Focused Disciplines

Overview

Time

190 minutes

Purpose

For each of the four focused disciplines: provide information on the needs of each market, how Apple meets those needs, and Apple's marketing strategy.

Objectives

By the end of the module, participants will be able to do the following:

- List key characteristics of each discipline.
- Identify current trends in each discipline.
- Describe the Macintosh® advantage in each discipline.
- Identify at least two hardware and two software solutions that address user needs in each discipline.
- Describe Apple's corporate marketing strategy.

Activities

Discussion, slide presentation, large group activity, small group activity

Materials

Focused Disciplines Slides 1 to 70

Participant Materials: Pages 1 to 58

Handouts:

- English Solutions Matrix
- English Scenario
- *Business School Curriculum Guide*
- *Writing Curriculum Guide*

Equipment

Slide projection system

Two flipcharts, easels, and marking pens

Preparation

Order a copy of the following Curriculum Software Guides for each participant:

- *Business School Curriculum Guide*
- *Writing Curriculum Guide*
- **Reproduce the "English Solutions" slides and the "English Scenario" to be handed out during the training (they are located in the Participant Materials section of this module, and are on diskette under the filename "Focused Disciplines Hand-outs.")**

Module Outline

Topic	Activity	Time
Introduction	Lecture/Discussion	5 min.
English	Slides/Discussion	15 min.
	Large Group Activity	10 min.
	Slides/Discussion	10 min.
	Small Group Activity	25 min.
	Slides	5 min.
Computer Science	Slides/Discussion	30 min.
Engineering	Slides/Discussion	30 min.
Business	Slides/Discussion	30 min.
	Small Group Activity	20 min.
	Slides/Discussion	5 min.

Engineering	Slides/Discussion	30 min.
Conclusion	Question/Answer	5 min.
Total		190 min.

Focused Disciplines

Introduction

Introduce the module. Include these points:

- This module contains information about the four strategic instructional disciplines Apple has targeted for its marketing efforts.
- The four disciplines are: English, Computer Science, Business, and Engineering.
- This module will help you understand computing needs in the four disciplines, and how Apple can provide solutions to those needs.
- As Student Reps, these four disciplines are the most critical for you to place your efforts.

English

Discussion/ Flipchart

Introduce the topic. Include these questions and note responses on a flipchart:

- Why do you think the English discipline is important to Apple?
- How are English Departments in your schools using computers? How has this changed in the time you've been there?

Show Slide

Show Slide 1, “Characteristics”

Include these points:

- Over 2,000,000 students take English every year, making English the largest market in Higher Education.

  - Writing is an activity that occurs across the curriculum; there is usage and exposure throughout all the campus disciplines.

- Consequently, there is sales leverage across the university.
- Departments of English, however, are poor in computing dollars.
  - They have small budgets with practically nonexistent computing dollars.
  - The administration in this discipline is still growing accustomed to this new and relatively expensive expenditure.
- 59% of the installed base is MS-DOS.
  - Because of small budgets and lack of computing knowledge, price is dictating the computing purchases in Departments of English.
  - 45% of last year's computing purchases by Departments of English were low-cost PC clones.
- But all is not lost. Departments of English are undergoing a technology adoption phase.
  - Departments of English still have the lowest average installed base - that is, units per department - of the six disciplines researched in the 1988 Departmental Share Study. (The six disciplines are computer science, education, English, mathematics, science, and engineering.)
  - Departments of English ranked second only to Computer Science in departmental intent to purchase in 1989.
  - The Macintosh computer is making inroads with 33% of market share in English Departments' previous year's purchases.

- By the close of 1990, the installed base will increase by 50% over the current installed base.

Transition

So why is English undergoing this technology adoption phase? Because educators are beginning to recognize the added value of technology in writing programs.

Show Slide

Show Slide 2, "Trends."

Include these points:

- Changing learning methodologies
  - Teachers can teach writing in new ways.
  - Example: Using a projection device in a computer writing lab, teachers can compose and correct compositions in real time before the entire class.
- Adding new forms of writing
  - Collaborative Writing:
    - Students use computer networks to store and share information.
    - Students may critique each other's work or participate in group writing projects by using electronic editing software with computer networks.
  - Hypertext/hypermedia make it possible to create multidimensional text as an alternative to linear text.
    - Students are creating and handing in hypertext documents on diskette.
    - Faculty are creating tools for literary analysis, interactive fiction, and simulations to teach students different forms of writing.
- Finally, faculty are being expected to train students in

writing and prepare them for society by improving their computer literacy.

Transition

However, when there are rapid changes, there are also some concerns that you should be sensitive to.

Show Slides

Show Slide 3, "Largest Concerns."

Include these points:

- English and writing instructors rarely have any technical background and are often afraid of technology.
  - They feel intimidated, don't know where to start, what to use, what's available, and they may also fear being replaced by technology.
  - Consequently, it's important to focus on the Macintosh as a tool to assist the instructor.
- Teachers place a great deal of importance on the pedagogy (the art of teaching) and they don't want technology dictating how they teach.
  - Therefore, the focus should be on the ease-of-use of the Macintosh computer and the diverse range of writing solutions that can adapt to each professors individual teaching style.
- Computers create a more egalitarian environment and a shift in power, especially in collaborative writing environments.
  - For instructors who feel uncomfortable with this thought, it's important to stress that empirical evidence has shown that instructors become much more involved in every phase of the writing process and are much more successful in teaching their students to write when a more egalitarian environment exists.

Show Slide 4, "More Facts."

Include these points:

- English professors are the key influencers in this market.
- However, 42% of the faculty don't know the benefits of the Mac. Research shows that knowledge or familiarity with the Macintosh results in sales of the Mac.
- The Macintosh is perfectly suited to the writing process with a full range of solutions in every area.

Transition

Simply put, the Macintosh has advantages for writers that other PCs don't.

Show Slide

Show Slide 5, "Macintosh Advantage."

Include these points:

- Macintosh has an intuitive interface.
  - It's easy to use and perfect for a writer who wants to write without spending hours learning how to italicize a word or move a phrase.
  - It's the perfect tool for a writing instructor who wants to teach writing instead of computer science.
  - This adds up to more time to write, reduced training time, and fewer hours of support per computer.
- Because text isn't the only way a writer fills a blank page, graphic integration is also important.
  - The Macintosh computer makes it as simple as cutting a graphic and pasting it on your document.
  - This is due to a consistent user interface across applications.

