ISDS 741 & 751
Emerging Information Technologies
Spring 2001

Course Syllabus

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Web Site: `http://www.wiggo.com/isds741`

Section 01 Meets:	MW	4:00-5:15 PM	Room 151
Section 21 Meets:	M	6:30-9:15 PM	Room 101

Note: You must attend the section you are registered for.

Prerequisites: GMGT 645 *or* GMGT 715 *or* permission of instructor.

Required Texts: Shapiro, Carl and Varian, Hal R., 1999, *Information Rules: A Strategic Guide to the Network Economy*, Boston, MA: Harvard Business School Press. ISBN 0-87584-863-X. Available at the University Bookstore.

PriceWaterhouseCoopers, 2000, *Technology Forecast: 2000*, Menlo Park, CA: PriceWaterhouseCoopers Technology Center. ISBN 1-891865-03-X. Because this book sells for $450, 18 hardcopies and 18 CDROM versions (in Adobe Acrobat format) are on overnight reserve in the Turchin Library on the 3rd floor, courtesy of PriceWaterhouseCoopers.

D'Aveni, Richard, *Hypercompetition* (hardcover) or *Hypercompetitive Rivalries* (paperback), Free Press, New York, 1994 and 1995. Available from amazon.com for $24.50 (hardcover) or $25.00 (paperback). Ten copies on reserve in the library.

Recommended: A regular reading of business periodicals (e.g., *Wall Street Journal*, *Fortune*, *BusinessWeek*, *Forbes*, *Barron's*) and information systems periodicals (e.g., *Infoworld, Wired, Forbes ASAP, PC Magazine*) is strongly recommended. Student (reduced price) subscriptions can be obtained the first week of the semester, and the library has subscriptions to some periodicals.

Course Description and Overall Goal:

This course is designed to present an examination of the latest cutting edge and state-of-the-art information technologies. The emphasis is on recognizing the current capabilities and applications of such technologies and in predicting, and potentially benefiting from, the timing and nature of the future application of these technologies for value creation.

The course will assume knowledge and skills developed in the core courses of the MBA program, particularly *Strategic Management*. Students are expected to combine knowledge from other courses with information presented here to develop sophisticated interpretations and analyses of technological problems and opportunities.

The course contains a substantial writing component. Students will prepare written technology analyses and technology presentations on a group basis. The expected level of quality and professionalism of the content and presentation of these analyses will be that used in actual business organizations.

Much managerial communication is verbal. Therefore, class discussion of lecture and research materials forms a substantial portion of the grade for this course.

In the year 2001, no one should graduate from a top university without being able to create a website. So creating and updating a website is part of the grade for this course.

The principal objective of the course is for students to learn to analyze and forecast technological trends, while developing an understanding that technology assessment is a highly uncertain activity in which only careful thought, sensitivity to the technological environment, and creativity will succeed in the long run.

Course Learning Objectives:

1. Appreciation of the difficulties of assessing and forecasting technology diffusion and adoption.

2. Development of an understanding of fundamental concepts in assessing and forecasting technologies.

3. Understanding of the influence of economics concepts on technology impacts.

4. Detailed analysis and discussion of cutting-edge technologies.

5. Synthesis of the knowledge gained in previous courses and understanding what part of that knowledge is applicable in the technological arena.

6. Development of an awareness of the impact of the economic, social, demographic, and the political, legal and regulatory sectors of the firm's external environmental on technology.

7. Practice in working out technology assessments.

8. Development of habits for orderly, analytical thinking and skill in reporting conclusions effectively in written, oral, and website form.

Course Assignments and How They Are Evaluated

Performance evaluation will be based on student performance in four types of activities: class participation, group technology analyses, group presentations, and group web site designs.

Class Participation -- *20% of the grade*

Attendance (***on time***) is required and is a component of the participation grade*.*

In a typical class, one or more students will be asked to start the class by answering a specific question or discussing a specific issue. As a group, we will then discuss the day's assignment to develop a fuller understanding of the issues presented. Voluntary participation in discussion of lecture or technology issues is an important part of this process and an important part of your class participation grade. Please raise your hand to obtain recognition before speaking.

