

**Florida Department of Education
CURRICULUM FRAMEWORK**

Program Title:	Technology Project Management
Occupational Area:	Business Technology Education
Program Classification:	PSV
Program Type:	AS* or AAS*
Grade Level:	College Credit
CIP Number:	0506120107 AAS 1506120107 AS
Length:	63 College Credits
SOC Code:	11-3021 Computer and Information Systems Manager

I. MAJOR CONCEPTS/CONTENT: This program is designed to prepare students for employment in occupations in the Information Technology sector. Typical positions include project managers and professionals incorporating IT project management strategies in their business activities.

This program focuses on a balance of business and technology components and allows the student to gain additional skills in the area of Project Management.

II. LABORATORY ACTIVITIES: Laboratory activities are an integral part of this program. The tools, materials and processes used in these laboratory activities are similar to those used in industry as defined by DACUM participants.

III. COMPLEMENTARY SOFTWARE AND EQUIPMENT: The following tools and equipment are required for this program: PCs; peripheral devices, scanners, digital cameras, web cams; cell phones and pagers, project management software, browser software, personal productivity software, collaboration software, multi-media software; HTML, web page design software, image, video and sound editors.

IV. INSTRUCTOR QUALIFICATIONS Preferred: Masters Degree in Field or Masters degree and 18 hours in Management Information Systems, Information Studies or Information Science. Experience working in Information Technology Project Management or related area. Industry Certification in appropriate area. Minimum: Associate Degree in field. Two or more years of related work experience.

V. WORK/LEARN CYCLES: The cooperative method of instruction including internship and apprenticeship is strongly recommended for this program. Whenever the cooperative method is offered, the following is required for each student: a training plan (signed by the student, teacher and employer) which includes instructional objectives and a list of on-the-job and in-school learning experiences; a work station which reflects equipment, skills and tasks which are relevant to the occupation which the student has chosen as a career goal. It is recommended that the student receive monetary compensation, as well as credit, for work performed.

VI. DISTANCE LEARNING DELIVERY: Effective distance learning in

technical degree programs is sometimes difficult to accomplish due to the need for student participation in skills activities as part of the curriculum. Complete programs, however, can be offered successfully for those students in which time and geographical distance are restricting factors. This is accomplished by using distance-learning materials for concept/theory mastery and skills labs that allow the student to complete the skill objectives of the curriculum across a variety of schedules.

A distinction should be made between distance learning products that contain conceptual and theoretical content ("content products") as opposed to those that may serve merely as a framework for such content ("delivery products"). Many products contain both elements, but each product should be examined with this distinction in mind. Presently available delivery products offer a variety of delivery mechanisms that utilize both synchronous and asynchronous tools to allow interaction with instructors, fellow students, and practicing professionals. A good delivery product should include the following components: An online grade book and progress status report; grade reporting tool for students to view grades; quiz development tool; administration tools, such as grade distribution status reports and other statistical data; backup, download, and upload tools; student and Web page access tracking; glossary and index tools; assignment drop-box; email and discussion tools; chat room and white board; capability to incorporate multimedia; student presentation component; easily accessible Help files; and course announcement tools. Two of the most popular of these programs are Blackboard and WebCT. Many studies and comparative evaluations of distance learning products have been performed over recent years and results are often published on the Web. A list of web sites containing information related to this issue can be found in Appendix A. The Florida Community College Distance Learning Consortium (web site at www.distancelearn.org) contracts each year with a number of vendors offering a computer based training (CBT) in a broad spectrum of information technology topics. Florida community colleges can select courses covering those topics appropriate for their programs to enhance both traditional and online offerings within this degree. Three major CBT products that contain conceptual and theoretical content related to this program have been documented and compared in the appendices at the end of this framework. The products reviewed were: Course Technology (www.course.com) NetG (www.netg.com) SmartForce (www.smartforce.com)

The appendices include a comparative analysis of each products basic attributes, listings of the content modules offered by each of these products, and a mapping of this framework's outcomes to these modules.

- VII. MODEL FOR ACCELERATED WORKFORCE EDUCATION: Instead of the traditional sixteen-week course model, classes could be given in an accelerated eight-week model. These classes would meet five hours per week. Due to the technical nature of these classes, it is our recommendation that each class should meet for a minimum of two and one-half hours per session. Another accelerated option available is a four-week model with each course meeting ten hours per week, preferably two hours per day, five days a week. A

hybrid model combining instructor-led training and online Internet modules is another alternative.

VIII. SPECIAL NOTES:

Future Business Leaders of America (Secondary), Phi Beta Lambda (Postsecondary), and Business Professionals of America (BPA) are the appropriate Career and Technical Student Organizations (CTSO) for providing leadership training and for reinforcing specific career and technical skills. Career and Technical Student Organizations, when provided, shall be an integral part of the career and technical instructional program, and the activities of such organizations are defined as part of the curriculum in accordance with Rule 6A-6.065, FAC.

Federal and state legislation requires the provision of accommodations for students with disabilities to meet individual needs and ensure equal access. Adult students with disabilities must self-identify and request such services. Students with disabilities may need accommodations in such areas as instructional methods and materials, assignments and assessments, time demands and schedules learning environment, assistive technology and special communication systems. Documentation of the accommodations requested and provided should be maintained in a confidential file.

