Florida Department of Education
Division of Community Colleges
CURRICULUM FRAMEWORK

July 2007

Program Title:	E-Business Technology
Occupational Area:	Business
CIP Number:	1506.120100 AS Degree 0506.120100 AAS Degree
Grade Level	College Credit
Length	AS Degree - 63 credits AAS Degree - 63 credits
Certification	

I. **MAJOR CONCEPTS/CONTENT:** This program is designed to prepare students for employment in occupations in e-business. Typical positions include Computer Specialist, All Other (SOC 151099), database technicians, security specialists, Web content specialists, developers, technical, systems, and network analysts, Web security specialists, Internet technical support specialists, sales technicians, marketing technicians, system integration analyst, in addition to business entrepreneurs and owners incorporating online business strategies. This program also provides supplemental training for persons currently or previously employed in these occupations. This program focuses on a balance of business and technology components and allows the student to gain additional skills in one of four areas of specialization: Business, Technology, Software, and Security.

II. **LABORATORY ACTIVITIES:** Laboratory activities are an integral part of this program. The tools, test equipment, materials and processes used in this laboratory are similar to those used in industry as defined by DACUM participants. Students should be able to use equipment such as firewalls, routers, intrusion detection equipment, sniffers, etc. They will also be familiar with various software applications such as electronic payment systems and computer-based business tools.

III. **SPECIAL NOTE:** Phi Beta Lambda is the appropriate vocational student organization for providing leadership training and for reinforcing specific vocational skills. Career Student Organizations, when provided, shall be an integral part of the vocational instructional program, and the activities of such organizations are defined as part of the curriculum in accordance with Rule 6A-6.065, FAC. The general education requirement must have a minimum of 15 semester hours. The program must include courses with oral and written communication and computational skills. The computational skills should include algebra. Cooperative training – OJT is appropriate for this program. Whenever cooperative training – OJT is offered, the following are 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 workstation that reflects equipment, skills and tasks that are relevant to the occupation which the student has chosen as a career goal.
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. The typical end point for the average achieving student is an Associate Degree

IV. INTENDED OUTCOMES

After successfully completing the program, the student will be able to:

General Education Requirements (Minimum of 15 hours):

- Demonstrate communication skills
- Apply problem solving skills to math or science problems
- Demonstrate knowledge of humanities
- Demonstrate knowledge of social science

Foundation Courses

General skills core:

Demonstrate comprehension and communication skills
Demonstrate professional development skills
Perform documentation and technical reference activities
Demonstrate employment skills
Perform general organizational workplace competencies
Demonstrate knowledge of legal and ethical issues
Perform project management activities

Technology core:

11.0 Understand issues related to E-Business.
12.0 Demonstrate proficiency in the use of web browsers and access to internet resources
13.0 Understand local area networks
14.0 Demonstrate proficiency in microcomputer operating systems and software.
15.0 Perform Web authoring activities.
16.0 Conduct systems analysis and design.
17.0 Understand database management systems.

Business core:

18.0 Compare and contrast E-Business with traditional business
19.0 Identify, classify and demonstrate management activities for E-Business
20.0 Identify legal and ethical issues for E-business
21.0 Accounting and finance activities
22.0 Perform marketing activities for E-business

The student will successfully complete at least one of the following specializations:

Security Specialization:

23.0 Design, develop and implement physical, network, host, application, and user security systems for E-business.
24.0 Maintain and monitor security policies.

Software Specialization:

25.0 Use various software applications, languages, and protocols for E-business environment.
26.0 Develop software applications for e-Business environment

Technology Specialization:

27.0 Perform Web Server Management activities
28.0 Support E-business applications and product development
29.0 Maintain network infrastructure
30.0 Design, integrate and deploy E-business systems
31.0 Perform technical requirements to support UNIX operating system
32.0 Maintain systems quality and perform testing activities.

Business Specialization

33.0 Perform management activities to support human resources in E-business environment
34.0 Perform activities to enhance supply chain management in E-business.
35.0 Use various models and strategies for E-business.
36.0 Perform customer service techniques for E-business.
37.0 Perform selling techniques for E-business.
38.0 Perform advertising techniques for E-business.

July 2007

Florida Department of Education
STUDENT PERFORMANCE STANDARDS

Program Title: E-Business Technology
Secondary Number:
Postsecondary Number: 1506.120100 AS Degree
0506.120100 AAS Degree

01.0 DEMONSTRATE COMPREHENSION AND COMMUNICATION SKILLS-The student will be able to:

01.01 Read and discuss work from different professional journals related to the course content.
01.02 Reflect on what has been learned through reading, recognizing assumptions and implications, and formulate ideas, opinions, and personal responses.
01.03 Use reference sources such as books, magazines, and electronic databases to gather and critically evaluate materials.
01.04 Write reports, summaries, and descriptive essays.
01.05 Write clear and well-organized research papers, integrating a variety of information.
01.06 Submit final drafts using correct grammar, punctuation, and spelling.
01.07 Prepare, outline and deliver an oral report with appropriate materials to the class
01.08 Participate in group discussions as a member and as a leader.
01.09 Take notes, organize, summarize, and paraphrase ideas and details.
01.10 Read both technical and non technical text accurately.
01.11 Follow written and oral technical instructions.
01.12 Read and understand graphs, charts, diagrams and tables commonly used in this industry/occupation.
01.13 Read trade journals and magazines to stay current in the industry

02.0 DEMONSTRATE PROFESSIONAL DEVELOPMENT SKILLS-The student will be able to:

02.01 Identify corporate strategies and policies.
02.02 Maintain professional contact for future projects.
02.03 Build mentor relationships.
02.04 Anticipate future industry trends.
02.05 Continue education.
02.06 Review and analyze other industry productions.
02.07 Use and experiment with the technology.
02.08 Network with local professionals in the industry.
02.09 Read industry trade journals and magazines to stay current in the industry.
02.10 Attend seminars, workshops, and tradeshows.

03.0 PERFORM DOCUMENTATION AND TECHNICAL REFERENCE ACTIVITIES
The student will be able to:

03.01 Use technical vocabulary appropriately.
03.02 Locate information in technical references.

03.03 Prepare technical reports.
03.04 Describe appropriate documentation procedures and practices.
03.05 Produce and maintain system documentation, such as inventory, costs, installed software, and procedures.
03.06 Perform documentation and technical reference activities.
03.07 Cite correctly Internet-based resources using proper format.
03.08 Research industry trends on the Internet.