Class participation grades are based on the instructor's assessment of the student's in-class contribution to the discussion. The bases for this assessment include the following:

1. Are the points made relevant to the discussion? Are they linked to the comments of others?
2. Do the comments add to our understanding of the lecture or technology discussion?
3. Do the comments show careful reading and *understanding* of the text and/or technology?
4. Does the participant distinguish among different kinds of data (that is facts, opinions, beliefs, concepts, etc?)
5. Is there a willingness to "take a chance" in the discussion, or are the comments "safe"? Examples of "safe" comments: (a) repetition of text or case facts without analysis; (b) repetition or seconding of a colleague's conclusions or comments.

Team Technology Analyses -- *30% of the grade*

Student teams (of three to five members; optimally four members) will write two related technology analysis reports. In ISDS 741, the reports will focus exclusively on the technologies themselves. In ISDS 751, the reports will focus on the potential impacts to companies, industries, and countries, of the same technologies analyzed in ISDS 741, so the work you do on the first technology analysis report will assist you in preparing the second report. A preference sheet for the technology analysis reports is attached, and you will be expected turn it in by the fourth class meeting and indicate which technology you would prefer to analyze and whom you would like to work with (or not work with due to personality conflicts or any other reasons; the preference sheets are confidential and will only be seen by the professors). When the preference sheets have been turned in, I will create teams based on your preferences and assign the teams technologies and distribute copies to all students in the course.

Each written team technology analysis report constitutes 15% of your overall course grade. I will grade your papers for content only. The MCC will grade your paper for writing mechanics, writing style, and organization. Content will count for one-half (50%) of the grade, and the writing grade from the MCC will count for one-half (50%) of the grade. I expect a much higher quality of writing from teams than we would from individuals. ***In order to facilitate this dual-grading system, please submit two (2) copies of each group case analysis report***.

The team technology analysis reports should include a complete analysis (eight to twenty pages of double-spaced text) as well as a one-page executive summary, with charts and figures included where appropriate. ***But again, brevity is important.***

General Requirements for Technology Analyses

Approach the assignment as though you are management consultants hired by the management of a specific company (which you must choose and specify) to analyze the technology for either (a) adopting and using within the company, (b) entering the market for the technology, or (c) acquiring a firm that is developing the technology. First, you must choose what real-world company you are consulting for. Be aware that while the adoption scenario (a) may be somewhat easier for the first analysis (the analysis of the technology itself), it will make more difficult the second analysis (the analysis of the implications of the technology, which will require also investigating the kinds of companies you would have chosen for (b) and (c)). If you choose the adoption scenario (a) above, then any company that could use the technology is appropriate. If you choose the market scenario (b), then you must select a real-world company that has products using similar technologies or that would have the capability of developing a marketable product using the new technology. If you choose the acquisition scenario (c), then you must select both a real-world focal firm (the company you are reporting to) and a real-world target firm (the one you are recommending acquisition of). Whichever scenario you choose, you must recommend an action plan for the company to follow. The technology analysis report is your formal report to the company's management. Since this report is to executives, be concise. ***Brevity is important.*** Get to the point, but be able to support your conclusions with any appropriate analysis.

All technology analysis reports are due at the beginning of the class when the technology is to be discussed. After a brief overview lecture and class discussion, the team assigned that technology will formally present their analysis and recommendations.

The following is a ***suggested*** format for organizing your technology analysis report executive summary. It is up to you to decide on an appropriate format for your specific technology and your specific focal firm(s).

(1) **Brief overview of technology** *(about one paragraph, at most one page).* What is the most important aspect of the technology? Why is it important?

(2) **Analysis of the technology** *(about four pages).* What does the technology do? How does it work? What problems can it solve? What problems can it cause?

(3) **Recommendations** *(about four pages).* What should your client do about the technology? ***Be specific.*** How does your recommendation follow from your technology analysis? How will your plan solve problems without causing new problems? How will it be implemented? ***Include an action plan.*** How much will your plan cost? Is it feasible? How will it be financed? What are the risks of your plan? What can go wrong? ***Include a risk analysis.***

(4) **Appendix** *(included in 20 page limit).* Include any exhibits or analyses that may be relevant.

Team Technology Presentation -- *30% of the grade*

In addition to the written technology analyses, each team will prepare two corresponding brief (30 to 40 minute) formal presentations. This presentation will follow an overview by the professor of the technology area in very general terms and a general class discussion. Be aware that everyone in the class (including the professor and any guests) will be free to ask questions following your presentation. Your handling of questions will be part of the grade for the presentation.

