

15.831 Updated Schedule  
**Marketing High Technology Products**

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<b>Monday, 10:05am-11:25am, E56-270</b>	<b>Wednesday, 10:05am-11:25am, E56-270</b>
September 3 <i>Labor Day</i>	<b>1</b> September 5 The Technology Paradox
<b>2</b> September 10 The Profitless PC	<b>3</b> September 12 Crossing the Chasm, New Economy
September 17 <i>No class meeting</i>	<b>4</b> September 19 Visitor: Jamie Boyer, IBM yesmail.com
<b>5</b> September 24 Conjoint Analysis	<b>6</b> September 26 Visitor: Kip Compton CISCO
<b>7</b> October 1 Zenith HDTV	<b>8</b> October 3 Visitor: Jay Ong, Microsoft Living on Internet Time
October 8 <i>No class meeting</i>	<b>9</b> October 10 Team meetings, <i>No class meeting</i>
<b>10</b> October 15 Web-based Market Research	<b>11</b> Oct. 17 Visitor: Matt Haggerty, Prod. Genesis Versioning
<b>12</b> October 22 Visitor: Angela Liao, Microsoft Compatibility & Complements	<b>13</b> October 24 Can This High Tech Prod Sell?
<b>14</b> October 29 Pricing	<b>15</b> October 31 Matching Dell
<b>16</b> November 5 Intuit	<b>17</b> November 7 Siebel Systems
November 12 <i>No class meeting</i>	<b>18</b> November 14 Review
<b>19</b> November 19 EXAMINATION	<b>20</b> November 21 <i>Team meetings; No class meeting</i>
<b>21</b> November 26 PC's & Information Appliances	<b>22</b> November 28 Visitor Rob Chess, CEO, Inhale Therapeutics
<b>23</b> December 3 The Virtual Customer	<b>24</b> December 5 Team Presentations
<b>25</b> December 10 Team Presentations	<b>26</b> December 12 Team Presentations

15.831 Course Outline

**Marketing High-Technology Products**

Spring Semester 2001 · Tuesdays & Thursdays · 10:05am-11:25am · E56-270

*Module I: HOW IS HIGH TECHNOLOGY DIFFERENT?*

*Module II: THE NETWORK ECONOMY*

*Module III: MARKET MEASUREMENT AND RESPONSE*

*Module IV: PRODUCT DEVELOPMENT AND POSITIONING*

*Module V: PROMOTION, PRODUCT, PRICING, PLACE*

*Module VI: EXAM AND PROJECTS*

**INSTRUCTOR:**

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**GRADING**

- |  |     |
|--|-----|
| 1. Written Assignments:                    | 25% |
| 2. Examinations:                           | 25% |
| 3. Project (see description that follows): | 25% |
| 4. Contributions to class discussion:      | 25% |

## WRITTEN ASSIGNMENTS

There will be several written assignments due during the semester, including:

- **Due Wednesday, September 12:** Team list and project description paragraph
- **Due Monday, September 24:** Conjoint homework
- **Due Monday, October 1:** Zenith case write-up (the 10 questions on page 10)
- **Due Wednesday, October 10:** Update Teaching staff on your project
- **Due Wednesday, October 31:** Team project progress report, 1-2 pages
- **Additional short assignments** will be assigned during the semester

## EXAMINATION

There will be an 80 minute, closed-book, short answer and/or multiple-choice, in-class exam on Monday, November 19, beginning at 10:05am. There may also be a short quiz or two during the semester.

## PROJECT

**Objective:** The project provides an opportunity for in-depth study or application of the concepts discussed in class. The project should be done in groups of four to five. A number of possible topics will be provided, but this list is by no means exhaustive and students are free to propose their own ideas. If you are having trouble selecting a project, or would like additional alternatives, please talk to Professor Dahan or the course TA.

**Deliverables:** A project outline will be due relatively early in the semester, followed by a mid-term progress report, and a final report (oral and written). Specifically:

**Wed., Sept. 12, 2001:** One-paragraph description of project is due along with team list.

**Wed., Oct. 31, 2001:** Mid-term project progress report is due, possible project review meeting.

**Wed., Dec. 12, 2001:** Written report is due. Also, each group is to give a 10 minute presentation summarizing the *results* of their project during the last three class sessions.