To be transferable statewide between institutions, this program/course must have been reviewed, and a "transfer value" assigned the curriculum content by the appropriate Statewide Course Numbering System discipline committee. This does not preclude institutions from developing specific program or course articulation agreements with each other.

IX. INTENDED OUTCOMES: After successfully completing the program, the student will be able to:

General Education Requirements (credits as required by SACS):

- Demonstrate communication skills. (English)
- Perform problem solving activities and math computations. (Math)
- Develop human relations skills. (Humanities)
- Demonstrate knowledge of Physical Science. (Science)
- Demonstrate knowledge of Social Science. (Social Sciences)

Foundation Courses:

Technology Core

01.0 Demonstrate proficiency in the use of microcomputers and their peripherals

02.0 Demonstrate proficiency in the use of microcomputer software

03.0 Demonstrate proficiency in the use of microcomputer operating systems software

04.0 Demonstrate proficiency in the use of Web browsers to access Internet services

Business Core

05.0 Identify, classify and demonstrate IT activities

06.0 Perform accounting activities

07.0 Identify legal and ethical issues relative to the IT environment

Project Management Specialization

08.0 Perform Project Management Activities

09.0 Use various Project Management software applications and languages

10.0 Conduct systems analysis and design

11.0 Perform human resource management activities

12.0 Use various models and strategies for Project Management

13.0 Perform customer service activities for Project Management

Professional Core

14.0 Demonstrate employability skills

15.0 Demonstrate appropriate communication skills

16.0 Demonstrate human relations skills

17.0 Perform decision-making activities

July 2007

Florida Department of Education

Student Performance Standards

Program Title: Technology Project Management

Foundation Courses

01.0 Proficiency in the use of microcomputers and their peripherals.

The student will be able to:

- 01.01 Identify and explain the main purpose of various microcomputer hardware devices.
- 01.02 Demonstrate the proper use and maintenance of printers.
- 01.03 Demonstrate the proper use and maintenance of scanners.
- 01.04 Demonstrate the proper use and maintenance of CD-RWs.
- 01.05 Demonstrate the proper use and maintenance of zip drives.
- 01.06 Demonstrate the proper use and maintenance of DVDs.
- 01.07 Demonstrate the proper use and maintenance of digital cameras.
- 01.08 Demonstrate the proper use and maintenance of Web cameras.
- 01.09 Demonstrate the proper use and maintenance of backup systems.
- 01.10 Demonstrate the proper use of basic hand tools.

02.0 Proficiency in the use of web browsers and access to Internet resources. The student will be able to:

- 02.01 Explain the history, purpose and use of the World Wide Web.
- 02.02 Describe proper Internet etiquette and usage.
- 02.03 Explain how to connect to the Internet.
- 02.04 Explain the purpose and use of browsers and search engines.
- 02.05 Use a Web browser to navigate the Web.
- 02.06 Send electronic messages.
- 02.07 Explain communication issues specific to email.
- 02.08 Set up an email account.
- 02.09 Participate in an email discussion group.
- 02.10 Explain and use proper Usenet etiquette.
- 02.11 Explain the guidelines for evaluating information needs before beginning a search.
- 02.12 Explain issues associated with pornography, free speech, censorship, filtering, and copyright on the Web.
- 02.13 Describe how to critically evaluate online information content.
- 02.14 Use bookmarks to create a bibliography.
- 02.15 Capture images, text, sound, and data from Web pages.
- 02.16 Work with File Transfer Protocol (FTP) clients.
- 02.17 Identify and use instant messaging software.

- 02.18 Design and publish a simple Web page.
- 03.0 Proficiency in the use of microcomputer software. The student will be able to:
 - 03.01 Identify and use personal productivity software including word processing, spreadsheet, database, presentation, communication, and appointment scheduling applications
 - 03.02 Identify and use Project Management software.
 - 03.03 Identify and use e-Mail software.
 - 03.04 Identify and use Web page design software.
 - 03.05 Identify and use anti-virus software.
 - 03.06 Identify and use report writing software.
 - 03.07 Identify and use standards and methodology software.
 - 03.08 Identify and use auditing software.
 - 03.09 Identify and use data modeling software.
 - 03.10 Identify and use distance learning software.
- 04.0 Proficiency in microcomputer operating systems software. The student will be able to:
 - 04.01 Describe the historical development of computer operating systems.
 - 04.02 Describe the major hardware and related software of microcomputers.
 - 04.03 Describe the various operating systems, including: Windows, Unix, Linux, etc.
 - 04.04 Explain system and application architectures.
 - 04.05 Describe various disk formats.
 - 04.06 Describe the file system functions.
 - 04.07 Demonstrate knowledge of data processing concepts.
- 05.0 Information technology activities. The student will be able to:
 - 05.01 Describe how business operations have changed due to Information Technology.
 - 05.02 Classify the Information Technology components.
 - 05.03 Describe the use of computing and software for business.
 - 05.04 Describe the use of communication and research for business.
 - 05.05 Describe the use of Web publishing for business.
 - 05.06 Describe the use of digital media for business.
 - 05.07 Identify fundamental financial analysis concepts.
 - 05.08 Describe financial analysis tools.
 - 05.09 Identify the phases of a project.
 - 05.10 Demonstrate the need to validate requirements.
 - 05.11 Describe change management.
 - 05.12 Describe the fundamentals of risk management.
 - 05.13 Identify estimating concepts.
 - 05.14 Identify and create organizational goals and objectives.
 - 05.15 Demonstrate the ability to work collaboratively with other individuals or teams.
- 06.0 Accounting activities. The student will be able to:

