ISM280: BUSINESS PROCESSES AND INFORMATION TECHNOLOGY
Fall, 2006: Section 1 at 2:00 p.m
and Section 2 at 3:30 p.m.
Maurie Lockley, Bryan 483, 334-4983; E-mail: Maurie@uncg.edu
OFFICE HOURS:
MW  12:30 -  2:00
TR  11:30 -  12:30
R   2:00-  4:00
Other times by appointment

Required Materials:
1. Introduction to Information Systems, 12th edition; CUSTOM VERSION by James O’Brien in UNCG Bookstore and Adams This book will be used in spring 2006.
2. Numerous required reading materials are posted on Blackboard; these will be assigned in class

Description:
ISM 280 is a description and analysis of major business functions, organizational structures, activities and processes and how information technology can be used to improve processes and business performance. Students will analyze business operations, learn about newer technologies and analyze how businesses are applying information technology to remain competitive by improving processes.

Prerequisite: ISM 110, sophomore standing and overall GPA of 2.0 or higher

Overall Course Objectives—What every student should be able to do upon completion:
1. Give examples of typical business functions, their related units and activities within those units.
2. Explain how specific departments and units of functions could be involved in the process of order fulfillment for either a product or service order.
4. Explain two examples of customer problems that could result from lack of integration among functional activities in order processing.
5. Explain how the following technologies must be integrated to provide effective supply chain management and e-business: TPS, databases, LANS and telecom.
7. Explain the steps in planning: an integrated database; a business process reengineering project; and, the technology needed to perform B2B effectively.
8. Explain two examples each of legal and ethical issues related to use of I.T.

Performance Evaluation:
All students are required to follow the provisions of the UNCG Academic Integrity Policy in completing course work. If you do not know provisions of the Integrity Policy make time to study it. I enforce the policy diligently and its contents may be covered on a test.
Tentatively, it is planned that course grades will be based upon: two regular exams (about 120 points each, 6-10 quizzes (60-100 points), and a final exam (about 150 points). I may also add a class contribution component based upon assigned reports. **The final exam is comprehensive.** There will be approximately 450-500 total points. **The grade scale below is applied to the total points possible. ALL points are equal!** For example, assignment and quiz points count the same as points on a test.

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**IMPORTANT:** Keep a record of all points POSSIBLE and points YOU EARN on each item. This will make it easy for you to determine your exact grade status any time during the course. Focus on your PER CENT of points possible rather than the letter grade on a specific item.

**Blackboard and email:**
Check at least twice each week for email messages from me. We will be using Blackboard (BB) for email and I will post announcements, provide handouts and other information on BB. Use my email address at the top of page one of this syllabus when sending me messages. Always include the course and section number in the subject line of every e-mail message.

**Attendance and Learning:**
Class attendance is expected. Attendance is essential to learning material in this course! You are allowed to miss a maximum of three classes without penalty. Each additional absence will cost you 10 points EACH. If you miss more than 5 classes you may be DROPPED from the class. Much of what we will do in this class will involve student discussion. You cannot participate and learn from this discussion if you do not attend. For example, the most important aspects of assignments and the text are always discussed in class.

- Plan to arrive on time and stay the entire period.
- You will be responsible for any information missed during absences so establish contacts with other students in class to get any missed information.
- If you miss a class, please do NOT ask me what we covered; rather, contact one of your classmates or team members.
- Please do not disrupt class by arriving late or leaving during class.

**Ways to Earn a Good Grade in 280**
If you do not read and STUDY the assigned materials BEFORE class it is highly unlikely you will learn what you should from class discussions. It is clear from many past classes that students who come to class prepared to discuss assigned material do much better on the exams! And, it is clear that those who do not prepare for class either earn low grades...or fail. This course requires **regular** preparation. Note: I may add up to 10 points for students who have made quality contributions to class discussion on a consistent basis.
Expectations, Responsibilities and Course Operation:

- A later page in this packet explains your rights and responsibilities in my class. Please review this page carefully and discuss with me any questions or concerns you have. My goal is to provide a course where you will learn productively and effectively. I invite your suggestions for helping me achieve that goal.

