The use and proliferation of information technologies have created drastic shifts in the way in which organizations buy and sell goods and services, and integrate their supply chain and delivery systems. Technology has also resulted in the fundamental transformations in the structure form, and governance of organizations. Today, information technology and networks represent the critical infrastructure on which corporations and the economy depend not only for the execution of operations, but also increasingly for the formulation of strategy and for competitive differentiation. Although some companies are very successful in discovering and cultivating innovative technology-enable business strategies, many fail in the process. Managers must learn to manage enterprises in a netcentric environment, exploit the enabling role of information technologies in transforming business and work group and individual processes, and extract the maximum strategic and tactical advantage based on the use of information. Making fashionable investments without systematically analyzing needs and without understanding how to adopt these new technologies in accordance with their company’s situation is irresponsible.

This course combines theories and frameworks with practical approaches to provide students with the skills required to help companies identify business opportunities, find appropriate information related technologies, and lead adoption efforts to success. Thus, it is not a technical course; rather, it addresses the question: why and how should these new technologies be leveraged to shape and support strategic and entrepreneurial initiatives in the global competitive landscape.

**LEARNING OBJECTIVES**

In this course, students will learn what it means to be an information-based organization, and how IT-enabled processes add value to organizations. They will learn where IT is going, where it fits into organizations, and how to govern it. Through case studies, research reports, hands-on exercises, and interactive discussions, participants will learn

- how to align IT with organizations’ business goals
- how to communicate those goals
- how to set business and technology priorities based on those goals
CLASSES

The majority of the classes will be taught using the case method. Case studies are based on actual company situations that give students examples of real management decision opportunities. At the same time, each case study illustrates a set of issues dealing with the uses and impacts of information technology. Classes will primarily be discussions of the case study assigned for that day, and the students are expected to have read, though about, and prepared the case prior to class.

In addition, students are requested, in fact encouraged, to bring articles into class on innovative or unique applications of information technology. The beginning few minutes of class will be devoted to discussing articles brought in. Students should leave the article(s) in the instructor's office (with the student's name clearly written on an attached sheet of paper) by 5:00 p.m. the day before class. The instructor will review the articles, and if necessary, select those that will be discussed in class.

GRADING

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Class Participation</td>
<td>30%</td>
</tr>
<tr>
<td>Attendance and contribution to discussions</td>
<td>(20%)</td>
</tr>
<tr>
<td>Case study write-up assignments</td>
<td>(10%)</td>
</tr>
<tr>
<td>Team-work</td>
<td>35%</td>
</tr>
<tr>
<td>One session facilitation</td>
<td>(20%)</td>
</tr>
<tr>
<td>One session critique</td>
<td>(15%)</td>
</tr>
<tr>
<td>Final Project</td>
<td>40%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>105%</td>
</tr>
</tbody>
</table>

Note: Up to 105 total points is possible. This extra 5 points is not a "gift" but rather to account for any differences of opinion between the instructor and students over grading. That is, even if a student thinks that the instructor took off too many points on class participation, presentations or project, there is a built-in "cushion" of the five total points so that there should be no disagreement about the fairness of the overall grading process. In addition, any grade can be appealed, provided the request is made in writing to the instructor within one week from the receipt of the grade.

CLASS PARTICIPATION

Attendance and contribution to discussion
Students are expected to attend every class and to participate in the class discussions. Class participation grades are based on two aspects: your attendance in class and your contributions to the class discussions. Contributions to discussions will focus on the quality, not the quantity of the contribution, therefore students who participate often will not necessarily receive a better grade than those who participate less often. One must recognize, however, that there is an art to quality participation that is only learned by trial and error. Therefore, students are encouraged to begin contributing to the discussions early in the semester.

As the value of this course stems from class discussion and participation, your attendance at class sessions is critical to learning the material and to enhancing the discussions. Therefore, your participation grade will include your class attendance. If you are unable to attend a class,
please call the instructor prior to the class period to let him know. If you must miss a session, you may write and submit a THREE-page analysis of the issues discussed in the case and accompanying articles in order to avoid penalizing your participation grade. You may, if you wish, use the study questions as a guideline for case write-ups. It is due by the beginning of the next class and no late write-ups will be accepted.

