

New York University
Stern School of Business
Executive MBA Program, 2000/2001

INDUSTRY ANALYSIS AND CORPORATE STRATEGY ¹
B97.3302-3303

John Czepiel
Room 8-96 MEC
Tel: (212) 998 0510
Fax: (212) 995 4006
e-mail: jczepiel@stern.nyu.edu

Joseph S. Byck
Tel: (203) 794-3022
Fax: (203) 794-3334
byckjs@ucarb.com

Crocker Liu
Room 9-10 MEC
Tel: (212) 998 0353
Fax: (212) 995-4233
cliu@stern.nyu.edu

I. Course Objectives

This is a project-oriented integrative, capstone course that develops skills needed to:

- » analyze relationships between trends in environmental conditions and organizational processes that together affect performance in an industry;
- » develop and compare strategies for creating and delivering value to stakeholders by achieving sustainable competitive advantage over competitors for a specific firm in the industry;
- » design a plan to facilitate the implementation of recommended strategy;
- » characterize and quantify economic value created; and
- » persuasively communicate management's strategic vision and its strategies to internal and external stakeholders.

To accomplish these objectives, the course has three components:

1. *Developing competence in industry analysis:* A major component of the course is to build competence in analyzing the opportunities and constraints of competitive environments. Working in groups, participants will select an industry and analyze the external and internal conditions that affect the performance of firms within the industry.

¹ This course builds on earlier versions of the ICS course designed and taught by Professors John Dutton, Avijit Ghosh, Ari Ginsberg, Bill Guth, and Dale Zand. We acknowledge with appreciation their contributions in the development of this course.

2. *Developing competence in competitive analysis and identifying strategic options:* The second major component of the course is an analysis of the major competitors in the industry. Participants will be required to analyze the current strategic posture of the firms and their strengths and weaknesses relative to the current and evolving competitive environment. Each group must also perform a detailed analysis of the current strategy of a focal firm and identify future strategic options for the firm.
3. *Develop competence in firm-level strategy formulation and planning:* The final component of the course is to formulate a competitive strategy and develop a plan of action to implement the chosen strategy over a specified time horizon.

The course builds on and supplements earlier courses and provides participants with the opportunity to apply and integrate concepts and methodologies from previous courses in analyzing industry structures and formulating business strategy. Specifically,

- » Participants will apply concepts and techniques studied in function-oriented courses, such as *Financial Statement Analysis*, and *Corporate Finance* to develop *multi-functional integrative skills*.
- » Participants will apply concepts and techniques from such strategy-oriented courses as *Competitive Marketing Strategy* and *Competitive Strategy in the Global Economy* to develop *industry analysis and strategy formulation skills*.
- » Participants will apply theories and methods from management systems-oriented courses, such as *Managing Organizing Behavior* and *Internal Reporting and Control*, to develop *strategy implementation and control design skills*.
- » To develop *interpersonal skills relevant to strategic decision making*, participants will produce a strategic business plan as a team assignment. Successful completion of this assignment requires developing and monitoring team expectations and managing team member interactions effectively.
- » To develop *communication skills relevant to strategic management*, participants will be required to write and orally present their team's industry analysis, strategy analysis, and strategic plan -- making a clear, credible, and compelling case for the success of their recommended strategy in the face of likely competitive response.

II. Study Groups

In this course, the major vehicle for learning is study groups. All course assignments will be accomplished as part of a group of five to six students. Assembling an effective multitalented team will be the first assignment. Each group will be required to develop a plan of action for the course project; select an industry and focal firm; and conduct its analysis as outlined in the next sections of the syllabus.

Each group is required to prepare and present interim reports, culminating in a final written report and presentation at the end of the semester.

Sample reports from past classes will be available for inspection during the initial session. Students are encouraged to examine them.