## CLASS DISCUSSION CONTRIBUTIONS

A great deal of learning comes from hearing what your colleagues have to say and responding to it. You will be expected to have completed the readings prior to each class and prepared the assignment questions. You may be "cold-called." Attendance at EVERY session is mandatory (please do not schedule travel or interviews during any class meeting). Absences will affect your grade adversely. Quantity and quality of participation are both important. The grading formula will be along the following lines:

$CDG = \sqrt{Qty \times Avg.Score} - Absense Penalty$ , where *CDG* is the class discussion grade, *Qty* is the number of significant contributions, and *Avg. Score* is the average quality over all of the contributions. *If you are having any difficulty participating, please discuss this with Professor Dahan.*

**Contents of the course reader**

"The Technology Paradox" *Business Week*. Mar 6, 1995.

"High-Tech Marketing: Concepts, Continuity, and Change" *Sloan Management Review*.

"Moore's Law." *Stanford Business School Teaching Note*. 4p.

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"The Case of the Profitless PC" *HBR* [98603]

"...SGI Plots..." *Computer Reseller News*. Jan 4, 1999.

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"Crossing the Chasm-and Beyond" *Inside the Tornado*

"Growing Up: 'Moving from Technology-Centered to Human-Centered Products'."

"Metcalfe's Law." *Stanford Business School Teaching Note*.

"Are Networks Driving the New Economy." *HBR* [95611]

"New Rules for the New Economy" *Wired Magazine/Web site*.

"The Web Gets Ugly." <http://web.mit.edu/krugman/www/ugly.html>. Dec. 6, 1998.

"When companies connect" *The Economist*. June 26, 1999.

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"yesmail.com" *HBS Case*. [9-500-092]

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Note: "Conjoint Analysis: A Manager's Guide." *HBS Note* [9-590-059]

Note: "Conjoint Basics," *Prof. Dahan Informal Note*

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"Cisco Systems, Inc." *HBS Case*. [9-398-127]

"A note on Internet Technology." *Stanford Business Teaching Note*.

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"Zenith: Marketing Research for HDTV" *HBS Case*. July 24, 1991. [9-591-025]

"HDTV's Boundaries Develop...Fuzziness" *WSJ*.

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"Living on Internet Time: Product Development at Netscape, Yahoo!™ NetDynamics,  
and Microsoft®" *HBS*. [9697052]

"Building Windows." *Forbes ASAP*. Aug. 23, 1999.

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"Versioning: The Smart Way to Sell Information" *HBR*. Nov.-Dec. 1998. [98610]

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"Complementarity, Compatibility..." *JPIM*. March, 1995.

"Sega: 'We're Going to Blow Them Out of the Water'." *Business Week*. Dec 7, 1998.

Brull, Steven. "DVD...Technology Prevailed." *Business Week*. July 5, 1999.

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**Contents of the course reader (continued)**

“Can this High-Tech Product Sell Itself” *HBR* [95611]

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“Chapter 2: Pricing Information Goods.” *Information Rules*. 1999.

“Freeware? What’s not to like?” *Business Week*. Jan 11, 1999.

“I got it cheaper than you.” *Forbes*. November 2, 1998.

“The Free-PC...” *Business Week*. July 19, 1999.

“Pricing and Branding on the Internet.” Oct. 6, 2000.

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“Matching Dell.” *HBS Case* [9-799-158]

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“Scott Cook and Intuit” *HBS Case*. [9-396-282]

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“Siebel Systems.” *Stanford Graduate School of Business*, November, 1999.

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“What’s Wrong with the PC?” *The Invisible Computer*.

“PC Paranoia.” *PC Magazine*. September 1, 1999.

“Post-PC? Look Around You.” *PC Magazine*. Feb 23, 1999.

“Today’s PC: Inexpensive & Obsolete.” *PC Magazine*. Oct. 20, 1998.

“Onward to Pervasive Computing!” *The Economist*. September 12, 1998.

“The Future of Computing.” *The Economist*. September 12, 1998.