- Please see Blackboard document #2 to learn about course operation guidelines.

Emergencies:
Hopefully, none of you will encounter an emergency this semester. However, if you encounter a situation that prevents you from fulfilling your responsibilities please do not delay in contacting me. In serious cases you may call me at home: 336-228-0193.

STUDY TEAMS: Form a study team with 4-5 other students. ASAP, learn to know other students and get their email addresses so you can communicate by email to answer section study questions or share other information.

Discussion Board:
You and your team will post topics as assigned to BB Discussion Board. You will be expected to read the postings of the other teams and comment on them. There will be several threaded discussion that will be graded and included as a quiz grade.

COURSE OUTLINE: The following is tentative and changes, if needed, will be announced in class.

A. Overview of information systems (Week 1 and 2)
Materials: Chapter 1, BlackBoard (BB) documents 1, 2, 5, 6 and 7
Topics:
1. Introduction to information systems: components, uses, integration, interdependencies—Amazon case
2. Development of information systems: legacy system issues; types of systems—TPS, management support and hybrid systems—Wesco case
3. Management challenges: coordination, fit of systems with business, development management, introduction to processes—A-Dec case
4. Evolving legal and ethical issues
5. Complexity of systems: Figures 1.16 to 1.18 and Kodak and Pacific Gas cases

Demonstrations:
- Review of documents on BlackBoard
- How to research a publicly traded company

IMPORTANT: I will use the study questions for each Section to prepare examinations. Answer the questions, discuss you answers with others on your study team. I invite discussion of any questions in class if you wish elaboration.
STUDY QUESTIONS FOR SECTION A:
1. How do the major information technologies interrelate to form an information system?
2. How do the systems at Amazon work to fill customer orders? What technologies does Amazon use?
3. Review Figure 1.4 and related text. How are the following interrelated: Internet, Intranet and Extranet? How is each used in doing business today?
4. Wesco made major changes to improve operations. What are the key changes they made and how have they helped Wesco?
5. Review Fig. 1.5. As you consider the technology changes of the past 50 years how have they affected the way business is done? Affect on: Employees? Customers?
6. Transaction processing systems (TPS) are some of the oldest (legacy) and most important information systems. What are examples of how you use them? Why are they so important to businesses and consumers?
7. How do management information and decision support systems differ from TPS?
8. Review Fig. 1.12. What are specific challenges or issues you see in providing the activities listed?
9. Hershey Foods experienced a major problem two years ago. What were the problems? What caused the problems? What lessons can be learned?
10. What caused problems at A-DEC? How could they have avoided the problems?
11. Review Fig. 1.14 and the related text. Identify specific ethical and legal issues related to using systems and doing business electronically.
12. What business problems did Kodak and HP face? What were the causes of the problems? Why do you think these causes existed? How do your answers apply to the Pacific Gas case at the end of the chapter?
13. Look at Figures 1.4 and 1.16. Many of the items listed in 1.4 are related to areas of specialization within a company (functions). Figure 1.16 has a column called “business processes.” How do processes differ from “functions”?
14. Review Fig. 1.18 and the related text. Explain how the various resources need to work together. Make sure you understand each of the items in bold print in the text.
15. Review Fig. 1.19. What are the basic activities of an I.S.? How can they be applied to a business?

B. Business organizations, functions and activities (Week 2 and 3))
Materials: BB documents 8, 9, 10, 11, 12, 34; Service with Soul video

Topics:
1. How businesses organize their activities and why
2. Typical business activities; how these relate to CBK courses in Bryan School
3. Flows of work in a business firm both within and across functions
4. Problems in managing work flows to assure customer service and satisfaction
5. Introduction to the concept of processes
6. Introduction to enterprise systems as related to processes
7. Review: Lessons learned from Service with Soul

Understanding Functional Organization of UNCG
1. Review the organization charts for UNCG available at uncg.edu/apl/org_charts.html You should look at each of the detail charts to learn more about what is done in each functional area.