III. Milestones and Course Schedule

Important milestones of the course are summarized here, more details regarding each assignment are discussed later in the syllabus.

| <u>Date</u> | <u>Assignment</u> | <u>Tasks</u> |
|-----------------------------------|--------------------|--|
| <u>November 3</u> ¹ | | Introduction to the course will provide an overview of the central questions of the course, introduce the types of skills needed, and discuss the different deliverables of the course. |
| <u>By December 1</u> ² | Industry Selection | Each group will prepare a brief description of two industries they wish to study, including a justification of their choice and indication of which is the group's first and second choice. <u>Instructors will approve one of these two industries for each group's complete industry analysis by November 30th. Please submit an e-mail address for this notification.</u> |
| <u>January 27</u> | Industry Analysis | (i) Each study group will be responsible for preparing and submitting by this date a full industry analysis for their chosen industry. Instructors will return the written documents with comments by February 15th. (ii) Half of the teams will report the results of their analysis via interactive in-class presentations. Formal presentation content should be limited to no more than 20 minutes to allow ample time for questioning by instructors and other students. The selection of teams to present at this session will be made prior to the Christmas break. |

¹ Formal ICS classes are held on dates which are underlined.

² Teams are strongly encouraged to submit their industry selection earlier if possible.

| | | |
|-------------------------------|----------------------------|---|
| <u>TBA</u> | Strategic Option Analysis | <p>(i) Study groups will submit a written document analyzing (») the strategic posture of the major firms in the industry and their strengths and weaknesses relative to the current and evolving competitive environment; (») the current strategy of its focal firm; and (») the future strategic options for the focal firm.</p> <p>(ii) Teams which did not present their industry analysis will report the results of their strategic options analysis via 20 minute in-class presentations to allow ample time for questioning by instructors and other students.</p> |
| <i>May 4</i> | Submit draft report | <p>Study groups will submit a draft report which summarizes their analysis and presents their strategic recommendations and action plans for the group's focal firm. Instructors will return the draft report with comments at Arrowwood.</p> |
| <i>May (at Arrowwood)</i> | Strategy Evaluation | <p>Each study group will meet separately with one of the instructors at pre-arranged times to discuss the strategic recommendations of the group and the requisite analysis to justify those recommendations.</p> |
| <u><i>June 8 and 9</i></u> | Final Report Presentations | <p>Study groups will end the semester by submitting the final written report and making an interactive presentation of their analysis to the class and invited guests.</p> <p>A more detailed agenda for the presentations will be provided later in the semester.</p> <p><u>Attendance on both days is mandatory. Lock in these dates on your calendars now.</u></p> |

ASSIGNMENT #1 - INDUSTRY AND FIRM SELECTION

Submitted by December 1, 2000

To guide your thinking about possible industries for study, you may want to scan Annual reports on Industries found in such publications as *Forbes*, *Fortune*, and *Business Week*. Also helpful are journalistic accounts or full length books (e.g., *Toyland: The High Stakes Game of the Toy Industry* by Stern & Schoenhaus, 1990). You may also want to browse through industry manuals available in the library, such as *Moody's Industrial Manual*, *Standard and Poor's Industry Survey*, and *Standard Industrial Classification Manual*.

In selecting an industry, there is always the question of how broadly to define the industry. The scope of your assignment depends critically on this question. For example, you could define an industry as specifically as the high speed micro-computer industry or as broadly as the computer industry. Your analysis will be shaped by the definition you choose. To help you properly circumscribe your chosen industry, you should refer to concepts and frameworks you have studied in "Competitive Marketing Strategy" and "Competitive Strategy in the Global Economy."

Each study group should select two industries they would like to analyze and write a brief description (maximum one page for each one), indicating whether it is the group's first or second choice. The names of its members should be listed on a cover page. Descriptions of industry choices should briefly address the following questions.

1. Why are you interested in studying this industry?
2. How familiar are group members with the industry's products or markets?
3. How mature is the industry?
4. How fragmented or concentrated is competition in the industry?
5. What is the location of the industry (global, national, regional)?

