MBAe 211: Management Information Systems
California State University, Fresno
June 2012

COURSE
Number of units: 3
Course Number: MBA211-80-50335-2125
Location: Peters Building PB 136, PB 192
Time: Saturdays 8:00 am – 5:00 pm

INSTRUCTOR
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DESCRIPTION
Welcome to the fascinating world of Management Information Systems! Most managers are informationally *overfed* but *undernourished*. While they are bombarded with tons of irrelevant data, they seldom get the right information in the right form at the right time. They don't receive the right information to set goals for the organizational unit under their control, to find out if they are meeting those goals and – if they are not – to understand why not, and what to do about it. Sometimes they are not even sure what information they want. To make it worse, the information they say they want may actually not be the information they really *need*!

This course presents the following challenges to you as a manager, administrator, or executive, and gives you the concepts/theories/tools to deal with them constructively:
* How can you use information systems strategically? ➔ **SIS (Strategic Information Systems)**
* Do you have systems in place that tell you whether/how well you are meeting your goals, highlight poor performance areas, and help you drill down all the way to details that reveal the real trouble spots? ➔ **MRS (Management Reporting Systems)**
* Do you have systems that support you in making complex decisions? ➔ **DSS (Decision Support Systems)**
* Do you have systems in place for capturing the experience of your operational staff and making it available to others so they don't end up making the same mistakes? ➔ **KBS (Knowledge-Based Systems), ES (Expert Systems)**
* Do you have clearly structured operations that can be mapped out for transparency and consistency? ➔ **OS (Operational Systems)**
* Are your operations at the appropriate level of automation? ➔ **AS (Automated Systems)**
* Do you run your operations with appropriate support from web-based technologies? ➔ **EBS (E- Business Systems)**

* Do your day-to-day operations capture and record the right data for later reporting/analysis? ➔ **TPS (Transaction Processing Systems)**
* Are these data stored and organized to avoid redundancy and achieve maximal retrieval accuracy and efficiency? ➔ **DBMS (Database Management Systems)**
* Do you provide the right communication media for each type of collaborative work? ➔ **CSS (Collaborative Support Systems)**

We will not address the above as unrelated issues; rather, we will integrate them within a powerful framework known as the *systems approach*. After studying the systems approach, we will derive from it the various application domains of information systems that are listed above. Each application domain will be explored in detail. Finally, we will switch gears to the topic of systems development and examine the various stages of it and how they are related.

All this will be done by inviting you to read a number of interesting articles, discuss a number of exciting real-world cases, and apply the majority of ideas learned to a familiar corporate application – customer service.

MATERIAL
* Course Packet
* "***An Executive's Guide to Information Technology: Principles, Business Models and Terminology***", Robert Plant, Stephen Murrell, Cambridge University Press, 2007. This book will be referred to as EGIT in the course schedule. For each topic, corresponding concepts from EGIT are listed on the right margin, but reading them is optional. Overall, this is a great reference source that you can use over the years.
* Any material that has been already posted on Blackboard or may be posted later.

PERFORMANCE EVALUATION
    A. 40%   Tests (4@10%).
    B. 30%   Integration Challenge: APCOA (individual project)
    C. 30%   Assignments (15@2%)

A. Tests
These are multiple-choice tests and are given at the end of each session, testing the knowledge gained that day. If they are not taken at the alotted day/time due to absence, the student has until the following Friday (6 days later), 2:00 PM to take the test in prior arrangement with the MBA office and myself. The test cannot be taken past that date/time.

B. Integration Challenge
The purpose of this ***individual*** assignment is to help you integrate the material you will learn in this course in a practical, real-world setting. It is based on a case that revolves around a familiar industry and a fictitious company in that industry. It can be found at the end of the course packet (pages R1-R8).

Your report is due electronically two weeks after the last session, i.e., on Saturday July 7, 5:00 PM. It is to be posted/uploaded directly on to Blackboard.

