

Georgia Institute of Technology
Scheller College of Business
Business Process Analysis & Design (MGT 4057)

Instructor:	Professor Chris Forman	Semester:	Fall 2012
Office:	472 College of Business Building	Phone:	404-385-2064
Class Time:	12:05pm – 1:25pm TR	Email:	chris.forman@scheller.gatech.edu
Class Room:	Room 223	Office Hours:	11am–12pm TR and by appointment

COURSE OBJECTIVES

This is a course on business processes and the underlying software infrastructure that supports them. Although the concept of business processes is deceptively simple, the complexity lies in the details and the myriad of different ways in which companies structure these processes. In a modern organization, business processes are supported by a complex software infrastructure (partly procured and partly developed in-house) that interlinks, automates and increases their efficiency. The emphasis of this course is on this software infrastructure and its relationships to business processes and organizational structure, and how firms can manage these relationships most effectively.

While technology is the facilitator of business process and organizational change, our focus will not be on specific technologies or programming per se. Rather, our focus will be on the effective management of these technologies to help firms achieve competitive advantage. In particular, we will view information technology (IT) as a *general purpose technology* (GPT), and to make most effective use of this GPT managers must make complementary investments in process, organization, and employee training. Through better management of IT and its organizational complements, a firm can create *IT capabilities* that give it an advantage over competitors.

One component of this course is the use of an ERP simulation game. There are three primary objectives to the use of the game: (1) to understand how to use the transactional data in ERP systems to make better business decisions; (2) to develop a hands-on understanding of the concepts underlying enterprise systems; and (3) to experience the benefits of enterprise integration firsthand. You will be placed in a situation in which you must run a business using an actual ERP system (SAP R/3). Teams of five students will operate a firm and must interact with supplier and customer teams by sending and receiving orders, delivering products, and completing the whole cash-to-cash cycle. Using standard reports, groups must analyze the transactional data from ERP systems to make business decisions and ensure the profitability of their operations.

I want to emphasize that while you will gain an understanding of the SAP R/3 system, this course is not about SAP R/3 or ERP software. The intent of the course is not to make you SAP R/3 experts – we may merely use the R/3 system to illustrate the type of features available in ERP software. You will get a detailed understanding of SAP technology (as one piece out of many that make up the software infrastructure), but we will not focus on the “keystrokes” of using the system.

The course is innovative in several ways. It covers current and critical information that every businessperson needs to know, but the material is challenging because it is unstructured. There is no text for the course as none is available that adequately covers the topic. We will use Harvard Business School cases and readings to examine the technical issues within a business context. I have chosen the readings and cases carefully to illustrate each aspect of the software infrastructure. However, the nature of the material covered in the class requires you to go beyond the readings provided and search out additional information from the web and other sources.

The teaching format of the course will draw upon in-class lectures, case discussions, hands-on laboratories, and external guest speakers. We will cover the following modules in depth:

Module 1: IT-enabled process change within the enterprise

Module 2: Challenges of enterprise IT-enabled process change

Module 3: ERP in Practice: The Manufacturing Simulation

Module 4: Extending ERP: Business Intelligence and Recent Trends

In summary, the course prepares you for a variety of careers:

- IT or Supply Chain consultants who need to understand the tools available in the marketplace to support business processes
- Financial analysts focusing on the software/IT industry
- Systems analyst – a business professional who specializes in the integration of technology in the firm.
- Sales and Marketing professionals who focus on IT/Software products.

REQUIRED COURSE MATERIALS

1. Course packet available through Harvard Business School Publishing at <http://cb.hbsp.harvard.edu/cb/access/14235295>. We will be using case studies extensively in this course, and the case studies will all be included in the course packet.
2. Léger, P.-M., Robert, J., Babin, G., Pellerin, R., Wagner, B. « ERP Simulation Game Manufacturing Game: Participant's Guide», 2012-2013 Edition. This book will be purchased directly online from HEC Montreal. I will send you an email with additional details on how to purchase the book. The cost of the book is C\$40.00. This is an online simulation and your ability to participate will depend upon a completed purchase of the book. (Students who do not purchase the book will not be able to log on.)
3. A set of course materials available from the T-Square site for the course. Please DO NOT redistribute any material you downloaded from the T-Square site without written permissions of their respective copyright owners.