  - Example: Selecting the “cut” function in a graphics application and “pasting” to a word processing application is no problem.
  - The Macintosh operating system was designed for applications to work together easily.
  - Once you’ve learned one application, you’ve practically learned them all since applications were designed to look and operate in much the same way.
- Networking and Connectivity
  - Macintosh offers an advanced networking system called AppleTalk® already built in.
  - It’s easy to set up and less expensive than other PC’s.
  - Networking and connectivity advantage is an important one in writing and essential in collaborative writing.
- Hypertext/hypermedia solutions
  - Every Macintosh comes bundled with HyperCard, Apple’s hypermedia solution.
  - HyperCard® is one of the best hypermedia solutions on the market.
  - This is important when computing budgets are limited.

Show Slide 6, “Macintosh vs. MS-DOS, Word Processing Software Features.”

Include these points:

- This chart compares word processing capabilities of the Mac and DOS.
- Clearly, there are areas where DOS word processors can’t compete.

- You'll find a closer analysis of this chart in the *Writing Curriculum Guide*.

Show Slide 7, "Macintosh vs. MS-DOS, Training Time and Ease of Use."

Include these points:

- This chart is taken from an independent study of Fortune 1000 MIS managers.
- The study shows that the Mac beat DOS hands down.
- It's important to recognize that ease of use is not only a great feature, but it affects the time and cost of training and support.

Transition

In addition to features unavailable on any other PC, the Mac offers a range of writing solutions for the entire writing process.

Discussion/ Flipchart

Lead a discussion about English tasks and activities. Record responses on a flipchart. Include these questions:

- What kinds of activities go on in writing classes?
- What tasks need to be performed?

Introduce the elements of the writing process. Write the following six elements on a flipchart.

- Research: Gathering information on a subject
- Idea processing: Organization and idea creation
- Word processing: Ideas and/or outlines and paragraphs
- Diagnostic/references: Editing
- Bibliographical documentation: Citing sources
- Publication/presentation: Graphics/illustration, layout and/or presentation slides

Discussion/ Flipchart

Lead a discussion about the needs in the English market. Record responses on a flipchart. Include these questions:

- How can computers be used to help perform these tasks more efficiently?
- What kind of uses have you seen in your school?

Large Group Activity

Activity: Brainstorming Writing Solutions

Conduct activity. Follow these steps:

1. Create three flipcharts, each with two columns.
2. Label the first three columns, "Research," "Idea Processing," and "Word Processing."
3. Label the next three columns, "Diagnostic/References," "Bibliographical Documentation" and "Publication/Presentation."
4. Ask participants to name Macintosh solutions which can add value in each of the writing activities listed. (take activities one at a time)
5. Record participant responses in appropriate columns.

Transition

The next two slides present a sampling of solutions we came up with.

Show Slide

Show Slide 8, "English Solutions"

Go down the list of solutions and check off those that were covered in the group discussion. Note those that were not. Include these points, as appropriate:

- Research tools include:
  - Optical character recognition software like OmniPage for “scanning” printed matter directly into a Macintosh file. This eliminates the drudgery of retyping.

  - Data retrieval software like GOfer that acts as a reference librarian - searching, locating, and retrieving whatever information is requested.

- Idea processing tools:
  - The MORE II application for writers to easily capture, organize and expand on their ideas, also encouraging students to structure their pages before they begin to write.
- Word processing tools:
  - Familiar applications like Word, MacWrite, and WriteNOW.
  - There are Macintosh word processors to suit any person's needs and budget.
- Diagnostic/Reference tools:
  - On-line reference tools like The Electronic English Handbook for quick access to information about meaning, vocabulary, usage, and essential rules of English.
  - Diagnostics software acts as as an electronic proofreader helping writers pinpoint and correct problems from simple spelling to grammar or structural problems.

Show Slide

Show Slide 9, "English Solutions."

Include these points:

- Bibliographical documentation tools:
  - Publish or Perish automates the laborious task of entering and organizing citations for writing such as journal articles and research papers.

- Publication/presentation tools:
  - Drawing tools like MacDraw II to create visual accompaniment to your words.
  - Presentation tools to plan, compose, and manage full-color presentations.

– Desktop publishing tools to design, edit, and lay out professional quality documents that elegantly blend text and graphics.

Transition

In addition to solutions for the entire writing process, Departments of English use computers in two other areas: collaborative writing and hypertext writing.

Continue with Slide 9, “English Solutions.”

Include these points:

- These are the two hottest, most talked about uses of computers in writing and writing instruction today.
- Collaborative writing
  - Collaborative writing has been in existence a long time, but teachers in English are just beginning to experiment and realize the benefits of collaborative writing on computers across networks, such as students working collectively on writing problems. This encourages peer tutoring and a freer flow of ideas in the classroom.
  - Examples:

    Networking software, AppleShare® allows students to submit work to instructors electronically.

    Timbuktu allows users to view and operate networked and remote Macintosh computers.

    Instructional software like Collaborative Writer and electronic editing software like PROSE allows teachers to comment on students’ work electronically, keeping notes and comments separate from the student’s work, yet clearly accessible to the student.

- Hypertext/hypermedia tools
  - Hypertext writing tools like Guide enable readers and writers to leap beyond the linear bounds of traditional texts to forge their own paths through or add commentary to an interlinked and cross-referenced web of textual information.
  - Hypermedia tools like HyperCard and Intermedia expand the scope of this idea even further, allowing the interconnection of multiple media - text, graphics, animation, video, voice, and sound.
  - Some use HyperCard as a development tool to create writing applications.
  - Examples: City Council, a simulation used to teach news reporting and Jefferson Notebook which teaches research writing.

Transition

To meet the variety of writing needs, Apple also has a wide variety of hardware.

Show Slide 10, “Macintosh CPUs.”

