# 15.831 Updated Schedule

## Marketing High Technology Products

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

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PROJECT WEB SITE DEVELOPER:

Rob Hardy
rhardy@mit.edu

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:

\[ CDG = \sqrt{Qty \times Avg.\ Score} - Absence\ Penalty \]

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 Case of the Profitless PC” HBR [98603]

“Crossing the Chasm-and Beyond” Inside the Tornado
“Growing Up: ‘Moving from Technology-Centered to Human-Centered Products’.”
“Are Networks Driving the New Economy.” HBR [95611]

“yesmail.com” HBS Case. [9-500-092]

Note: “Conjoint Basics,” Prof. Dahan Informal Note

“A note on Internet Technology.” Stanford Business Teaching Note.

“HDTV’s Boundaries Develop…Fuzziness” WSJ.

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


Contents of the course reader (continued)

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


“Matching Dell.” HBS Case [9-799-158]

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


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

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

“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

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)

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)

Assignment: Consider the following study questions for class discussion:

<table>
<thead>
<tr>
<th>Turn in a list of your project team members and a very short project description</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Do you agree with Norman’s assessment of technology products?</td>
</tr>
<tr>
<td>• How can marketing help a firm “Cross the Chasm”?</td>
</tr>
<tr>
<td>• Are we in a new economy? What role does Metcalfe’s Law play?</td>
</tr>
<tr>
<td>• How is high technology different from the old economy?</td>
</tr>
<tr>
<td>• What do you think of Kelly’s twelve rules?</td>
</tr>
<tr>
<td>• Is Krugman right that high technologists are the new railroad barons?</td>
</tr>
<tr>
<td>• How does viral marketing relate to principles we have learned?</td>
</tr>
</tbody>
</table>
Session 4  
Wednesday, September 19, 2001  
**yesmail.com**  
Guest Speaker: Jamie Boyer, Marketing Research Director, IBM Mobile Products  

**Readings (15 pages)**  
**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 Basics,” Prof. Dahan Informal Note  
**Assignment:** Prepare the following study questions for class discussion:  
- 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?  

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Turn in the conjoint analysis homework assignment (handed out in the last class).
Session 6  
Wednesday, September 26, 2001  
Cisco  

Readings (26 pages)  
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)

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)

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)

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)

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)

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)


**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) 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)


**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)
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)

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)

EXAMINATION (80 MINUTES)

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
“Onward to Pervasive Computing!” The Economist. September 12, 1998. p. 18

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) 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)

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!