TENTATIVE GRADING SCHEME

Exam I	20 %
Exam II	15 %
4 Case Reports (Group)	20 %
Simulation Game (Group)	30 %
Class Participation & Case Discussion	15 %

ERP SIMULATION GAME

Each group will participate in the ERP simulation game. During each round (quarter), students will react to market conditions (and other competitors) in the game in real time. At the end of the course students will be required to make a 10 minute presentation that detailed their firm's strategies, what they did successfully, and what did not go as well. A series of self-readable slides should accompany this presentation. The deliverables for this game will be a set of decisions for each quarter and the presentation (including slides). Teams should also use transactional data for the ERP system to help guide their business decisions, and in the course you will be provided a set of tools and frameworks for making use of this data.

As noted above, the simulation game will account for 30% of your total course grade. That 30% will be determined as follows:

Submission of first quarter decisions of extended game	2.5%
Submission of master data entry	2.5%
Financial Performance in Simulation	10%
Simulation Game Strategy	10%
Final Presentation	5%

EXAMS

Exams will be closed book and will cover all reading assignments and material covered in class. There will be two exams: one given in-class during the semester and one given during the final exam period. All exams will be non-cumulative. Both exams will be 75 minutes in length.

CASE REPORTS

The cases form an important part of the class and will significantly influence your final grade. You are required to submit reports for 4 cases (CVS, CEMEX, Bombardier, Harrah's). Case questions will be distributed on T-Square. **Case reports must be a maximum of 4 single spaced pages, with additional material in appendices if necessary.** The report should answer the case questions, but you can point out other interesting issues not covered by the questions. Turn in your case reports to me electronically on T-Square. One report is required for each group. Please form your groups by Tuesday, August 28. I think the following approach will work very well for writing the case reports:

- Individually read the case and the questions given to you, followed by a short meeting (maybe 5 minutes after class) to decide on the information to be collected from the web and other sources
- Meet for one hour to discuss the questions, information gathered and the answers.
- Prepare the write-up and circulate via email

I grade the case reports on 3 dimensions:

- (a) The **quality of research** you have done to find support for your viewpoints – anyone can have an opinion, you need to back it up with research on the web, the library sites and other sources.
- (b) The **logical development** of your arguments – are your arguments carefully and logically developed or do they appear ad-hoc and not well thought through?
- (c) **Presentation** – how well you organize your reports. Do I have to read every word and decipher the key points hidden somewhere, or does your presentation facilitate my understanding of the arguments made.

CLASS/ COURSE PARTICIPATION

Your class participation grade will be determined based on preparation for case discussions and in-class participation.

Class participation is evaluated because active participation is mandatory if you expect to do well in this course. Class lectures will assume that reading assignments have been done. Students will be “cold called” to discuss questions (posted on **T-Square**) from the case. Please let me know before the start of the class if something has prevented you from being prepared for that class session. You are responsible for all of the materials covered in the lectures. Further, exams will include questions on materials covered in lectures but not in the readings. In the event of absence, you are responsible for obtaining notes and assignments from fellow classmates. Do not expect the instructor to provide this material on an individual basis.

Participation for the course will be evaluated on a ten-point scale. Students can earn an “A” for class participation simply by attending class and being attentive. Extra points can be earned for making quality in-class contributions, while disruptive behavior will result in point deductions. Disruptive behavior includes things such as talking in class, getting up to walk around, ringing cell phones, surfing on the web or any computer in the Trading Floor lab (unrelated to class activities) or any other behavior that would disturb your classmates. Unless instructed to allow network connection for your laptop, please turn off your cell phones, beepers, laptops, and other such equipment during class sessions, as it is most productive for us to be *offline and not connected* during class times.

Participation points will be awarded according to the following scale:

In class and making quality contributions	10 points
In class and making no contributions	9 points
Unexcused absence	5 points

In class but being disruptive
Arriving in class late

0 points
0 points

Attendance will be taken at the beginning of each class through a sign-in sheet. Late arrival to class will result in deductions for class participation. I understand that the College of Business is at some distance from the rest of campus and there may be unusual circumstances that may require you to be late once or twice during the semester. If that is the case for you and you are late, please let me know.

Teams

The case reports and the simulation game will be done in the same team with maximum size of FIVE. You can freely compose your own team. By the end of the Tuesday, August 28 please inform me of the composition of your team. A fair contribution to each submission of every team member is the team's collective responsibility. All work for the case write-ups and simulation game will be done by the same team.