Include these points:

- For student productivity, there is the Mac Plus computer model.
- For individual productivity and lab use, the Mac SE20 and 30 are recommended.
- For high end personal productivity, instructional uses, journalistic writing, and research, we offer the modular Mac II in the IIcs, IIx, and IIci.
- And, of course, for writers on the go, there’s the Mac Portable with all the advantages traditionally associated

with the Macintosh in a smaller, battery-powered form.

Transition

To further support Macintosh as the ideal solution in writing instruction, we have testimonials from a diverse set of schools using the Macintosh for a wide range of writing activities.

Show Slides

Show Slide 11, "Reference Sites."

Include this point:

- The schools represented are large, small, public, private, community colleges and high schools.

Show Slide 12, "Macintosh Users."

Include these points:

- For instance, at Bemidji State they are using the Macintosh for remedial writing.
- At Cornell, Macintosh is used for collaborative writing.
- At the University of Southern California, Macintosh is the tool for learning to write research papers.
- At West Valley Community College, Rich Cameron, a journalism professor, developed City Council, a HyperCard application-based news writing simulation to teach investigative reporting.
- At College of Wooster, the Macintosh is used to write Hypertext documents proving the theory of intertextuality.
- At University of South Carolina, 80 Macintosh computers make up the fully networked newsroom where students produce the Carolina Reporter, a weekly newspaper covering the state capitol.
- The *Writing Curriculum Guide* has additional examples.

Small Group Activity

Activity: Matching Solutions to Needs

Conduct activity. Follow these steps:

1. Divide participants into two groups.
2. Pass out the following materials to each participant:
   - English Solutions (2 slides)
   - *Writing Curriculum Guide*
   - English Scenario
3. Give each group a flipchart pad or several flipchart pages and markers.
4. Ask group members to work together and come to consensus on:
   - The skill level of audience
   - Specific computing needs
   - Appropriate Macintosh solutions
5. Have participants note their ideas on the flipchart pages.
6. Allow 15 minutes to complete the exercise. Then, have a spokesperson from each group share the group's conclusions with the rest of the participants.

English Scenario

A community college has a modest computer lab consisting of 14 networked Macintosh SE computers and one LaserWriter®. This public access lab is used by students from all over the campus for a variety of purposes.

The lab is located in the English building, and one enterprising T.A. uses it between 2:00 and 3:00 every Monday, Wednesday, and Friday for his creative writing lab. He's come up with some imaginative ideas for what to do in the lab, but he doesn't know which of the many software

packages can help him.

Here's what he'd like to do. He wants students to be able to do freewriting exercises. He also wants students to be able to edit each other's work. Peer

review is something he thinks is very important. For example, he wants students to be able to pick up work-in-process from the public folder and offer editorial suggestions.

In addition, he wants students to be able to mix graphics and words to create their stories. It would be great, too, if he could show a writer's work on a large screen as he analyzes the writing in it.

The class is made up of a mix of age groups, and most are computer literate.

Show Slides

Show Slide 13, "National Strategy."

Include these points:

- In fiscal year 1990, Apple is rolling out the English campaign.
  - We'll be working with third party developers to influence the development of software essential to this market.
  - Included are publishers of leading English and writing texts, professional organizations such as the National Council of Teachers of English, and nationally influential faculty in computers and writing.
- The Communications campaign consists of the following items.
  - A Writing Curriculum Guide.
  - A direct mail campaign aimed at a target audience of writing instructors and administration throughout the university. We are also targeting directors of central computing services.
  - The Quick Reference Guide is a summary of essential elements of the Curriculum Guide along with market

critical information targeted specifically for Sales Representatives.

– We've also created a PowerPoint presentation and script that describes trends and solutions in the field of English.

Show Slide 14, "More National Strategy."

Include these points:

- Public relations is also a component of this campaign.
- We will be participating in or sponsoring national, strategic projects and conferences like the National Project on Computers and College Writing and the Conference on College Composition and Communication.
- We'll be working with third party developers to influence the development of software essential to this market.
- Finally, donations for writing instruction, including strategic writing labs and software development are budgeted for FY90.

Describe the Student Rep's role in addressing the challenges in this market. Include these points:

- You can help us meet the challenges in this market, too.
- We need you to help make English faculty and students aware of Macintosh benefits and solutions.

Show Slide 15, "Your Strategy."

Include these points:

- Use Apple resources like the *Writing Curriculum Guide* and PowerPoint presentation.
- Focus on faculty so that they will influence their colleagues and departmental purchases.

- Focus on the added value of Macintosh. If price is an issue, focus on the reduced cost of ongoing expenditures such as training and support.
- Emphasize Apple's full range of hardware and software solutions specifically designed for writing.
- Focus on the Macintosh competitive advantage.
- Use the *Writing Curriculum Guide* and other materials to identify and leverage local successes.

Computer Science

Discussion/ Flipchart

Introduce topic. Lead a discussion about the Computer Science curriculum. Include these points:

- It's time to rethink the way we view computer science.
- It's not just programming anymore.

Include this question:

- What are the major course areas in Computer Science?

Record participant responses on a flipchart.

Show Slide

Show Slide 16, "Just What is Computer Science Anyway?"

Include this point:

- According to a recent study of the Association of Computing Machinery, computer science includes these curriculum areas.

Discussion/ Flipchart

Lead a discussion about how computing has changed over the years. Record participant responses on a flipchart. Include this question:

- What trends have you seen in the use of computers over the years - either on campus or elsewhere?

Show Slide

Show Slide 17, “Old vs. New.”

Include these points:

- **Before**, mainframe computers used to be housed in separate buildings.

- **Now,** microcomputers are quickly becoming the norm and are used throughout schools and companies.
- **Before**, an MIS orientation meant that computers were used almost exclusively for serious number crunching and database applications. Owners couldn't justify using a multimillion dollar computer for "typing."
- **Now**, computers are used in many different contexts to perform widely varied tasks.
- **Before**, procedural programming was the rule. When faced with a problem, a programmer broke it down to its smallest elements, and took a step-by-step approach to solving it.
- **Now,** object-oriented programming, artificial intelligence, and other languages allow users to look at different kinds of problems in different ways.

Transition

As a result of these changes, we see certain trends in the computer science market in higher education.

Show Slides

Show Slide 18, "Trends."