As in the real world, you are responsible for being completely current. If late-breaking news affects your technology, you need to incorporate it into your presentation. Every team member must participate in both formal presentations.

Your presentation should be in PowerPoint form, and presented using the classroom computer facilities. You should also be prepared with backup transparencies in case there are problems with the computer or the projection system. You should also be prepared to continue your presentation if the overhead projector also fails.

Each group presentation constitutes 15% of your overall course grade. The content of the presentation will be one-third (33%) of the grade. The quality of the presentation will be one-third (33%) of the grade. Your individual presentation style will be one-third (33%) of the grade.

Team Technology Web Site -- *20% of the grade*

In addition to the written technology analysis and presentation, each team will create a web site covering the details of their analyses. Graphics from the team presentation and text from the written analysis can and should provide the foundation for the web site, although through the use of HTML and its hypertext capabilities the website should be an extension and enhancement of the other forms. The website will be evaluated twice, once at the time of the technology presentation (10% of the course grade), and again at the time of the implications of the technology presentation (10% of the course grade).

If no one on your team knows how to create a website, then you must learn how on your own. While the Freeman School has no webhosting services for students, you can use the resources of the Tulane Studentweb (http://studentweb.tulane.edu/) or there are many commercial sites which offer free webhosting services (e.g., http://www.theglobe.com/, http://www.homestead.com/, http://xoom.com/home/, http://geocities.yahoo.com/home/, http://www.freeyellow.com/, http://www.bravenet.com/). Links to all of these sites will be on the course website at http://www.wiggo.com/isds741/

You are to turn in the URL of your website with your technology analysis report the day of your presentation. Your website will be added to the links from the course website.

General Rules Regarding Written Work:

1.) *Use a spelling checker.*

2.) *Minimal grammatical errors.*

These rules are firm because they replicate the conditions the student should expect to find in any well-run business establishment. In general, professionally managed enterprises do not commit, nor accept, needless spelling or grammatical errors in written or presented materials. They diminish the quality of the company's reputation for accuracy and attention to detail, and take attention away from the content of the message presented.

3.) *Management Communications Center.* The Freeman School offers an excellent resource in the Management Communications Center. Take advantage of it. The MCC will be grading both written assignments for spelling, punctuation, grammar, and style, so it is to your advantage to utilize the facilities of the MCC when preparing your papers. Remember that the MCC is busy, so don't wait until the last minute to ask for their help.

General Information

1) Grade ranges: 93–100 = A; 90-92 = A-: 87-89 = B+; 83–86 = B; 80-82 = B-; 70-79 = C; Below 70 = F. Grades on each of the seven assignments will be weighted as specified above and summed to calculate your final grade.

2) I will be fully prepared for every class and expect you to be the same. I sometimes call on students whose hands are not raised, and therefore request that you advise me before class if some emergency has made it impossible for you to prepare adequately for class discussion.

3) Class attendance is required at *every* class meeting. Unexcused absences will result in a deduction to the class participation grade of the student. Excused absences are so rare as to be unworthy of itemization here (and do *not* include job interviews or Burkenroad Reports site visits). If a student does miss a class, it is his or her responsibility to find out *from classmates* what materials were covered, what additional assignments were made, and what items may have been distributed in class.

4) The course has a web site at http://www.wiggo.com/isds741/ where I will be posting copies of all materials, including lecture slideshows (the day *after* the lecture).

5) I will attempt to learn your names as quickly as possible. However, to allow me to keep track of participation grades from the very beginning, I will be using a seating chart. Please sit in your assigned seats. If you do not, you will be marked absent.

6) Class will begin *on time*. You are expected to be in your seat and ready to begin the leadoff discussion at that time. Learn to be prompt. Showing up late to meetings shows a lack of respect, and will not help your career. Start getting used to it now, when all it can hurt is your grade.

7) Written work is due at the beginning of class on the day it is due. Late papers will be accepted only in the case of dire emergencies.

8) Please do not eat during class.

9) Hats and caps should not be worn in class.