2. Explain how each of the major functions are interrelated…be specific

3. What specific problems could result from lack of integration of functions?

STUDY QUESTIONS: SECTION B

1. In a typical business firm, medium to large size, what are typical business functions?
2. What are 4 examples of areas within each function of a large firm?
3. Why do firms usually organize by functions?
4. How do the functions of a business firm relate to the courses you are required to take in the Bryan School?
5. How has processing an order for a customer changed in the past 20 years or so? What are the technology changes? What does the customer expect today that was not true 20 or fewer years ago?
6. How has doing business changed over the past 10 years or so? What are current customer expectations of dealing with a business?
7. Consider the following typical business activities: sales, customer service, production of a product and filling an order. For each, what functions might be involved? Why?
8. Functions are organized vertically. Processes are horizontal and go across functions. Why are processes harder to control and manage?
9. What are the major functions at UNCG? How might functions need to work together to serve students?
10. What is the difference between a “primary” and a “secondary or supporting” activity? Why is it worth making the distinction between the two?
11. We talk about process flows (the ways major operations are completed). What does this mean? How do process flows involve functions?
12. What are examples of work that flow across functions and need to be managed horizontally?
13. Why might decisions made within a function be less than ideal for the firm or for customers? What are 3 examples?
14. Every process has components…sub processes which have procedures which have specific tasks. Give examples of the components of the order fulfillment process. Of the customer service process? Of the product development process? Of human resources staffing and management?
15. Why is financial planning and management in a firm a supporting process? Why is human resources staffing and management a supporting process?
16. How does a firm decide its key processes? Why is it important that firms prioritize processes?
17. At the end of the BB document, Business Processes, Part 1, we provide a list of activities involved in order fulfillment. What are other steps and activities that might be involved?
18. What is a value chain? How does it relate to improving business operations?
19. What does JIT mean? What is an example of a firm using JIT?
20. Nearly every firm has one or more instances of sub-optimization in operations. What is this and why does it happen?
21. Aviall, one of the companies discussed in Chapter 1, depends upon good customer service for its success. What functions would be involved? What are examples of specific activities that must be coordinated to provide good customer service?

22. In the video, Service With Soul, what are two lessons for success you learned from each of the organizations featured in the video? What did the organizations do differently from other organizations in their industry?

C. **Data and information management** (Week 4)

*Materials: Chapter 5 (Section II is optional)*

*Topics:*

1. Importance of data collection and use in management
2. Capturing data (TPS) and external sources
3. Importance of database planning for decision making
4. Storing data in a structured format
5. Types of databases, database integration and standardization; DBMS
6. Data warehouse and data mining

*Demonstration:*

1. Planning a database for a small business

**STUDY QUESTIONS: Section C**

1. Why is the management of data important to running a firm and serving customers?
2. How and from where are most data collected of that which is stored in a firm’s databases? For example, data at UNCG?
3. Why is the planning of a database so critical? What problems might arise if planning is not done carefully? How should a firm decide what data to collect and store?
4. A database is made up of several components or elements. What are the elements of a database? What is an example of each element? Why is such a structure important?
5. Why are operational databases critical to firms? What are different ways of collecting data for operational databases?
6. What is a hypermedia database and how does it relate to Web usage and services?
7. What is a data warehouse? Where do the data come from that make up the data warehouse? Why is a DW better than having individual databases? What is a data mart? What is data mining? Its benefits?
8. What problem did Argosy have with data management? How did they solve it?
9. Figure 5.10 and related text talks about problems with many traditional file processing systems. What are three such problems and why did they develop?
10. What was the purpose of data mining at Bank of America?
11. What was the business problem and the solution for WH Smith PLC?