C. Assignments

In most courses, there are readings (usually from a textbook) assigned for each topic to be covered in class. In this course, the readings are rather short and cursory. One learns superficially by *reading*; one learns deeply by *doing*! Hence, for every class, you will be responsible for several assignments. These are to be done individually, prior to the class to which they are assigned.

How are you to do an assignment before you are exposed to a detailed explanation of the topic of that assignment?! The purpose of each assignment is to get your mental engine warmed up and in tune with the topic to which it is assigned. Each assignment is real-world and will be used as a springboard for explaining the concepts/principles behind it. The purpose of the assignments is to make your mind *itch* before I *scratch* it! Please use your common sense, intuition, and prior business knowledge in doing these assignments. Of course you are required to do the readings anyway, but there is no simple on-to-one correspondence between readings and assignments.

c.1. Role-Playing Cases

Certain assignments involve two or more roles/characters. For each such case, the main characters will be identified for you in this syllabus. Each student will be assigned to a character and is expected to play that person's role. The assignment of students to characters is based on which group they fall into based on the first letter of their last name. These groups are defined below. So, for example, G1: Gary Drook means all students whose last name places them in group 1 will take on the role of Gary Drook in the given case.

When assigned a case character, you are to BECOME that person! You have to completely identify with that person's personality, value system, objectives, assumptions, feelings, viewpoint, etc. Then from that person's viewpoint, you will rewrite the case in one page, always using "I" instead of "he"/"she" or the character's name. So, basically, your write-up will have the following general flavor/flow to it:

> My name is … and my position with the company is ..., my objectives are ..., the problems that arose were ...., what I (we) did to address those issues was (were) …, and the consequences were …, the issues facing me now are …, my plan for dealing with them is …, and what I learned from all this is …

Role players need to understand the technical material in the case. So, for example, if you say "I don't think an expert system is the solution to my problem", you need to read about expert systems so that if you were asked to explain what an expert system is, you would be able to offer a clear and accurate explanation. You (as the character) should never use terms the meaning of which you don't know.

You may be called on in class to speak on behalf of the case character you represent. When that happens, make sure you are ready to discuss that character's point of view and explain to class any technical jargon that person may have used. Please do not read from your notes. Speak in a normal, everyday conversational tone. In addition to expressing your character's viewpoint, you should be prepared to summarize the entire case in a couple of meaningful, viewpoint-free sentences. We will generally start with these summaries and then drill down into details.

The assignment groups (i.e., the groups based on which you are assigned a role/character) appear below.

Assignments involving 2 roles/characters:

- G1: If your last name starts with A-H
- G2: If your last name starts with I-Z

Assignments involving 3 roles/characters:

- G1: If your last name starts with A-D
- G2: If your last name starts with E-P
- G3: If your last name starts with Q-Z

General Rules Pertaining to all Written Assignments

- Type each assignment in Times New Roman 12 font, single-spaced, with no cover page.
- Each assignment should be done on a maximum of one page.
- Each assignment is to be done in a MS-Word document and uploaded onto Blackboard, no print version will be accepted. Also, if you convert it to a pdf document and upload it that way, it would be acceptable. What is NOT acceptable is to write your comments directly into BB in a box called "Submission" (or some such). Please submit only assignments (not questions/comments about them) on to Blackboard.
- Your deadline for uploading each assignment is 8:00 AM on the day it is due. Hence, for instance, Assignments 1/2/3 are to be uploaded by 8:00 AM, June 2nd . Late submissions will not be accepted.
- Do **NOT** write your name on any assignment or as part of the NAME of the document itself. Just name the document by the assignment number, such as "Assignment 1". Blackboard will automatically post it under your name. The point of anonymity is that I may randomly bring up and read certain submitted assignments in class for the purpose of discussion; I prefer to do so anonymously without identifying the student.
- For role-playing cases, make sure you identify your character's name upfront.
- Turn in each assignment in a separate document/file. Do not submit several assignments in one document.
- The assignments will be graded on a pass/fail basis; no fractions of a point will be given. Since there is an element of subjectivity involved in this, you are urged to err on the side of caution and put your best foot forward in tackling these assignments.

