ISM 50 - Business Information Systems

Introduction

Guest Instructor: Patrick Mantey
Instructor: John Musacchio

UC Santa Cruz
9/25/2008
ISM 50 -

Course Parameters:

- Tuesdays and Thursdays 8-9:45
- Kresge 321
- WEB PAGE:
  - (write this down, go home, and bookmark it!)
  - http://www.soe.ucsc.edu/classes/ism050/Fall08

Instructor:
  - John Musacchio
  - Office: E2 557
  - johnm@soe.ucsc.edu
- TBA
ISM 50

TA

- Ning Bao
  - nbao@ucsc.edu
  - Office Hours:
    - TBA
What is this class about?

- Supply Chain Management (SCM)
More Examples

- Customer Relationship Management (CRM)
  - Other examples?
Business Process Example

Customer
- Order
  - Take Order
    - Enter Order
      - Credit Check
        - Check Stock
          - Print Packing list
            - Find Goods
              - Ship

Sales
- Finance
- Inventory Control
- Warehousing

Tell Mfg. to make order
A Streamlined Business Process

Customer

Order

Take Order

Enter Order

Credit Check

Automatic Credit Check

Finance

Inventory Control

Sales

Warehousing

Print Invoice

Find Goods

Ship

Print Packing list

Tell Mfg. to make order
A Reengineered Business Process

- Customer
  - Order
    - On web

- Sales
- Finance
  - Automatic Credit Check
  - Automatic Checking of Stock
- Inventory
  - Control
- Warehousing
  - Inform Mfg. to replenish stock

  - Print
    - Packing list
    - And invoice
    - Find Goods
    - Ship
Some Examples

- Supply Chain Management
- Customer relationship Management
- Inventory Control
- Transaction Processing
- ...

Enterprise Resource Planning
What is an information system?

- First let us answer: what is a system?
  - Interrelated components
    - Input
    - Processing
    - Output
What is an information system?

- **Information system**
  - A combination of people, hardware, software, networks...
  - that collects, transforms, and disseminates information in an organization.
What is information technology?

- It’s the technology you use to make an information systems
  - Computer Hardware, Software, Networks, etc...
Courses Objectives

- The objectives of ISM 50 are to understand
  - The needs of business
  - The role of information systems in supporting those needs
  - How information systems are designed
  - How information technology is evolving
  - How changes in technology can enable new ways of doing business.
  - How to conceptualize and analyze new technologies to solve business problems.
What it is **not**:

- **A programming class**
  - (Though some simple programming may be required for some assignments and/or projects)

- **A detailed focus in any particular technology.**
  - (A survey of IS technology landscape and its relation to business problems)
What is Information Systems Management (ISM)?

An exciting new discipline that combines engineering and management to address:

- **The Technology of Management**: the design and use of technologies to efficiently and profitably manage and operate any enterprise or company.

- **The Management of Technology**: how to develop, manage, and commercialize technologies/products (e.g., computers, networks, and software).
Information Systems Management / Technology & Information Management

Management of Technology (MOT)

- Address challenges in the creation / marketing/ support for high-tech products / services
- Manage portfolios of products and services with worldwide suppliers and business partners
- Information Intensive decision and operational contexts
- Complex systems
- Analytics
  - Couple economics and engineering / product decisions
  - Supply chain management
  - Resource allocation
  - Portfolio management
  - Service optimization

Technology of Management (TOM)

- Creation of Knowledge-Based
  - Services
  - Tools for Management
- Integration of disparate data sources
- Responsive to dynamic environments
- Major technology components:
  - Data Mining / Information Retrieval
  - Decision support
    - “sense making”
    - “cockpit”/“dashboard”
    - Distributed (global) contexts and participants
- Telecollaboration
- Databases / computer systems and networks
Coming Soon in ISM / TIM

- ISM minor
- Revised ISM B.S. degree requirements
- TIM Graduate Program
ISM 50 Course Pre-requisites

- No specific programming language knowledge required, though useful

- We will assume you know word-processing and PowerPoint
  - PowerPoint is easy to learn
  - We will assume you are motivated and eager to learn!
  - Come to class having done the reading!
What comes first?