04.0 DEMONSTRATE EMPLOYMENT SKILLS. The student will be able to:

04.01 Identify appropriate attire and grooming for a business office.
04.02 Conduct a job search.
04.16 Demonstrate job interview skills.
04.17 Identify methods for securing an employment references.
04.18 Identify and discuss issues contained within professional codes of conduct.
04.19 Use appropriate communication skills, courtesy, manners, and dress in the Workplace.
04.20 Identify acceptable work habits.
04.21 Identify and use acceptable strategies for resolving conflict in the workplace.
04.22 Identify and demonstrate appropriate responses to criticism from employers, supervisor, or other employees.
04.23 Apply principles and techniques for working productively with people of diverse cultures and backgrounds.
04.24 Identify techniques for stress management and prevention of job burn-out.
04.25 Use appropriate communication skills, telephone etiquette, courtesy, and manners when dealing with customers.
04.26 Demonstrate knowledge of how to make appropriate job changes.

05.0 PERFORM GENERAL ORGANIZATIONAL WORKPLACE COMPETENCIES-
The student will be able to:

05.01 Follow oral and written instructions.
05.02 Prepare, outline, and deliver a short oral presentation.
05.03 Participate in group discussion as a member and as a leader.
05.04 Obtain appropriate information from graphics, maps, or signs.
05.05 Prepare visual material to support an oral presentation.
05.06 Demonstrate self-motivation and responsibility to complete an assigned task.
05.07 List the steps in problem solving.
05.08 Choose appropriate action in situations requiring effective time management.
05.09 Apply principles and techniques for being a productive, contributing member of a team.
05.10 Communicate effectively with individuals lacking a technical background.
05.11 Identify clear detailed technical oral instructions.
05.12 Identify examples of effective strategies to fulfill end user needs training strategies and techniques.
05.13 Encourage and build mutual trust, respect, and cooperation among team members.
05.14 Apply techniques for organizing and planning of time and resources to complete an assigned task.
05.15 Assimilate new knowledge into project solutions and decisions.

05.16 Apply active listening techniques in interpersonal communications.
05.17 Identify strategies to improve and maximize productivity in the workplace.
05.18 Employ brainstorming techniques such as brainstorming to generate ideas and suggestions to achieve a task.
05.19 Analyze several alternatives and compare costs and benefits in determining the best solution.
05.20 Demonstrate the ability to use common office applications including word processing, spreadsheets, and email, and presentation software.

06.0 DEMONSTRATE KNOWLEDGE OF LEGAL AND ETHICAL ISSUES-The student will be able to:

06.01 Correctly cite or attribute sources.
06.02 Use copyrighted materials appropriately.
06.03 Discuss the types of works that are protected by intellectual property laws including copyrights, patents, trademarks and trade secrets.
06.04 Discuss the basic elements of a contract.
06.05 Discuss e-mail litigation, including anti-spam laws.
06.06 Discuss e-mail use and ownership.
06.07 Describe customer and employee privacy issues and safeguards.
06.08 Develop examples of acceptable use policies.
06.09 Compare organizational codes of ethics.
06.10 Research industry standards and codes of conduct for professionals.
06.11 Write a personal code of ethics.
06.12 Correctly cite or attribute sources.
06.13 Use copyrighted materials appropriately.

07.0 PERFORM PROJECT MANAGEMENT ACTIVITIES-The student will be able to:

07.01 Describe the role of project management (PM) within the organization.
07.02 Identify the strengths and weaknesses of various project life cycle design.
07.03 Understand the importance of project scope management.
07.04 Compare and contrast project selection methods.
07.05 Build a Work Breakdown Structure (WBS), Gantt chart, and Pert Chart and describe those different elements.
07.06 Compare and contrast types of cost estimates.
07.07 Examine cost control and earned value analysis.
07.08 Examine organizational planning, staff acquisition, and team development.
07.09 Examine risk identification, quantification, response development, and response control.
07.10 Compare and contrast project tracking and project reporting.
07.11 Understand change control and configuration control.
07.12 Understand subcontracting and outsourcing.
07.13 Discuss and analyze project management case study.

Technology core:

11.0 UNDERSTAND ISSUES RELATED TO E-BUSINESS-- The student will be able to:

11.01 Explain the difference between intranet and internet and the role of each in e-Business.
11.02 Explain the history, purpose and use of the World Wide Web and how it has enabled e-Business
11.03 Describe the rise of various e-Business models such as information and content models, broadcast/content aggregations models, interactive models, and content provider models.
11.04 Explain security issues related to electronic payment.
11.05 Explain issues of advertising, marketing and solicitation activities affecting e-business.

12.0 DEMONSTRATE PROFICIENCY IN THE USE OF WEB BROWSERS AND ACCESS TO INTERNET RESOURCES. The student will be able to:

12.01 Explain the history, purpose and use of the World Wide Web
12.02 Describe proper Internet etiquette and usage.
12.03 Explain how to connect to the Internet
12.04 Explain the purpose and use of browsers and search engines
12.05 Understand and use Web browser tools to navigate the Web.
12.06 Demonstrate proficiency in email technologies by using email, setting up email accounts, and explaining communication and privacy issues specific to email.
12.06 Send electronic messages
12.06 Explain communication issues specific to email
12.07 Set up an e-mail account.
12.07 Participate in an email a web-based discussion group.
12.08 Explain and use proper Usenet electronic bulletin board etiquette.
12.09 Explain the guidelines for evaluating information needs before beginning a search an electronic search
12.10 Explain issues associated with pornography, free speech, censorship, filtering, and copyright on the Web.
12.12 Describe how to critically evaluate online information content.
12.14 Use bookmarks to create a bibliography
12.11 Capture images, text, sound, and data from Web pages
12.12 Work with File Transfer Protocol (FTP) clients
12.13 Identify and use instant messaging software
12.14 Design and publish a simple Web page using HTML and other Web page design software tools.

13.0 UNDERSTAND LOCAL AREA NETWORKS--The student will be able to:

13.01 Identify and explain the main purpose of various communication hardware devices, communication media, and protocols.
13.02 Describe various network topologies.
13.03 Differentiate between the OSI reference model and the TCP/IP protocol architecture.
13.04 Explain components and functions of all layers in the OSI reference model.—
13.05 Explain TCP/IP architecture.
13.05 Differentiate between analog and digital signals.
13.06 Describe various transmission media and how devices such as how modems work.
13.07 Explain collision occurrences and detection.
13.08 Describe the function of a bridge and explain how bridges

work.
13.08 Explain the factors and techniques for data transportation
13.09 Understand issues in balancing network load, and calculating equipment necessary to handle expected load.

14.0 DEMONSTRATE PROFICIENCY IN MICROCOMPUTER OPERATING SYSTEMS AND SOFTWARE--The student will be able to:

14.01 Describe the historical development of computer operating software.
14.02 Describe the major hardware and related software of microcomputers.
14.03 Describe the various operating systems, including : Windows, Unix, Novell, etc.
14.04 Explain system and application architectures.
14.05 Describe various disk formats.
14.07 Use various software applications, including word processors, spreadsheets, databases, presentation software, and appointment scheduling applications.
14.08 Identify the major programming languages used in business data processing.
14.10 Locate requested information on a computer output, and recognize incorrect information.