- 06.01 Record transactions in a general journal
- 06.02 Post entries from a general journal to a general ledger
- 06.03 Prepare an income statement
- 06.04 Prepare an owner's equity statement
- 06.05 Prepare a balance sheet
- 06.06 Journalize and post adjusting entries
- 06.07 Journalize and post closing entries
- 06.08 Prepare a post closing trial balance
- 06.09 Prepare checks and stubs
- 06.10 Endorse checks using special endorsements
- 06.11 Prepare a deposit slip and adjust checkbook
- 06.12 Prepare a bank reconciliation
- 06.13 Maintain petty cash records
- 06.14 Record transactions in special journals
- 06.15 Post journal entries to subsidiary ledgers
- 06.16 Prepare payroll records
- 06.17 Interpret financial statements
- 07.0 Legal and ethical issues relative to the information technology environment. The student will be able to:
 - 07.01 Discuss the types of works that are protected by intellectual property laws including copyrights, patents, trademarks and trade secrets.
 - 07.02 Discuss the basic elements of a contract.
 - 07.03 Discuss e-mail litigation, including anti-spam laws.
 - 07.04 Discuss e-mail use and ownership.
 - 07.05 Describe customer and employee privacy issues and safeguards.
 - 07.06 Develop examples of acceptable use policies.
 - 07.07 Compare organizational codes of ethics.
 - 07.08 Research industry standards and codes of conduct for Information Technology Professionals.
 - 07.09 Write a personal code of ethics.
- 08.0 Project management activities. The student will be able to:
 - 08.01 Recognize the critical importance of processes in managing projects.
 - 08.02 Distinguish between project management processes and product-oriented processes.
 - 08.03 Sequence the groups of processes, as they would normally occur when managing a complex project.
 - 08.04 Identify the components of the process interactions.
 - 08.05 Describe the role of project management (PM) within the organization.
 - 08.06 Identify the strengths and weaknesses of various project life cycle designs.
 - 08.07 Understand the importance of managing project scope.
 - 08.08 Compare and contrast project selection methods.
 - 08.09 Build a Work Breakdown Structure (WBS), Gantt chart, and

- Pert Chart and describe the elements of each.
- 08.10 Compare and contrast types of cost estimates.
- 08.11 Examine cost control and earned value analysis.
- 08.12 Examine organizational planning, staff acquisition, and team development.
- 08.13 Examine risk identification, quantification, response development, and response control.
- 08.14 Compare and contrast project tracking and project reporting
- 08.15 Change control and configuration control.
- 08.16 Identify the costs and benefits of subcontracting and outsourcing .
- 08.17 Apply fundamental financial analysis concepts to project management tasks.
- 08.18 Use formal cost and schedule control and variance analysis to detect pending problems so the problems can be corrected or workaroud strategies can be implemented.
- 08.19 Track the expenses and costs of a project and compare them to the project plan.
- 08.20 Explain how financial analysis tools are used in the financial management of a project.
- 08.21 Explain how a project manager can control and manage projects and contract finances.
- 09.0 Project management software applications and languages. The student will be able to:
 - 09.01 Demonstrate proficiency with accounting software.
 - 09.02 Demonstrate proficiency with auditing software.
 - 09.03 Demonstrate proficiency with customer relations software.
 - 09.04 Demonstrate proficiency with enterprise resource software.
 - 09.05 Demonstrate proficiency with data modeling software.
 - 09.06 Demonstrate proficiency with remote controlling software.
 - 09.07 Demonstrate proficiency with program development software
- 10.0 Systems analysis and design. The student will be able to:
 - 10.01 Perform a preliminary investigation of a systems project.
 - 10.02 Perform a detailed systems investigation and analysis of the project.
 - 10.03 Design the input and output for the system.
 - 10.04 Design the data files for the system .
 - 10.05 Design the processing flow of the system.
 - 10.06 Design a system to insure that only valid data is accepted and processed, completely and accurately.
 - 10.07 Establish a project plan for the development and implementation of the system.
 - 10.08 Develop the final systems documentation.
 - 10.09 Conduct necessary training and file conversion to properly implement the system.
- 11.0 Human resources management activities. The student will be able to:
 - 11.01 Summarize the history of human resource management.

