Information technologies are pervasive, and transform what they touch. This course introduces technologies that are critical to modern business organizations, and discusses applications in operations, marketing, decision making, and eBusiness. Students will learn technology and adoption trends, the evolving role of IT in business, and management strategy in IT industries. The course also discusses business and environmental constraints, management of IT resources, and linkage between IT and business strategy.

**Text:** Course pack, made available via study.net.

Here’s some information from Jackie Romo @ GSM: “Textpaks are available through study.net to students who are officially enrolled in the course (via the official registration). Enrolled students will receive an email from study.net that includes a password and login information. Please contact study.net directly at 760-213-7955 or email Natasha Willis at natashaw@study.net. Additional contact information may be found on the email from study.net or on the MyUCDavis course website.”
1 Course Structure

Information technology impacts the firm, industry and the economy. It can alter industry structure and competition; make markets more efficient; increase productivity; and redefine a firm’s core activities and processes. Almost 50% of capital expenditures in developed economies today are on IT, totalling about $2 trillion worldwide. Given the pervasiveness and large scale of IT, it is critical for managers to understand the variety of technologies and applications relevant to modern business; know how IT can add value to the firm; and learn how to manage in an increasingly IT-intensive world.

Types of information technologies covered in course:

- transaction processing technologies, including database and ERP systems,
- decision technologies, including data-oriented (such as online analytical processing and data mining) and model-based decision technologies,
- Internet and Web-based technologies, including inter-firm and business to consumer communication technologies.

Learning objectives by the end of the course, you should understand

- how modern information technologies are relevant to managerial activities and decision making today, and how this has changed over time,
- the marketplace for IT - products, major vendors, factors affecting major IT-related decisions,
- technical and management challenges relevant to contemporary business computing, and
- the business strategies that IT enables, and environmental constraints that affect the use of IT.
## 2 Course Schedule

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2.1 Week 1.

- **Introductions**: Course, People.


- **Discussion**: Functional and strategic use of IT in airlines/travel industry [1].

- **Required Readings**


- **Assignment** IT in health care: Submit a 1-2 page report summarizing *Current state and potential*. State two or three concrete examples of information technologies that would be compelling - why they would successfully address some important current problems in health care.

  **Optional Reading**: IT investments at Delta Airlines [17].

  **Optional Reading** Internet overhaul by GM [29].

2.2 Week 2.

- **Lecture**: Economic Role of IT. Technology Revolutions [1], Progress in e-business [3], Economic benefits of IT [4].

- **Discussion**: (Why) Does IT matter? [2].

- **Case**: ITC eChoupal [5].

- **Required Readings**


- **Assignment** Case write-up: *eChoupal*. 
2.3 Week 3.

- **Lecture**: Process-enabling Information Technologies: Business transformation [2].
- **Case**: Cisco ERP implementation [1].
- **Discussion**: Nestlé experience with ERP implementation [3].
- **Guest Speaker**: Michael Uram, HP. IT-Strategy Alignment.
- **Required Readings**
  
  
  

- **Assignment** Case write-up: *Cisco ERP*.

2.4 Week 4.

- **Lecture**: Technology overview: Internet, WWW computing. [1].
- **Case**: Cisco Web enablement and IT strategy [2].
- **Discussion** Music industry response to IT (1995-2005).

- **Required Readings**
  
  

- **Assignment** Case write-up: *Cisco Web-enablement, IT strategy*.

**Optional Reading**: IT investments at JetBlue [10].

The Economist: fightback or death rattle.
2.5 Week 5

- **Lecture:** Technology overview: web-based data exchange; component frameworks; collaborative workflow; messaging frameworks; B2B exchanges [3].
- **Discussion:** How can/does IT impact supply chain management? [1].
- **Case Discussion:** Quantum supply corporation [2].

**Required Readings**


- **Assignment** Case write-up: *Quantum*.

**Optional Readings:** Technology to the rescue [32], Planning for profits [35].

2.6 Week 6

- **Lecture:** Data mining primer [4] and business applications [1].
- **Discussion:** IT and data mining for Marketing [3].
- **Case:** Harrah’s entertainment [2].

**Required Readings**


- **Assignment** Case write-up: *Harrah’s entertainment*.