- Do business needs drive the design of technology?
- Or does the technology drive the design of a business?
What comes first?

- Do business needs drive the design of technology?
- ...Or does the technology drive the design of a business?

- Both!
Course Organization

- Top Down (Roughly)
  - IT Terminology and IT History
  - Businesses and their needs
  - Technological Applications
  - Technology concepts
  - Important “building block” Information Technologies
    - Data Bases
    - Networks
- Case Studies Throughout
Our Textbook

- Author:
  - David Messerschmitt, Professor of EECS, UC Berkeley

- Focus on
  - Technological concepts in computing and communications.
  - Applications.
  - Top down organization, like our course

- Available now at Bay Tree Bookstore!
We also have a reader

The reader is available now at the Bay Tree Bookstore

The reader contains
  - Case Studies
  - Other Readings
Case Studies (in reader)

- Examples of Businesses using Information Technology
- Illustrates the concepts we learn in the class
- The case studies are mostly from the Harvard Business School
  - Designed to stimulate classroom discussion in MBA classes
Class Webpage

http://www.soe.ucsc.edu/classes/ism050/Fall08/

Contains
- Syllabus
- Assignments
- Instructor contact information
- Requirements for business paper, database project
- Exam dates
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<thead>
<tr>
<th>Class #</th>
<th>Date</th>
<th>Topics</th>
<th>Assignments</th>
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<tbody>
<tr>
<td>1</td>
<td>9/25</td>
<td>Class Introduction</td>
<td>Assignment 1 out</td>
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</table>
| 2      | 9/30   | IT History and Background          | IT Management from 1960-2000 (reader pp 1-26)  
Chapter 1 - Section II of O’Brien (reader pp 47-60)  
Project Preferences Due |
| 3      | 10/2   | Competing with IT, Cash Flows      | Chapter 2 - Section I of O’Brien (reader pp 69-77)  
Cash Flow Handout  
Assignment 1 due |
| 4      | 10/7   | Competing with IT (Cont’d)         | Chapter 2 - Section II of O’Brien (reader pp 78-90)  
Assignment 1 due |
| 5      | 10/9   | Business Processes,                | Frito-Lay Case (93-103 + figs)      |
| 6      | 10/14  | Applications, Information Access Terms | Messerschmitt Ch 2.3 (38-50)  
Messerschmitt Ch 3.1-3.3 (59-82)  
Folio Article 1 due |
| 7      | 10/16  | Applications (cont’d)              | Cisco Case (114-124 + figs)        |
| 8      | 10/21  | E-commerce                         | Messerschmitt Ch 3.4-3.6 (83-98)  
Alibris Case (133-143 + figs)  
Business Paper Proposal Due |
| 9      | 10/23  | IT Concepts                        | Messerschmitt Ch 4 (107-132)       |
| 10     | 10/28  | Client Server Computing            | Messerschmitt Ch 5 (139-154)  
Sun-N Tier Case (145-164 + figs)  
Business Paper Proposal Due |
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<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Notes</th>
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<tr>
<td>11</td>
<td>10/30</td>
<td>Modularity and Layering</td>
<td>Messerschmitt Ch 6 (157-190)</td>
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<tr>
<td>12</td>
<td>11/4</td>
<td><strong>MIDTERM EXAM</strong></td>
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<td>13</td>
<td>11/6</td>
<td>Computer and Comm. Industry</td>
<td>Messerschmitt Ch 7 (198-226)</td>
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<td><strong>11/11</strong></td>
<td><strong>Veterans Day Holiday</strong></td>
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<td>14</td>
<td>11/13</td>
<td>Database Management</td>
<td>Messerschmitt Ch 11.1 - 11.2 (325-335)</td>
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<td>Messerschmitt Ch 15.1 - 15.2 (415-425)</td>
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<td>15</td>
<td>11/18</td>
<td>Database Management Cont’d</td>
<td>MySQL Database Case (179-199 + figs)</td>
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<td>16</td>
<td>11/20</td>
<td>Networking</td>
<td>Messerschmitt Ch 18 (493-512)</td>
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<td>17</td>
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<td>Networking (Cont’d)</td>
<td>Akamai Case (213-228 + figs)</td>
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<td><strong>11/27</strong></td>
<td><strong>Thanksgiving Holiday</strong></td>
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<td>18</td>
<td>12/2</td>
<td>Applications and the Organization</td>
<td>Messerschmitt Ch 9 (273-289)</td>
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<td>Folio Article 3 due</td>
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<td>19</td>
<td>12/4</td>
<td>Application Architecture Wrap Up, Final Review</td>
<td>Messerschmitt Ch 10 (293-321)</td>
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<td>Business Paper Due</td>
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<td>12/10 (Wed.)</td>
<td><strong>FINAL EXAM</strong></td>
<td><strong>Time: 12-3pm</strong></td>
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## Evaluation (posted on web page)