- 11.02 Describe the importance of human resources.
- 11.03 Describe the components of the job requirement and analysis process.
- 11.04 Describe the important elements of effective human resource planning.
- 11.05 Discuss the performance appraisal and the uses of the performance appraisal.
- 11.06 Compare various training options available to organizations
- 11.07 Describe various ways of compensating employees.
- 11.08 Summarize the legal regulations of compensation systems
- 11.09 Explain the importance of maintaining employees.
- 11.10 Discuss the importance of safety and health laws and standards.
- 11.11 Describe how to create a safe and healthy work environment.
- 11.12 Describe labor relations and collective bargaining.
- 12.0 Use various models and strategies for project management. The student will be able to:
 - 12.01 Understand how to control a project.
 - 12.02 Describe effective project closeout procedures.
 - 12.03 Identify the goals of project management.
 - 12.04 Establish effective communication with stakeholders to increase project efficiency.
 - 12.05 Create a project priority matrix to balance priorities.
 - 12.06 Evaluate the critical path to reduce project length.
 - 12.07 Use Planning Processes: Work Breakdown Structure, Risk Management, Estimating, and Scheduling.
 - 12.08 Use Cost Management, Procurement Management, and Project Tracking methods/models/strategies.
 - 12.09 Describe closing processes, Project Closeout, Project Closing Activities, Project Completion Workshops.
- 13.0 Customer service techniques. The student will be able to:
 - 13.01 Define customer service.
 - 13.02 Explain the value of customer service
 - 13.03 Discuss solutions to overcoming obstacles in customer service.
 - 13.04 Define service culture in organizations.
 - 13.05 Describe management's role in customer service formulation.
 - 13.06 Describe employee empowerment and its importance in providing good customer service.
 - 13.07 Explain the role of communication in customer service.
 - 13.08 Describe the basic behavioral styles of customers.
 - 13.09 Explain the difference behavioral styles of a challenging customer.
 - 13.10 Describe strategies of dealing with challenging customers
 - 13.11 Determine strategies for working with various customer behaviors.
- 14.0 Employability Skills. The student will be able to:
 - 14.01 Conduct a job search.

- 14.02 Secure information about a job.
 - 14.03 List and obtain documents that may be required when applying for a job and preparing for an interview.
 - 14.04 Complete a job application form correctly.
 - 14.05 Demonstrate competence in job interview techniques.
 - 14.06 Identify or demonstrate appropriate responses to criticism from employer, supervisor, other employee, or customer.
 - 14.07 Identify and describe acceptable work habits.
 - 14.08 Demonstrate knowledge of how to make appropriate job changes during the course of a career.
 - 14.09 Demonstrate acceptable employee health habits.
 - 14.10 Demonstrate knowledge of the "Florida Right-To-Know Law" as recorded in Florida Statutes Chapter 442.
- 15.0 Communications skills. The student will be able to:
- 15.01 Write logical and clear statements, or phrases, to accurately fill out forms/invoices commonly used in business and industry.
 - 15.02 Read and explain graphs, charts, diagrams, and tables commonly used in this industry/occupation area.
 - 15.03 Read and follow written and oral instructions.
 - 15.04 Answer and ask questions coherently and concisely.
 - 15.05 Read critically by recognizing assumptions and implications and by evaluating ideas.
 - 15.06 Demonstrate appropriate telephone/communication skills
 - 15.07 Conduct oral presentations.
 - 15.08 Observe and interpret verbal and nonverbal behavior.
 - 15.09 Use English language skills in punctuation and grammar.
 - 15.10 Compose and critique business documents, memorandums, business letters, requests, answer requests, claims/adjustments, and letters using correct English grammar and punctuation.
 - 15.11 Communicate through the Internet using e-mail, attachments, net meetings, and video conferencing.
 - 15.12 Summarize the skills involved in being an effective listener.
 - 15.13 Identify barriers to intercultural communication.
 - 15.14 Search the Internet using different search engines.
 - 15.15 Write routine, good and bad news, and goodwill messages.
 - 15.16 Write persuasive messages.
 - 15.17 Communicate information through the Internet and using other electronic devices.
 - 15.18 Find, evaluate and process information.
 - 15.19 Create electronic presentations.
 - 15.20 Create effective business reports and proposals.
 - 15.21 Write professional resumes and complete applications.
 - 15.22 Create effective Web pages.
- 16.0 Human relations skills. The student will be able to:
- 16.01 Demonstrate appropriate work habits.

- 16.02 Identify traits that promote good human relations and increase job performance.
 - 16.03 Analyze and develop written solutions to behavior problems affecting job performance.
 - 16.04 Demonstrate ability to work in multicultural and diverse environments.
 - 16.05 Identify opportunities for business development by employing international relationships and human resources.
 - 16.06 Identify the significant events in the human relations movement in U.S. business history.
- 17.0 Decision making activities. The student will be able to:
- 17.01 List the steps in problem solving.
 - 17.02 Identify relevant variables, tasks, actions, and outcomes.
 - 17.03 Demonstrate the ability to determine the appropriate priority and sequence of tasks.
 - 17.04 Prepare a day's schedule for an employer.
 - 17.05 Choose appropriate action in situations requiring following an organization's chain of command.
 - 17.06 Choose appropriate action in situations requiring effective time management.
 - 17.07 Identify ways to assign, review, and monitor the completion of others' work.

Appendix "A"
Distance Learning References

At the time of this writing, the following web sites were found containing useful information related to the section of this framework entitled DISTANCE LEARNING DELIVERY: ist-

socrates.berkeley.edu/~fmb/articles/web_based_lms.html#V
www.webcite.com.au/resources/webct_blackboard.pdf
www.siastr.sk.ca/virtualcampus/infofacultystaff/testtools.htm
astro.temple.edu/~jburston/CALICO/review/webct-bb00.htm
www.c2t2.ca/landonline/sidebyside.html
www.c2t2.ca/landonline/evalapps.asp
www.sitetrainer.com/platformcomparison-easyindex.htm
www.marshall.edu/it/cit/webct/compare/comparison.html
sunil.umd.edu/webct
webct.com
blackboard.com

Appendix "B"
Distance Learning Product Comparison

The purpose of this appendix is to provide a comparison of currently available distance learning products, which can be used to deliver the Information Technology Project Management Curriculum. This list should serve only as a guide for selecting such products, as new tools are available on a continuing basis.