Finally …

I hope you will enjoy the materials selected for you and the way they unfold during the sessions we spend together. I pledge to you the **highest** level of professional and ethical conduct, including extensive availability (e-mail, phone, office visit, etc.) and prompt responsiveness. Please don't be too shy to schedule an appointment and meet with me in my office any time you need help with anything. I am here to help you learn. We are all here to learn!

If there is anything I can do to make this a more enjoyable educational experience for you, please do not hesitate to let me know.

Overview of Course Topics

Day 1

    A. Why study MIS?
    B. Systems thinking
    C. Information systems
    D. Strategic information systems

Day 2
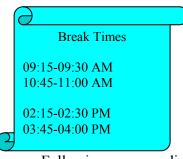
    E. Management reporting systems
    F. Decision support systems
    G. Knowledge management systems
    H. Expert systems

Day 3

    I. Operational systems
    J. Automated systems
    K. Transaction processing systems (TPS)
    L. Integrated TPS
- Enterprise Resource Planning
- Customer Relationship Management
- Supply Chain management

    M. Internet concepts
    N. Internet-based TPS (E-Business)

Day 4

    O. Database management systems
    P. Collaborative support systems
    Q. Systems development

Detailed Course Schedule

Following every reading or assignment listed below, the page number for that item in the course packet appears in parentheses. Certain pages from the course packet have deliberately not been referenced below, but will be discussed in class at the right time. These are the in-class exercises and lecture handouts. They are **not** meant to be self-explanatory!

You are expected to do all the readings assigned to each session prior to that session in sufficient detail to have a clear sense of what they are about and to be able to ask intelligent questions if need be. Use the concepts and issues listed under each topic as your guide to navigate thru the reading material; they tell you what to look for. These **concepts** and **issues** are the ONLY material you are responsible for as far as the 4 tests are concerned, and will thus act as your **study guide** in preparing for them. No separate "study guide" will be sent out later.

> Study Guide = Concepts + Issues

For each topic, corresponding concepts from EGIT ("*An Executive's Guide to Information Technology*") are listed on the right margin, but reading them is optional.

Questions addressed at each session appear in this font and are thus highlighted.

1. Saturday June 2, AM

Course Introduction

What is MIS and why should you be crazy about it?!

The What/Why of MIS?

> Issues:
> - What are the 4 levels at which information systems can/must be understood, and how are they related?
> - What are the 3 different ways of understanding MIS, depending on which component of "MIS" is emphasized?

What is the most effective way of solving complex problems?

The Systems Approach

1. Assignment Due: I Am Quitting, Boss! (B42)

Required reading:
- Systems Thinking 101: The Magic of Systems Thinking (B4)
- A Systems Approach to Business (B9)
- Programmed Decisions (B14)
- Automated Decision Making (B15-1)
- Cut Above the Rest (B18)
- The Success and Failure in the Chinese Fast Food Industry (B22)
- The Hierarchy of Ends (B29)
- The Hierarchy of Objectives (B31 (special focus on B34)

<div style="float:right; border:1px solid black;">
EGIT
Algorithm
Computability
</div>

Concepts:
system, element, relationship, emergence, purpose, complexity, dynamic systems, open systems, self-correction, programmed (=structured) decisions, automated decision making, control, feedback, positive/negative feedback, hierarchy of systems, hierarchy of objectives (ends/means chain)

Issues:
- What is a system and what are its attributes?
- How do business firms fit the definition of a system, i.e. act like systems?
- What are 4 reasons why a company may get fragmented into components rather than act as a whole?
- What are the 3 levels of structure (structuredness) in systems?
- What is automated decision making and what are some business examples of it?
- What are the components of a control system? How does a control system work?
- What are the levels of feedback?
- What are the advantages of thinking in terms of the hierarchy of objectives?
- How did Ford benefit from the use of a hierarchy of objectives?
- What are the issues/questions embodied in the systems cycle of solving any problem, and how do they relate to one another (i.e., the logical flow among them)?