**Optional Reading:** Business applications of data mining [9].
2.7 Week 7

- **Lecture**: IT decisions in business [3], Evaluating IT investments using real options [1].
- **Discussion**: IT outsourcing [2].
- **Guest Speaker**: Nishith Mathur, Satyam Computer Services.
- **Required Readings**


**Optional Reading**: Options thinking in IT project management [16].

2.8 Week 8

- **Lecture**: IT and Privacy: Managing privacy in enterprises: [1]. IT and privacy in health care [2].
- **Discussion**: Collecting customer data: privacy vs quality of service/product.
- **Guest Speaker**: Stacy Martin, Hewlett-Packard. Managing customer information: Privacy issues, challenges and policies at HP.
- **Required Readings**


- **Assignment** Submit a 1-page summary analysis based on a specific illustration: benefits (to customer/firm) vs costs (concern about privacy, nuisance value etc.) of collecting personally identifiable information. Discuss how much/how/when/what information to collect (and avoid), how to make use of it, and how to mitigate concerns.

**Optional Reading**: Economics of privacy and personalization [28].
2.9 Week 9

- **Lecture**: Decision technologies: IT-enabled decision analysis [1], data warehousing, OLAP [2].

- **Guest Speaker**: Max Henrion, CEO of Lumina, or Sanjay Saigal, iLOG Inc. “Business process management: beyond predictive modeling.”

- **Required Readings**


- **Assignment** Submit a 1-page summary of the pros and cons of **IT outsourcing**. Use a concrete context for your analysis, and discuss what to outsource vs manage in-house, and why (list key criteria in the decision).

**Optional Reading**: Web-based decision support [12]

2.10 Week 10

- **Lecture**: Managing in IT industries: Versioning information goods [3], performance-contingent pricing [1].

- **Case**: Everdream - pricing IT service [2].

- **Required Readings**


- **Assignment** Case write-up: **Everdream**.

2.11 Final meeting. Friday, December 9.

- **Wrap-up and conclusions.**

- **Student projects.**
Complete Reading List


3 Administrative Details

3.1 Format of Class Meetings

• Typical meetings will be 3 hours long, with one 10-15 minute break. Student participation is encouraged and required.

• Most class meetings will include multiple formats - lecture, discussion, and case analysis.

• In the event that a class lists a guest speaker who can speak only in one section, we will need to combine day and evening sections into one class, most likely in the evening time slot.

• Suggestions are welcome.

3.2 Grading and Evaluation

The grading plan listed below is tentative and subject to minor changes.

• Student project - developing an IT plan (group): 30%

• Case writeups and assignments (individual): 15%
  Choose any 3 assignments in the course, including at least one case write-up and at least one non-case assignment.

• Case presentation (group): 10%

• Exam (week 7, in-class, about 45 minutes): 15%

• In-class participation, including case discussions: 30%
  Each class is an opportunity to earn 3 points for participation. Especially valued is an effort to contribute towards the discussion by providing examples (or counterexamples) based on your reading and experience. Typically, presence in class will earn 1 point, outstanding performance earns 3, and moderate participation earns 2 points. Absence without notification earns -1.

  The grading expectation is that a score of 65%–75% would earn a ‘B’ grade, 75-85 B+, and a score above 85 would earn an A- or A grade.

3.3 Team formation

Please form your project groups early and communicate this information to me via email. Group size will be between 3 and 5 students, and will depend on overall class enrollment, a more precise picture should emerge after first day of class. The ideal number of groups in each section is 6.
3.4 Class Policies and Rules

- Please attend class, read material in advance, and contribute to discussion. Class will begin on time. Please try to arrive before start and remain through the session. One absence is permissible under certain circumstances. More than two absences are not.

- All reports and written assignments should be delivered on time in **hard copy** form (please retain a copy) – at the **beginning** of the corresponding session (20% penalty for each level of delay). Reports should be easy to read (clearly legible, if handwritten; good layout and organization into subsections) and as concise as possible. Please separate essential points and details, by moving details into an Appendix. Excessive use of color or other attempts to beautify the report are unnecessary.

- Please avoid distractions - cell phones, talking among yourselves, food, music, etc. If you have something relevant to discuss, please share with the class.