Feature	Force Course	Technology NetG	
Price 1,000 Ids	\$249,648	\$75,000	\$36,000
Web Hosting	Included	Included	\$7,500 fee
Student Desktop	Windows Platform 28.8k modem min. 16 Mb RAM min.	Windows Platform 56k modem min. 32 Mb RAM min.	Windows Platform 28.8k modem min. 16 Mb RAM min.
Hosted web site personalization	Yes	Yes	\$7,500 per school for customized separate site
Library Titles	300	250	1,000
Courses available in languages other than English	Part of library available in Spanish, French, German	No	Over 300 courses available in Spanish, French, German
Mentoring	Yes	No	Yes. \$10,800 for 1000 users 24 X 7
Non-credit use	No	No	Yes, for continuing education
Customer support	Staff Only	Staff Only	24 X 7
Skills assessment	Pre & post skills assessment; course content mapped to individual learner needs.	Simulated Pre & post skills assessment; course content mapped to individual learner needs.	Pre & post skills assessment; course content mapped to individual learner needs.

Course Technology Catalog (Online Courses)

Skills Area	Courses / Training Modules Offered
Illustrated Titles	Access 2000 - Complete Access 2000 - 2nd Course Access 2000 - Introductory Access 2000 - Brief Adobe Illustrator 9 - Introductory Computer Concepts, 3e - Introductory Computer Concepts, 3e - Brief E-Commerce Concepts - Introductory Excel 2000 - Complete Excel 2000 - 2nd Course Excel 2000 - Introductory Excel 2000 - Brief HTML, 2e - Complete HTML, 2e - Introductory HTML, 2e - Brief Office 2000 - Enhanced Office 2000 - Introductory Office 2000 - 2nd Course Windows 98 - Brief Outlook - Essentials Internet Explorer 5 - Essentials Publisher - Essentials Front Page 2000 - Essentials Adobe PhotoShop 5.5 - Introductory PowerPoint 2000 - Introductory PowerPoint 2000 - Brief PowerPoint 2000 - MOUS Course Windows 2000 - Essentials Word 2000 - Complete Word 2000 - Introductory Word 2000 - 2nd Course Word 2000 - Brief
MIS Titles	Business Data Communications Electronic Commerce (Schneider/Perry) Information Technology Project Management Management Information Systems

	Principles of Information Systems, 5e Systems Analysis and Design in a Changing World
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Course Technology Catalog (Online Courses) - Continued

Skills Area	Courses / Training Modules Offered
Networking / PC Repair Titles	CCNA Guide to Cisco Networking Fundamentals Enhanced A+ Guide to M&M Your PC, 3e - Comprehensive A+ Guide to Manage. & Maint. Your PC, 2e - Comprehensive A+ Guide to Managing & Maintaining Your PC - Introductory CCNA Guide to Cisco Routing Guide to Networking Essentials, 2e Guide to Wireless LANs I-Net+ Guide to Internet Technologies MCSE - Guide to Windows 2000 Professional MCSE - Guide to Windows 2000 Server Net+ Guide to Networks

New Perspectives Titles	Access 2000 - Comprehensive Access 2000 - Introductory Access 2000 - Brief Computer Concepts, 4e - Comprehensive Computer Concepts, 4e - Introductory Computer Concepts, 4e - Brief Creating Web Pages w/ HTML, 2e - Comprehensive Creating Web Pages w/ HTML, 2e - Introductory Creating Web Pages w/ HTML, 2e - Brief E-Commerce - Introductory E-Commerce - Brief Excel 2000 - Comprehensive Excel 2000 - Introductory Excel 2000 - Brief Front Page 2000 - Comprehensive Front Page 2000 - Introductory Internet, 2e - Comprehensive Internet, 2e - Introductory Internet, 2e - Brief Microsoft MS-DOS - Comprehensive Microsoft MS-DOS - Brief Office 2000 Professional - Introductory Office 2000 - 2nd Course Office 2000 - 3rd Course Windows 98 - Brief Outlook 2000 - Introductory PowerPoint 2000 - Comprehensive PowerPoint 2000 - Introductory PowerPoint 2000 - Brief Practical Office 2000 Practical Internet Practical PC, 2e Word 2000 - Comprehensive Word 2000 - Introductory Word 2000 - Brief
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Course Technology Catalog (Online Courses) - Continued

Skills Area	Courses / Training Modules Offered
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<p>Programming / Web Warriors Titles</p>	<p>Active Server Pages Database-Driven Web Sites A Guide to Computer User Support, 2nd ed. A Guide to Programming Logic and Design Internet Programming w VBScript & JavaScript Introduction to Programming w C++, 2e Java Programming - Comprehensive Java Programming - Introductory Java Programming with J++ - Comprehensive Java Programming with J++ - Introductory JavaScript Comprehensive Object-Oriented Programming Using C++, 2e Programming with Microsoft Visual Basic 6 (Zak) Visual Basic for Applications 6 - Enhanced Visual Basic for Applications 6 (VBA) Visual C++ 6.0</p>
<p>Shelly / Cashman Titles</p>	<p>Access 2000 - Comprehensive Access 2000 - Complete Access 2000 - Introductory Discovering Computers 2002 - Complete Discovering Computers 2002 - Introductory Discovering Computers 2002 - Brief Discovering Computers 2001 - Complete Discovering Computers 2001 - Brief Excel 2000 - Comprehensive Excel 2000 - Complete C&T Excel 2000 - Introductory C&T Office 2000 - Introductory C&T Office 2000 - Post-Advanced Office 2000 - Advanced C&T Office 2000 - Brief C&T Office 2000 - Essential C&T PowerPoint 2000 - Comprehensive C&T PowerPoint 2000 - Complete Concepts & Techniques PowerPoint 2000 - Introductory C&T</p>