You should also address the question of how accessible are data on the selected industries and firms you would consider as candidates to be your focal company, as well as those with which they compete. This is a very serious consideration and should be thoroughly analyzed. In the past, some groups have found their projects especially difficult because they selected an industry or company about which sufficient data were not easily available.

Each group should submit these 2 pages by December 1, 2000 via mail (snail or e-mail) or fax to Professors Byck, Czepiel, and Liu.

ASSIGNMENT #2 - INDUSTRY ANALYSIS PRESENTATION

Due: January 27, 2001

The purpose of this part of the project is to analyze the potential of the industry for profits. To achieve this goal groups should focus on defining and analyzing their chosen industry in terms of:

1. The scope and content of its activities.
2. The historical path of the industry, and the strategic challenges these historical patterns present for the industry's future.
3. The sources and types of value created for customers and the basis for customer purchase decision making.
4. The dimensions or attributes along which firms within the industry compete and the strategic groups or strategic types that can be classified in terms of these attributes.
5. The key factors that firms in the industry must manage to be successful.
6. Major economic, technological, and social forces that govern competition and interfirm rivalry within the industry and that may change in the future.
7. Important strategic issues (threats or opportunities) facing the industry over its strategic planning time horizon.

Half of the study groups will be randomly chosen (announced prior to the Christmas break) to present, discuss and defend the results of their analysis to the class in 20 minutes.

The presentation should focus on the conclusions you make with respect to *the industry as a place to compete for profits*. Start by stating these conclusions and then present the analysis that led you to them.

The 20 minute time limit will be strictly enforced to insure that all groups have an equal opportunity to share the results of their analysis. Since you will be required to answer questions from the audience throughout the presentation as it proceeds, good management of both the formal and give-and-take portions will be essential to covering all of the material you wish to deliver. We expect the presentation to be fully practiced, with simple, but high impact visuals and adhering to the highest level of professionalism.

All study groups (irrespective of whether they make an oral presentation or not) must be present and submit on this day a written report summarizing their industry analysis. Participation by members of all study groups in the discussions of each presentation is expected.

THIS SHOULD BE THOUGHT OF AS A WORKING SESSION BETWEEN SENIOR MANAGEMENT AND AN INTERNAL STUDY TEAM THEY HAVE CHARTERED TO INVESTIGATE AND PROVIDE MANAGEMENT WITH AN UPDATE ON THE CURRENT STATE OF THE COMPETITIVE SITUATION IN THEIR INDUSTRY.

ASSIGNMENT #3 - STRATEGIC OPTIONS ASSIGNMENT

Due: TBA

In this 20 minute presentation (including time for questions and discussion), the remaining study groups will present an analysis of the competitive strategies of the firms in the industry with special emphasis on their focal firms.

The idea here is to describe and analyze the selected firms' *relative positions in the industry and market and their ability to create profits based on those competitive choices.*

This analysis should center on the following tasks:

1. Identifying how different firms compete in the industry and how the competitors are positioned to succeed in the industry?
2. Assessing the relative competitive strengths of the major players?
3. Identifying the current strategy of the focal firm, and separating this strategy into functional elements, such as marketing, finance, operations, R&D, personnel, and organization. Classifying the firms resources and capabilities; appraising strengths and weaknesses relative to competitors; and identifying opportunities for better utilization of resources.
4. Defining current success of the strategy in terms of quality and growth of earnings, changes in the balance sheet and growth in market capitalization.
5. Projecting where the current strategy will lead the focal firm in the next 3 to 5 years in terms of key results, such as market share, overall sales, ROS and ROI, spending for advertising, R&D, etc.; and evaluating the acceptability of these results. Indicate anticipated impact of the current strategy on the factors in 4., above, over the next 3 to 5 years.
6. Delineating strategic options available to the firm that address the key strategic issues facing the firm and should be considered as alternatives to the current strategy.