“PC-Linked Devices.” *PC Magazine*. August, 1999.

“A World of Information Appliances.” *The Invisible Computer*.

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“The Virtual Customer: Communication, Conceptualization, and Computation” By Ely Dahan and John Hauser (*Working Paper*)

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“TiVo” *HBS Case* [9-501-038]

**Module I: HOW IS HIGH TECHNOLOGY DIFFERENT?**

**Session 1**

**Wednesday, September 5, 2001**

**The Technology Paradox**

**Readings (19 pages)**

This course outline

Article: Gross, et al "The Technology Paradox" *Business Week*. Mar 6, '95. pp. 76-84.

Moriarty, Rowland T. and Thomas J. Kosnik. "High-Tech Marketing: Concepts, Continuity, and Change" *Sloan Management Review*. Summer 1989. pp. 7-17.

Mendelson, Haim. "Moore's Law." *Stanford Business School Teaching Note*. 4p.

**Assignment:** Prepare the following study questions for class discussion:

- What do Moriarty and Kosnik point to as the key differences in high-tech?
- What do the leading high-technology firms have in common?
- What forces underlie the Technology Paradox? What effect should Moore's Law have on marketing?

**Session 2**

**Monday, September 10, 2001**

**The Profitless PC**

**Readings (11 pages)**

Case: "The Case of the Profitless PC" *Harvard Business Review*. November-December 1998. pp. 2-12. [98603]

Wilcox, J. "...SGI Plots..." *Computer Reseller News*. Jan 4, 1999. pp. 128, 123

**Assignment:** Consider the following study questions for class discussion:

- What should Praxim do?
- With whom do you agree regarding his or her analysis of Praxim's situation?
- What do you think of SGI's entry into the "Wintel" market?

*Module II: THE NETWORK ECONOMY*

**Session 3**

**Wednesday, September 12, 2001**

**Crossing the Chasm, The New Economy**

**Readings (54 pages)**

Moore, Geoffrey "Crossing the Chasm-and Beyond" *Inside the Tornado*. pp 13-26.

Norman, Donald A. "Growing Up: 'Moving from Technology-Centered to Human-Centered Products'." *The Invisible Computer*. pp. 22-49

Mendelson, Haim. "Metcalfe's Law." *Stanford Business School Teaching Note*. 2p.

Bernstein, Peter L. "Are Networks Driving the New Economy." *Harvard Business Review*. November-December 1998. pp. 3-7. [95611]

Kelly, Kevin. "New Rules for the New Economy" *Wired Magazine/Web site*. Issue 5.09 - September 1997. pp. 1-16.

Krugman, Paul. "The Web Gets Ugly." Paul Krugman web site:

<http://web.mit.edu/krugman/www/ugly.html>. Dec. 6, 1998. 1 page.

"When companies connect" *The Economist*. June 26, 1999. pp. 19-20.

**Assignment:** Consider the following study questions for class discussion:

Turn in a list of your project team members and a very short project description

- Do you agree with Norman's assessment of technology products?
- How can marketing help a firm "Cross the Chasm"?
- Are we in a new economy? What role does Metcalfe's Law play?
- How is high technology different from the old economy?
- What do you think of Kelly's twelve rules?
- Is Krugman right that high technologists are the new railroad barons?
- How does *viral marketing* relate to principles we have learned?

**Session 4**

**Wednesday, September 19, 2001**

**yesmail.com**

Guest Speaker: Jamie Boyer, Marketing Research Director, IBM Mobile Products

**Readings (15 pages)**

Case: "yesmail.com" *HBS Case*. September 5, 2000. pp. 1-15. [9-500-092]

**Assignment:** Consider the following study questions for class discussion:

- What solution should Tolmie adopt to recruit new members: the "network solution," a proprietary membership list, or both?
- What does yesmail bring to its members? How would you maintain/enhance that value?
- What does yesmail bring to its clients? What do you think of yesmail's pricing policy?
- What is the future of permission marketing agents such as yesmail.com?

**Session 5**

**Monday, September 24, 2001**

**Conjoint Analysis**

Products can be described as a bundle of attributes such as price, function, aesthetics, etc.. Conjoint analysis allows individual customers to indicate the degree to which each attribute matters to them.

