Syllabus for TECH 914: *Enterprise Technology for General Managers*

Kellogg School of Management, Northwestern University

Last update: December 11, 2006

Professor

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Course Info Web Site

All electronic readings and assignments. www.courses.northwestern.edu

Office Hours

If you have any questions about the material please call or come and see me. I am very happy to talk with you. My schedule is in meeting maker, but you can also email, phone, or just stop by.

Course Description:

As a Kellogg MBA graduate practically all of the initiatives you will manage or interact with will have a significant enterprise technology component. This course is designed to provide a sound foundation in essential enterprise technology and management issues. Topics covered include return on investment (ROI) for technology projects, risk and rewards of implementing new technologies, ERP deployment best practices, CRM selection, technology project and product management, outsourcing, IT portfolio management, and strategies for working with IT. Class lectures are complemented by nine case discussions (six are team assignments) on strategic and management issues of enterprise technology. TECH914 is the core requirement for the Technology Industry Management major. Students with exceptional enterprise technology experience may request a waiver by emailing their resume and a brief statement of experience to mjeffery@kellogg.northwestern.edu.

Frequently Asked Questions:

Q: Does TECH914 count as the required course for the TECH major? **A *YES***

Q: Are there any prerequisites for the class? **A: *No*.**

Q: Do I need technology industry experience to take this class? **A: *No***.

Course Outline

Week 1	**Introduction:** The information paradox and why IT matters Enterprise Technology Overview *Case Discussion: IT Challenges at Great Plains Bank and Trust (not a hand in assignment)* What do you need to know as a Kellogg MBA?
Week 2	**Technology Boot Camp**: (Optional session on bits, bytes, CPU's, bandwidth and networks) **Web Systems: Architecture and ROI** *Team Case Assignment: B&K Distributors – ROI for a Web Based Customer Portal* Infrastructure for e-business: scalability, modern N-tiered architectures, application servers Unix vs. Microsoft vs. Linux
Week 3	**Enterprise Systems** *Case Discussion: Cisco Systems - Implementing ERP (not a hand in assignment)* Enterprise Application Integration Cost and management issues: 5 9's, uptime tradeoffs, and disaster recovery
Week 4	*Team Case Assignment: San Diego City Schools – ERP ROI* A Value Class Framework for Enterprise Technology
Week 5	*Team Case Assignment: Asera – Strategic Positioning for Success* Build vs. buy vs. outsource decision making **Extending the Enterprise** Enabling Technologies: XML and the importance of standards Web 2.0
Week 6	**Enterprise Technology for Marketing** CRM, EDW, and MRM Harrah's Entertainment and Continental Airlines Case Examples
Week 7	*Team Case Assignment: Marketing @ Microsoft - The Value of Customer Perception* **Project Management and Product Development** Guest Speaker: Senior Consultant on Project Management (Tentative)
Week 8	*Case Discussion: Living on Internet Time - Product Development at Netscape, Microsoft, Yahoo!, and NetDynamics (not a hand in assignment)* **Outsourcing** Strategic Outsourcing
Week 9	*Team Case Assignment: Outsourcing at Office Supply* **IT Portfolio Management** Synchronizing IT investments with corporate strategy
Week 10	*Team Case Assignment: MDCM Case A and B* **IT Management Decisions** Strategies for non-technology managers working with IT Course Wrap up Final Exam Due By Tuesday 11:59 PM of Exam Week

Definition of 'Technology' for TECH914

'Technology' can have several definitions. In Tech 914 when we talk about Technology we will mainly refer to *information* and *communications* technology. Enterprise Technology for General Managers therefore refers to information and communications technology concepts and related applications for managers across large enterprises. Class time is limited and we will unfortunately not have time to discuss exciting developments in bio technology.

Course Goals

(1) Learn essential enterprise technology and be able to effectively communicate with a CIO, CTO, or a technology expert
(2) Understand future enterprise technology trends
(3) Understand technology management decision-making strategies and how to apply them in your career

TECH 914 Student Deliverables

Group Case Assignments

A case write-up is required for all the cases in the reading list labeled 'Case Assignment' in the syllabus reading list. Each case write-up should consist of not more than 2 pages of text and be not less than 10 point Times Roman or equivalent. You may have up to 3 pages of additional exhibits – graphs, Excel spreadsheets, etc. A hardcopy of the assignments is due in the class on the day the case is listed in the Reading List at the end of this Syllabus. Case questions are posted under Assignments. Your team will also be required to present cases to the class. These presentations will factor into your final case assignment grade.