If you never speak out in class or if you miss several classes, you will receive a participation grade of D+. If you speak out occasionally, but rarely say anything inspired, and you attend virtually all the sessions, your participation will be in the range (depending on how often, and how well prepared you are). The best grades will be given to students who make contributions to the discussions. These involve applying conceptual material from the readings or lectures, doing some outside readings and applying them to the discussion, integrating comments from previous classes into the current discussion, taking issues with a classmate's analysis, pulling together material from several places in the case, drawing parallels from previous cases, or by consistently demonstrating that you have carefully read the case and given it careful thought.

The instructor reserves the right to cold-call on students, particularly on students who have not participated in a while. Students who are shy or uncomfortable with participation are encouraged to make an appointment with the instructor. This discussion should take place early in the semester to minimize the impact on the student's participation grade.

Some students mistakenly believe that reading directly from the case constitutes quality contribution. Although this may help clarify an issue, it will not contribute towards a participation grade. In addition, comments that are major digression from the current flow of the conversation will not help your grade. On the other hand, if you lose your train of thought, or make "wrong" or "dumb" comments, it will not count against you. You can only learn to make quality comments by jumping in and trying. Your classmates are encouraged to take issues with your comments (and you with theirs) by disagreeing with the comments, but not through personal attacks.

Note: Students missing 3 consecutive classes (without prior permission from the instructor) anytime during the first 3 weeks will be automatically withdrawn from the course.

Assignments
Throughout the semester you should choose TWO case studies. For each of these cases, you should write and submit a ONE-page analysis of the issues discussed in the case. The purpose of each one-page analysis is for students to provide the professor with a “think piece” that demonstrates deep analysis and thought. Please do NOT summarize the facts of the case. Instead, pick one or two topics of the case that interest you and provide a discussion on the analysis that demonstrates a thorough argument. These one-page assignments are due at the beginning of the class period in which the case is discussed. The purpose of these assignments are fourfold: (1) to help you in preparing for each session, (2) to improve your initial class participation, (3) to provide an opportunity for you to review other students approaches (by using the electronic newsgroup and self-review after class), and (4) to provide me with an opportunity to monitor and grade your day-to-day efforts and progress.
TEAM WORK
Session Facilitation and Critique
Each student in the class is required to participate in a working team. Each team will select two case studies on the course syllabus. The team facilitates the discussion of ONE of these case studies and will critique the facilitation, uncover important issues, and highlight the main lessons of the SECOND case study selected. The presentations should be interactive, informative and innovative. Think about creative ways to present and facilitate the case study discussion. For instance, try a role-play or a staged event rather than a traditional presentation. Team members' skills, experience and knowledge, as well as new stories that relates to the topic should add to the presentation and class discussions. The rest of the class should be prepared to engage the team in a lively discussion and debate of the case study. This means that everybody in class has to be prepared and should participate (thus contributing to the presenters' grade and their own class contribution grade). Working teams, therefore, will serve as a forum where students test and refine their analysis of the topic addressed. The working teams may be particularly useful in providing students with a sense of their increasing expertise in the application of research and problem-solving skills and methodologies that are developed by a "student-centered" learning approach.

The general class procedure will be as follows:
- A working team will lead a presentation and discussion of a case study for 30 minutes
- Another working team will critique in 15 minutes the previous presentation, uncover important issues, and add value by summarizing the main lessons of the case study presented.
- The instructor will present a third view of the topic and integrate the concepts introduced by both working teams, and the case study.

The presentation will be graded on the following criteria:
1. contribution to knowledge (this means we have to learn something from what the team did; it might be because of the material presented, but also because ideas were put in a new perspective, or made connections between different topics that had not been made before)
2. completeness (it must be a thorough job on the case study selected)
3. clarity (i.e., all the usual things—effective presentation, appropriate format and style, etc.)
4. creativity and level of class participation generated (the team should also be creative in thinking about how to facilitate the case study discussion)

FINAL PROJECT
In lieu of a final exam, students will work in a team to research, write, and present a final paper. The purpose of the paper is to identify and analyze an innovative use of IT in an organization. Students will form working groups of three to five classmates, depending on the size of the class.