**Readings (6 pages)**

Note: "Conjoint Analysis: A Manager's Guide." HBS Note [9-590-059]

Note: "Conjoint Basics," Prof. Dahan Informal Note

**Assignment:** Prepare the following study questions for class discussion:

Turn in the conjoint analysis homework assignment (handed out in the last class).

- What are the primary benefits of conjoint analysis?
- What kind of attributes should be evaluated? Which should not? Why?
- How should a product's price be set given conjoint data?
- How does a product's cost enter the picture?



**Session 6**

**Wednesday, September 26, 2001**

**Cisco**

**Readings (26 pages)**

Case: "Cisco Systems, Inc." *HBS Case*. October 13, 1998. pp. 1-26. [9-398-127]

Optional Background reading: Mendelson, Haim. "A note on Internet Technology."  
*Stanford Business Teaching Note*. 27p.

**Assignment:** Consider the following study questions for class discussion:

- How does Cisco use IT in its marketing? Is this strategy effective? Why?
- How can Cisco maintain IT leadership over the coming years?
- Will the Internet fundamentally affect marketing? If so, how and why?

**Module III: MARKET MEASUREMENT AND RESPONSE**

**Session 7**

**Monday, October 1, 2001**

**Case: Zenith HDTV**

**Readings (23 pages)**

Case: "Zenith: Marketing Research for HDTV" *HBS*. July 24, 1991. pp. 1-22.  
[9-591-025]

Ramstad, E. "HDTV's Boundaries Develop...Fuzziness" *WSJ*. July 8, 1999. p. B6.

**Assignment:** Write up the case and turn in answers to the following questions (one per team).

CASE WRITEUP DUE TODAY FROM EACH TEAM (*at the beginning of class*)

- Explain the differences between three forecasting methods: diffusion, econometric, and customer choice modeling?
- What market research should Huber recommend for HDTV *now* and *later*?
- Will HDTV be an uphill battle or a boost for Zenith? For the industry?
- What are the pros and cons of adopting HDTV? Who will be early adopters?
- Should Zenith undertake the aspect ratio study? If so, *when* and what should be the research design (i.e. any modifications to the proposal)? What are the pros and cons of the existing proposal?
- What is the market potential for HDTV based on the diffusion history of similar innovations? How can customer behavior for color TV help assess the market for HDTV? Please forecast sales numbers for ten years.
- How should one define scenarios for an optimistic, a most likely, and a pessimistic scenario for the demand for HDTV in 1992-2000?
- What are the demand numbers under these scenarios?
- What is the role of market research for high-tech consumer durables?
- What are the pros and cons of the other proposals for HDTV research

**Module IV: PRODUCT DEVELOPMENT AND POSITIONING**

**Session 8**

**Wednesday, October 3, 2001**

**Product Development on Internet Time**

**Readings (20 pages)**

Case: "Living on Internet Time: Product Development at Netscape, Yahoo!<sup>TM</sup>  
NetDynamics, and Microsoft®" *HBS*. April 21, 1997. pp.1-12. [9697052]

Fishburne, Rodes. "Building Windows." *Forbes ASAP*. Aug. 23, 1999. pp. 89-96.

**Assignment:** Consider the following study questions for class discussion:

- Contrast the development approaches followed by the four organizations.
- How does fast clockspeed affect product development? Which elements of

- the product development approaches will survive as the Internet evolves?
- What traditional marketing practices must adjust to fit this new reality?

**Session 9**

**Wednesday, October 10, 2001**

**Team meetings**

Meet with the teaching staff in E56-270 to for a brief meeting and update. No formal class meeting today. Please use this opportunity to make progress on your team project.

**Session 10**

**Monday, October 15, 2001**

**Web-based Market Research**

**Assignment:** We will meet in the Sloan School Trading Lab to conduct several web-based market research experiments.

**Session 11**

**Wednesday, October 17, 2001**

**Versioning**

Guest Speaker: Matt Haggerty, President, Product Genesis

**Readings (9 pages)**

Shapiro, Carl and Hal R. Varian. "Versioning: The Smart Way to Sell Information" *HBR*. November-December 1998. pp. 106-114. [98610]

**Assignment:** Consider the following study questions for class discussion:

- Which segmentation approaches are meaningful in high technology markets?
- How does *Versioning* relate to the 4 P's: Price, Product, Promotion and Place?