ISDS 741 4:00 PM Schedule of Classes (Section 01 Days)

Date	Day	Subject	Reading	Other
1/17	Wed	Overview, distribution of syllabus, introductions.		
1/22	Mon	Technology Impact		**Room 141**
1/24	Wed	Technology Diffusion and Adoption		**Room 141**
1/29	Mon	Technology Assessment		**Room 141**
1/31	Wed	Technology Forecasting		**Room 141**
2/2	Fri	Presentation Workshop		*FRIDAY 141*
2/5	Mon	*Team 1 Technology*		**Room 141**
2/7	Wed	*Team 2 Technology*		**Room 141**
2/12	Mon	*Team 3 Technology*		
2/14	Wed	*Team 4 Technology*		
2/19	Mon	*Team 5 Technology*		
2/21	Wed	*Team 6 Technology*		
2/25	**Mon**	**NO CLASS**		**Mardi Gras**
2/27	**Wed**	**NO CLASS**		**Mardi Gras**
3/5	Mon	Look ahead to Part II		
3/7	Wed	**Course Wrap-up and Evaluations**		

ISDS 741 6:30 PM Schedule of Classes (Section 21 Evenings)

Date	Day	Subject	Reading	Other
1/22	Mon	Overview, distribution of syllabus, introductions.		
1/29	Mon	Technology Impact, Diffusion & Adoption		
2/5	Mon	Technology Assessment and Forecasting		
2/12	Mon	*Team 1 & 2 Technology*		
2/19	Mon	*Team 3 & 4 Technology*		
2/25	**Mon**	**NO CLASS**		**Mardi Gras**
3/5	Mon	*Teams 5 & 6 Technology*		
3/9	**Fri**	Look ahead to Part II and **Course Wrap-up and Evaluations**		**FRIDAY CLASS**

ISDS 751 4:00 PM Schedule of Classes (Section 01 Days)

Date	Day	Subject	Reading	Other
3/14	Wed	Overview, distribution of syllabus, introductions.		
3/19	Mon	Hypercompetition Overview	D'Aveni Ch. 1-4	
3/21	Wed	Pricing	S&V Ch. 1 & 2	
3/26	Mon	Versioning & Rights	S&V Ch. 3 & 4	
3/28	Wed	Lock-In	S&V Ch. 5 & 6	
3/30	**Fri**	Presentation Workshop		**FRIDAY CLASS**
4/2	Mon	Network Effects	S&V Ch. 7	
4/4	Wed	*Team 1 Technology*		
4/9	Mon	*Team 2 Technology*		
4/11	Wed	*Team 3 Technology*		
4/16	Mon	*Team 4 Technology*		
4/18	Wed	*Team 5 Technology*		
4/23	Mon	*Team 6 Technology*		
4/25	Wed	Course Wrap-up and Evaluations		

ISDS 751 6:30 PM Schedule of Classes (Section 21 Evenings)

Date	Day	Subject	Reading	Other
3/12	Mon	Hypercompetition Overview	D'Aveni Ch. 1-4	
3/19	Mon	Pricing, Versioning & Rights	S&V Ch. 1-4	
3/26	Mon	Lock-In & Network Effects	S&V Ch. 5-7	
4/2	Mon	*Team 1 & 2 Technology*		
4/9	Mon	*Team 3 & 4 Technology*		
4/16	Mon	*Teams 5 & 6 Technology*		
4/23	Mon	Course Wrap-up and Evaluations		

ISDS 741/751 Technology Preference Sheet

Name:_____

Would like to work with: _____

Would prefer **NOT** to work with: _____

Section (circle one)   01 (4:00 PM)   21 (6:30 PM)

Please number your preferences from 1 (most preferred) to 10 (least preferred).
Coordinate your choices with your preferred potential teammates, as I will be assigning primarily based on technology preference.

Technology Preferences
_____ **Computing:** Peer-to-Peer (P2P) and Distributed Computing
_____ **Computing:** Intel Itanium
_____ **Wireless:** Connectivity and Bluetooth
_____ **Wireless:** Wireless Internet / stml / 3G
_____ **Communications:** Optical technologies and routers
_____ **Communications:** Satellite
_____ **Software:** Apple OS X
_____ **Software:** Linux / Eazel
_____ **Software:** ASP (Application Service Providers)
_____

If you have a compelling reason why you want a particular technology, please explain:

_____

_____

_____

ISDS 741/751 Student Information Sheet

Name:_____

Concentration:_____

Home Town:_____

Undergrad Degree & School:_____

Job Yet?_____ Doing What?_____

    What Company?_____

    Where?_____

Work Experience:_____

_____

_____

_____

Career Objective:_____

_____

_____

_____

Interesting Facts (hobbies, family, sports, other)_____

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