- Please report any exigencies and constraints to me as early as possible.

In addition to these, you are expected to conduct yourself according to the University of California’s standards of ethical conduct for students, in particular, the sections on academic conduct and integrity. Details may be obtained from the GSM Associate Dean or the Office of Judicial Affairs.
4 Case discussion and presentations

Cases are an important aspect of this class, but to be successful it relies on active and meaningful participation of class members. Everyone should read and be prepared to discuss the assigned case. I will email a list of relevant questions a week before the case. If you chose this case writeup as one of your 3 assignments, then your writeup should specifically respond to these questions. If you did not choose it, then these questions would still be a useful guide as you prepare for case discussion. During the discussion, you should be prepared to participate and present your analysis of these issues. Many of these issues raised in the case are only semi-structured and sometimes without a definitive answer. What is important is a logical analysis leading to some clear insight and recommendation, where appropriate.

For each case, one student group will be responsible for presenting an in-class 15 minute overview to kick-off the case discussion. This summary should be based on the case document as well as your independent research (e.g., you might search for relevant facts and events in the period before or after what is discussed in the article). It should include company and competitor background, facts, relevant technology, strategic considerations, and should end by motivating and raising the key issues for discussion.
5 Team Project

Your team can choose one of the following 3 types of projects, and feel free to consult me once you have one or more candidate topics in mind. The project work should adhere to the following timeline and deliverables.

Oct. 17 Project proposal - list the topic and describe the intended final output. Half to 1 page.

Oct. 31 Progress report and remaining work plan. 2 pages.

Nov. 21 Draft report and description of work-to-date.

Dec 5/9 Project presentation, structured as “presentation to the board”. Written report is an executive summary (approximately 3-5 pages) supported by additional materials from your presentation.

5.1 Consulting Report on IT Strategy

Identify an organizational unit of manageable size (e.g., a small business, or a division in a larger corporation), apply your knowledge about IT and business to analyze the role of IT for this unit, and develop an IT Plan for it. The plan would specify (at a high level) the key IT applications that the unit should focus on, the underlying infrastructure technologies necessary to support these applications, how to go about achieving this (e.g., sequencing the introduction of major applications), whether services should be delivered via in-house resources or outsources, etc. Explain how the IT plan is consistent with (and whether it suggests changes to) the units strategy, financial resources, competitive position etc.

A useful way to structure your research and project results is the following.

1. Introduce the context: the organizational unit of analysis, its products, markets, mission.

2. Discuss the problems with its current information processing abilities – analyze whether it is inadequate in satisfying computing requirements, misaligned with firm strategy, not cost effective etc.

3. Develop and justify your proposed IT strategy. What new technologies should be introduced? What applications would they support, and who would use them to do what differently?

4. Summary.

5.2 Emerging Technology

Select an emerging information technology topic (e.g., RF id, VOIP, wide-area wireless technologies, biocomputing) for in-depth research and business analysis choose a technology that has the potential to become a significant aspect of business computing in coming years. Develop an understanding of the underlying technology - what's new or neat about it, what existing technologies does it replace and
how it differs, how does it work, and what set of supporting technologies would comprise the technology ecosystem? What is the business potential and likely applications of this new technology? How will it change business practice - and in what industries? Who are the vendors (of the core and related sub-technologies) and what will the industry structure look like?

Your report and presentation should cover (a) a description of the technology and the technology ecosystem that should grow around it, (b) a discussion of what the supply side would look like, and (c) on the user side: its business potential, likely applications, and important ways in which it will cause changes in business practices; this part of the report should employ a concrete context and offer at least a couple of specific illustrations that make precise the general points in your analysis.

5.3 IT-enabled process redesign

Identify a business process of significant scope and importance in a particular firm or industry, which might be impacted by changes in information technologies - perhaps because the process currently employs outdated methods and technologies for information processing. Analyze the potential introduction of new information technologies and discuss how the process and organizational responsibilities should be redesigned in order to best extract the advantages of the new technology. Your report should (a) describe the context of the research a detailed description of the process and its objectives, and the information technologies presently in use for managing the information flow and computation, (b) propose and justify process redesign in light of new technology, and (c) explain how these changes should lead to a positive payoff from the new technology.