	<p>Systems Analysis and Design, 4e Visual Basic 6 - Introductory C&T Windows 98 Essential Concepts & Techniques Word 2000 - Comprehensive C&T Word 2000 - Complete C&T Word 2000 - Introductory Concepts and Techniques</p>
Southwestern Titles	<p>Fundamentals of C++ Introductory, 2e Mastering & Using Access 2000 Updated - Comprehensive Mastering & Using Excel 2000 - Comprehensive Mastering & Using PowerPoint 2000 - Comprehensive Mastering & Using Microsoft Word 2000 - Comprehensive Office Tutorial Series (Pasewarks)</p>

NetG Catalog

Skills Area	Courses / Training Modules Offered
Business and Professional Development	Accounting and Finance Curriculum (6) Communication Curriculum (17) Customer Service Curriculum (9) Human Resources Curriculum (12) International Business Curriculum (3) Leadership Curriculum (11) Management Curriculum (30) Personal Development Curriculum (14) Project Management Curriculum (11) Sales Curriculum (6) Strategic Planning Curriculum (2) Team Building Curriculum (11)
Desktop	Databases (1) Desktop Publishing and Graphics (1) Groupware Communications (1) Internet (6) Lotus (12) Microsoft Office 2000 (29) Microsoft Office 95 (8) Microsoft Office 97 (18) Microsoft Office 98 (10) Microsoft Office XP (2) Novell (3) PC Basics and Operating Systems (12) SAP (81) Spreadsheets (1) Word Processing Applications (4)

Skills Area	Courses / Training Modules Offered
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Information Technology	C and C++ Languages (27) Cisco (53) Client/Server Development Tools (20) Client/Server Relational Databases (60) Communications and Networks (14) CompTIA (14) Distributed Architectures (7) Groupware/Workgroup Server Software (37) IBM (7) Implementing Solution Architectures (12) Linux (17) Lotus (34) Mainframe (103) MCDBA Certification (1) MCSE Certification (4) Microsoft BizTalk (5) Microsoft Internet Security and Acceleration (ISA) Server 2000 (1) Microsoft Windows (4) Microsoft Windows 2000 (60) Microsoft Windows Application Development (1) Microsoft Windows Support (38) Networking/Communications (9) Novell NetWare (38) Object-Oriented Technologies (5) Oracle (85) Oracle Applications R11i (4) SAP (3) Software Training (1) Systems Analysis (5) UNIX (18)
Internet/Intranet	CIW (30) CIW Master Administrator (2) CompTIA (5) Internet/Intranet (98)
Software	Software Products (3)

SmartForce Catalog

Skills Area	Courses / Training Modules Offered
Interpersonal Skills	Conflict Management Decision-making Leadership Personal Management Teamwork Customer Service Interviewing and Hiring Legal Issues in Management Sexual Harassment Communications
Technology Skills	Information Technology Core Concepts NetObjects Project Management Netscape Technical Support Novell Internet Security Oracle E-commerce Rational Cisco SAP IBM Sybase Java C/C++ INFORMIX Internet and Intranet Skills Intel Internetworking Lotus Linux UNIX Microsoft

Skills Area	Courses / Training Modules Offered
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Business Skills	Business Fundamentals Business Law and Contracts Business Strategy CRM Finance and Accounting Information Technology People Management Production Operations Project Management Sales
E-business	E-Business Solutions E-Business Technology
Home and Personal	Home User: Home and Personal Finance Home User: Office Home User: PC Maintenance Home User: Web Power
Certification	Cisco Microsoft CompTIA Novell IBM Oracle Java Project Management Lotus Sybase Avaya Lucent

Appendix "C"

Mapping of Framework Outcomes to Distance Learning Modules

	Does this Distance Learning Product have courses or modules that relate to each of the Framework Outcomes?		
Framework Outcome	SmartForce	NetG	Course Technology
Technology Core			
Demonstrate proficiency in the use of microcomputers and their peripherals	CompTIA, Technical Support	CompTIA, PC Basics & Operating Systems	Discovering Computers 2002, Practical PC, Computer Concepts
Demonstrate proficiency in the use of microcomputer software	Microsoft, Lotus	Lotus, Microsoft Office, Spreadsheets, Databases, Word Processing Applications	Office 2000 Pro
Demonstrate proficiency in the use of microcomputer operating systems software	Microsoft, UNIX, Linux	PC Basics & Operating Systems, Linux, UNIX	Windows 2000, MS DOS,
Demonstrate proficiency in the use of Web browsers to access Internet services	Netscape, Internet and Intranet Skills	Internet, Internet/Intranet	Internet Explorer 5, Internet 2e
Business Core			
Identify, classify and demonstrate IT activities	Information Technology, IT Core Concepts		Computer Concepts
Perform accounting activities	Finance & Accounting	Accounting & Finance Curriculum	
Identify legal and ethical issues relative to the IT environment	Information Technology		
Project Management Specialization			
Perform Project Management Activities	Project Management, Leadership	Project Management Curriculum	Information Technology Project Management
Use various Project Management software applications and languages.	Project Management, Java, CRM, Oracle	Oracle, MS Windows Application Development	Active Server Pages, Visual Basic, Java Programming
Conduct systems analysis and design.	Project Management	Systems Analysis	Systems Analysis and Design in a Changing World