Include these points:

- Computer literacy means different things to different people.
  - For Computer Science majors, it means learning other types of programming including object-oriented and rules-based programming.
  - For business majors, it means programming spreadsheet macros or creating database applications.
- Programming methods and tools are changing.

- There is a slow move away from procedural languages to other approaches.

- The HyperCard application, macromakers and programmable applications have helped move programming from the Computer Science department to other departments.
  - Business schools use spreadsheets and database applications.
  - Liberal arts schools use authoring tools.
  - Art schools use animation programs and drafting and design tools.
- Increasing complexity
  - Computers are becoming easier to use and program.
  - However, networking, multiple operating systems and larger applications create complexity.
- Finally, there are important trends in both enrollments and student profiles.

Show Slide 19, "Computer Science Degrees Earned."

Include these points:

- Enrollments are on the decline after peaking in 1982, but are expected to rise again in 1997.
  – Enrollment decline is not necessarily bad for Apple.
  – It is due in part to the fact that non-computer science departments are now teaching computer skills, too.
  – This information is from the U.S. Department of Education, Center for Education Statistics and from the Commission on Professionals in Science and Technology.

- The profile of computer science students is changing, too.
  - 40% of the Computer Science Ph.D's produced in 1987 were foreign students.
  - This gives Apple an advantage: its graphical user interface reduces some of the language barriers for non-English speaking students.

Transition

Here are some characteristics of the current computer science market.

Show Slide

Show Slide 20, "Characteristics."

Include these points:

- UNIX® dominates the computer science market because this is the operating system traditionally used in upper division courses.
  - However, a UNIX machine is not really necessary for lower level courses.
- Computer science users are sophisticated. They know and understand computers.
  - As a result, it's best to avoid a technical sell. Instead, sell Apple's strengths: functionality and productivity.
- The installed base consists of high end machines: workstations, 386 DOS machines, and Mac II computers are common.
- Students and professors rely on commercial development packages. They want the best software they can get.
- Finally, the computer science discipline has the highest installed base and highest intent to purchase.

(next two slides illustrate these points)

Show Slides

Show Slide 21, "Computer Science's Installed Base."

Include this point:

- Apple internal research shows an existing base of 63,000 units, or 48 per department.

Show Slide 22, "Growth in Computer Science."

Include this point:

- Research also shows plans in this market to purchase 27,500 more.

Show Slide 23, "Student Ownership."

Include this point:

- 46% of computer science students own their own PC.

Show Slide 24, "Student Computer Usage."

Include this point:

- 63.3% of computer science students report using a microcomputer.
  - While this is low compared to engineering and business, it's due to the fact that many students are working on workstations, minis, and mainframes, rather than micros.

Show Slide 25, "So What Does This Mean to You?"

Include these points:

- Computer science is taught in many different curriculum areas, e.g., education, business, engineering, mathematics, and humanities.

- Programming is more than just languages and algorithms. Applications like HyperCard make the line between applications software and programming very fuzzy.
- Computer science means many things, such as MIS, computer literacy, and computer applications.
- As a result, opportunity knocks on many different doors.

Transition

This next slide illustrates some of the issues and concerns in the computer science market.

Show Slide

Show Slide 26, "Issues/Concerns."

Include these points:

- Previously, there was a dearth of programming and development tools for the Macintosh computer. Now, a large number of tools are available.
- Mac is the most connectable microcomputer available, providing broad-based productivity and upward compatibility into high-end vertical markets.
- Schools use a variety of different vendors at the high end, but UNIX dominates.
- Users can buy low-cost computers like the Plus and SE. This provides a cost advantage over the competition.
- The Plus and SE provide low cost entry, while the IIx , IIcx, and IIci compete at the high end.
- With new programming and development tools like HyperTalk® and Macromaker™, it is becoming easier for students in other disciplines to program the Mac.

Show Slide

Show Slide 27, "UNIX."

- The least you should know about UNIX is that is was originally developed at Bell Labs for internal use. It is multi-user, multi-tasking, very powerful, and portable.
  - Portability means it moves from platform to platform with relatively little re-programming.
- A/UX® is Apple's implementation of UNIX. It is a saleable product right now.
  - Witness the recent government contracts secured by Apple: NASA, Post Office and Air Force.
  - Any vendor bidding on a government contract must have a UNIX operating system in order to be compatible with government configurations.
- And here's a brief comparison of A/UX and the Macintosh operating system.
  - A/UX is a multi-user, multi-tasking operating system.
  - MacOS is single-user and simulated multi-tasking.
  - A/UX is microcomputer-based**,** but able to interface directly with mini and mainframes
  - MacOS is microcomputer-based.
  - Both provide **a Macintosh environment.**

Show Slides

Show Slide 28, "Macintosh CPUs."

Include these points:

- In the computer science market, we are concentrating on the SE/30**,** IIci, IIcx, and IIx.
- Computer science students and faculty need this processing speed because of calculation-intensive tasks.

Show Slide 29, "Development Tools."

Include this point:

- This slide gives you an idea of the wide array of Macintosh development tools that can be used in this market.

Show Slide 30, "A/UX Development Tools."

Include this point:

- The A/UX development tools are listed here.

Show Slide 31, "Solutions - Computer Science."

Include this point:

- Here's a listing of our solutions for computer science students and faculty.

Show Slide 32, "Development Tools...for the Rest of Us."

Include this points:

- This slide lists some development tools for the rest of us who don't specialize in computer science.

Show Slide 33, "Solutions for the Rest of Us."

Include this point:

- Listed here are some solutions for the rest of us.

Transition

The next slide presents a summary of Macintosh advantages in the computer science market.

Show Slide

Show Slide 34, "Macintosh Advantage."

Include these points:

- Connectability and connectivity.
- Ability to run MacOS, A/UX, and DOS.
- Increased productivity and lots of applications.
- Wide variety of development tools for MacOS and A/UX.
- Modular approach - Plus and SE provide low cost entry with the ability to expand.
- IIx, IIcx, and new IIci make Apple highly competitive at high end.

Transition

We'll take a look now at Apple's national marketing strategy for all of its products.

Show Slide

Show Slide 35, "National Strategy - Hardware and Software."