**TEST 1**  
*Expected exam date: Sept 11th*

D. **Business processes, enterprise resource planning systems (ERP) and outsourcing**  
(Weeks 5-10)

*Materials: BB documents: Print and read numbers 13, 15, 17,18 and 35.  
Video: Introduction to BPR*
Topics:
1. Definition of a process, sub process and procedure
2. Functions as compared to processes; types of processes
3. Processes and ERP
4. Process analysis projects and steps
5. Benefits of planning and managing by processes
6. Internal and external process management—Supply chain management
7. Outsourcing operations: why, pros, cons, issues in management

Demonstrations/Discussion:
1. Project planning and management
2. Dissecting a process at UNCG

STUDY QUESTIONS: Section D:
1. What are two examples each of high level (key) primary and supporting processes?
2. Why is an understanding of key processes important to effective management of firms?
3. What are three examples of key processes at UNCG? Why is enrollment management a primary process? What are some of its major components?
3.1 From the video on Introduction to Reengineering:
   a. List at least 5 benefits of BPR
   b. How long does it take many firms to identify key processes? Why?
   c. How do company goals relate to key processes?
   d. Why is BPR a new way of thinking and working?
   e. Why is leadership from the top critical to BPR success?
   f. What is the difference between efficiency and effectiveness?
   g. What were the important practices at SEMCO?
4. What are the two ways to improve processes? How do they differ?
5. What are reasons firms don’t improve their processes? What personal experiences in your work relate to these reasons?
6. What steps are involved in starting a BPR project? Why should they be followed in sequence?
7. How is process analysis done? What sequence of steps should be followed? Why?
8. What goals should be evidenced in a good process? What criteria should be used to evaluate processes? What examples do you have from work where the good process goals and criteria were not followed?
9. How did Ford change its requisition and accounts payable activities? Advantages to Ford? Pros and cons to suppliers?
10. Implementing an ERP requires many changes for most firms. What specific changes must be made? Why are they so time consuming?
11. BB document 16 talks about the pros, cons and costs of ERP. Provide some specific facts.
12. What are other examples of why processes should be integrated? Give two examples.
13. What are the benefits of managing a firm by managing its processes?
14. SCM is a good example of a process. What are the types of departments and organizations that might be involved in SCM.

15. Outsourcing is a common business practice. What are reasons for outsourcing? What cautions should firms practice when outsourcing? What might be disadvantages of outsourcing?

E. **Ebusiness: Examples of function and process integration** (4 days: 10-13, 18, 20 and 25)

Materials: Chapter 7, BB documents 23, 24

**Topics:**
1. Concepts of enterprise systems
2. Integrating functional activities through systems
3. Why CRM is essential and who is involved
4. Order fulfillment through effective SCM
5. Essential I.S. components—TPS, data collection and management, collaborative tools
6. Functional business systems—moving to integration and enterprise systems
7. Cases on SCM: Moen, TaylorMade and Dell

**STUDY QUESTIONS: SECTION E**

1. What is E-Business? What is the difference between e-business and e-commerce?
2. Why have traditional CRM software implementations been so problematic for many businesses? What are the benefits and drawbacks of Salesforce.com’s web-based CRM services?
3. Why is CRM essential to a business and who is involved?
4. What does customer-driven CRM mean?
5. What are the business values of ERP for Colgate-Palmolive?
6. There have been notable failures of ERP installations. How could these failures be avoided by other firms?
7. What is Telstra’s product? Why is it so successful?
8. Monster.com’s CRM rollout in 1998 was a disaster. Why?
9. What is SCM and what is its goal? What are some of the latest developments to reengineer a supply chain?
10. What is supply chain collaboration? Give some notable examples. (ABCs of SCM)
11. What are Moen’s ProjectNet and SupplyNet? What was the advantage of SupplyNet?
12. TaylorMade Golf Co. spent $10 Million moving its SCM online. Was this a smart decision?
13. The Solectron Corp. had a failure in SCM. What happened and how expensive was it?
14. What is EAI software? Why is it important in ERP systems? What is an example of an EAI that Dell Inc. uses?
15. The transaction processing cycle consists of five basic activities. Explain each one.
16. What are the tools for enterprise collaboration?
17. Why has EAI become such an important project at GE Power and Corporate Express?
18. What is interactive marketing? Give an example.
19. What is targeted marketing? What are key factors in targeting?
20. What is the purpose of a HRM intranet? Describe the Charles Schwab’s intranet.
21. How does knowledge management (KM) differ from data management?

TEST 2  Expected date is Oct 23rd

F. Connecting businesses and customers: Telecom and Networks  (Weeks 11, 12 and 13)
Materials: BB document 25 and Chapter 6 (skip section from processors to end of ch.)