15.0 PERFORM WEB AUTHORING ACTIVITIES TO SUPPORT E-BUSINESS -- The student will be able to:

15.01 Identify and describe the components of an HTML document.
15.02 Create lists in an HTML document.
15.03 Recognize the various layouts used in Web site design.
15.04 Use storyboarding to design a comprehensive Web site.
15.05 Create links between HTML documents within a Web site and to external HTML documents.
15.06 Link to another computer, to a downloadable file, to a mail program, or to a newsgroup.
15.07 Create tables.
15.08 Add images to Web pages.
15.09 Customize Web page color schemes.
15.10 Create image maps.
15.11 Identify and use Common Gateway Interface scripts.
15.12 Identify elements of HTML fill-in forms.
15.13 Use Server Side Includes (SSI) commands in an HTML document.
15.14 Identify the required components of a Web page that incorporate advanced features.
15.15 Incorporate Server Side Include commands in a functional Web site.
15.16 Describe the various CGI scripting languages used in a Web site.
15.17 Develop Web pages that utilize PERL scripts with CGI.
15.18 Modify and use JavaScript in a Web site.
15.19 Incorporate Java applets in a Web site.

16.0 CONDUCT SYSTEMS ANALYSIS AND DESIGN --The student will be able to:

16.01 Perform a preliminary investigation of a systems project.

16.02 Perform a detailed systems investigation and analysis of the project.
16.03 Design the input and output for the system.
16.04 Design the data files for the systems.
16.05 Design the processing flow of the system.
16.06 Design a system to insure that only valid data is accepted and processed, completely and accurately.
16.07 Establish a project plan for the development and implementation of the systems.
16.08 Program and test the system.
16.09 Develop the final systems documentation.
16.10 Conduct necessary training and file conversion to properly implement the system.
16.11 Understand industry-standard models for developing and maintaining software such as the Capability Maturity Model.
16.12 Be able to use industry-standard tools such as Unified Modeling Language (UML) to model a systems development project.

17.0 UNDERSTAND DATABASE MANAGEMENT SYSTEMS --The student will be able to:

17.01 Understand the role of databases and how databases influence E-business decisions.
17.02 List the advantages and disadvantages of using databases.
17.03 Understand the importance of data modeling as an analysis and communication tool.
17.04 Describe the elements of a data model.
17.05 Model the data requirements for sample E-business problems.
17.06 Understand the principles associated with the relational model.
17.07 Understand the relationship between functional dependencies and keys.
17.08 Determine the Normal form of a relation and execute the steps necessary to put the relation into the proper normal form.
17.09 Define and contrast logical and physical keys.
17.10 Understand the advantages and disadvantages of indexes.
17.11 Understand the basic operators of relational algebra as a basis for retrieving data from relational databases.
17.12 Create and use Structured Query Language (SQL) to retrieve data from a database.

Business core:

18.0 COMPARE AND CONTRAST E-BUSINESS WITH TRADITIONAL BUSINESS MODELS-_The student will be able to:

18.01. Describe the evolution of e-business, how it changed the marketplace, and the benefits to society.
18.02 Define e-business and its categories.

18.03 Describe how business operations have changed due to

e-business.

18.04 Explain the basic business models of electronic marketing .

18.05 Identify critical success factors for electronic marketing.

18.06 Explain the impact of the Internet on customers and markets for businesses.

18.07 Describe consumer buying behavior and organizational buying behavior.

18.08 Explain how service industries conduct business electronically.

18.09 Describe several innovative applications in the service sector.

18.10 Explain how business-to-business commerce is conducted.

18.11 Describe the application and key technologies for business- to-business e-commerce models.

18.12 Describe the relationship between the Internet, intranet and extranet.

18.13 Describe the typical electronic payment system.

18.14 Identify the various payment options in e-commerce.

18.15 Explain the strategic planning issues for e-business

18.16 Identify the critical success factors of an e-business project/venture.

18.17 Discuss contractual issues and copyright infringement on the Web.

18.18 Explain the global economics and its impact e-business.

18.19 Describe the major components and impact of Web-based economics

19. IDENTIFY, CLASSIFY AND DEMONSTRATE MANAGEMENT ACTIVITIES FOR E-BUSINESS—The student will be able to:

19.01 Define the role of the entrepreneur in business-in the United States and across the World.

19.02 Describe the entrepreneurial profile.

19.03 Discuss the role of the internet in helping small business expand their market opportunities both in the United States and abroad.

19.04 Explain the importance of strategic management to business.

19.05 Describe the components of a marketing plan and explain the benefits of preparing one.

19.06 Describe how to prepare financial statements & use them to manage the business.

19.07 Describe effective pricing strategies.

19.08 Discuss the links among pricing, image, and competition.

19.09 Explain what seed capital is and why it is so important to the entrepreneurial process.

19.10 Explain the difference in the three types of capital small businesses require: Fixed, Working and Growth.

19.11 Explain the stages in the location decision.

19.12 Describe the location criteria and outline the basic location options for retail and service business.

19.13 Explain purchasing, quality control, vender analysis and managing inventory while using technology to gain a competitive edge.

19.14 Explain the challenges involved in the entrepreneur's role as

leader and what it takes to be a successful leader.

19.15 Learn management succession and risk management strategies in family business together with ethics and social responsibility.

19.16 Describe, explain and discuss business's responsibility to employees, customers, investors and the community.

19.17 Describe management's historical role in business operations.

19.18 Compare and contrast different management philosophies.

19.19 Compare and contrast the employees' personal needs with those of the organization.

19.20 Describe methods managers can use to deal with management politics.

19.21 Describe the nature of management's legal environment for traditional and electronic environments.

19.22 Describe the planning process of managers.

19.23 Discuss the characteristics and functions of an organization chart.

19.24 Describe the act and benefits of delegation.

19.25 Summarize the components of job descriptions and specifications.

19.26 Define and describe the activities involved in making a job analysis.

19.27 Discuss potential problems in evaluating employees and methods to avoid problems.

19.28 Discuss strategies managers may use to build and sustain high morale and motivation.

19.29 Describe methods of direct and indirect compensation.

19.30 Describe various employee relations practices.

19.31 Summarize strategies to improve personal and organizational communication.

19.32 Discuss the role of information systems in the control system.

19.33 Discuss the steps in the basic decision making process.

19.34 Describe several factors that influence decision-making.

19.35 Distinguish among management functions.

19.36 Demonstrate knowledge of the relationship between authority and responsibility to task accomplishment.

19.37 Select the most effective communication systems.

19.38 Identify problems and make an appropriate decision.

20.0 INDENTIFY LEGAL AND ETHICAL ISSUES FOR E-BUSINESS -- The student will be able to:

20.01 Describe the procedure to obtaining protection under each intellectual property law.

20.02 Describe and recognize material that is defamatory.

20.03 Explain the right of publicity and the right of privacy.

20.04 Explain copyright assignment and the Visual Artists Rights Act.

20.05 Discuss licensing text, photos, films, television clips, characters, and games, Domain name registration, cybersquatting and anti-cybersquatting regulations.