Extra Credit Opportunity

There is an opportunity to earn one percentage point extra credit for the course. The local chapter of the America's SAP User Group (ASUG) has asked Georgia Tech to help them with their upcoming chapter meeting. These meetings have approximately 300 attendees and are a great place to network and learn about careers. Several companies who have attend these meetings have come and spoken to this class and have offered internships and full time positions to students. The meeting is on September 28 and will be at the Georgia Pacific Headquarters in downtown Atlanta. More details will be announced in class.

COURSE POLICIES

Exam Policies

1. Exams missed due to an excused absence must be made up within one week of returning to class for full credit or no credit will be given. Exams missed due to an unexcused absence may not be made up. Documentation proving the excused absence may be required at the time the exam is made up.
2. Students who miss any exam, assignment, or project presentation (for a valid reason) must make arrangements with the instructor to complete that work within one week of returning to class. Failure to do so will result in a score of zero. If you are unable to attend a scheduled exam, prior written notice must be provided to the instructor including the reason for the absence.

Assignment Policies and Quality Expectations

1. Assignments are due on the day announced at the beginning of class. Assignments handed in 5 minutes after class has begun, or handed into my mailbox or emailed to me after class has begun, will be considered late.

2. Any assignment turned in late but within 24 hours of the due date/time will receive half credit, after that no credit will be received unless previous arrangements have been made with the instructor.
3. All assignments must be typed. Spelling, grammar, and punctuation are important, and points may be deducted for errors.

The Georgia Tech Honor Code

The Georgia Tech Honor code applies to all aspects of the course. Plagiarism will be reported to the Dean of Students office. Please pay attention to following statements, which are quotes or adoptions directly from Georgia Tech's faculty guidelines ("checklist") for syllabus.

Plagiarizing is defined by Webster's as "to steal and pass off (the ideas or words of another) as one's own use (another's production) without crediting the source." If caught plagiarizing, you will be dealt with according to the GT Academic Honor Code.

"Unauthorized use of any previous semester course materials, such as tests, quizzes, homework, projects, and any other coursework, is prohibited in this course. Using these materials will be considered a direct violation of academic policy and will be dealt with according to the GT Academic Honor Code."

Thank you for respecting the Georgia Tech Honor code. Georgia Tech will further develop its reputation as a place for high standards and academic integrity. If you have any questions involving these or any other Academic Honor Code issues, please consult me or www.honor.gatech.edu.

Tentative Schedule
(may be adjusted by guest speaker schedules)

August 21, 2012

Topic: Introduction to course

Case: None

Readings: Syllabus

Module 1: IT-enabled process change within the enterprise

August 23, 2013

Topic: Process Redesign 1

Case: None

Readings: Reengineering Work: Don't Automate, Obliterate, *M. Hammer et al.*, Harvard Business Review (Reprint 90406), 1993.

August 28, 2012

Topic: Process Redesign 2

Case: None

Reading: Making Sense of Business Process Reengineering, *Loch, Christoph; Pich, Michael*, INSEAD, 1998 (Case No. 4750).

DUE: Decide on teams for case write-ups and simulation game.

In-class Exercise: Innov8 Business Process Management Simulation

August 30, 2012

Topic: Case Study: IT-Enabled Process Change

Case: Pharmacy Service Improvement at CVS (A) *McAfee, Andrew F.*, Harvard Business School Publishing, 2007 (9-606-015)

Readings: None

DUE: Case Write-up 1

September 4, 2012

Topic: Mapping Processes and Reengineering 1

Readings: None

Case: Value Chain and IT Transformation at Desko (B) *Pierre Hadaya, Robert Pellerin, and Jean Ethier*, Ivey School of Business Case W11079

September 6, 2012

Topic: Mapping Processes and Reengineering 2

Readings: None

Case: Value Chain and IT Transformation at Desko (B) *Pierre Hadaya, Robert Pellerin, and Jean Ethier*, Ivey School of Business Case W11079

September 11, 2012

Topic: Process Standardization

Case: None.

Readings: The Coming Commoditization of Processes, *Davenport, Thomas H.*, Harvard Business Review, Reprint R0506F.

In-class Exercise: Process Redesign Using the MIT eBusiness Process Repository

September 13, 2012

Topic: Enterprise Architecture and Your Operating Model

Readings: Ross, "Forget Strategy: Focus IT on Your Operating Model," MIT Sloan CISR Research Briefing, Vol. V, No. 3C, December 2005. (Available on T-square)

Case: The CEMEX Way: The Right Balance Between Local Business Flexibility and Global Standardization, Marchland, D., W. Kettinger, and R. Chung, IMD Case IMD-3-1341 (2005)

DUE: Case write-up 2

Module 2: Challenges of enterprise IT-enabled process change

September 18, 2012

Topic: ERP Systems – Functional and Technical Architecture

Case: None

Readings: None.