Final Exam Case

The final case is an individual assignment. This case will be graded out of 100 points and will have the same format as all other cases. The individual final case is due anytime before 11:59 PM on Tuesday of the final exam week. Upload an electronic copy to your digital drop box on Blackboard course info – be sure to hit 'send to instructor'.

Peer Evaluation

In an effort to evaluate individual effort you are required to submit team member peer evaluations. The evaluation will be in a word document form uploaded to your drop box on the course info web site. The form is posted under Assignments to Blackboard Course Info. Please see the important note on the following page and the course info web site for the evaluation form.

Case Write-Up Expectations

Please think of the two page write-up as a document you would give to your CEO and board. Also note the disclaimer given with the questions; that just answering the questions is not necessarily the 'answer' to the case. The goal of all of these cases is for you to simulate being real managers, making real decisions, for real cases.

More specifically, a not so good write up would just list the questions and provide answers to each question. A good write up would be a coherent 2 page memo clearly articulating the management decision and the logic supporting the decision, along with the important management issues to consider. An excellent write-up would, in addition, articulate relevant management insights that are not obvious.

It is not necessary to include detailed background on the firm in your write up, only relevant background supporting your decision. Most important is that you make a decision – the great thing about the MBA program is that it is a place to safely learn, and the right or wrong answer is not as important as the process you used to come to the decision.

Grading Details

All assignments must be completed. None are optional. Course grading will comprise of the following:

% total grade	
30%	Class participation, attendance, and peer evaluations
45%	All group case write-ups and presentations
25%	Final Individual Case Assignment

Where possible, all assignments will be graded blind. Group assignments should have all team member names on the first page, and a group name of your choice.

While not graded, you are obligated to participate in TeamNet for peer evaluations.

Peer Evaluations

As a last assignment, you are required to complete a peer evaluation of your final project team members and a self-evaluation of your class participation. This evaluation is helpful for determining grades of students who are on the borderline between an A, B, or a C, and for assigning your class participation grade. Note that the peer evaluation is ***not*** anonymous. These evaluations are confidential, will not be shared with anyone, and will only be used by the professor for grading purposes. You may request to see your individual peer evaluations in the professor's office. All team member names will be deleted so you can see anonymous peer rating numerical scores and any comments pertaining to you.

Important Note: *All those who do not submit group peer evaluations to their Course Info drop box by 12:00 PM on the day of the final presentation will be penalized 10% of their grade.*

Other Important Information

Waivers
Students with exceptional enterprise technology experience may request a waiver TECH914 as the TECH major core requirement by emailing their resume and a brief statement of experience to mjeffery@kellogg.northwestern.edu.

Text
There is no assigned textbook for the class. The course pack should be available in the bookstore by the second week of the class, and the first two weeks reading assignments are all available on the course info web site. The case pack in the bookstore contains only copyrighted articles that are not available electronically. Most of the readings are available on the web or in pdf file format, and links to all these articles are posted on the Course Info Web Site.

Attendance Policy
Students are expected to attend all classes. An attendance sheet will be circulated during each class for students to initial; Students who miss more than one class will loose a letter grade. It is a violation of the Kellogg honor code to initial the attendance sheet for students not in attendance. Please let Prof. Jeffery know in advance if you will miss class for any reason. Most important, students should attend classes with guest speakers, since the speakers are senior executives who are graciously donating their time to visit Kellogg.

Auditing Policy
Kellogg students, spouses, significant others, and friends of the Kellogg community may audit this class providing there are seats. Auditing students must attend the class on time, and may not enter a class late or leave early. Auditing students may not participate in class discussions or ask questions.

Classroom Etiquette
Come prepared to ask and answer questions. **Please be on time**. Beverages and small food (bagels, muffins, etc.) are OK, but please be considerate of your classmates and refrain from consuming food that has noisy plastic wrappers, odors, etc. **Absolutely no laptops connected to the Internet.**

Midterm Evaluations
The format of the midterm course evaluation is an anonymous web survey and all students are encouraged to participate. Your constructive feedback is important and is appreciated. Note that your anonymous comments may be shared with the class when we review the feedback.