Topics:
1. Technology used and trends, benefits and concerns
2. Internet applications, intranets, extranets
3. Types of networks
4. Wireless: trends, pros, cons

STUDY QUESTIONS: SECTION F
1. How is telecom in the U.S. regulated? What have been some recent regulatory changes?
2. What are some current trends related to consumer services from telecom providers?
   What issues or problems do you see with these trends?
3. What are some examples of newer wireless applications? Problems with wireless?
   Reaction to RFID?
4. Compare Figures 6.2 and 6.3. What are specific advantages and potential problems you see in these telecom applications?
5. What are the advantages of using “open systems” compared to proprietary systems?
6. Figure 6.4 highlights many advantages of using telecom today. What might be potential problems related to those advantages? How has extensive telecom use changed the roles of employees?
7. What is the difference between the Internet and an Intranet? Between an Intranet and an Extranet?
8. How do firms and employees benefit from using an intranet? What are the benefits from using an extranet?
10. Read Case 2 about Con-Way NOW. What are the advantages of using GPS? What other benefits might result from GPS? What are possible problems?
11. What is a LAN and how is it used at UNCG? How do you use it? Advantages? Possible problems?
12. How does a client/server network relate to our LAN at UNCG? What functions do servers perform? Pros and cons of client server computing?
13. Why is fiber optics a preferred medium compared to coaxial and twisted pair?
14. What are uses of satellite systems and networks? How do they differ from microwave and cellular systems? How does Bob Evans use satellite?
15. Why are wireless LANs becoming more popular? What are possible problems?

G. Ecommerce: Doing business on line  (Weeks 13, 14 and 15)
Materials: Chapter 8, various assigned web sites, BB documents 28 and 33

Topics:
1. Buying and selling processes
2. Technologies and capabilities needed
4. Essential operations, sub processes and procedures
5. Applications and Trends
6. Success factors
7. Starting a web store...in-class exercise
8. B2B developments
9. Managing a clicks and bricks business

STUDY QUESTIONS: SECTION G
1. Why is eBay such an excellent example of e-commerce? Why has it become the largest online seller of used cars? Explain why large companies like Motorola and Sears are selling their products through eBay?
2. What technologies are needed for e-commerce? Check Figure 8.3 for help.
4. Explain why access control and security are an essential process element for an e-commerce system. Give an example of a security breach.
5. How is profiling used on an e-commerce site? How does Bselect work? What are some of the ethical issues surrounding this process?
6. What is search management as it relates to e-commerce? Would you consider this an important tool? Why or why not? Describe a website where the search engine did not function well.
7. Explain how extranets support collaborative commerce.
8. Give an example of an event notification. Why is this an essential feature?
9. Who typically collaborates in e-commerce? Explain why an online collaboration can benefit the participants.
10. What are network sniffers? What are possible solutions?
11. Do direct sales over the web help or harm conventional retailers? Explain.
12. Explain some of the business and IT challenges that Corporate Express is managing in integrating their procurement system with their suppliers’ and customers’?
13. Briefly describe the upcoming trends in e-Commerce.
14. List the key success factors for a web business. Why are Amazon.com and Lands’ End top-rated retail websites?
15. What is web-hosting? How does that benefit companies?
16. How is customer support handled on a website? Why would a website link to another web company?
17. Explain the bidding process in a B2B exchange. What are the benefits? What are the disadvantages?
18. Explain the idea of e-commerce integration using the Barnes & Noble example and the Citigroup example.
20. (ABCs of B2C) B2C commerce has major challenges. Discuss three of them.
H. **Problematic aspects of using today’s technology: Ethics, Legality, Privacy and Security** (3 days: 11-22. 29 and 12-1)

Materials: Chapter 11 and BB documents 26 and 27, plus handout

**Topics:**
1. Ethical aspects of doing business; adopting ethical guidelines and practices
2. Legal issues—current and emerging
3. Privacy and business uses of information
4. Workplace and worker issues
5. Systems and data security—tools and practices