Each study group should make maximum use of all available data resources on their focal firm to develop an accurate and comprehensive strategic profile and set of options. Class presentations should be fully

practiced, make use of visual aids effectively and adhere to the highest level of professionalism. The 20 minute time limit will be strictly enforced.

ASSIGNMENT #4 - FINAL REPORT ASSIGNMENT

Draft Due: May 4, 2001

Final Report Due: June 8, 9, 2001

The fundamental objective in this section of the project is to define the competitive position the focal firm needs to achieve in order to be successful and the strategies that will get the business to that position. Each study group will present to the class the group's recommendations for their focal firm over the next three to five years. The presentation should build on the group's industry and strategy analysis by accomplishing the following:

1. Recommending a set of strategic actions for the focal firm to achieve sustainable competitive advantage and project the results expected from the actions in terms of such key measures as market share, overall sales, ROS, ROC and ROI. Issues of growth in enterprise value and delivery of value to shareholders/owner should be addressed.
2. Presenting a strategic action plan that defines the resources required by the recommended option and that identifies anticipated obstacles or problems in acquiring these resources.
3. Developing implementation guidelines for the firm via a milestone chart and functional breakdowns of required activities over the relevant time period.

Each group will be given 60 minutes to cover their subject matter, including questions and discussions. Active involvement by members of all study groups is considered to be a requirement of your participation in this course.

Attendance during both days of these sessions (in business attire) is **mandatory** for all students. Since the final presentation sessions are intended to pull together everything you have done and learned, your group's grade will be based almost exclusively on what happens during these two days. Consider the work that precedes it, including your earlier presentation, to be preparation and a learning experience. As you know from your own career experiences, what really counts is how you perform when it's your turn to sell your ideas to higher management. How well you prepared is essential, but the evidence of it must be apparent in the final product, i.e., you will be evaluated on results, not effort.

In addition to the above presentation, each study group will submit a *final report* that summarizes the results of their semester analyses. The report should link the group's strategic analysis of the focal firm with the industry analysis completed earlier in the semester. It should also include sections outlining the group's strategic recommendations, action plans, and implementation guidelines.

Text. The report should be double-spaced typed with normal margins. The name of the industry and firm analyzed, the names of the team members responsible for the report preparation, the date, and the course number should be on the *front page*. A two to three page executive summary highlighting key issues and recommendations should follow; and then, a table of contents and the body of the report. All pages should be numbered.

Appendices. Appendices should be used to present data and analysis to support conclusions stated in the report. Each appendix should be labeled with an appendix number and a short descriptive title.

Tables and Charts. Tables and charts should be used whenever possible to summarize information. They should be titled and all sources should be clearly acknowledged.

References. Sources must be acknowledged in the text by quoting the author (or periodical), and the year in which the article or periodical appeared, in parenthesis. For example: "Several studies (Adams, 1974; Brown & Haley, 1986; Porter, 1980) support this conclusion." Page numbers are included only to designate the source of a direct quotation, for example, "Smith has said that the MBA "is a most worthwhile qualification" (1994,p.3)." The bibliography should list all the sources referenced or quoted in the body of the text in alphabetical order by author.

Proofreading. To ensure that they are free of spelling errors and are grammatically correct, the final report should be proofread. The report should be the same quality that you would provide to the management of a business that you are dealing with directly.

Copies. Each study group should submit three (3) copies of its final report at presentation time.

ICS PRESENTATIONS

A critical component of the ICS course is the two presentations that each team makes. This is the vehicle through which the team will demonstrate to the rest of the class and the instructors the quality of its analysis, critical thinking and strategic insights. In strategy analysis the medium is often the message: evaluation of strategy is strongly influenced by how well it is presented. We expect that each presentation will adhere to the highest level of professionalism.

THE PURPOSE OF PRESENTATIONS

Presentations are a management tool, not simply a "show and tell."