==What are various ways of understanding information and information systems?==

Information and Information Systems

2. Assignment Due: The Anatomy of an Information System (C-zero)

Required reading:

- Telemedicine may bridge gap in Valley specialists (C6)
- West Hills turns to online tutoring service (C9)
- Digital Records: When Your Criminal Past Isn't Yours (C13)
- Hundreds wrongly locked up in LA jails (C19)
- The Essential Model (C20)
- Sniffing out Crime (C34)
- Airline group says 30 million bags briefly lost (C39)
- What is source data automation? (C46)
- Data enthusiasts use technology to quantify self (C47)
- Apps take e-books beyond reading (C51)

> EGIT
> Analog
> Data flow diagram
> Digital
> RFID

Concepts:
raw data, data, information, components of information systems, logical (essential)/physical conceptions of an information system, types of data

Issues:

- How are data and information relative concepts?
- What is the very essence of data/information that sets it apart from physical/material objects?
- How does telemedicine help bridge gap in Valley specialists?
- How does West Hills handle its tutoring service, and why?
- What type of information systems flaw creates a false criminal record?
- What type of information systems flaw makes hundreds wrongly end up in jail?
- How does the logical/physical distinction provide two levels of understanding an information system?
- How do data/process viewed statically/dynamically provide four angles from which any information system can be described?
- What are the information flows in a typical retail transaction involving the use of credit cards?
- What are the functions performed by information technology?
- What is source data automation?
- Why/how do data enthusiasts use technology to quantify self?

Strategic Information Systems

3. Assignment Due: Ameritech-Publishing (D22)		
G1: Gary Drook G2: A customer (national advertiser)	• G1: If your last name starts with A-H • G2: If your last name starts with I-Z	

Required reading:
- Value for One (D4)
- The Value Chain (D6)
- Revenue Management (D8)
- People Express Airline (D10)
- Startup tries reverse scalping (D12)
- The Customer-Service Life Cycle (D32)
- Measures of Philanthropic Success (D15)
- Wal-Mart's negative impact on the world's economy (D19)

Concepts:
value, value added, value chain, value equation, revenue (yield) management; The Customer-Service Life Cycle

Issues:
- Why did Peoplexpress Airlines go out of business?
- What is reverse scalping, what is the problem it is supposed to solve, and how does it solve it?
- What is the point of the Customer-Service Life Cycle?
- Why did Warren Buffett pledge billions in philanthropic giving to the Bill & Melinda Gates Foundation rather than start one under his own name? What is so special about the way the Gates Foundation operates?
- What are two examples of how the Gates Foundation made decisions based on data/information?
- How has Wal-Mart negatively impacted the world's economy?

Test 1

2. Saturday June 9, AM

Management Reporting Systems

4. Assignment Due: Coping with Shrinkage (E1)

Required reading:
- You Can't Manage What You Don't Measure (E4)
- Key Performance Indicators (E6)
- Building a Unified Business (E8)
- Scales of Measurement (E15)
- How to Use Benchmarking in Business (E19)
- The Hawthorne Works (E22)
- The Jury Room Is No Place for TV (E24)
- Data Warehouse (E26)
- Symptoms/Pre-symptoms (E36)
- How Verizon Flies by Wire (E37)
- On-Line Analytical Processing (E41)

> EGIT
> Benchmark
> Business intelligence
> Data warehouse
> ETL
> OLAP

Concepts:
KPI (Key Performance Indicator), 4 scales of measurement, benchmark/standard, Hawthorne Effect, data warehouse; Dashboard, symptom, pre-symptom, drill down, OLAP (definition, cube, slicing, dicing, rotating, dimensions, categories, measures)

Issues:
- Why is measurement (establishing KPI) important in management?
- Why is benchmarking important in management?
- What is the Hawthorne Effect and how does it impact management reporting?
- What is data warehousing and what flaws in using operational databases for producing management reports gave rise to it?
- How did Verizon use dashboards?