Tech 914: Enterprise Technology for General Managers Reading List

All of the Team Case Assignments and Kellogg cases are posted as pdf files on the Course Info page. Due to copyright issues, all HBS cases, HBS and SMR readings and book chapter readings are in the course packet.

For your reference: A glossary of network and computer terms is provided as the first reading in the course packet. You can also look up terms online at www.whatis.com

The following notation after each reading lets you know where to find the case or article:
[C] = In case packet
[CI] = On course info
[L] = Link to internet

Week 1
Course Introduction and Motivation

Part I
IT Doesn't Matter, Nicholas Car, Harvard Business Review, May 2003. pp. 41-49. [C]

The Digital Age Storms the Corner Office, Eric Wahlgren, Business Week, September 6, 2001
http://www.businessweek.com:/print/technology/content/sep2001/tc2001096_253.htm?mainwindow [L and C]

Beyond the Productivity Paradox, Erik Brynjolfsson and Lorin Hitt, Communications of the ACM, Vol. 41, No. 8, August 1998. pp49-55. *(A good review of the information paradox and related research results)* [C]

Part II
Case; IT Challenges at Great Plains Bank and Trust, Mark Jeffery and Scott Abbott, 2006. Case questions at the end of the case. [CI]

Technology Boot Camp: (Optional session on bits, bytes, CPU's, bandwidth and networks)

Date and time TBA

The Worldwide Web and Internet Technology, Technology Note, HBS 9-198-020, Nov. 5, 1998. [C]

Week 2
Web Systems: Architecture and ROI

Part I
Team Case Assignment: B&K Distributors – ROI for a Web Based Customer Portal. (Hand in Case Assignment and Presentation) [CI]

Return on Investment Analysis for E-Business Projects, Mark Jeffery, A chapter in the Wiley Internet Encyclopedia, 2004. *A review of finance principles and ROI.*

Part II
The Linux Uprising, J. Kerstetter, with S. Hamm and S. and J. Greene, BusinessWeek, March 3, 2003. **http://www.businessweek.com:/print/magazine/content/03_09/b3822601_tc102.htm?tc&sub=03linux** [L and C]

Week 3

Part I & II: Enterprise Systems

Managing by wire, Stephen H. Haeckel and Richard L. Nolan, Harvard Business Review, September-October 1993. [C]

Enterprise Resource Planning (ERP). Escalle, Cotteleer, and Austin. HBS Technology Note 9-699-020 [C] *(A good intro to ERP software –a must to read before the Cisco case)*

Cisco Systems, Inc.: Implementing ERP. HBS Case 9-699-022, November 7, 2001. *Case questions posted to Course Info under Assignments.* [C] (Not a hand in assignment, but a ***must read for the class discussion***)

Week 4

Part I:
Team Case Assignment: ROI for ERP at San Diego Public Schools . (Hand in Case Assignment and Presentation)

Part II:
Putting the Enterprise into the Enterprise System, Thomas H. Davenport, Harvard Business Review, July-August 1998. [C]

Week 5

Part I:
Team Case Assignment: Asera – Strategic Positioning for Success . (Hand in Case Assignment and Presentation) [CI]

Part II: Extending the Enterprise

To Sell Goods to Wal-Mart, Get on the Net, Ann Zimmerman, WSJ, B1, November 21, 2003 [C]

Your Next IT Strategy, John Hagel III and John Seely Brown, Harvard Business Review, October 2001, pp. 105-113. [C]

Week 6

Part I & II
Enterprise Technology for Marketing

A Framework for Customer Relationship Management, Russell Winner, California Management Review, Vol 43 No. 4. Summer 2001. [C]

Diamonds in the Data Mine, Gary Loveman, Harvard Business Review, May 2003 [C]

Avoid the Four Perils of CRM, D. Rigby, F. Reichheld, and P. Schefter, Harvard Business Review, February 2002. [C]

Why Is Marketing Resource Management Important to Campaign Management? Larry Goldman, *September 29, 2003.* http://www.destinationcrm.com/print/default.asp?ArticleID=3459 [L and C]

Week 7

Part I
Team Case Assignment: Marketing @ Microsoft - The Value of Customer Perception .(Hand in Case Assignment and Presentation) [CI]

The Balanced Scorecard – Measures that Drive Performance, Robert Kaplan and David Norton, The Harvard Business Review, January – February 1992, pp. 71 – 79. [C]