On September 29, each group is to turn in a one-page executive summary that succinctly discusses your project. The objective of the document is to inform the professor on the project that the team has chosen. On November 5, each group will be presenting a progress report of its project. In addition, during the course's last three sessions, each project team will be given the opportunity to make a 30-minute presentation of their research. The purpose of this presentation is to allow teams to share their research ideas and to obtain feedback form their classmates and instructor. Throughout the semester, students are welcomed to (frequently) submit their final project to the
instructor for evaluation and feedback. The final version is due by 5:00 p.m. on December 10. The paper will be graded on creativity, originality, integration of managerial and technological issues, and clarity of vision as well as the standard measures of written work (length, readability, quality of arguments, stated assumptions). The grade on the project is based solely on the Final Report. This gives you the opportunity to learn from the development process without the risk of interim grades affecting the final product. This paper is limited to 20 double-spaced, typed pages.

READINGS

The course case package will be available from the CU Bookstore.

ELECTRONIC CONFERENCING

An electronic conference (FTP site and discussion group) will be run during the course, where announcements will be made and students can discuss questions relating to the course with the lecturer, teaching assistant and other students.

To download class materials and announcements, use your browser to point to this address:
http://leeds-faculty.colorado.edu/monteale/SYST4040/

To subscribe to the course discussion group:
- Write the following statement in the body of a message:
  SUBSCRIBE SYST4040 YourFirstName YourLastName
- Send the message to: listproc@lists.colorado.edu (you will receive a confirmation).

To send messages to the course discussion group, address your message to:
SYST4040@lists.colorado.edu

POLICIES AND RULES OF CONDUCT

- If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and www.Colorado.EDU/disabilityservices.

- Students who have conflicts between religious observance dates and course examinations or assignments should contact me as soon as possible (i.e. at least two weeks in advance) so that arrangements in accordance with the campus policy can be made. (See www.colorado.edu/policies/fac_relig.html).

- Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an
alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at: http://www.colorado.edu/policies/classbehavior.html and http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code.

- All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at: http://www.colorado.edu/policies/honor.html and http://www.colorado.edu/academics/honorcode/

- The University of Colorado at Boulder policy on Discrimination and Harassment, the University of Colorado policy on Sexual Harassment and the University of Colorado policy on Amorous Relationships apply to all students, staff and faculty. Any student, staff or faculty member who believes s/he has been the subject of discrimination or harassment based upon race, color, national origin, sex, age, disability, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the ODH, the above referenced policies and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at http://www.colorado.edu/odh.

- The faculty of the Leeds School instituted a new grading policy beginning in Fall 2009. The policy places a maximum limit on the average grade (across all students) that can be assigned in a given course. One objective of the new policy is to counteract the effects of grade inflation. Another is to encourage greater consistency in average course grades among courses taught at similar instructional levels, i.e., 2000-level courses, 3000-level courses, and 4000-level courses, etc. According to this policy the maximum grade point average (GPA) for each Leeds course section taught, where A=4.0, A-=3.7, B+=3.3, B=3.0, B-=2.7, C+=2.4, C=2.0, C-=2.7, D+=1.3, D=1.0, D-=0.7, F=0.0, are.

<table>
<thead>
<tr>
<th>Course Level</th>
<th>Maximum Section GPA</th>
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<tbody>
<tr>
<td>1000 and 2000</td>
<td>2.5 – C+</td>
</tr>
<tr>
<td>3000</td>
<td>2.8 – B-</td>
</tr>
<tr>
<td>4000</td>
<td>3.0 – B</td>
</tr>
<tr>
<td>5000</td>
<td>3.2 – B / B+</td>
</tr>
<tr>
<td>6000 &amp; MBA Core</td>
<td>3.4 – B+</td>
</tr>
<tr>
<td>MBA Electives</td>
<td>3.6 – B+/ A-</td>
</tr>
</tbody>
</table>
ABOUT THE INSTRUCTOR

Ramiro Montealegre is an Associate Professor of Information Systems at the University of Colorado, Boulder. He received his doctorate in business administration from the Harvard Business School in the area of management information systems. His master’s degree in computer science is from Carleton University, Canada. He holds a Bachelor in Engineering degree from the Francisco Marroquín University, Guatemala. He has been Invited Lecturer at the Indian School of Business, University of Toronto, Case Western Reserve University, Universidad Torcuato DiTella in Argentina, INCAE Business School in Costa Rica, Instituto Tecnológico y de Estudios Superiores de Monterrey in Mexico, and Universidad Francisco Marroquín in Guatemala. He is a recipient of five consecutive annual teaching excellence awards for outstanding teaching at the University of Colorado: the Boulder Faculty Assembly Excellence in Teaching, the Tony Tisone Teaching Excellence Award, the Joseph Frascona Excellence Award, the Graduate Professor of the Year Award, and the MBA Professor of the Year Award.