Include these points:

- Introduction of the new high-end machines.
- Tremendous availability of third party hardware.
- Apple supports these development tools:
  - Allegro Common LISP™, a MacOS programming language.
  - MPW®, Mac Programmers' Workshop, a powerful software development environment.
  - MacApp®, an object-oriented tool box.

Transition

To support this strategy, Apple has developed a number of marketing programs.

Show Slide

Show Slide 36, "National Strategy - Programs."

Include these points:

- In Higher Education, we are focusing on Computer Science and Engineering.
- Apple is working on an update of the Computer Science Curriculum Guide and Selling Kit.
- Apple is pursuing joint programs with college textbook publishers.
  - An example is the McGraw Hill Economics project.
  - Apple worked with McGraw Hill to put together a HyperCard instruction stack for a new introductory economic text.
- Apple is also pursuing ventures with software publishers and encourages educational discounts.

Show Slide

Show Slide 37, "Sales Strategy."

Include these points:

- Our sales strategy involves a two-pronged approach, one for computer science departments and one for other areas.
- At each institution, we will be determining the scope of the computer science department's activities.
- We will connect with the computer science department and local user groups and set up programming/development demos or seminars.
  - We'll include macromakers, HyperTalk, and application templates for the less technically inclined.
- We'll use local users groups to help in our sales efforts.

Business

Discussion

Introduce the topic. Include this question:

- Why do you you think business is an area of emphasis for Apple?

  Make sure the following points are covered:

  - *Apple has had great success in the business market and would like to capitalize on that success in business schools.*
  - *Students in the business schools are the decision makers of tomorrow with respect to computer purchases - both on campus and in private industry.*

Transition

Every market has unique characteristics. We need to know what they are to develop strong sales relationships. Following are some characteristics of the business market.

Show Slide

Show Slide 38, "Characteristics"

Include these points:

- Most buying decisions are made by committee.
  - Unlike other departments, the business school is a separate kingdom.
  - Business schools make their own decisions about technology and usually have their own computing directors and facilities.
  - Example: The University of Pennsylvania is a strong

Macintosh school, but its business school, Wharton, was until recently a “blue” computing environment.

- Business schools are ego intensive.
  - Purchasing decisions tend to be based on analysis rather than emotions.
  - Decisionmakers are reluctant to admit computer phobias or lack of knowledge about technology.
  - One-on-one discussions with faculty are successful in handling these issues.
- Most business schools have a low awareness of Macintosh and think that the business world is all MS-DOS.
  - Reality is that corporate America is a multi-vendor world.
  - Business schools should emulate that to provide quality business education.
- Understaffing of computer services feeds a reluctance to support multiple standards.
  - However, Apple requires less maintenance, training time, etc.
- Space is at a premium. This affects our ability to get commitments to our technology.

Transition

In addition to these primary characteristics of the business discipline, we know some more facts about this market.

Show Slide

Show Slide 39, "More Facts"

Include these points:

- Current research tells us that over 70% of the schools are in a growth phase for computer integration.

- They are revisiting decisions made 3-5 years ago.
- They have to replace old technology.

  - This creates an excellent opportunity for Apple.
- Business schools' primary interest is classroom integration.
  - They already understand the role of computers in personal productivity.
  - They now want to take the next step to integrate technology into the classroom.
  - This means lab purchases.
- Business schools' secondary interest is in motivating the faculty to develop software.
  - This can be a win for Apple because of its simplified authoring tools like HyperCard.
- 60-80% of the courseware being used in business schools is commercial software.
  - Schools want to teach on software that the students will find when they reach the business world.
  - Productivity software like spreadsheets and word processors are most in evidence.

Transition

In light of this environment, the decisionmakers in the business discipline have specific concerns when they go to purchase computers.

Show Slide

Show Slide 40, "Largest Concerns"

Include these points:

- They are concerned about acceptance in the business community.
  - Industry is the "client" of the business school and the

schools are anxious to please them.

- Schools also feel an obligation to emulate the “real world” environment.

  - Many have a low awareness of the successes for Macintosh in the business world.
  - Tell them about Dupont, Citibank, Peat Marwick & Maine; each has over 6000 Macintosh computers.
- They fear losing large investments made in MS-DOS software.
  - Promote the benefits of SuperDrive™ and solutions like Soft PC and Dayna drive technology which will allow them to continue using MS-DOS software investments.
  - Position Macintosh as the most leveraged investment since it will run both operating systems in one machine.
- They want connectability to other platforms - micro, mini and mainframe.
  - Let them know that Macintosh is the most connectible microcomputer in the market.
  - Share information about AppleTalk, TCP-IP solutions, etc.
- They are concerned about supporting more than one standard.
  - Point out that research from DRI and the Gartner Group show that Macintosh has a low cost of support, training, maintenance, etc. compared to other vendors.

Transition

Next we'll take a look at some of the key trends within business education today.

Show Slides

Show Slide 41, "Trends"

Include these points:

- Business schools are revitalizing the area of manufacturing/operations management.

  - They have received a lot of criticism for ignoring this area over the past few years and sending all of their graduates to Wall Street.
  - Many are blaming the business schools for the declining position of the U.S. worldwide.
  - This is a plus for us because the Macintosh lends itself so well to simulation and analysis solutions.
- There's a new focus on entrepreneurial skill building instead of preparing graduates to do work as middle managers in corporate America.
- There have been chronic problems in the area of interpersonal communications because schools have been placing so much emphasis on computational/analysis abilities.
  - Graduates can analyze with the best of them but can't crisply articulate their conclusions in a presentation situation.
  - Many schools are adding standalone classes for business writing and presentations. This is an area where Macintosh can shine.
- Business is being pressured to be more productive which means shorter research cycles.
- Schools are under extreme pressure to make their programs more global and do more collaborative work with other departments like languages.
  - They are being criticized for contributing to the diminished U.S. position in the world and for ignoring the large percentage of foreign students enrolled in their program.
- Because of the changes in corporate America, there is a trend toward multi-vendor environments in business schools.

Show Slide 42, "Macintosh CPUs."

Include these points:

- Apple provides hardware solutions which support all of the activities within the business discipline from individual productivity to instruction to research.
- Our solutions support the student, professor, and administrator.
- They range from the Macintosh Plus at a casual user level to the Macintosh IIci at the power user level.

Show Slide 43, "20 Macintosh Users."