Perform human resource management activities.	Conflict Management, Teamwork, Decision Making	Human Resources Curriculum	
Use various models and strategies for Project Management.	Project Management	Project Management Curriculum	Information Technology Project Management
Perform customer service activities for Project Management.	Customer Service, Communications	Customer Service Curriculum	

Distance Learning Sample Courses with Objective Mapping

Online Course*	Framework Objective
Adobe Products	1.0, 3.0, 10.0, 15.0, 17.0
Application Suites	1.0, 3.0, 6.0, 10.0, 15.0, 17.0
Certification	1.0, 4.0, 15.0, 17.0
Corel Products	1.0, 3.0, 6.0, 10.0, 15.0, 17.0
Database	1.0, 3.0, 15.0, 17.0
Design, Multimedia, Presentation Products	1.0, 3.0, 10.0, 15.0, 17.0
Desktop Computing	1.0, 3.0, 15.0, 17.0
Hardware	1.0, 15.0, 17.0
Internet Use	1.0, 2.0, 15.0, 17.0
Lotus Products	1.0, 3.0, 15.0, 17.0
Macromedia Products	1.0, 3.0, 10.0, 15.0, 17.0
Mail and Time Management	1.0, 3.0, 5.0, 9.0, 15.0, 17.0
Microsoft Products	1.0, 3.0, 6.0, 10.0, 15.0, 17.0
Netscape Products	1.0, 2.0, 15.0, 17.0
Networking and Operating System Products	1.0, 4.0, 15.0, 17.0
Programming Products	1.0, 9.0, 15.0, 17.0
Web Development Products	1.0, 3.0, 10.0, 15.0, 17.0

* Course categories from lguide.com

Currently Available Distance Learning Modules

The following are a sample of currently available Distance Learning Modules, which can be used to deliver the Information Technology Project Management Curriculum. This list should serve only as a guide for selecting Distance Learning Modules, as new modules are available on a continuing basis.

Smart Force Modules

<http://www.smartforce.com/corp/marketing/corporate/content/Solutions/SmartCourses/catalog/english/cbtweb/curricula/proj.htm>

1. Project Management Fundamentals
2. Project Management: Initiation and Startup
3. Project Management: Scope
4. Project Management: Estimating
5. Project Management: Scheduling
6. Project Management: Procurement
7. Project Management: Risk
8. Project Management: Quality
9. Project Management: Communications
10. Project Management: Human Resources
11. Project Management: Control
12. Microsoft Project 98: Getting Started

NetG Modules

<http://www.netg.com/catalog/topic/USx1521.htm>

- 41501 Project Management: The Fundamentals
- 41502 Project Management: Scope
- 41503 Project Management: Time Management
- 41504 Project Management: Estimating Costs
- 41505 Project Management: Quality Standards

41506 Project Management: Risk Management
41507 Project Management: The Team
41508 Project Management: Communications
41509 Project Management: Contracts and Procurement
41510 Project Management: Coordination
41511 Project Management: The Process

ElementK Modules

Visio Professional 5.0 Advanced Topics (Windows 95)
Visio Professional 2000: Basic Skills
Keep Going With Quicken 2000
Get Going With Quicken 2000
Keep Going With QuickBooks 99
Get Going With QuickBooks 99
Learning Visio Professional 5.0: Basic Skills (Win95)
Learning Visio Standard 5.0:Basic Skills (Windows 95)-Student
Project Management Fundamentals
Visio 2002 Professional: Level 2 (Windows)
Visio 2002 Professional: Level 1 For Windows
Visio 2002 Standard: Level 1 For Windows
Microsoft Project 2000: Advanced
Microsoft Project 2000: Level 2
Microsoft Project 2000: Level 1
Microsoft Office 2000: Small Business
Ms Project 98: Managing A Project (Win95)
Ms Project 98: Creating A Project (Win 95) Student
Microsoft Project 4.1 For Windows 95
Managing A Project (Second Edition)
Microsoft Project 4.1 For Windows 95

Appendix "D"

Hardware/Software Requirements for the

Information Technology Project Management AS Degree Program

The specifications below are based on outfitting a classroom consisting of 20 student workstations, 1 instructor workstation, and 2 classroom servers. Recognizing that many institutions already have resources in place that could be adapted to this program, this budget assumes that the proper physical environment for a computer classroom exists including tables, chairs, projector system, whiteboard, etc. The budget costs represent estimates of average industry pricing as of October of 2001.