**Session 12**

**Monday, October 22, 2001**

**Compatibility and Complements**

Guest Speaker: Angela Liao, Microsoft, Pocket PC Group

**Readings (21 pages)**

Dhebar, A. "Complementarity, Compatibility..." *JPIM*. March, 1995. pp. 136-152.

Kunii, Irene M. "Sega: 'We're Going to Blow Them Out of the Water'." *Business Week*. December 7, 1998. p. 108

Brull, Steven. "DVD...Technology Prevailed." *Business Week*. July 5, 1999. p. 34

**Assignment:** Consider the following study questions for class discussion:

- When should a firm break with past standards? How should it do so?
- Why did DVD beat DIVX?
- Why did Sony succeed vs. Sega, despite slightly inferior technology?

*Module V: PROMOTION, PRODUCT, PRICING, PLACE*

**Session 13**

**Wednesday, October 24, 2001**

**The Role of Marketing**

**Readings (12 pages)**

Case: Virden, Thomas W. "Can this High-Tech Product Sell Itself" *Harvard Business Review*. November-December 1995. pp. 2-12. [95611]

**Assignment:** Consider the following study questions for class discussion:

- What should Jim Merrick do about VM 2.0?
- What do you think of Merrick's crew?
- With whom do you most agree about the role of marketing in high technology firms?

**Session 14**

**Monday, October 29, 2001**

**Pricing**

**Readings (63 pages)**

Shapiro, Carl and Hal Varian. "Chapter 2: Pricing Information Goods."  
*Information Rules*. 1999. Pp. 19-51.

Wildstrom, S. "Freeware? What's not to like?" *Business Week*. Jan 11, 1999. p. 26

Woolley, Scott. "I got it cheaper than you." *Forbes*. November 2, 1998. pp.82-84.

Armstrong, L. "The Free-PC..." *Business Week*. July 19, 1999. p. 80.

Optional: "Pricing and Branding on the Internet." Oct. 6, 2000. pp. 1-25.

**Assignment:** Consider the following study questions for class discussion:

- Why is pricing such a challenge in high technology?
- How should you price at each stage of the technology diffusion cycle?
- How does the Internet affect pricing? Price discrimination?
- Would you post prices on the net? Why or why not?
- When should a product be free?
- Will the free PC movement succeed?

Submit no later than October 31, a 1-2 page report describing the progress your team has made on the course project (one per team). Submit BOTH an email version (to [edahan@mit.edu](mailto:edahan@mit.edu)) and a hardcopy version. The file name must be:

15.831 *project name* progress report.doc  
(e.g. 15.831 Thinkpad 2 progress report.doc)

**Session 15**

**Wednesday, October 31, 2001 (Happy Halloween!)**

**Matching Dell**

**Readings (31 pages)**

Case: "Matching Dell." 31p. HBS. June 6, 1999. pp. 1-31. [9-799-158]

**Assignment:** Consider the following study questions for class discussion:

- How has the PC industry evolved? How did Dell get started in this business?
- Who are Dell's customers? Why do they buy from Dell?
- What are the key elements of Dell's strategy?
- How does direct distribution affect Dell's pricing? Products? Promotion? What are the advantages and disadvantages of this form of distribution?
- What did Dell learn from its mistakes?
- Can the direct model be extended to non-PC products?

**Session 16**

**Monday, November 5, 2001**

**Intuit**

**Readings (13 pages)**

Case: "Scott Cook and Intuit" HBS Case. January 2, 1997. pp.1-13. [9-396-282]  
Browse Intuit's and related web sites

**Assignment:** Consider the following study questions for class discussion:

- What should Scott Cook do after the failed merger with Microsoft?
- How would you characterize Intuit's relationship with its customers?
- What are Intuit's largest assets? How are they reflected in its financials?