Include these points:

- We have had extraordinary success over the past year with Macintosh adoptions in business schools
- Many of these schools were pure MS-DOS .
  - They have made a conscious decision to support Macintosh as an equal standard.
  - They have included Macintosh as one of the CPUs on the recommended buy information sent to students.
- Some of the top 10 leading business schools are on this list, as well as second tier institutions.
- They represent a wide geographic area as well as a blend of public and private institutions.

Show Slide 44, "Macintosh Users."

Present examples of Macintosh solutions in the Business market. Include these points:

- Here are some examples of how business schools have used the Macintosh solutions.

- Stanford:
  - Stanford took some risks.
  - 4 years ago, when their counterparts were advocating a pure MS-DOS environment, Stanford decided to go multi-vendor.
  - This was before the wealth of connectivity solutions existed.
  - They were determined not to deprive students of the experience and learning proposition that multiple technologies could offer.
  - They didn't think it was right to concentrate on one vendor because it was the "easiest" to manage and implement.
  - Today, with over 100 Macintosh personal computers in the business school, they have one of the most outstanding multi-vendor environments of any of the business schools.
- Purdue:
  - They had a dilemma. Like many liberal arts colleges, the number of students was decreasing. They wanted to differentiate themselves.
  - They wanted to add an executive MBA program that would attract high level managers.
  - The problem was that they are located in West Lafayette, Indiana, which isn't a hub for Fortune 500 companies.
  - They developed an Executive MBA program based on Macintosh.
  - The entire program is 2 years, but only two 6-week sessions are located on campus. Everything else is done over the Macintosh.

- Regardless of their location, executives can participate in the program over the Macintosh through required purchase of the CPU, printer, and modem.

  - Students download assignments, confer with members of their study group, and question instructors over the Mac.
  - With participation from Brazil to California to Thailand to New Hampshire, they've blown away the geographical boundaries of their university.
- MIT:
  - A business school professor, John Sterman, teaches systems dynamics at MIT.
  - 1 1/2 years ago, he took a famous case study, People's Express, and put all the data in simulation software.
  - The case study is about the meteoric rise and fall of People’s Express Airlines.
  - He puts students in teams and they work on Macintosh computers to complete the case study.
  - The simulation created all the variables that existed within the company. Students are put at the helm of the company and make all the decisions that can ultimately save or destroy it.
  - Having made decisions, they can immediately see the effect of those decisions.
  - Professor Sterman’s software is now used all over the world from Europe to Latin America.
  - His enrollments for the class have increased from 20 to over 200, and he still has to turn people away.
- Georgia Tech:
  - Georgia Tech’s College of Management made a commitment to integrate technology into every facet of the college’s activities - instruction, administration, research, and publishing.
  - They chose Macintosh to do the job.

- They also developed Classroom 2000, a special classroom equipped with over 45 Mac II systems and used for a range of classes including statistics, marketing research, database management, economic forecasting and econometrics.
- Georgia Tech has also put a Macintosh on the desk of every faculty member. They are connected by an AppleTalk network which allows them to transfer files back and forth and collaborate.
- Georgia Tech also has over 35 Macintosh computers in students labs.
- They have a fully integrated strategy for technology!

Transition

Now that we've described some examples of how business schools use the Macintosh technology, we're going to take a closer look at the needs of this market.

Discussion/ Flipchart

Lead a discussion about tasks/activities of the business discipline. Record responses on a flipchart. Include these questions:

- What kinds of activities are business students engaged in?

  Possible responses appear below:

  - *Need to be able to pull data from a huge network of resources*
  - *Must sift and focus the data*
  - *Need to be able to share data with others*
  - *Need graphics to display statistics*

- *Need to compute statistics*

Introduce the major tasks and activities Apple has identified for the business discipline. Write the following categories on a flipchart.

- Word Processing
- Spreadsheet
- Database
- Presentation
- Analysis/Modeling
- Accounting
- Simulations
- Statistics
- Case Studies

Small Group Activity

Activity: Business Solutions Matrix

Conduct the activity. Follow these steps:

1. Divide participants into two groups, and have members of each group cluster their chairs together.
2. Pass out 3 or 4 flipchart pages to each group. Or, give each group a flipchart easel and pad to work with.
3. Have the groups create the following two flipcharts.

   Group 1: Label two columns "Word Processing" and "Spreadsheet."

   Group 2: Label two columns "Database" and "Presentation."

4. Have each group write the names of software packages in the appropriate columns.
5. Allow 15 minutes for the group to complete the exercise.
6. Have a spokesperson from each group present the results

and ask for additional suggestions from the large group.

7. At the conclusion of the exercise, hand out Business Solutions Matrix I and II, along with the *Business School Curriculum Guide* to each participant.

Transition

We'll take a look now at a sampling of the solutions available in each category.

Show Slides

Show Slide 45, "Business Solutions"

Go through the list and check off all the solutions that were mentioned during the preceding exercise. Note those that were not.

Include this point:

- It's important to build awareness that in every area of specialization there is a wealth of solutions on the Macintosh.

Show Slide 46, "Business Solutions."

Include these points:

- In the Statistics area, Apple was previously perceived as weak, that is, not having much breadth and depth.
- Now, there are statistics solutions ranging from the simple to the sublime: from Statview to graphical statistics like Datadesk to those created by the large mainframe statistics developers like SPSS and JMP by SAS Institute.
- These solutions meet the needs of the Business Schools for activities ranging from marketing to accounting to manufacturing.

Transition

In summary, Macintosh has clear advantages over other technologies in the Business discipline.

Show Slide

Show Slide 47, "Macintosh Advantage."

Include these points:

- We have a complete line of technology solutions which support all of the constituents in the business school market - from student to professor to administrator.
- Macintosh is the most connectable microcomputer in the marketplace. It can blend in with other hardware investments including micros, minis or mainframes.
- The low support costs of the Macintosh make it extremely attractive. The Macintosh by its design is self-supporting.
- Macintosh offers authoring solutions such as HyperCard that support the goal of encouraging faculty to develop software. They are unrivaled in the industry and remove the hurdles of development.
- The new models of learning are focused on graphic and simulation tools. These are the key points of differentiation for Apple's hardware.
- There is breadth and depth in our productivity software solutions which fully support the needs of the business discipline.