**STUDY QUESTIONS: SECTION H**

1. Laws and ethics vary widely among cultures and countries. Identify such variations by culture and country in the list of items in Figure 11.3. What are the biggest differences you see?
2. Read the section in the text on computer crime. What penalties do you think should apply to those who commit acts such as I.D. theft, distributing viruses, hacking into confidential files, illegally using copyrighted material and using software without owning a license?
3. Study Figure 11.8. As an employee do you agree the items listed are abuses? What is your reaction as an employer?
4. Privacy of personal information is an increasing concern of many citizens. What information should be PRIVATE in your opinion? Under what circumstances are you willing to give up your rights to privacy of your personal information? What policies or rules would you adopt regarding using or sharing of personal information about: Customers? Employees? What conflicts do you see between the value of using customer information to improve marketing or customer service versus protecting customer privacy? Refer to BB document # 26.
5. What is your reaction to: Spamming? Flaming? What rules would you adopt if you owned a company?
7. The “workplace” has changed drastically over the past 10 years. What concerns do you have? What should be done to resolve each concern?
8. What is a firewall? Encryption? Biometric security?

Last day of classes is December 4th.

**FINAL EXAM:**
December 4

Additional Topics and Emphases of ISM 280
As part of providing an integrative learning experience with other courses you will take in the Bryan School and enhancing your overall business education I will intentionally emphasize certain general business concepts, perspectives and skills. Please review the following to see what you can expect:

1. Ethical issues will be addressed as they relate to computing practices, to legal use of software, to appropriate uses of databases and issues surrounding the use of the Internet.

2. Business is global. Understanding global business is an overriding theme of the Bryan School. You can expect we will cover global issues regularly.

3. Understanding political, social, legal, regulatory and environmental issues is important to becoming a business professional. Our coverage in 280 is likely to be limited except for legal aspects related to technology development and utilization. For example, we will consider implications of the 1996 Telecommunications Act and legal aspects of Internet use.

4. Knowing about technology and its best uses is the core of this course. You are encouraged to consider how technology can be best applied to your Bryan School major and expected position in a firm.

5. Ensuring demographic diversity is important to the success of business. We live and work in a socially and culturally diverse society. When appropriate, we will address such issues.

6. Being able to write and speak effectively is essential for continued success. I expect you to write correctly and effectively. Please use appropriate and correct language when speaking.

7. Learning to research problems and finding relevant information is essential for good decision making. You should use the Internet and various search engines for information to supplement class discussions and the text.

**Statement of Students' Rights and Responsibilities**

As a student in my class you have explicit rights and responsibilities. Your full understanding and acceptance of the following rights and responsibilities can lead to more effective learning and more productive use of our time together.

**You have the right to expect:**

1. Your professor to be prepared for each class, to start class promptly at the designated time and to end class at the designated time.

2. Your professor to teach all scheduled classes or arrange for a qualified substitute if it is necessary to miss class because of illness or University approved commitments.
3. Clear statements of course expectations, policies, testing and grading practices and student performance.
4. Your professor to hold a reasonable number of office hours to discuss assignments or to assist you with course matters.
5. Knowledgeable assistance from your professor regarding class assignments and course content.
6. Professional behaviors reflecting equitable treatment, ethical practices and respect for your rights.
7. Opportunities to challenge ideas and defend your beliefs in a professional manner.
8. To be challenged to grow both academically and professionally. This means I may openly disagree with some responses or comments. Use such exchanges to grow intellectually.
9. Information regarding career opportunities related to ISM programs.
10. Your professor to abide by University policies.
11. Fairness and clarity in evaluation of your performance.
12. Adequate opportunity to appeal any perceived violations of the above rights.