20.06 Describe the importance in choosing a strong trademark.

20.07 Understand basic laws that apply to e-commerce.

20.08 Explain how Article Two of the UCC that applies to the sale of goods involved in E-business.

20.09 Discuss current US laws that regulate e-business, such as the Uniform Computer Information Transactions Act, clickwraps,

sales tax, and advertising.

20.10 Explain the meaning of linking, framing and caching.

20.11 Discuss the permission required for linking, revenue-sharing agreements, and liability issues pertaining to linking.

20.12 Discuss e-mail litigation, including anti-spam laws.

20.13 Describe licensing music for use.

20.14 Discuss copyright issues important to ISPs.

20.15 Explain other liability issues for ISPs, such as, defamation, privacy, trademark and patent.

20.16 Discuss when to use trademark protection and trade secret protection for their property.

21.0 ACCOUNTING AND FINANCE ACTIVITIES. The student will be able to:

21.01 Identify and understand accounting and financial concepts.

21.02 Describe and use financial analysis tools.

21.03 Perform standard accounting and bookkeeping functions such as transaction recording, journaling, preparation of standard statements and balance sheets, and check preparation.

21.04 Understand the impact and implications of federal auditing guidelines, such as Sarbanes-Oxley.

22.0 PERFORM MARKETING ACTIVITIES FOR E-BUSINESS The student will be able to:

22.01 Discuss what marketing is and why it is important to organizations and individuals.

22.02 Describe the key decisions in the development of corporate strategy.

22.03 Recognize the outcomes of consumers' decisions to purchase or not to purchase and how these affect marketing success.

22.04 Define and explain market segmentation, target markets, and product differentiation and positioning.

22.05 Describe the issues involved in product and brand positioning.

22.06 Differentiate between consumer and business products, and discuss the different types of each.

22.07 Describe the way marketing research is used in the new-product development process.

22.08 Identify many of the influences on marketers' pricing decisions.

22.09 Explain how consumers form perceptions of quality and value.

22.10 Explain the functions and key activities of marketing channels.

22.11 Distinguish between direct and indirect marketing channels.

22.12 Explain the key elements of the marketing communications process.

22.13 Describe the key activities in sales management.

22.14 Explain the difference between e-business, e-commerce, and e-marketing.

Security Specialization:

23.0 DESIGN, DEVELOP AND IMPLEMENT PHYSICAL, NETWORK, HOST, APPLICATION AND USER SECURITY SYSTEMS FOR E-BUSINESS -- The student will be able to:

23.01 Explain use and purpose of security policies.

23.02 Conduct a security audit.

23.03 Control access to systems, resources and data.
23.04 Explain and manage system security in common Operating Systems.
23.05 Describe concepts of web servers and their role in the network.
23.06 Plan and implement a web server.
23.07 Identify the various hardware and software requirements for a web server.
23.08 Explain how documents and files are stored on a web server.
23.09 Describe different methods for projecting future traffic on a web server.
23.10 Identify the necessary steps to ensure reliability and response of the server.
23.11 Describe and implement the process for effectively organizing a web site.
23.12 Install, configure, and maintain a Web server.
23.13 Publish a web document so that it is easily located through various search engines on the Internet.
23.14 Set up the web server so that dynamic content can be provided to users of the web site.
23.15 Perform corrective, and preventative maintenance on a web server.
23.16 Analyze server log files to determine trends in web server utilization.
23.17 Discuss Internet services operation and the security risk imposed by them on the network.
23.18 Identify vulnerabilities in World Wide Web protocols and counter-measures for securing them.
23.19 Describe the operation of electronic mail and news services protocols and how to effectively secure them.
23.20 Describe the operation of file transfer and printing service protocols and how to effectively secure them.
23.21 Describe the operation of remote access services protocols and how to effectively secure them.
23.22 Describe the operation of real-time conferencing service protocols and how to effectively secure them.
23.23 Properly configure and describe the operation of naming and directory services.
23.24 Describe the operation of authentication and auditing services protocols and how to effectively secure them.
23.25 Describe the operation of administrative services protocols and how to effectively secure them.
23.26 Describe the operation of the IP Security protocol.
23.27 Implement effective measures to secure various service protocols.

24.0 MAINTAIN AND MONITOR SECURITY POLICIES--The student will be able to:
24.01 Identify basic network security.
24.02 Describe purpose and use of packet sniffing, firewalls and proxies.
24.03 Define web server security.
24.04 Protect against the risks of directory browsing.
24.05 Assess client security issues (including ActiveX, JavaScript, Cookies, etc.)
24.06 Install and configure network security tools
24.07 Explain the strengths, and weaknesses of cryptography as a security tool
24.08 Describe authentication and identification schemes

24.09 Define secure software.
24.10 Describe the use and purpose of encryption.
24.11 Define the advantages of Secure Socket Layer (SSL).
24.12 Define certificate authority.
24.13 Identify basic aspects of intrusion detection and steps to protect the web server from these threats.
24.14 Explain the history of cryptographic methodology.
24.15 Describe cryptographic attack models.
24.16 Describe the secret key and public key encryption methodology.
24.17 Use hashing techniques.
24.18 Use digital signatures in a network environment.
24.19 Explain applied cryptography.
24.20 Use authentication processes in heterogeneous environments.
24.21 Create secure environment through defensive programming.
24.22 Explain the basic elements of Security Testing and Auditing.
24.23 Describe the capabilities of effective signature filter techniques.
24.24 Explain the importance of architectural design detection of intrusions.
24.25 Describe interoperability aspects of various commercial IDS solutions.
24.26 Define and utilize various network based Intrusion Detection Solutions (IDS).
24.27 Detect various exploitation attempts in a network environment.
24.28 Explain intrusion detection and denial of service.
24.29 Describe techniques for gathering intelligence on intrusion detection and the latest tools and techniques used by hackers.
24.30 Define and recognize structured attacks and differentiate from unstructured attacks.
24.31 Explain management issues related to intrusion detection.
24.32 Implement appropriate security measures following risk analysis.
24.33 Implement appropriate security measures to minimize risks from hackers.
24.33 Issue and manage digital certificates.