Quantity	Item	Description	Approximate Unit Price	Total Cost
1	<p align="center">Software</p> MSDN Academic Alliance Subscription	Membership is limited to departments within a qualified not-for-profit, accredited educational institution in the US and Publicly funded schools in Canada. The membership includes all Microsoft developer tools, platforms, and servers for instructional and research purposes. \$799 (USD) annual membership fee per department. Membership runs from July 1-June 30. For more information, please go to www.msdnaa.net . Software includes, Host Integration Server, Mobile Information Server, SharePoint Portal Server, Visual Studio, and Visio.	\$ 799.00	
23	Network Operating System	Windows Server and Professional is included in the Microsoft MSDN Academic Alliance		

		Subscription.		
23	Database Server Software	SQL Server is included in the Microsoft MSDN Academic Alliance Subscription.		
23	E-commerce Software	Commerce Server and BizTalk Server are included in the Microsoft MSDN Academic Alliance Subscription.		
23	Email Server Software	Exchange Server is included in the Microsoft MSDN Academic Alliance Subscription.		
23	Web Server Software	Internet Information Server and Application Center are included in the Microsoft MSDN Academic Alliance Subscription.		
23	Firewall / VPN Software	Internet Security and Acceleration Server is included in the Microsoft MSDN Academic Alliance Subscription.		
23	Web Analysis Software	Internet Information Server, Systems Management Server, and Performance Monitor are included in the Windows Server Software.		
23	Remote Access / Communication Server Software	Remote Access Server, Telnet Server and Terminal Services Server are included in Windows Server Software.		
23	Network Monitor Software	Network Monitor is included in the Windows Server Software.		
	Web Browser and FTP Client	Microsoft Internet Explorer is		

	Software	included in the Windows Operating System Software.		
23	Network Operating System	Price based on Red Hat Linux	\$ 30.00	\$ 690.00

43

23	Network Operating System	NETWARE 5 ADMIN V1.01 SELF STUDY Kit including OS software and license	\$ 500.00	\$ 11,500.00
23	Anti-Virus Software	Virus detection software, McAfee or Norton	\$ 20.00	\$ 460.00
21	Office Software including Web Authoring Software, Database and Email Clients	Microsoft Office 2000 or XP Professional containing Microsoft Word, Excel, Access, PowerPoint, FrontPage, and Outlook.	\$ 200.00	\$ 4,200.00
5	Firewall / VPN Software	Raptor Firewall / VPN software 25 user license	\$ 1,800.00	\$ 9,000.00
1	Backup Software	Backup Exec for Windows NT/2000	\$ 475.00	\$ 475.00
23	Web Server Software	Apache Web Server for Linux is freeware available on the Internet for download.		
21	Crystal Reports	Report generating software	\$ 180.00	\$ 3,780.00
21	MS Project	Project Management Software	\$ 499.00	\$ 10,479.00
21	Lotus Notes		\$ 104.00	\$ 2,184.00
21	Oracle	Database Software	\$ 300.00	\$ 6,300.00
21	QuickBooks	Accounting Software	\$ 200.00	\$ 4,200.00
23	Hacking Toolkits, Packet Sniffers, Port Scanners, FTP Client Software, Network Analyzers, Web Analysis Software, and Network Monitor Software	Freeware or Shareware Software available on the Internet for download.		
		Subtotal for Software Expenditures	SUBTOTAL	\$ 54,067.00
	Hardware			

23	Workstation	High-end computer system capable of running current Operating Systems from Microsoft, Novell, Linux, etc. Includes: cdrom, cdrw, monitor, keyboard, mouse, NIC, sound card, video card, etc. (20 student workstations, 1 instructor workstation, and 2 classroom servers)	\$ 1,500.00	\$ 34,500.00
21	Hard Drive	When teaching the Microsoft, Novell, and Linux/Unix courses, it would be advisable to use a separate set of hard drives for students to install the operating systems and practice administrative tasks without disrupting other classroom computer configurations. Only one set of secondary hard drives is specified here. Your institution may need to purchase additional sets depending on course scheduling and the number of concurrent courses being taught.	\$ 150.00	\$ 3,150.00
42	Removable Mobile Rack for Hard Drive	Removable Frame for 3.5" Hard Drive. Note: Need one rack for each computer's original drive plus one rack for each additional networking drive.	\$ 22.00	\$ 924.00
1	Tape Drive w/ SCSI Controller	Tape Backup Drive and SCSI	\$ 700.00	\$ 700.00

		Controller for server		
1	Proxy Server Appliance		\$ 500.00	\$ 500.00
1	VPN Router	CISCO - DUAL-ETHERNET SECURITY ACCESS ROUTER, VPN and Clients	\$ 1,200.00	\$ 1,200.00
10	Technicians Tool Kit	Tool kit including screwdrivers, wire cutter / stripper, needle-nose pliers, and nut drivers.	\$ 70.00	\$ 700.00
10	RJ11/RJ45 Crimper Set		\$ 50.00	\$ 500.00
5	Cable Testers	Must be capable of testing Cat 5 cable.	\$ 40.00	\$ 200.00
1	RJ45 Connectors	Bulk 500 pack Cat 5 connector	\$ 350.00	\$ 350.00

2	Cat 5 UTP Cable	1000 ft spindle.	\$ 100.00	\$ 200.00
3	Router	Price for Cisco 2620 Router with one 10/100 port and two WAN interfaces	\$ 1,700.00	\$ 5,100.00
1	Laser Printer	HP, Lexmark, etc.	\$ 1,000.00	\$ 1,000.00
3	Ethernet Switch	Price for Cisco 2900 Series 24 port 10/100 switch	\$ 1,200.00	\$ 3,600.00
1	Misc. Hardware Items	Cables, connectors, tools, networking components, etc.	\$ 3,000.00	\$ 3,000.00
		Subtotal for Hardware Expenditures	SUBTOTAL	\$ 55,624.00
			TOTAL	\$ 109,691.00