The request for the presentation of a recommendation is really a request for a conscious, analytical decision process. The need to present requires the individual or group charged

- to gather hard data,
- to subject it to rigorous analysis,
- to identify and to give conceptual shape to the issues,
- to distill from the above that which is relevant and important,
- to create decision alternatives or options,
- to frame the decision in terms of the criteria by which it will be made,
- to identify the arguments for and against the alternatives identified,
- and to do it all in a manner in which management can examine the process as well as the outcome.

There is no one right format for such a presentation. That is part of the team's task; to find the correct conceptual framework into which their insight, work, and recommendations are contained in such a way that management can share in their thought process and simultaneously test the ideas and the individuals who created them. To a large extent these simulated management meetings will take the form of group problem solving sessions in which the instructors and your fellow students (in their role as "senior management") will work with you in the search for the best possible strategy.

However, there is one rule that we do want all teams to follow for the final presentation. It is that the presentation must start with a summary of the strategic situation faced by the focal firm and your recommended strategy for the firm (viz. XYZ is a leader in the global x-ray market, which is currently challenged by the introduction of CAT scans. XYZ is not a technology leader in CAT scans and must decide how to respond to the changing market conditions.... We recommend that ...). Once you have stated your strategy explain to the audience the analysis and logic that led you to the strategy you chose.

PERSONAL MANNER IN A PRESENTATION

Ultimately you will have to find your own style and you may have several depending on the audience and situation. The style recommended here is "straight up the middle" white bread. It is a neutral style that will be accepted in almost any situation and one around which your own personal style can be wrapped (or twisted, as the case may be).

At the heart of this style is the concept that the content of the presentation is paramount. The presenter is secondary. This normally means the following:

- neutral clothing
- feet firmly planted, erect posture, minimal podium leaning
- loud enough voice, eye contact with the audience
- appropriate movement around the presentation area (not a constant pacing, nor a stick)
- appropriate gestures (no windmills)
- 3-"T"s (touch, turn, and talk) with a pointer
- controlled enthusiasm and ambition
- simple declarative sentences
- questions answered directly
- cooperative, not combative, manner
- ability to tolerate and respond to questions that take you out of the flow of your planned presentation
- skill in using back-up data to respond to questions and defend your conclusions

In general, the greater the group's collective breadth and depth of knowledge, the easier these sessions will be for you and the more likely that you will produce an outstanding result.

THE USE OF VISUAL AIDS

Overhead transparencies or electronic slides have become the medium of choice for presentations due to the simplicity of the technology used to create and project them. Whatever the technology, however, the goal is the same -- **to make the logic and flow of your argument visually apparent**. This means clear, credible, and convincing -- not to prove you are virtuoso practitioners of computerized presentation graphics.

This means that every presentation begins with a statement of purpose and an agenda which demonstrates the architecture of how you are going to achieve your purpose.

It means that each slide presents the distillation of your words -- with an informative title and bullet points or with a figure, chart, or graph to which you talk. If you don't talk to it, it shouldn't be on the slide. The best type of title for a slide is one which summarizes its content or conclusion in words: "ANALYSIS SHOWS US TO BE MARKET LEADER." This is not always easy to do, however, and we would not be too concerned if you cannot always achieve it.

You must learn to **use** your slides -- their greatest advantage from the speaker's viewpoint is that they replace your notes. Your slides should be designed to allow you to speak without notes and note cards. The only hard rule we will enforce with respect to your presentation is that you cannot speak from a prepared text or note cards. Learn to take pointer in hand and start "As can be seen in this slide, we have an unassailable position . . .," using the pointer to direct the audience to that part of the slide containing the data of interest.

One last point, try to represent data visually whenever possible. Nothing is as hard to decipher as a spreadsheet chock full of small, unreadable numbers. There is a reason we have bar graphs, pie charts, and all the rest of that useful stuff. If you must present a spreadsheet as a slide or overhead, please limit it to no more than fifty data elements. Otherwise, make hard copies available to the instructors and all of your classmates.