Software Specialization:

25.0 USE VARIOUS PROGRAMMING SOFTWARE APPLICATIONS, LANGUAGES AND PROTOCOLS FOR E-BUSINESS ENVIRONMENT --The student will be able to:

25.01 Explain the key network protocols used with the World Wide Web including Transmission Control Protocol (TCP), Internet Protocol (IP), and Hypertext Transfer Protocol (HTTP)
25.02.Explain how applets differ from applications in terms of program form, operating context, and how they are started.
25.03 Describe and use single- and multi-dimensional arrays.
25.04.Create classes that use inheritance aspects of the object-oriented paradigm.
25.05.Explain the use of keywords such as: static, final, abstract, inner classes, interface, etc.
25.06. Describe the error handling constructs.
25.07. Write a program that reads and writes text files.
25.08. Understand the hierarchy of classes designed for aggregate data such as Collections, and use sets and lists.

25.09. Identify deprecated classes, and explain how to migrate.
25.10. Use the jar tool.
25.11. Explain and use event handling in a GUI.
25.12. Use network utilities to monitor network activity, determine IP addresses, and locate Web servers.
25.13. Differentiate between client-side scripting and server-side scripting.
25.14. Manipulate the objects contained in the Document Object Model (DOM).
25.15. Use variables and constants within a script.
25.16. Use variables, constants, and arithmetic operators to create valid arithmetic expressions.
25.17. Dynamically alter the sequence of script execution.
25.18. Use built-in functions as well as create custom functions, subroutines, and procedures within software using scripting languages.
25.19. Create server pages using languages such as Active Server Pages (ASP) or Java Server Pages (JSP).
25.20 Write programs in a language such as java that allows use of objects like Socket, SocketServer, URL and Connection.
25.21. Create and use server-side include files.
25.22. Use a standard object such as Request to process forms and access server variables
25.23. Use a standard object such as Response to control output from the server.
25.24 Create programs that communicate across the Internet using conventions such as Remote Method Invocation.
25.25. Create and use the Global Application File.
25.26. Understand appropriate use of and demonstrate ability to incorporate and utilize cookies in e-Business software.
25.27. Integrate standard object model components with server pages.—
25.28. Create web page using data from a database.
25.29 Implement programs that use local or remote databases with standard protocols.
25.30 Create applications such as Servlets that send HTML pages to Internet clients.
25.31 Use a scripting language on the client side of a distributed program.
25.32 Create and use reusable objects such as Java Beans appropriately in distributed applications.
25.33 Implement levels of security in distributed software applications and applets.
25.34 Read simple UML diagrams, and create UML documents that model programs.
25.35 Use built-in objects for error handling, file creation, and dictionary access in e-Business software.
25.36 Explain protocols designed to allow programming designed to provide network services for applications on small homogenous networks, such as NetBIOS programming
25.37 Understand the use of client-side operating system tools such as Windows redirector.
25.38 Produce software that can interface with operating system services used to broadcast messages within a domain, such as mailslot networking technology.
25.39 Utilize appropriate operating system interfaces to redirect output of one application as input of another through the use of pipe networking technology.

25.40 Describe the protocol address families supported by Winsock and create a socket.
25.41 Create connection-oriented and connectionless Winsock protocols.
25.42 Describe various Winsock I/O models.
25.43 Differentiate between options used with sockets and other operating system techniques used to manipulate device parameters of special files, such as ioctl.
25.44 Describe various name space models.
25.45 Register and query a service.
25.46 Use transport service providers and name space service providers.
25.47 Explain the history of Extensible Markup Language (XML)
25.48 Use the Document Type Definitions that define an XML document structure.
25.49 Use schemas for validating an XML document.
25.50 Incorporate XML code into web documents, and manipulate the contents of an XML document.
25.51 Explain the use and purpose of Xpath and Simple API.
25.52 Write SXLT documents
25.53 Use XSL transformations
25.54 Explain Extensible Hypertext Markup Language (XHTML).
25.55 Explain emerging trends in XML-related technologies.
25.56 Explain and use the different elements that make code easier to read.
25.57 Explain and use the different data types available in scripting languages.
25.47 Explain and use standard control structures such as repetition, selection, and sequence in the appropriate programming language.
25.48 Output data from scripting languages such as PERL to various formats.
25.49 Explain the benefits of using subroutines and libraries in code.
25.50 Debug code from scripting languages such as PERL.
25.51 Explain basic Internet and server-side scripting security issues and common techniques to fix them.
25.52 Use a scripting language such as PERL to create and manage form data submitted over the Internet.
25.53 Examine the use of shopping carts on the Internet and how scripting languages such as PERL can be use in these applications.
25.54 Examine the use of auctions via the Internet and how scripting languages such as PERL can be used.
25.55 Understand industry standard program design techniques.
25.56 Develop the logic for a program using both flowcharting and pseudo code.
25.57 Develop looping and nested looping logic.
25.58 Document programs.
25.59 Develop the logic of: three-level control break program, an extract program, an edit program, a file matching and an update program.
25.60 Interpret a simple table.

26.0 DEVELOP SOFTWARE APPLICATIONS FOR E-BUSINESS ENVIRONMENT --The student will be able to:
26.01 Explain the architecture of a Wireless Application Protocol (WAP) application
26.02 Identify a variety of WAP micro-browsers.

26.03 Configure Web servers to recognize appropriate MIME types.
26.04 Identify a variety of vendor supplied development toolkits and explain the strengths and weakness of each.
26.05 Explain the purpose of a WAP gateway.
26.06 Evaluate various WAP gateway products and describe the strengths and weaknesses of each.
26.07 Create Wireless Markup Language (WML)decks.
26.08 Create client-side scripts using WML Script.
26.09 Incorporate ease of use features into WAP applications.
26.10 Incorporate dynamic content in WAP applications by using ASP.
26.11 Design software applications that are accessible by a variety of wireless and wired devices.
26.12 Explain alternatives to using ASP to create dynamic content for WAP applications.
26.13 Create a strategy to convert existing HTML based web sites to WAP.
26.14 Build a simple email system accessible from wireless devices.
26.15 Explain security issues and options in a WAP application.
26.16 Integrate the push model of information delivery.
26.17 Explain the architecture of Wireless Telephony applications (WTA) and other wireless architectures.
26.18 Use various HTML elements.
26.19 Explain the various database concepts and vocabulary including: tables, columns, rows, data types, primary and foreign keys, relationships, queries, and relational database design techniques.
26.20 Use operating system services such as a personal web server for database development.
26.21 Explain server security and permissions.
26.22 Evaluate the advantages / disadvantages of different server platforms.
26.23 Explain scripting concepts and syntax.
26.24 Connect common databases using standard protocols.
26.25 Display data from a database using a Web interface.
26.26 Write and modify a database record using a Web interface.
26.27 Enable Web security features and tune Web applications.
26.28 Design and implement a basic shopping cart application.