Decision Support Systems and Data Mining

5. Assignment Due: Hybrid Car Payoff (F1)

> EGIT
> Data mining
> Decision Support System

Required reading:
- Defining a Decision Support System (F20)
- Revenge of the Nerds (F24)
- Schwarzenegger Camp Mines Consumer Data to Target Supporters (F7)
- Technology and the Rise of Wal-Mart (F10)
- Drug Industry Mines Physicians' Data to Boost Sales (F13)

- Diamonds in the Data Mine (F27)

Concepts:
Decision support (vs. automation) systems, mathematical model, independent variable, dependent variable, parameter, what-if analysis, sensitivity analysis, goal seek analysis, optimization, data mining

Issues:
- How were computer models used in the movie industry?
- How did the Schwarzenegger camp mine consumer data to target supporters?
- In what specific ways did information systems/technologies contribute to Wal-Mart's performance?
- How did the drug industry mine physicians' data to boost sales?
- How did Harrah's benefit from data mining?

How can ill-structured practical knowledge be captured, stored, and dispensed so as to benefit operational staff in charge of executing plans?

Knowledge-Based Systems

EGIT
Knowledge-based systems Knowledge management

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6. Assignment Due: Making Local Knowledge Global (G7)

G1: David Martin G2: Andreas Kohler G3: Jorge Quesada	• G1: If your last name starts with A-D • G2: If your last name starts with E-P • G3: If your last name starts with Q-Z

Required reading:
- Knowledge Management (G12). Read only the highlights, i.e., the essence of the concept presented in each section, and not the how-to details.
- Julia Child (G2)

Concepts:
definition, codifying knowledge, tacit knowledge, various sources for capturing knowledge + brief definition of each

Issue:
- What has Julia Child got to do with knowledge management?!

How can well-structured practical knowledge be captured, stored and dispensed so as to benefit operational staff in charge of executing plans?

Expert Systems

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7. Assignment Due: Investment Expert (H1)

Required reading:
- Fundamentals of Expert Systems (H2)
- Gate Delays at Airports (H19)

EGIT
Artificial Intelligence Knowledge Engineer

Concepts:
definition, domain specificity, general form of all structured knowledge, levels/components, why we need them, benefits, forward/backward chaining, natural language user interface, explanation facility, knowledge engineer, symbolic reasoning

Issues:
- How did expert systems help solve the problem of airport gate delays?

Test 2

Operational Systems

I-11

8. Assignment Due: Ford vs. Mazda
On the top half of the page, draw a diagram (any type of diagram, as long as it is meaningful, clear, and accurate) of Ford's old A/P system, as explained in a reading below. On the bottom half of the page, do the same for their new A/P system. This diagram may be hand-drawn/scanned or done in some drawing software (Visio or MS-Word's drawing capability: the "shapes" icon under Insert). This diagram needs to be **at least** as clear as the diagram in the *Service Map Example: Auto Repair* example below. Use that type of diagram if you do not have any better ideas of your own. At the very least, it should have arrows showing what information travels from where to where.

Required reading:
- Service Map Example: Auto Repair (I1)
- A Brief Intro to the Process Flow Mapping of Operations (I2)
- Swimlane Process Mapping 101 – Building a Process (I6)
- Re-engineering (I15)
- Ford vs. Mazda (I11)

> EGIT
> Business process re-engineering

Concepts: (swimlane) diagram, (Business Process) Re-engineering

Issues:
- Why is it important to map business processes?
- What are the components of a swimlane diagram?
- How is re-engineering different from automation?
- How did re-engineering explain 500 employees in Ford's A/P Department while only 5 at Mazda's?
- How did re-engineering help the TVA?