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<thead>
<tr>
<th>Item</th>
<th>Due Date</th>
<th>Value</th>
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<tr>
<td>Participation</td>
<td>Each Class</td>
<td>10%</td>
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<tr>
<td>Pop Quizzes</td>
<td>3 per qtr.</td>
<td>5%</td>
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<tr>
<td>Oral Presentation or Folio</td>
<td>assigned</td>
<td>5%</td>
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<tr>
<td>Weekly Assignments</td>
<td>Each week</td>
<td>10%</td>
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<tr>
<td>Business Paper Proposal</td>
<td>Oct 21</td>
<td>5%</td>
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<tr>
<td>Midterm</td>
<td>Nov 4</td>
<td>15%</td>
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<tr>
<td>Database Assignment</td>
<td>Nov 25</td>
<td>10%</td>
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<tr>
<td>Business Papers Final</td>
<td>Dec 4</td>
<td>20%</td>
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<tr>
<td>Final Exam</td>
<td>Dec 10</td>
<td>20%</td>
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EXAMS and Quizes
Exams

- **Midterm**
  - Probably Nov 4

- **Final**
  - December 10

- Closed book

- A mix of short answers and 1 or 2 essays

- One or two analytical questions
Pop Quizzes

- 3 quizzes, unannounced times
- Simple questions pertaining to the reading assigned for that day
- Only your top 2 quizzes will count
- 5% of your overall grade
Participation
Participation

- We will have a lot of classroom discussion over the course of the quarter.
  - especially when we read case studies!
- This is an opportunity for you to
  - think through ideas.
  - give feedback.
  - learn from your classmates.
- We will evaluate your participation.
Classroom Participation

- You earn 1 participation point in each class session in which you make an intelligent comment.
  - Participating more than once in a class session is encouraged, but does not earn more points.

- For full participation credit, you need to earn 8 participation points over the quarter.
Participation

- **In Summary...**
  - You need 8 participation points to get full credit.

- Participation is 10% of your overall grade.
ORAL PRESENTATION and NEWS FOLIOS
Presentation/Folio

You will be assigned *either*

- Presentation
- News Folio
Oral Presentations

- 5 minutes in length
- Assigned to present **one** of the following:
  - Summary of the case study we will discuss in class that day.
  - Recent news story involving business and information systems.
  - Your group’s business paper project

- PowerPoint Presentation.
  - **E-mailed to me by the night before**
Presentation Evaluation

- **Content of presentation**
  - Did the case summary outline the most important aspects of the case study?
  - Was the news story relevant, and furthermore where the points most relevant to the class discussed?

- **Delivery:**
  - Organization
  - Voice Articulation
  - Professionalism
  - Timing
  - Eye Contact
  - Enthusiasm
Presentation Tips

- Ask the following question: Who is my audience and what is my major message?

- Don’t try to say too much for five minutes

- Avoid jargon – explain technical concepts with simple examples.

- Avoid reading
- Act interested!
• Folios

There are too many of you to have everyone give a presentation 😞

Those who are not assigned a presentation will do a “news folio.”

Task:

- Collect 3 news articles that are relevant to the class
- print/copy them
- For each article, write a 200 word description of how the article relates to issues discussed in class.

Due dates:
- Article 1 - 10/14
- Article 2 - 11/6
- Article 3 - 12/2
You will be assigned *either* a news folio or an in-class presentation.