Discussion

Introduce Apple's national strategy for the business discipline. Include these points:

- Apple Corporate has developed a national strategy for approaching the business discipline.
- There is a company commitment to developing stronger relationships in this area.
- Some of the components of the strategy are shown on the next slide.

Show Slide

Show Slide 48, "National Strategy."

Include these points:

- In late 1988, we held a major national conference to show business school decisionmakers our hardware, solutions and uses of technology within the business schools.
  - The conference was co-sponsored by the Stanford Graduate School of Business and keynoted by John Sculley.
  - The event was a tremendous success and was a catalyst to move the business schools to Macintosh.
- We are working closely with the major "influencers" to this group.
  - Publishers have the most impact.
    - We have developed HyperCard software to accompany the leading selling, accounting, and economics textbooks from McGraw Hill.
    - These 2 texts sell over 400K copies a year and now there is Mac software available with them.
  - A second major influencer is AACSB, the American Assembly of Collegiate Schools of Business.
    - This is the main accrediting body of business schools in the U.S. and is very influential with business school deans.
    - We participate in their annual meetings, on committees and in technology institutes that they offer.
  - We also work with professional organizations, such as the American Accounting Association, to spread the Macintosh message.

- As part of our communications campaign, we have also developed collateral pieces to support the messages that go directly to this discipline.

  - Examples are the Business School Curriculum Guide, pieces in the Wall Street Journal, direct mail, and business ads.
  - We will continue to pursue new creative collateral pieces as the program continues.

Show Slide 49, "National Strategy."

Include these points:

- We are always working with PR to do articles and success stories in major publications.
- Apple Corporate works with our software evangelism group to ensure that innovative solutions continue to be developed for the Mac.
  - We have been successful in getting the statistics solutions that we needed through this process.
- Development donations are also supported.

Transition

There are a number of things you can do to help us.

Show Slide

Show Slide 50, "Your Strategy."

Include these points:

- Make a point of knowing about and using the resources available to you, like the *Business School Curriculum Guide*, HyperCard materials, networking/communications guides, etc.
- Take advantage of the momentum that has been started by the corporate activities. Plan follow-up activities with the business school, such as faculty demos, etc.

- Don’t compete by just comparing spreadsheets. Promote all of the advantages of the Macintosh that make it an exceptional value:
  - Networking
  - Software and hardware solutions
  - Ease of use
  - Low cost of training
  - Higher productivity
- Focus on the faculty. They are the keys to the kingdom.
  - Find faculty who are Mac enthusiasts to spread the word.
  - The faculty endorsement will open up the door to approved student purchase.
- Use other business school successes as references as well as the local successes that exist within Fortune 500 companies and small business.
  - They are the major influencers to the business schools.

Engineering

Discussion/ Flipchart

Introduce the topic. Include this question and note responses on a flipchart:

- What trends in the engineering discipline have you seen on your campuses?

Show Slide

Show Slide 51, "Trends"

Include these points:

- Because of the amount of new information being developed in this field, the 4-year engineering curriculum now takes about 4 1/2 years.
  - It's been said that every five years an engineer needs to relearn 80% of what he or she knows.
- Increasing engineering workload has cut into "liberal arts" time available to engineering students.
  - There's now a movement toward more balanced course loads.
  - An industry spokesman said, "Companies want engineers who can write and speak concisely, effectively, and persuasively. Our graduates are unprepared for the vast amount of communication that they must do in industry. They must be able to communicate -- not only with other engineers, but with non-engineers."
- Overall student productivity is an issue because of time demands in engineering classes.

- Enrollments are still going down, but they have begun leveling off.
  - This is due primarily to the decline in birth rate over the past 18 years.
  - Should bottom out by 1994-95 and begin increasing again as the most recent “baby-boomers” reach college age.

Show Slide

Show Slide 52, "Characteristics."

Include these points:

- This slide lists some of the characteristics we see in this market today.
- Decisions on selection/buying are usually made independently, that is, apart from central campus computing.
- The installed base ranges from inexpensive PCs to mainframes and occasionally supercomputers.
- As a result, there are multiple operating systems in engineering departments - MacOS, UNIX, and DOS.
- The engineering clientele is very self-supporting, requiring less technical support than other departments.
  - They are also willing to buy lesser known brands and third party peripherals.
- The engineering user is interested in large screens, megahertz, MIPS, and access times. They ask, "How fast is it?", "What'll it do?"
  - You can't and don't need to get into this level of discussion.
    - MIPS is not the only indicator of performance.
  - High quality productivity is really what students and faculty are seeking.
  - Stress the Apple Advantage:
    - Apple's ability to integrate hardware, system software, and applications makes the Macintosh computer an engineer's "Dream Machine."

- There is a very high percentage of foreign or English As A Second Language (ESL) type students.
  - Apple's graphical user interface reduces the language barrier, thereby giving Apple an advantage in this market.

Show Slide

Show Slide 53, "An Overview."

Include this point:

- This slide shows the computing needs in the engineering discipline.

Discussion

Lead a discussion about productivity. Include this question:

- What is an example of academic productivity? For faculty? For students?

  Possible responses are listed below:

  - *Faculty members need to record and grade students' work and communicate with other faculty members.*
  - *Students need to write papers.*
  - *Both need word processing, database and spreadsheets.*
- What is an example of engineering productivity?

  Possible responses are listed below:

  - *Number crunching, graphics, presentations, modeling, and simulation.*

Show Slide

Continue with Slide 53 "An Overview."

Include these points:

- In addition to productivity, there are specific needs in

each discipline. Here are some examples.

– A mechanical engineer needs a high-end CAD program to design a camshaft or axle.

- An electrical engineer needs an electronics CAD program to design a printed circuit board.
- A chemical engineer needs molecular modeling tools to look at 3-dimensional chemical structure.

Transition

Now, let's take a closer look at this market.

Show Slides

Show Slide 54, "Engineering Enrollments"

Include these points:

- While undergraduate full-time enrollments are declining, the overall enrollment has been fairly stable for the last five years because of increased graduate and part-time enrollments.
- Freshman enrollments increased in 1988 to 98,009 from 95,434.
- Enrollments are expected to begin increasing 4-6% annually beginning 1994-95 through the end of the century.