Technology Specialization:

27.0 PERFORM WEB SERVER MANAGEMENT ACTIVITIES -- The student will be able to:
27.01 Perform console management in the author and user mode.
27.02 Navigate and create a custom management console.
27.03 Create new user accounts.
27.04 Implement groups into a domain.
27.05 Change the domain mode.
27.06 Manage software settings, scripts, and security settings.
27.07 Manage administrative templates.
27.08 Manage folder redirection.
27.09 Configure and administer network printers.

28.0 SUPPORT E-BUSINESS APPLICATIONS AND PRODUCT DEVELOMENT -The student will be able to:
28.01 Identify the different components to systems development life cycle and how they are interrelated.
28.02 Identify deliverables for user project and build subprojects within lifecycle components.
28.03 Create physical structure of web-based architecture.

28.04 Create requirements for business request, develop web components necessary to satisfy request and test for acceptance.
28.05 Use web browser and web authoring tools.
28.06 Write required queries to get required answer sets.

29.0 MAINTAIN NETWORK INFRASTRUCTURE --The student will be able to:
29.01 Analyze the infrastructure for E-business, the Internet, packet-switched networks, several Web markup languages, and popular Internet applications, protocols, and utility programs.
29.02 Identify Web server hardware and discus performance evaluation.
29.03 Describe security threat countermeasures, including anti-virus software and encryption.
29.04 Identify basic components of electronic payment systems.
29.05 Identify how to create and maintain an effective Web presence and brand.
29.06 Describe various Electronic Data Interchange components.
29.07 Define and explain virtual communities and Web portals.
29.08 Identify challenges of a global business regarding culture, legal and financial impacts, and differing languages.
29.09 Identify the planning stages of the E-Business Project.

30.0 DESIGN, INTEGRATE AND DEPLOY E-BUSINESS SYSTEMS -- The student will be able to:
30.01 Describe the lifecycle of an E-Business.
30.02 Explain Web site information architecture design principles.
30.03 Identify various E-Business systems development strategies.
30.04 Explain integration with LDAP, Messaging, and Collaboration.
30.05 Identify and describe the use of Meta Directories, Content Syndication, Single Sign-on, and Search Engines.
30.06 Identify various deployment strategies and Middleware.
30.07 Identify various Application Server Systems Architectures.
30.08 Explain Transaction Processing (TP) monitor systems architecture.
30.09 Identify various integration solutions.

31.0 PERFORM TECHNICAL REQUIREMENTS TO SUPPORT UNIX OPERATING SYSTEM -- The student will be able to:
31.01 Explain the history of UNIX
31.02 Explain basic command syntax for approximately 100 common shell commands governing the file-system, printing and process control.
31.03 Identify various UNIX editors and use the vi editor.
31.04 Schedule and reprioritize processes running under UNIX.
31.05 Use commands to get information and communicate with remote users.
31.06 Search for strings of text in files using shell meta-characters.
31.07 Use Awk to generate reports or filter text.
31.08 Use Korn shell scripts to control flow, input, output and jobs.
31.09 Use C shell variables and arrays.
31.10 Troubleshoot various system problems.

32.0 MAINTAIN SYSTEMS QUALITY AND PERFORM TESTING ACTIVITIES -- The student will be able to:
32.01 Identify the advantages and disadvantages of client-server computing.
32.02 Establish controls in a client-server framework.
32.03 Explain software testing methodology.

32.04 Describe the planning, executing and controlling of the testing process.
32.05 Perform Graphical User Interface testing.
32.06 Explain the server applications testing processes.
32.07 Explain testing in a networked application environment.
32.08 Incorporate cross-level functional testing within a data-driven framework-based environment.
32.09 Use client-server testing metrics.
32.10 Explain testing integration on the desktop.
32.11 Explain testing for web-based client-server applications.
32.12 Select and use appropriate automated test tools.

Business Specialization

33.0 PERFORM MANAGEMENT ACTIVITIES TO SUPPORT HUMAN RESOURSES IN AN EBUSINESS ENVIRONMENT --The student will be able to:
33.01 Describe the history of human resources.
33.02 Summarize the importance of human resources.
33.03 Identify career choice in human resources.
33.04 Describe the components of the job requirement and analysis process.
33.05 Describe the important elements of effective human resource planning.
33.06 Discuss the performance appraisal and the uses of the performance appraisal.
33.07 Compare various training options available to organizations.
33.08 Discuss strategies to improve organizational performance (various types of work teams, suggestion systems, goal setting, job redesign, etc.).
33.09 Describe various ways of compensating employees.
33.10 Summarize the legal regulations of compensation systems.
33.11 Explain the importance o maintaining employees.
33.12 Discuss the importance of safety and health laws and standards.
33.13 Describe how to create a safe and healthy work environment.
33.14 Describe labor relations and collective bargaining.

34.0 PERFORM ACTIVITIES TO ENHANCE SUPPLY CHAIN MANAGEMENT --The student will be able to:
34.01 Explain the electronic environment of the supply chain.
34.02 Explain the importance of information in an integrated supply chain.
34.03 Explain the technological applications for supply chain management.
34.04 Discuss how to engineer or reengineer the supply chain for optimal materials planning and handling.
34.05 Explain how relationships are important to the supply chain.
34.06 Explain the importance of suppliers in the supply chain.
34.07 Describe how to resolve conflicts in the supply chain.
34.08 Explain the laws and regulations regarding "order taking", such as the 30-Day rule, shipment representation, delay and cancellation notices, and refunds.
34.09 Describe the components involved in an international supply chain management system.

35.0 USE VARIOUS MODELS AND STRATEGIES FOR E-BUSINESS--the student will be able to:
35.01 Explain the components, linkages, and evaluation of Business Models and their relationship with e-business.
35.02 Describe the competitive environment and how it can affect an Internet business.

35.03 Describe competitive advantages and how the general manager of an Internet business can use this information.
35.04 The student will be able to describe the current strengths, weaknesses, opportunities, and threats to Internet business given general and specific information.
35.05 Describe the limitations to transactions over the Internet.
35.06 Describe the dynamics and appraisal of a business model.
35.07 Explain value configurations for the Internet.
35.08 Describe the process of valuing and financing an Internet start-up.
35.09 Describe macro environments and the impact on performance.
35.10 Explain the differences between incumbents and new entrants.

37.0 PERFORM CUSTOMER SERVICE TECHNIQUES FOR E-BUSINESS-- The student will be able to:
36.01 Define customer service.
36.02 Explain the advantages and disadvantages of customer service.
36.03 Discuss solutions to overcoming obstacles in customer service.
36.04 Define service culture in organizations.
36.05 Describe management's role in customer service formulation.
36.06 Describe employee empowerment and its importance in providing good customer service.
36.07 Explain the role of communicating in customer service.
36.08 Explain the difference behavioral styles of a challenging customer.
36.09 Describe strategies of dealing with challenging customers.
36.10 Describe the basic behavioral styles of customers.
36.11 Determine strategies for working with various customer behaviors.