**You, as a serious learner, have specific responsibilities to:**

1. Plan your study and work schedule appropriately to allow sufficient time to do quality class work. (Please review “Suggested Academic Workload Guidelines” for the Bryan School of Business and Economics published in the UNCG Undergraduate Bulletin.) I suggest you devote at least 4-6 hours per week outside of class to this course.
2. Arrive at each class on time and prepared to discuss assigned readings and participate in discussions. **Please do not leave during class.**
3. Complete assignments by due dates and submit quality work
4. Understand and follow course policies as explained in class and in the syllabus.
5. Commit yourself to grow both academically and professionally.
6. Work effectively and cooperatively with classmates to solve problems, participate in study teams and analyze cases given in class.
7. Practice ethical behaviors and display respect for rights of others.
8. Contact your instructor and discuss circumstances which may prevent acceptable performance and to make such contact on a timely basis. Contact me by phone if there is an emergency…do so promptly.
9. Fully understand and abide by the UNCG Academic Integrity Policy and other University policies relating to student conduct.
10. Report observed violations of the UNCG Academic Integrity Policy.

**Understanding the Levels of Learning**

Many years ago a psychologist developed a taxonomy (model) to describe the different levels of learning. This model is useful since it will help you understand better how well you really understand something. Below are basic ideas from Bloom’s Taxonomy with examples of each learning level as applied to content in ISM280. Use this as you study material in 280 and as you prepare for tests. On my exams, I try to develop questions that assess your comprehension, your ability to apply and analyze and, to a lesser extent, synthesize information and concepts we
discuss. Simply knowing facts (the lowest level of learning) will seldom be sufficient to do well on 280 exams or in business. Specifically, memorizing facts or portions of the text is not enough! Learn how facts interrelate and how to apply them to situations and problems.

The following model moves from the simplest level of learning to the most complex. Additionally, the model states that the lowest level must be sufficiently mastered before a learner can move to the next level. For example, we must have a thorough understanding of facts (knowledge) before we can interpret the meaning of those facts (comprehension).

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<tr>
<th>Level of Learning</th>
<th>Skills Demonstrated and Examples</th>
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<tr>
<td>Knowledge (lowest)</td>
<td>Recall facts, ideas, topics, terminology, definitions 280: Define a function; define a process; list components of a value chain</td>
</tr>
<tr>
<td>Comprehension</td>
<td>Understand information; interpret the meaning of data; compare and contrast ideas/facts; arrange facts in meaningful order 280: Compare the pros and cons of functional management versus process management. Describe which parts of the value chain are most difficult to manage and explain “why.”</td>
</tr>
<tr>
<td>Application</td>
<td>Solve problems; use facts/knowledge in a specific situation; use information in a new situation 280: Use information about functions and goals in a company to identify and explain primary and supporting processes of the firm. Explain how different factors in the value chain interrelate and which ones most directly affect primary processes and sub processes.</td>
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<tr>
<td>Analysis</td>
<td>Organize components into a meaningful structure; identify key causes of a problem; explain rationale for selecting an alternative solution; compare, contrast, organize, separate, infer, classify. 280: Review a process and identify and explain the major problem areas in the process and suggest improvements. Analyze a specific value chain and suggest ways to change operations to increase value to the customer.</td>
</tr>
<tr>
<td>Synthesis</td>
<td>Generalize from known to unknown; integrate knowledge from several areas; create new knowledge, insights or solutions. 280: Compare processes from firms in different industries and propose a new process for a firm. Design a new process to improve customer relationship management. Create a new value chain that minimizes use of intermediaries while also improving CRM.</td>
</tr>
</tbody>
</table>
Evaluation (highest) Assess value of ideas; make choices based upon reasoned evidence; discriminate among complex ideas; make judgments
280: Evaluate the strengths and weaknesses of different process models and decide which is most appropriate for a firm. Assess whether a competitor's value chain is appropriate for your firm.

**** The following are from the Random House College Dictionary:

**Learn** (verb) to acquire knowledge of or skill in by study, instruction, or experience

**Learning** (noun) knowledge acquired by systematic **study** in any field or fields of scholarly application

**Study** (verb) to apply oneself to the acquisition of knowledge as by reading or investigation; to think deeply, reflect or consider; to examine or investigate carefully and in detail; to read carefully or intently; to think out, as the result of careful consideration or devising

**NOTE:** THE ABOVE DEFINITIONS INVOLVE ACTION AND EFFORT ON THE PART OF THE LEARNER. LEARNING INVOLVES MOTIVATION AND DEDICATION. A PROFESSOR CANNOT LEARN FOR YOU!