllabus. There is no makeup quiz since we count only the best 4 out of the 5 scores. You can top up your iPRS quiz score with participation (max 5 points), which is determined primarily by your contribution to class discussions and/or the active use of Discussions in Canvas. The top up points will be awarded at the end of the term according to the relevance, quality, and pattern of your contributions. The maximum total points for the quizzes plus top-up participation will be 20 points for the entire term.

Case analysis will be due before class on the date the case is discussed in class. There will be a total of 2 case submissions of 5 points each. Format of the case analysis and the discussion questions can be found in the syllabus.

Please refer to the detailed instructions to complete the three lab exercises. Lab exercise #1 covers basic SAP applications of SD, MM and PP. Lab exercise #2 will give you an opportunity to apply what you have learned in an integrated process scenario. You will use the SAP reporting and analytical tools and Excel pivot tables to complete lab exercise #3 for decision making.

Final exam consists of short answer questions, quantitative problems, and critical thinking questions. Use of SAP is not needed during the exam. A study guide will be provided to help you prepare for the exam.

COURSE GOALS*

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 analytic tools and Excel. (PILO-3, 7)

** Course goals are stated with matching PILO of the BBA-OM program.*

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.

ACADEMIC INTEGRITY:

Students at HKUST are expected to observe the Academic Honor Code at all times (https://acadreg.ust.hk/generalreg.html for more information). Zero tolerance is shown to those who are caught cheating on any form of assessment and a zero mark will be given. In particular, any act of cheating on exam will automatically result in an F grade for this course. All written assignments will be screened by Turnitin for plagiarism and points will be deducted when the similarity index is considered high (e.g., more than 25%).

COURSE OUTLINE

	Conceptual / Managerial Topics	ERP Applications
Day 1 (W) January 3	**Introduction** ■ Integrated business solutions ■ ERP markets and development **Technology Enablers** ■ Systems integration ■ Enterprise system architectures ■ Relational database	
Day 2 (F) January 5	**Managing Business Process Change** ■ Business process reengineering ■ Modeling and automating business processes **Diagnosis of Business Process Problems** ■ Business process reengineering at ABC Inc.	
Day 3 (M) January 8 *iPRS quiz #1*	**Case Discussion** ■ Cathay Pacific (B): Implementing an integrated e-freight solution	**Introduction to SAP** ■ SAP basic navigations ■ GBI dataset for SAP lab exercises
Day 4 (W) January 10	**Contemporary Issues and Latest Development** ■ Open source ERP, SOA, and SaaS ■ Integration with SCM and CRM	**Learning SAP-FI** ■ For practice: FI
Day 5 (F) January 12 *iPRS quiz #2*	**Customer Relationship Management** ■ Types of CRM systems ■ Applications in marketing, sales, services	**Learning SAP-SD** ■ Lab exercise 1A: SD
Day 6 (M) January 15	**Supply Chain Management** ■ SAP APO and IBP ■ Applications in DP, SNP, PP/DS, ATP, TP/VS	**Learning SAP-MM, PP** ■ Lab exercise 1B: MM ■ Lab exercise 1C: PP
Day 7 (W) January 17 *iPRS quiz #3*	**Case Discussion** ■ Lenovo: Digital transformation for supply chain intelligence *Case analysis due before class*	*Lab exercises 1A to 1C due by today* **Integrated Business Process** ■ Worksheet approach to MRP
Day 8 (F) January 19	**Enterprise Systems Implementation** ■ ERP implementation methodology ■ System selection and evaluation	**Integrated Business Process** ■ Lab exercise 2A: Master data

Day 9 (M) January 22 *iPRS quiz #4*	**Case Discussion** ■ Bloom & Grow Asia (I): ERP strategy and planning *Case analysis due before class*	**Integrated Business Process** ■ Lab exercise 2B: Make-to-stock scenario
Day 10 (W) January 24	**Case Discussion** ■ Bloom & Grow Asia (II): ERP selection	**Integrated Business Process** ■ Lab exercise 2C: Review **SAP Reporting and Analytical Tools** ■ Lab exercise 3A: Reports and analyses in SAP ERP
Day 11 (F) January 26 *iPRS quiz #5*	**Business Analytics** ■ Types of business analytics ■ Analytics framework and technology ■ In-memory analytics	*Lab exercises 2A to 2C due by today* **Excel's Pivot Table** ■ Extracting transactional data from SAP ERP ■ Lab exercise 3B: Excel's pivot table
Day 12 (M) January 29	**Final Exam**	*Lab exercises 3A to 3B due by today*

WRITTEN ASSIGNMENTS

General information:

While here is no page limit for the case analysis, it should be about two pages long, single spaced between lines but double spaced between paragraphs. *Please note that all written assignments will be checked by Turnitin for plagiarism. Penalty will be imposed for any submission with a high similarity score.* To avoid receiving a high similarity score, please do not copy and paste the case assignment questions or extensive use of exact wordings in the case.

For facilitating your case analysis, a list of suggested questions are given (below) but you don't need to follow them exactly. You can organize your answer any way you think best. Make sure your analysis is concise (use of bullet points for the answers is allowed) and avoids repeating information that already given in the case. A submission link is provided in Canvas for you to upload the analysis. Late assignment will not be accepted unless it is accompanied by a valid (e.g., medical) excuse.

Assignment 1. Lenovo: Digital transformation for supply chain intelligence
Due before class

(a) How did the COVID-19 pandemic disrupt Lenovo's global supply chain?

(b) How could digital transformation help Lenovo achieve its higher performance targets even in the face of global supply chain disruptions?

(c) What organizational and technical challenges should Lenovo focus on and overcome for a successful implementation of the SCI framework across its supply chain?

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

(a) For Bloom & Grow Asia, what specific reasons were presented to justify the first ERP implementation project (NetSuite)? Did these reasons warrant an ERP implementation project?

(b) What prompted the consideration of a second ERP implementation (xTuple)? Should Bloom & Grow Asia upgrade its existing xTuple system or replace it with a new one?

(c) What recommendations would you give Peter Deacon as he was pondering what to do next? What were the major lessons he should have learned in the previous two implementations?