37.0 PERFORM SELLING TECHNIQUES FOR E-BUSINESS -- the student will be able to:
37.01 Describe the relationship of personal selling to market-driven economies.
37.02 List the four broad strategic areas that make up the consultative-style selling model and the characteristics of each.
37.03 Identify career opportunities in the field of selling.
37.04 Explain the importance of relationship skills in personal selling.
37.05 Explain the importance of projecting a positive self-image.
37.06 Discuss communication-style bias and how it influences the relationship process.
37.07 Identify reasons why salespeople and customers benefit from thorough product knowledge.
37.08 List major sources of product information.
37.09 Discuss the evolving role of strategic selling.
37.10 Discuss the factors that influence people to make buying decisions.
37.11 Explain how to plan a sales presentation.
37.12 List criterion for qualifying and organizing prospects.
37.13 List guidelines for effective demonstrations.
37.14 Outline general strategies for negotiating buyer resistance.
37.15 Describe the proper attitude to display toward closing the sale.
37.16 List guidelines for closing the sale.
37.17 Explain how customer service can stimulate repeat business and referrals.

37.18 Describe how to properly handle activities that are part of the customer service program.
37.19 Describe the functions of a sales manager.
37.20 Explain how to manage time wisely.
37.21 List factors that influence the ethical conduct of sales personnel.
37.22 List and describe the functions of telemarketing

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Florida Department of Education
CURRICULUM FRAMEWORK

Program Title: E-Business Technical Certificate
Occupational Area: Business Technology Education
PSVC
CIP Number: 0506.120101
Grade Level: College Credit Certificate
Length: 24 credit hours
Certification

I. **MAJOR CONCEPTS/CONTENT:** This certificate is designed to prepare students for employment in occupations in e-business. Typical positions include: Computer Specialist, All Other (SOC 151099), business specialists or developers, E-product specialists, project managers, line/middle managers, assistant managers, supervisors, entrepreneurs and small business owners. This program also provides supplemental training for persons currently or previously employed in these occupations.

II. **LABORATORY ACTIVITIES:** Laboratory activities are an integral part of this certificate. The tools, test equipment, materials and processes used in this laboratory are similar to those used in industry as defined by DACUM participants. Students should be able to use equipment such as computers, presentation software, wireless and handheld devices, audio/visual equipment, and Internet access through multiple browsers.

III. **SPECIAL NOTE:** 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.

Cooperative training – OJT is appropriate for this program. Whenever cooperative training – OJT is offered, the following are 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 workstation that reflects equipment, skills and tasks that are relevant to the occupation which the student has chosen as a career goal.

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.

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

7.0 Perform project management activities.
11.0 Understand issues related to E-Business.
18.0 Compare and contrast E-Business with traditional business.
19.0 Identify and demonstrate management activities.
20.0 Identify legal and ethical issues for E-business.

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Florida Department of Education
STUDENT PERFORMANCE STANDARDS

Program Title: E-Business Technical Certificate
Secondary Number:
Postsecondary Number: 0506.120101

07.0 PERFORM PROJECT MANAGEMENT ACTIVITIES-The student will be able to:
- 07.01 Describe the role of project management (PM) within the organization.
- 07.02 Identify the strengths and weaknesses of various project life cycle design.
- 07.03 Understand the importance of project scope management.
- 07.04 Compare and contrast project selection methods.
- 07.05 Build a Work Breakdown Structure (WBS), Gantt chart, and Pert Chart and describe those different elements.
- 07.06 Compare and contrast types of cost estimates.
- 07.07 Examine cost control and earned value analysis.
- 07.08 Examine organizational planning, staff acquisition, and team development.
- 07.09 Examine risk identification, quantification, response development, and response control.
- 07.10 Compare and contrast project tracking and project reporting.
- 07.11 Understand change control and configuration control.
- 07.12 Understand subcontracting and outsourcing.
- 07.13 Discuss and analyze project management case study.

11.0 UNDERSTAND ISSUES RELATED TO E-BUSINESS-- The student will be able to:
- 11.01 Explain the difference between intranet and internet and the role of each in e-Business.
- 11.02 Explain the history, purpose and use of the World Wide Web and how it has enabled e-Business.
- 11.03 Describe the rise of various e-Business models such as information and content models, broadcast/content aggregations models, interactive models, and content provider models.
- 11.04 Explain security issues related to electronic payment.
- 11.05 Explain issues of advertising, marketing and solicitation activities affecting e-business.

18.0 COMPARE AND CONTRAST E-BUSINESS WITH TRADITIONAL BUSINESS MODELS-- The student will be able to:
- 18.01 Describe the evolution e-business, how it has changed the market place, and the benefits to society.
- 18.02 Define e-business and its categories.
- 18.03 Describe how business operations have changed due to e-business.
- 18.04 Explain the basic business models of electronic marketing .
- 18.05 Identify critical success factors for electronic marketing.
- 18.06 Explain the impact of the Internet on customers and markets for businesses.
- 18.07 Describe consumer buying behavior and organizational buying behavior.
- 18.08 Explain how service industries conduct business electronically.
- 18.09 Describe several innovative applications in the service sector.
- 18.10 Explain how business-to-business commerce is conducted.

18.11 Describe the application and key technologies for business-to-business e-commerce models.
18.12 Describe the relationship between the Internet, intranet and extranet.
18.13 Describe the typical electronic payment system.
18.14 Identify the various payment options in e-commerce.
18.15 Explain the strategic planning issues for e-business.
18.16 Identify the critical success factors of an e-business project/venture.
18.17 Discuss contractual issues and copyright infringement on the Web.
18.18 Explain the global economics and its impact e-business.
18.19 Describe the major components and impact of Web-based economics

19.0 IDENTIFY AND DEMONSTRATE MANAGEMENT ACTIVITIES--The student will be able to:
19.1 Define the role of the entrepreneur in business-in the United States and across the World.
19.2 Describe the entrepreneurial profile.
19.3 Discuss the role of the internet in helping small business expand their market opportunities both in the United States and abroad.
19.4 Explain the importance of strategic management to a business.
19.5 Describe the components of a marketing plan and explain the benefits of preparing one.
19.6 Describe how to prepare financial statements & use them to manage the business.
19.7 Describe effective pricing strategies.
19.8 Discuss the links among pricing, image, and competition.
19.9 Explain what seed capital is and why it is so important to the entrepreneurial process.
19.10 Explain the difference in the three types of capital small businesses require: Fixed, Working and Growth.
19.19. Explain the stages in the location decision.
19.12 Describe the location criteria and outline the basic location options for retail and service business.
19.13 Explain purchasing, quality control, vender analysis and managing inventory while using technology to gain a competitive edge.
19.14 Explain the challenges involved in the entrepreneur's role as leader and what it takes to be a successful leader.
19.15 Learn management succession and risk management strategies in family business together with ethics and social responsibility.
19.16 Describe, explain and discuss business's responsibility to employees, customers, investors and the community.
19.17 Describe management's historical role in business operations.
19.18 Compare and contrast different management philosophies.
19.19 Compare and contrast the employees' personal needs with those of the organization.
19.20 Describe methods managers can use to deal with management politics.
19.21 Describe the nature of management's legal environment for traditional and electronic environments.
19.22 Describe the planning process of managers.
19.23 Discuss the characteristics and functions of an organization chart.