**Session 17**

**Wednesday, November 7, 2001**

**Siebel**

**Guest:** Eric Hjerpe (MIT MBA '93 alumni), Senior Director of Customer Satisfaction

**Readings (25 pages)**

Case: "Siebel Systems." November, 1999. pp. 1-25.

**Assignment:** Consider the following study questions for class discussion:

- How do you perceive Siebel's competitive position in the CRM market?
- Which of the areas in Exhibit 5 are most attractive for Siebel? Which are most appropriate for marketing high-technology products?
- What should Tom Siebel do to maintain growth and market leadership?

*Module VI: EXAM AND PROJECTS*

**Monday, November 12, 2001: *Veteran's Day Holiday***

**No class meeting today**

**Assignment:**

Email one or more GREAT exam question(s), in PowerPoint format as supplied to you, to edahan@mit.edu by 5pm on Monday, November 12, 2001

**Session 18**

**Wednesday, November 14, 2001**

**Review for Exam**

**Readings: (4 pages)**

Course Summary

**Assignment:**

Come to class prepared to discuss key course concepts and to answer typical exam questions.

**Session 19**

**Monday, November 19, 2001**

**EXAMINATION**

*(Exam starts exactly at 10:05am)*

<b><u>EXAMINATION (80 MINUTES)</u></b>
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**Session 20**

**Wednesday, November 21, 2001**

**No class meeting today**

Please take this opportunity to have team project meetings.

*Have a very happy, healthy Thanksgiving Day holiday!*

**Session 21**

**Monday, November 26, 2001**

**What's Wrong with the PC and Why Information Appliances May be the Answer?**

**Readings (25 pages)**

Norman, Donald A. "What's Wrong with the PC?" *The Invisible Computer*. pp. 69-87

Dvorak, John C. "PC Paranoia." *PC Magazine*. September 1, 1999. p. 87.

Seymour, Jim. "Post-PC? Look Around You." *PC Magazine*. Feb 23, 1999. p. 93.

Kirchner, J. "Today's PC: Inexpensive & Obsolete." *PC Mag*. Oct. 20, 1998. p.30.

"Onward to Pervasive Computing!" *The Economist*. September 12, 1998. p. 18

"The Future of Computing." *The Economist*. September 12, 1998. pp. 79-81.

Howard, Bill. "PC-Linked Devices." *PC Magazine*. august, 1999. p. 97.

Optional: Norman, Donald A. "A World of Information Appliances." *The Invisible Computer*. pp. 247-272

**Assignment:** Consider the following study questions for class discussion:

- Do you agree with Norman's assessment of the PC?
- Why are all of these authors complaining about the lowly PC?
- What steps would you take if you were a PC maker?

- Why did the problems with current PC technology arise? How are these reasons consistent with the principles we have learned over the semester?
- Are information appliances the only solution? The best solution?
- What is marketing's role in addressing the situation?

**Session 22**

**Wednesday, November 28, 2001**

Guest Speaker: Rob Chess, CEO, Inhale Therapeutics

**Readings:**

Please read the background material on Inhale Therapeutics and visit the company's web site at <http://www.inhale.com>

**Assignment:** Submit your PowerPoint project presentations to Professor Dahan ([edahan@mit.edu](mailto:edahan@mit.edu)) at least one week prior to your scheduled presentation. The first slide should show your project name and the team members' names.

The file name must be:

15.831 *project name*.ppt (e.g. 15.831 IBM Microportable 2.ppt)

**Session 23**

**Monday, December 3, 2001**

**The Virtual Customer**

**Readings: (19 pages)**

Dahan, Ely and John R. Hauser. "The Virtual Customer: Communication, Conceptualization, and Computation." Forthcoming in the *Journal of Product Innovation Management*.

**Assignment:**

Prepare the following study questions for class discussion:

- What are the pros and cons of Web-based NPD research?
- How might these methods apply to high technology products? Software? New-to-the-world technologies?

**Session 24**

**Wednesday, December 5, 2001**

**Team Summary Presentations**

**Session 25**

**Monday, December 10, 2001**

**Team Summary Presentations**

**Session 26: LAST CLASS**

**Wednesday, December 12, 2001**

**Team Summary Presentations**

*Happy Holidays...Happy New Year...Have a Wonderful 2002!*