In either case this will be worth 5% of your grade.
Need Presentation Volunteers!

- Tuesday 9/30: Two News Stories.
- Thursday 10/2: Two News Stories.

The rest of this quarter's presentation assignments will be announced next week.
BUSINESS PAPER
Business Analysis Paper

- Write a paper about a company of your choice.
- Pick a company for which information systems played a key roll in making that company successful
  - How did information systems help make the company successful?
- Paper Organization
  - Up to your group (Work in groups of 3 to 4)
  - chronologically, by topics, or some combination of both.
Business Analysis Paper

- The paper should answer questions like:
  - What industry does the company compete?
  - What is the competitive environment like?
    - “Porter model” (competitors, substitute products, buyers, suppliers, new entrants...)
  - How did your company use IT to gain a competitive advantage?

- (Detailed guidelines are posted on the website)
How did the company use IT to support or enable its business processes and competitive strategies?

- What technologies in particular did it use?
- How much of the company’s success do you attribute to its use of IT and/or the company’s early adoption of IT into their business processes?
Citing Sources

- Plagiarism is illegal and cheating and will not be tolerated!!!
- More than thirty words verbatim must be cited.
- Any facts or figures that are not your own must be cited.
  - Ebay’s revenues in US Revenues in 2002 were $1.39 billion [1].
"Semiconductors have found a place in virtually every electronic device in existence. This helps explain why the industry was able to reach $200 billion in sales before a slump brought the figure back down in 2001" [1].

End Note:

Citing Sources

- The easiest way to lose points on your paper is to not cite sources!

- *Guide on class website will be posted soon to help you cite your sources correctly.*

- Talk to the TA or instructor if you have questions.
Suggested sources of Information

- Company website
- 10K report
  - (This is the annual report public companies file with Security and Exchange Commission.)

- ABI/Inform article database
  - A database of articles from magazines like “Business Week” and economics journals.
  - Find it at: http://library.ucsc.edu
  - Click on “article database” on left margin.
  - Click on “ABI/Inform”
  - Try this tonight! And let us know if you have problems

- Industry specific publications
  - Example: Aviation Week

- Books

- Good Magazines (The Economist)

- Consulting groups: Forrester, Gartner, ...
You are encouraged to try to form your own groups.

However, we want a mix of
- Engineers and non-engineers
- Experience levels

So, we may modify the groups.

As a group, turn in 3 things:
1. List of your proposed group members.
2. List of companies you would like to study.
3. Suggested person to do the 5 minute presentation on your group’s project.

If you don’t have someone in mind to work with, turn in the above 3 things as an individual.
Business Analysis Paper Preferences
Due Tuesday Sept 30th!

At least two of your preferred companies must be from this list:

- Southwest Airlines
- Federal Express
- Home Depot
- Wal-Mart Stores
- Charles Schwab
- Amazon. COM
- EBAY. COM

With your preferences in mind, we will make the final company assignments to the groups.
As a group write a 2-3 page description of what you plan to investigate in your business paper!

Show that you’ve done some research!

Cite some facts, and some technologies and or strategies that you’ve heard about the company that you would like to investigate further.

Remember to cite your sources properly!!!!

PROPOSAL DUE October 21st.
Assignments
Database Assignment

- Learn and Use database software

- An opportunity for “hands-on” experience without having to use advanced programming.

- Assignment will be done individually

- We will give you the details of the assignment sometime after the midterm.

- Database Tutorial later in the quarter

- 10% of your grade
Weekly Assignments

- Approximately once every week or two.

- They will be posted on the class webpage in the assignments column of the syllabus.

- Usually,
  - Questions from the textbook
  - Questions pertaining to Case Study Readings.