Recognize that the more information you put on a slide, the more questions you are likely to get about it.

DATES

INTRO

NOVEMBER 3

INDUSTRY SELECTION

DECEMBER 1

GROUP A

GROUP B

| | |
|---|--|
| INDUSTRY ANALYSIS ORAL PRESENTATION | |
|---|--|

JANUARY 27

WRITTEN PRESENTATION

| | |
|--|--|
| | OPTIONS ANALYSIS ORAL PRESENTATION |
|--|--|

TBA

WRITTEN PRESENTATION

DRAFT STRATEGY DOCUMENT

MAY 4

TEAM FEEDBACK MEETINGS

ARROWWOOD
MAY

FOCAL FIRM STRATEGY
RECOMMENDATION

JUNE 8 & 9

Industry Analysis and Corporate Strategy

Final Projects

| <u>Industry</u> | <u>Focal Firm</u> | <u>Date Submitted</u> |
|---|--------------------------------------|-----------------------|
| 1. Alcoholic Beverages: Beer Industry | Guinness Import Co. | 6/98 |
| 2. Alcoholic Beverages: Beer Industry | Boston Beer Co. | 6/00 |
| 3. Alcoholic Beverages: Sparkling Wines | Moet Hennessy Louis Vuitton | 6/93 |
| 4. Alcoholic Beverages: Wine | Robert Mondavi Corporation | 6/97 |
| 5. Assisted Living | Cornerstone Cares Assisted Living | 6/96 |
| 6. Athletic Footwear | Nike | |
| 7. Casino Gaming | Boyd Gaming Corporation | 6/94 |
| 8. Casino Gaming | Mandalay Resort Group | 6/00 |
| 9. Child Care | Wondercard, Inc. | 6/93 |
| 10. Computers: Hard Disc Drives | Quantum Corp. | |
| 11. Computers: Internet Service Provider | America Online | 6/98 |
| 12. Computers: On-line Services | Microsoft | 6/96 |
| 13. Computers: PCs | Gateway 2000 | 6/00 |
| 14. Electronic Commerce | Amazon.com | |
| 15. Electronic Payments | CheckFree Corporation | 6/98 |
| 16. Entertainment: Cable Broadcasting | HBO | 6/93 |
| 17. Entertainment: Cable Television Hardware | Advanced Technological Solutions | 6/94 |
| 18. Entertainment: Film Industry | New Line Cinema | 6/93 |
| 19. Entertainment: Interactive Television | Time Warner Cable | 6/95 |
| 20. Entertainment: Videos on Demand | Walt Disney | 6/95 |
| 21. Fast Foods | McDonald's | |
| 22. Financial Services: Corporate Credit | American Express | 6/93 |
| 23. Financial Services: Equity Markets | New York Stock Exchange | 6/95 |
| 24. Financial Services: Global Securities Lending | Bankers Trust | 6/93 |
| 25. Financial Services: Mutual Funds | Dreyfus Corporation | 6/94 |
| 26. Financial Services: Mutual Fund Families | Vanguard | 6/98 |
| 27. Financial Services: Non-Bank Consumer Svcs. | Primerica Corporation | 6/93 |
| 28. Financial Services: Non-deposit Banking | Grand Pacific, USA | 6/96 |
| 29. Financial Services: On-line Service Industry | Bloomberg LP | 6/96 |
| 30. Financial Services: Payroll Processing | Automatic Data Processing (ADP) | 6/94 |
| 31. Financial Services: Private Banking | Bankers Trust | 6/96 |
| 32. Financial Services: Venture Capital | Overseas Partners | 6/95 |
| 33. Financial Services: Venture Capital | The Sprout Group | 6/94 |
| 34. Flavor and Fragrance | International Flavors and Fragrances | 6/94 |
| 35. Health Care: Biotechnology | Amgen | |
| 36. Health Care: Hospitals | Best Medical Care | 6/95 |
| 37. Health Care: OTC Private Label Drugs | Perrigo | 6/95 |
| 38. Health Care: Pharmaceuticals | Pfizer | 6/00 |
| 39. Health Care: Physicians Practice Management | Phycor | 6/94 |
| 40. Ice Cream | Ben & Jerry's | 6/96 |