Automation

9. Assignment Due: Automation (J1)

Read InstyMeds and

1. summarize it in your own words
2. identify and discuss 3 benefits of this system
3. identify and discuss 3 limitations of this system

Required reading:
- Automation Design: Its Human Problems (J9)
- Making Automation Work (J35)
- Computer scientists fear robots might one day outsmart us (J17)
- Microchips found in most mundane of places (J19)
- Retail jobs are disappearing as shoppers adjust to self-service (J21)
- Automation in the air dulls pilot skill (J23)
- Autocorrect: Your silent partner in texting blunders (J26)

Concepts: definition, 4 components, payback period

Issues:
- Is every system that is called automated/automatic really so? If not, what are some examples?
- What are the benefits and limitations of automation?
- What is the "Automation Paradox"?
- What is payback period, and how is it calculated?
- What are some examples of robots outsmarting humans?
- What are the 8 examples given of microchips found in most mundane of places?
- Discuss, and give examples of, how retail self-service has contributed to jobs disappearing.
- What impact has automation had on pilot skills?
- What impact does autocorrect have on texting?

==*What events (and what attributes of those events) need to be tracked, and why?*==

Transaction Processing Systems

10. Assignment Due: Car Rental (K1)
The template for doing this assignment also appears in digitized format in Blackboard so as to make your job of doing it easier.

> EGIT
> Transaction processing system

Required reading:
- Transaction Processing Systems (K2)
- Rogue trader Kweku Adoboli suspected in $2 billion loss at UBS (K12)

Concepts:
definition of transaction, operational/managerial relevance, 3 clarifications, ripple effect

Issues:
- What is the significance/implication of when "what happened" and "what was recorded" do not match?
- What are the general characteristics of TPS?
- What are the generic components of a business TPS and the flows among them?
- What is the strategic significance of TPS?
- What type of flaw in a TPS allows a trader to lose $2 billion?

Enterprise Systems

Required reading:
- Harrah's Solid Gold CRM for the Service Sector (L1)
- What is ERP? (L6)
- FoxMeyer (L21)
- Introduction to CRM (L21)
- Giving Voice to Customer-Centricity (L14)
- What is Supply Chain Management? (L16)

Concepts:
definitions and benefits of ERP, CRM, SCM

Issues:
- How did Barclays and Harrah's utilize CRM beneficially?
- How did Wal-Mart utilize SCM beneficially?
- How did the implementation of ERP at FoxMeyer affect it, and why?

EGIT
Enterprise Resource Planning Systems

==What role can the Web play as a global communication medium in enhancing competitive edge, and what relevant features/functions should web sites possess?==

E-Business

11. Assignment Due: The Batesville Brand (N1)

Internet-based TPS: Internet concepts

Concepts:
Protocol, TCP/IP, packet, packet-switching, router, Internet, client-server, World Wide Web, HTTP, URL, hypertext, hyperlink, browser, EDI (electronic data interchange)

To think about (nothing is to be turned in):
As part of learning the above material, please reflect on the following very puzzling question: ***The Internet was invented in 1969. E-Business (conducting business on the Internet) did not take off until the early/mid 1990s. What explains the time lag?*** Each of the following statements may be true in and of itself, but ***none*** is the correct explanation of the above phenomenon:

Because during the 1970s and 1980s …
- people did not have personal computers
- computers were expensive, slow and had little memory
- transmission speeds were too slow
- people did not trust online transactions
- merchants were unwilling to sell online
- people did not think of it
- The Internet was owned by the government
- payment systems (such as credit/debit cards) did not exist or were not as advanced as they are today
- computers were not user-friendly
- the distribution system was not efficient
- globalization had not taken hold yet
- the Soviet Union had not collapsed yet

> **EGIT**
> Client-server
> Electronic data interchange
> Hypertext, HTML
> Internet
> Internet protocol
> Packet switching
> World Wide Web

Internet-based TPS: E-Business

> **EGIT**
> E-Commerce/E-Business

Required reading:
- The Collapse of Webvan (N2)
- Amazon to Get into Grocery Delivery Game/Amazon steps up groceries push (N7)
- Introduction to e-Business and e-Commerce (N10). This is an **optional** reading.
- Richness and Reach (N24)

Concepts:

e-commerce, e-business, business model, B2B/B2C/C2B/C2C/G2C/C2G/…, Webvan, dot-com bubble, clicks-and-mortar, reach/richness (their tradeoff, and the impact of WWW), web personalization, 1-click, marketplace channel structures, disintermediation, online intermediaries, reintermediation

Issues:
- What was Webvan and why did it collapse?
- Given that Webvan failed, what makes Amazon think they can succeed?