Dr. Montealegre’s research focuses on the interplay between new information technology, such as the Internet, and organization transformation in highly uncertain environments. He has been involved in studying projects of organizational change in the United States, Canada, Spain, Mexico, and the Central and South American regions. His research has been published in *Organization Science, MIS Quarterly, Sloan Management Review, Thunderbird International Business Review, Journal of Management Information Systems, IEEE Transactions on Communications, IEEE Transactions on Engineering Management, IEEE Transactions on Systems, Man, and Cybernetics, Information & Management, Information Technology & People* and other journals. In 1997, he received the MCB University Press' Award for the "Most Outstanding" paper published in the journal of Information Technology & People. In 1998, he received the "Best Paper" Award of the Information Systems Division of the Academy of Management. In 2003, he was granted the “Best Paper” Award of the *IEEE Transaction on Engineering Management* journal.
COURSE OUTLINE AND ASSIGNMENTS

THEME: Strategic impact of IT

Class 1. August 24 - Tuesday
Overview of the course. Case discussion format and preparation.

Class 2. August 26 - Thursday
Managing Information Technology: Key Frameworks
Prepare case: A Conversation about Information Technology

Class 3. August 31 - Tuesday
Prepare: American Wells: The doctor will e-see you now
Read: The Use of Cases in Management Education

Class 4. September 2 – Thursday
Effects of IT on strategy and competition

Class 5. September 7 - Tuesday
Prepare: Orange: Read&Go

Class 6. September 9 - Thursday
Options for Strategic Positioning

THEME: Digital Business Models

Class 7. September 14 – Tuesday
Prepare: Hulu: An Evil Plot to Destroy the World:

Class 8. September 16 - Thursday
Prepare: Google, Inc.

Class 9. September 21 - Tuesday
Guest speaker: Scott Green, Engineering Manager at Google

Class 10. September 23 - Thursday
Prepare: Facebook Platform
Class 11. September 28 – Tuesday  
Digital Business Models  
Final Project Outline is due.

**THEME: Business Transformation**

Class 12. September 30 - Thursday  
Prepare: Canyon Ranch

Class 13. October 5 - Tuesday  
Prepare: A Tale of Two Turnarounds at EDS: The Jordan Rules

Class 14. October 7 - Thursday  
Organizational change

Class 15. October 12 – Tuesday  
Guest Speaker: TBA

**THEME: Digital Infrastructure Transformation**

Class 16. October 14 - Thursday  
Prepare: Richter: Information Technology at Hungary’s Largest Pharma

Class 17. October 19 – Tuesday  
Digital Infrastructure transformation

Class 18. October 21 - Thursday  
Prepare: Cognizant Technology Solutions

Class 19. October 26 – Tuesday  
Guest speaker: Tom Bugnitz, The Beta Group  
Topic: "The Good, the Bad, and the Budget: How to get IT focused on the right things for the business"

Class 20. October 28 - Thursday  
Prepare: Wikipedia in the Spotlight

Class 21. November 3 - Tuesday  
Emerging technologies
Class 22. November 4 - Thursday
    Prepare: Barack Obama: Organizing for America 2.0
    Mid-Semester Project Checkpoint

THEME: International Issues

Class 23. November 9 – Tuesday
    Prepare: Entrepreneurial Leadership in Forming High Tech Enclaves: Lessons from the
    Government of Andhra Pradesh

Class 24. November 11 - Thursday
    Prepare: Li & Fung 2006

Class 25. November 30 – Tuesday
    Network organization

Class 26. December 2 – Thursday
    Prepare: Los Grobo

Class 27-28. December 4 - Saturday (2:00 to 5:00 pm).
    Group presentations

Class 29. December 7 - Tuesday
    Guest speaker: TBA

Class 30. December 9 - Thursday
    Final Review
    Final Project is due.