Show Slide 55, "Engineering's Installed Base."

Include this point:

- The average installed base for engineering departments is second only to computer science at 37 per department.

Show Slide 56, "Growth in Engineering"

Include this point:

- The total installed base is 32,000 with plans to purchase 11,000 more.

- While this number is not as high as some other disciplines, the machines purchased tend to be high-end.

Show Slides

Show Slide 57, "Student Ownership."

Include this point:

- Of the total of 426,000 full-time engineering students (graduate and undergraduate), 48% own computers.

Show Slide 58, "Student Computer Usage."

Include this point:

- 88% of engineering students use computers. This is higher than any other surveyed discipline.

Show Slide 59, "Percentage of Commercial to Educational Software."

Include these points:

- Engineering students require commercial software packages.
- While other disciplines rely heavily on in-house courseware projects, engineering relies on CAD, math modeling, data analysis and other high-end analytical applications.
- Documentation is important, so there is less piracy than in other disciplines.

Transition

Here are some issues in the engineering market.

Show Slide

Show Slide 60, "Issues/Concerns."

Include these points:

- Speed, MIPS, megahertz, etc. are all-important to engineers.
  - Tasks like data analysis, simulation, CAD/CAM, math modeling, imaging and 3-D modeling require a good bit of horsepower.
  - Some engineers still feel that the Mac is just a toy.
  - Even for these speed freaks, that's not the case anymore with the introduction of the new high-end machines.
- Engineering labs often contain everything from micros to mainframes. This makes connectivity a key issue.
  - The Mac is the most connectable of any computer made.
  - In addition, it is the only computer available that will run all three of the industry standard operating systems - MacOS, UNIX, and MS/DOS.
- Because of the high level of technical expertise among engineering users, price is often the determining factor when purchasing.
  - Engineering users are not afraid to buy clones of "off brands."
  - Declining enrollments usually mean a decline in budget dollars.
- Like other disciplines, engineering has its own software requirements, from standard productivity tools to curriculum-specific applications.
  - In the past, gaps existed in the software part of Apple's engineering equation.

- NO MORE! Mac software exists for each of the crucial areas.

Transition

And, finally, let's take a look at the UNIX/ A/UX issue.

Show Slides

Show Slide 61, "UNIX."

Include these points:

- Here's the least you should know about UNIX.
  - It was originally developed at Bell Labs for internal use.
  - It is multi-user, multi-tasking, very powerful, and portable.
  - Portable means it moves from platform to platform with relatively little re-programming.
- A/UX is Apple's implementation of UNIX. It is a saleable product right now.
  – Witness the recent government contracts secured by Apple: NASA, Post Office and Air Force.
  – Any vendor bidding on a government contract must have a UNIX operating system in order to be compatible with government configurations.
- Here's a brief comparison of A/UX and the Macintosh operating system.
  – A/UX is a multi-user, multi-tasking operating system.
  – MacOS is single-user and simulated multi-tasking.
  – A/UX is microcomputer-based, but able to interface directly with minis and mainframes.
  – MacOS is microcomputer-based.
  – Both provide a Macintosh environment.

Show Slides

Show Slide 62, "Macintosh CPUs."

Include this point:

- This slide shows Apple's CPU family.

Show Slide 63, "More CPU/Peripheral Strategy."

Include these points:

- In engineering, we are concentrating on the SE/30**,** IIci, IIcx, and IIx computers.
  - Apple's high-end machines can run color graphics and do very fast number crunching.
- Large screen, hi-resolution, color and monochrome monitors from Apple and third party developments are important to engineers.
  - There are tremendous video and graphic demands placed on computer systems by scientific visualization, imaging, modeling and CAD/CAM tasks.
  - 32-bit QuickDraw™ allows users to access 256 colors at a time out of a range of 16 million colors.
  - Users now have the capability to create, manipulate, and enhance photographic quality color images in digital form.
- Up until recently, the Mac compter has been standalone, connected through modems, etc.
  - Now there are 3rd party data acquisition devices that enhance the Mac computer's capabilities in this market.

Show Slide 64, “Solutions.”

Include these points:

- To meet these needs, Apple has solutions in the three categories mentioned earlier: general productivity, engineering productivity, and discipline-specific.

Show Slides

Show Slide 65, “General Productivity Tools.”

Include these points:

- Listed here are some general productivity tools.

Show Slide 66, “Engineering-Specific Tools.”

Include this point:

- These are some engineering-specific productivity tools that aid in analysis, drawing/drafting, and simulation.

Show Slide 67, “Discipline-SpecificTools.”

Include this point:

- These are the discipline-specific tools.

Transition

The next slide presents a summary of the Macintosh advantage in this market.

Show Slides

Show Slide 68, “Mac Advantage.”

Include these points:

- The Macintosh has a consistent user interface.
  - When you boot up you get the same graphics user interface from one application to the next.

- Macintosh can offer productivity and lots of applications software.
- The new ‘030 machines offer greater computing power.

- We have the ability to run multiple operating systems and offer overall connectability.

Show Slide 69, "National Strategy - Hardware and Software."

- Introduction of the new high-end machines so engineers can use them to do modeling and simulation work.
- Tremendous availability of third party hardware.
  - For example, this allows users to add a graphics accelerator board to soup up a Mac II.
- 1990 rollout of A/UX 2.0 and MacX
  - MacX allows Mac to function as a server in an X-Window environment.
- Apple also will be supporting development efforts in software, such as:
  - Allegro Common LISP, a MacOS programming language
  - MPW, Mac Programmers' Workshop, a powerful software development environment
  - MacApp, an object-oriented tool box.
- Finally, Apple encourages publisher discounts and programs for higher education accounts.

Show Slide 70, "National Strategy Programs."

Include these points:

- Higher Education is focusing on Engineering and Computer Science .
- Apple is working on an update of the Engineering Curriculum Guide and Selling Kit.
- Apple is pursuing joint programs with college textbook

publishers.

  - An example is the McGraw Hill Economics project. Apple worked with McGraw Hill to put together a HyperCard instruction stack for a new introductory economics text.

- Apple is also pursuing formalized programs with various engineering societies.