Part II: Project Management and Product Development

Guest Speaker – Senior Executive on Project Management (Tentative)

The Project Manager's Desk Reference - A Comprehensive Guide to Project Planning Scheduling, Evaluation and Systems, James P. Lewis, McGraw-Hill, 2000, Chapter 1. [C]

Week 8

Part I
Case: Living on Internet Time: Product Development at Netscape, Yahoo!, NetDynamics, and Microsoft, M. Iansiti and A. MacCormack, HBS Case 9-6967--52, June 30, 1999. [C] (not a hand in assignment, but a ***must read for the class discussion***)

Microsoft's Worst Nightmare, Tom Malik, Business 2.0, November 2004. [C]

Part II: Outsourcing

The Hidden Costs of IT Outsourcing, Olga Kharif, Business Week, October 27 2003. [C]

Transformational Outsourcing, Jane Linder, MIT Sloan Management Review, Winter 2004. pp. 52-58. [C]

Week 9

Part I
Team Case Assignment: Outsourcing at Office Supply. [CI] (Hand in Case Assignment and Presentation)

Part II: IT Portfolio Management

Best Practices in IT Portfolio Management, Mark Jeffery and Ingmar Leliveld, Sloan Management Review, Reprint 45309; Spring 2004, Vol. 45, No. 3, pp. 41-49.

Portfolio Approach to Information Systems, F. Warran McFarlan, Harvard Business Review, (59.5), September-October 1981, pp 142-150. *The first paper discussing Technology Portfolio Management. The article also gives a good framework for thinking about technology project risks.*

Week 10

Part I
MDCM Case A – IT Strategy Synchronization
MDCM Case B – Strategic IT Portfolio Management (Case A and B are a hand in team assignment and presentation) [CI]

Part II: IT Management Decisions

Getting IT Right, Charlie Feld and Donna Stoddard, HBR, February 2004. [C]

Six Decisions Your IT People Shouldn't Make, Jeanne Ross and Peter Weill, HBR, November 2002, pp85-91. [C]

Course Wrap Up

The final exam case assignment is due by 11:59 PM on Tuesday of the final exam week. Upload an electronic copy to your digital drop box on Blackboard course info – be sure to hit 'send to instructor'.

Books on various topics covered in this course

I am often asked by students to recommend a book so they can learn more. Unfortunately, I have not seen any good book that covers the breadth of subjects in this class, or that is designed to be accessible for a non-technical management audience. The following are some of the books on my bookshelf that relate to this class. I don't recommend buying any of them unless you have a burning desire to delve deeper than we cover in class. FYI I have added some comments that may help.

How Computers Work, Ron White, 6th Edition, QUE Corporation, 2002. *This is a fun picture book of how transistors, computers, and the internet works. Lots of pictures but not too much text.*

Inside the PC, Peter Norton, 6'th Edition, SAMS Publishing, 1995 (there is a new edition by now). *Norton is a true PC technology expert, and this is a good book for anyone interested in looking under the hood of their computer.*

Teach Yourself Networking in 24 Hours, Matt Hyden, SAMS Publishing, 1998*. This is a good book to learn about networking. It's a little technical but well written.*

Java 1.2 How-To, Steve Potts, SAMS Publishing, 1998. *One of the books I used to learn Java 1.2 – for programmers with some good examples in the later chapters on how to write applications that communicate over the Internet. For techies only.*

Enterprise E-Commerce, Peter Fingar, Harcha Kumar, and Tarun Sharma, Meghan-Kiffer Press, Tampa, Florida, USA, 2000. *This text does a fair job of discussing the technology and business implications of e-commerce technology.*

Enterprise Application Integration, A Wiley Tech Brief, Willian Ruh, Francis Maginnis, and William Brown, John Wiley and Sons, 2001*. Does a fair job of discussing EAI at a high level – so this book is definitely good for managers wanting to learn more.*

XML for Dummies, Ed Tittel and Frank Boumphrey, 2nd Edition, IDG Books, *2000. A very accessible book on XML. I recommend this for managers interested to learn more about XML.*

XML by Example, Benoit Marchel, QUE, 2000. *This book gets into the meat of how to use and program in XML. For techies only.*

Architecting Web Services, William Oellermann, Apress, 2001. *A technical book on Web services – however the first few and the last couple of chapters are very readable by the non-technical. The last chapter on the future directions of web services is pretty good.*