September 20, 2012

Topic: Process-Enabled IT—Implementation issues and organizational change

Case: None

Reading: Putting the Enterprise into the Enterprise System, *Davenport, Thomas H.*, Harvard Business Review, Reprint 98401.

Worthen, Ben, “Nestlé's Enterprise Resource Planning (ERP) Odyssey,” CIO Magazine, <http://www.cio.com/article/print/31066>

September 25, 2012

Topic: Implementing and deriving value from ERP systems

Case: Successfully Navigating the Turbulent Skies of a Large-Scale ERP Implementation, *Benoit Aubert, Simon Bourdeau, and Brett Walker*; HEC Case HEC035, 2012.

Readings: None

DUE: Case write-up 3

September 27, 2012

Topic: Evaluating the ROI of Enterprise Software Investments

Readings: None.

Case: The San Diego City Schools: Enterprise Resource Planning Return on Investment, Jeffrey, Mark, Kellogg School of Management Case KEL 174 (2006)

October 2, 2012 EXAM I

Module 3: ERP in Practice: The Manufacturing Simulation

October 4, 2012

Topic: Business Processes and Enterprise Systems: Quarter 1 of Simulation Game (Pricing)

Case: None

Readings Chapter 1 and Chapter 2 of Simulation Guide (Sections 2.1 through 2.4)

October 9, 2012

Topic: Enterprise Systems for Production: Quarter 2 of Simulation Game

Case: None

Readings: Chapter 2 of Simulation Guide (Section 2.5).

October 11, 2012

Topic: Enterprise Systems for Procurement: Quarter 3 of Simulation Game

Case: None

Readings: Chapter 2 of Simulation Guide (Section 2.6 - 2.8).

October 16, 2012 Fall Break

October 18, 2012

Topic: Financial Process in ERP Systems

Case: None.

Readings: Chapter 3 of Simulation Guide.

October 23, 2012

Topic: Planning, Procurement, and Production

Case: None.

Readings: Chapter 4 of Simulation Guide.

Module 4: Extending ERP: Business Intelligence and Recent Trends

October 25, 2012

Topic: Competing on Analytics: Business Intelligence 1

Case: Data Warehousing as a Strategic Tool at Bharti Airtel, *Ravi Bapna* and *Lakshmi Iyer*, Indian School of Business Case CS-08-001.

Readings: None.

October 30, 2012

Topic: Business Intelligence 2

Case: None

Readings: Data Mining 101 – Chapters 1 and 2 from Shmueli et al, **Data Mining for Business Intelligence**. (Available on T-square)

DUE: First Quarter Decisions of Extended Game Prior to Class

November 1, 2012

Topic: Using Transactional Data in ERP Systems to Make Better Decisions

Case: None

Readings: Chapters 5 and 6 of Simulation Guide

November 6, 2012

Topic: CRM Execution and Strategy

Case: Harrah's Entertainment Inc., *Lal, Rajiv*, Harvard Business School Publishing, 2004 (9-502-011).

DUE: Case write-up 4

November 8, 2012 Extended Manufacturing Game Simulation Quarters 2-3

November 13, 2012 Extended Manufacturing Game Simulation Quarters 4-5

November 15, 2012

Topic: Bryan Preston (Southwire) and Dan Lasiter (SAP)

Case: None

Readings: None

November 20, 2012

Topic: Master Data in ERP Systems

Case: None.

Readings: Chapter 7 of Simulation Guide (Section 7.1-7.2)

November 22, 2012 Happy Thanksgiving!

November 27, 2012

Topic: Clare Brown, The Coca-Cola Company

Case: None

Readings: None

November 29, 2012

Topic: Kedrick Daw (The Home Depot)

Case: None

Readings: None

DUE: Master Data Entry Due Prior to Class

December 4, 2012

Topic: Presentation of ERP Game Strategy to Board of Directors

Case: None

Readings: Class Handout

DUE: Simulation Game Presentations Due Prior to Class

December 6, 2012

Topic: Presentation of ERP Game Strategy to Board of Directors
Course Wrap-up

Case: None

Readings: Class Handout