| <u>Industry</u> | <u>Focal Firm</u> | <u>Date Submitted</u> |
|--|---|-----------------------|
| 41. International Development Assistance | Katalysis North-South Dev. Partnerships | 6/93 |
| 42. Internet Portal | Yahoo! | 6/00 |
| 43. Lodging Industry: Hotels | Host Marriott Corp. | |
| 44. Motorcycles | Harley Davidson | |
| 45. Paper Industry | International Paper | |
| 46. Passenger Cars | Daimler-Chrysler | 6/98 |
| 47. Power Hand Tools | Ingersoll-Rand | 6/98 |
| 48. Publishing: Newspapers | New York Times | 6/95 |
| 49. Real Estate | New On-line Venture | 6/96 |
| 50. Retail: Mail Order Apparel | Lands' End | 6/95 |
| 51. Retail: Mass | J.C. Penney | 6/00 |
| 52. Retail: Showcase Retailing | Warner Brother Studio Stores | 6/93 |
| 53. Retail: Specialty Coffee Industry | Starbucks | 6/96 |
| 54. Software CRM | Siebel Systems | 6/00 |
| 55. Supermarket Industry | A&P | |
| 56. Telecommunications: Business Networks | MCI | 6/95 |
| 57. Telecommunications: Equipment | Optical Networking Equipment Co. | 6/00 |
| 58. Telecommunications: Speech Recognition | Voice Control Systems Corp. | 6/98 |
| 59. Telecommunications: Video Dialtone | NYNEX | 6/94 |
| 60. Telecommunications: Voice Processing | AT&T Global Business Communications | 6/93 |
| 61. Telecommunications: Wireless | Sprint PCS | |
| 62. Trucking | J.B. Hunt | 6/98 |
| 63. U.S. Ski Area | Catamount Ski Area | 6/98 |
| 64. Utilities | Niagara Mohawk | 6/96 |

JOSEPH S. BYCK

VICE-PRESIDENT
STRATEGIC PLANNING, INVESTOR RELATIONS AND PUBLIC AFFAIRS
UNION CARBIDE CORPORATION

Dr. Byck was born in Stamford, Connecticut, on October 25, 1941. He earned his A.B. degree in chemistry from Princeton University in 1962, and his M.A. and Ph.D. in chemistry from Columbia University, in 1963 and 1967, respectively.

He joined Union Carbide in 1967 as a chemist in the Chemicals and Plastics Division's polymer research and development facility at Bound Brook, New Jersey. In 1972, he transferred to the research and development center at South Charleston, West Virginia and, in 1973, became group leader, research and development and technology manager for agricultural chemicals. Dr. Byck joined the Agricultural Products Division as market manager in 1976, and relocated to Salinas, California.

He transferred to corporate headquarters in 1977 as licensing manager in the Polyolefins Division. Subsequent to holding several licensing positions in the Polyolefins Division. Dr. Byck was promoted to director, new business ventures for that division in 1981, and the following year became director, marketing and sales for Unipol licensing. He was appointed managing director, Unipol licensing, in 1984, vice-president, Unipol licensing, in 1986, and vice-president, new business development in the Polyolefins Division in 1987. He was named vice-president, business development and planning of Union Carbide Chemical and Plastics Company Inc. in 1989, and in 1990, also assumed responsibility for the Corporate Strategic Planning function. Dr. Byck was elected corporate vice-president of strategic planning in 1991 and additionally assumed responsibility for the Public Affairs Group in 1992, Investor Relations in 1994 and Government Affairs in 1999.

Dr. Byck and his wife, Jo Ann, reside in Danbury, Connecticut.