- However, Assignment 1 is to make a resume and cover letter!
Assignment 1

- Turn in **Both:**
  - A Resume
  - And Cover Letter

Due October 2 (1 week from today)

Resume should be:
- One page

Focus:
- Education, Experience, Skills and Abilities
- What can YOU do for an employer?
- You may choose to use a header with the purpose of the resume highlighted.
Personal Resume Criteria

- Looks appealing. (fonts, format, margins)
- No Spelling mistakes
- Avoid irrelevant information from too far in the past
- One Page

- It takes time to build a good resume...
Some things employers look for:

- Academically Qualified.
- Well Rounded (includes extra curricular activities)
- Summer Internships, or Part-time work During School
- Professional Presence (Society Memberships)
- Interested and Understanding of Employer’s Area.
Educational Content

- Degrees held or degrees you are currently working on.
  - Name of the university.
  - Degree Type and Program
  - (Expected) Completion date
  - GPA

- Include High School degree?
  - Maybe if you are a freshman or sophomore.
Work Experience Content

- Reverse Chronological Order
- Provide Complete Information
  - Company Name
  - Location (city and state)
  - Employment dates (from – to)
    - 1999 to Present if still employed
  - Job Title
  - Major responsibilities
  - Major accomplishments

How do these pertain to the job you are seeking?
BRAD A. KANG
Local address: 4123 Hagerstown Hall • College Park, MD 20742 • (301) 314-5464
Permanent address: 3829 Belvoir Court • Newtown, PA 18940 • (215) 537-4177
E-mail address: sstudent@umd.edu

OBJECTIVE
To obtain a co-op, summer, or part-time position in biomedical engineering or biotechnology.

EDUCATION

University of Maryland
B.S., Biological Resources Engineering
GPA 3.6

Virginia Polytechnic Institute & State University
Chemical Engineering coursework

College Park, MD
December 2005
Blacksburg, VA
August 2001 - May 2003

EXPERIENCE

Engineering Co-op & Career Services Office
Peer Assistant
• Critique engineering student resumes.
• Provide information to engineering employers.
• Present introductory job skill workshops and orientation sessions.
  - Maintain office database and employer information files.

University of Maryland
Design Team Leader - Engineering Design
• Managed a team of 5 students to work within project constraints and deadlines.
• Designed, fabricated, and evaluated a digital postal scale according to design specifications.
• Submitted prototype chosen to compete in the final design competition.
• Prepared and formally presented a preliminary and final design package using Pro Engineer,
  Adobe Photoshop, Microsoft Excel, and Microsoft Powerpoint.

College Park, MD
June 2004 - present
Spring 2004
Sample

The O. Hommel Company (OHCO)  
Carnegie, PA  
Chemist/Lab Technician  
May 2003 - January 2004

- Formulated new and improved existing epoxy printing inks used for protecting, coating, or decorating glass surfaces.
- Conducted tolerance experiments on OHCO products for resistance to ultraviolet degradation, solubility, melting and freezing points.
- Independently filled product orders of up to 50 pounds and coordinated shipping itinerary.
- Continued work during academic calendar breaks.

COMPUTER SKILLS

- Engineering Applications: AutoCAD-R13, Pro Engineer, TKSolver
- Language: C++
- Applications: Mathematica 5, Microsoft Office, MiniTab 11, Web Browsers
- Platforms: Windows 98/NT/2000/XP, Linux

ACTIVITIES

- Society of Plastics Engineers: Student Member 2002 - 2003 academic year
- Virginia Tech Varsity Rowing Team: Spring 2002 & 2003
Cover Letter

- A letter of introduction, to accompany resume.
- Include brief description of background.
- Write it as if you were applying to take the class, or pretend like you are applying to a job.
- Format it as a business letter.
Dear Ms. Smith:

I am writing to apply for the position of Web Architect at ABC Corporation. I feel especially well qualified for this position because of my extensive coursework in both programming and in information systems I have had as a Information Systems Management (ISM) student at UC Santa Cruz. I have also had experience designing the website of XYZ corporation … … I have enclosed a copy of my resume. Please contact me if you any questions about my background. I look forward to hearing from you.

Sincerely,

Bob Brown
TO DO:

By Tuesday (9/30):
- Read “IT Management from 1960-2000” in Reader
- Read Chapter 1, Section II, of O’Brien Book (this material is also in your reader.)
- Business Paper Preferences
  - (Group members, Companies)
  - Turn in as a group

By Thursday (10/2):
- Resume & Cover Letter
  - Turn in as an individual