Test 3

Review of the Integration Challenge: APCOA

Database Management Systems

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12. Assignment Due: State Economic Development Agency (O-11)

G1: James Hogan G2: David Prince G3: Ruth Blair	• G1: If your last name starts with A-D • G2: If your last name starts with E-P • G3: If your last name starts with O-Z

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13. Assignment Due: Separating Apples from Oranges (O-1)

Required reading:
- Data, Information, and Knowledge (O-2)

Concepts:
data hierarchy [bit/byte (character)/field/record/file(table)/database], redundancy, primary key, foreign key, entity-relationship diagram

Issues:
- Why is redundancy in database design undesirable?
- What are the steps involved in properly designing a database?

> **EGIT**
> Binary
> Bit
> Database
> Entity-Relationship diagram
> Normalization

What are the various types of media through which collaborators can communicate, and what are the issues in selecting the appropriate medium in a given situation?

Collaborative Support Systems

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14. Assignment Due: Choice of Media (P4)

The template for doing this assignment also appears in digitized format in Blackboard so as to make your job of doing it easier.

Required reading:
- White House, SF Chronicle in Conflict over Reporter's Video (P2)
- An important announcement from the publisher of the New York Times (P5)
- Don't "cell" out! (P7)
- Cell phones are becoming a crutch for late arrivals (P9)

> **EGIT**
> Groupware
> Instant Messaging

- The age of interruption (P10)
- The plugged-in taxi driver (P11)
- Kindle vs. books: The dead trees society (P12)
- E-Mail Makes Everything More Efficient – Unfortunately! (P14)
- Protocols Make E-Mail More Effective – Fortunately (P18)
- Audit to Interior Department: Don't fly to Sacramento; meet by video instead (P22)

Issues:
- What is "cell"-ing out and why should it be avoided?
- How are cell phones becoming a crutch for late arrivals?
- How has modern communication technology given rise to the age of interruption?
- What is the author's critique of the plugged-in taxi driver?
- In what ways are physical books preferable to Kindle, according to the author?
- What is the author's critique of emails?
- How did the Interior Department find video teleconferencing useful?
- What are the 3 dimensions of communication?
- What are the advantages/disadvantages of synchronous/asynchronous communication?
- How is medium richness related to communication structure?
- What is the meaning of "the medium is the message"?

The Systems Development Life Cycle

> 15. Assignment Due: Airport Matters (Q1)

Required reading:
- Systems Development Life Cycle (Q2)
- FUSD concedes errors in computer system launch (Q7)

> **EGIT**
> Application generator
> Bug/debugging
> Compiler
> Software development life cycle

Concepts:
Systems Development Life Cycle, planning, analysis, design, implementation, maintenance

Issue:
- What was the reason for installing a new system at FUSD, what was it supposed to do, and what issues did they run into?

==What alternative approaches are available in developing a new information system?==

Systems development II: alternative approaches

Required reading:
- Selecting a development approach (Q25)
  (read only with a view of grasping the essential meaning of each of the following concepts)

Concepts:
Waterfall, *Prototyping*, and *Rapid Application Development* methodologies

Issues:
For each of the above three methodologies, what are the
- Basic Principles
- Strengths/Weaknesses (only the first item from each group; circled)
- Situations where most/least appropriate (only the first item from each group; circled)

> **EGIT**
> Application Service Provider
> End-User Development
> Joint Application Design
> Outsourcing
> Rapid application development
> Waterfall model

Test 4

> **Reminder**
> **Integration Challenge Due (in BB):**
> **Saturday July 7, 5:00 pm**