19.24 Describe the act and benefits of delegation.
19.25 Summarize the components of job descriptions and specifications.
19.26 Define and describe the activities involved in making a job analysis.
19.27 Discuss potential problems in evaluating employees and methods to avoid problems.
19.28 Discuss strategies managers may use to build and sustain high morale and motivation.
19.29 Describe methods of direct and indirect compensation.
19.30 Describe various employee relations practices.
19.31 Summarize strategies to improve personal and organizational communication.
19.32 Discuss the role of information systems in the control system.
19.33 Discuss the steps in the basic decision making process.
19.34 Describe several factors that influence decision-making.
19.35 Distinguish among management functions.
19.36 Demonstrate knowledge of the relationship between authority and responsibility to task accomplishment.
19.37 Select the most effective communication systems.
19.38 Identify problems and make an appropriate decision.

20.0 INDENTIFY LEGAL AND ETHICAL ISSUES FOR E-BUSINESS -- The student will be able to:
20.01 Describe the procedure to obtaining protection under each intellectual property law.
20.02 Describe and recognize material that is defamatory.
20.03 Explain the right of publicity and the right of privacy.
20.04 Explain copyright assignment and the Visual Artists Rights Act.
20.05 Discuss licensing text, photos, films, television clips, characters, and games, Domain name registration, Cybersquatting and anti-cybersquatting regulations.
20.06 Describe the importance in choosing a strong trademark.
20.07 Understand basic laws that apply to e-commerce.
20.08 Explain how Article Two of the UCC that applies to the sale of goods involved in E-business.
20.09 Discuss current US laws that regulate e-business, such as the Uniform Computer Information Transactions Act, clickwraps, sales tax, and advertising.
20.10 Explain the meaning of linking, framing and caching.
20.11 Discuss the permission required for linking, revenue-sharing agreements, and liability issues pertaining to linking.
20.12 Discuss e-mail litigation, including anti-spam laws.
20.13 Describe licensing music for use.
20.14 Discuss copyright issues important to ISPs.
20.15 Explain other liability issues for ISPs, such as, defamation, privacy, trademark and patent.
20.16 Discuss when to use trademark protection and trade secret protection for their property.

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Florida Department of Education
CURRICULUM FRAMEWORK

Program Title:	**E-Business Security Technical Certificate**
Occupational Area:	**Business Technology Education**
PSVC	
CIP Number:	**0506.120102**
Grade Level:	**College Credit**
Length:	**24 credit hours**
Certification:	**E-Business Security Technical Certificate**
SOC Code:	**15-1071**

I. MAJOR CONCEPTS/CONTENT: This certificate is designed to prepare students for employment in occupations in e-business security. Typical positions include: Computer Specialist, All Other (SOC 151099), security specialists, Web security specialists, Internet technical support specialists, Internet and Network security specialist or technicians, database security technicians. This certificate also provides supplemental training for persons currently or previously employed in these occupations.

II. LABORATORY ACTIVITIES: Laboratory activities are an integral part of this certificate. The tools, test equipment, materials and processes used in this laboratory are similar to those used in industry as defined by DACUM participants. Students should be able to use equipment such as firewalls, routers, intrusion detection equipment, sniffers, etc.

III. SPECIAL NOTE: 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.

Cooperative training – OJT is appropriate for this program. Whenever cooperative training – OJT is offered, the following are 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 workstation that reflects equipment, skills and tasks that are relevant to the occupation which the student has chosen as a career goal.

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.

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

Security Specialization:

23.0 Design, develop and implement physical, network, host, application, and user security systems for E-business.

24.0 Maintain and monitor security policies.

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Florida Department of Education
STUDENT PERFOMRANCE STANDARDS

Certificate Title: **E-Business Technology Security Technical Certificate**
Secondary Number:
Postsecondary Number: **0506.120102**

23.0 DESIGN, DEVELOP AND IMPLEMENT PHYSICAL, NETWORK, HOST, APPLICATION AND USER SECURITY SYSTEMS FOR E-BUSINESS -- The student will be able to:

23.01 Explain use and purpose of security policies
23.02 Conduct a security audit.
23.03 Control access to systems, resources and data.
23.04 Explain and manage system security in common Operating Systems
23.05 Describe concepts of web servers and their role in the network
23.06 Plan and implement a web server.
23.07 Identify the various hardware and software requirements for a Web server.
23.08 Explain how documents and files are stored on a web server.
23.09 Describe different methods for projecting future traffic on a web server.
23.10 Identify the necessary steps to ensure reliability and response of the server.
23.11 Describe and implement the process for effectively organizing a web site.
23.12 Install, configure, and maintain a Web server.
23.13 Publish a web document so that it is easily located through various search engines on the Internet.
23.14 Set up the web server so that dynamic content can be provided to users of the web site.
23.15 Perform corrective and preventative maintenance on a web server.
23.16 Analyze server log files to determine trends in web server utilization.
23.17 Discuss Internet services operation and the security risk imposed by them on the network.
23.18 Identify vulnerabilities in World Wide Web protocols and counter-measures for securing them.
23.19 Describe the operation of electronic mail and news services protocols and how to effectively secure them.
23.20 Describe the operation of file transfer and printing service protocols and how to effectively secure them.
23.21 Describe the operation of remote access services protocols and how to effectively secure them.
23.22 Describe the operation of real-time conferencing service protocols and how to effectively secure them.
23.23 Properly configure and describe the operation of naming and directory services.
23.24 Describe the operation of authentication and auditing services protocols and how to effectively secure them.
23.25 Describe the operation of administrative services protocols and how to effectively secure them.
23.26 Describe the operation of the IP Security protocol.

23.27 Implement effective measures to secure various service protocols.

24.0 MAINTAIN AND MONITOR SECURITY POLICIES -- The student will be able to:

24.01 Identify basic network security.
24.02 Describe purpose and use of packet sniffing, firewalls and proxies.
24.03 Define web server security.
24.04 Protect against the risks of directory browsing.
24.05 Assess client security issues (including ActiveX, JavaScript, Cookies, etc.)
24.06 Install and configure network security tools
24.07 Explain the strengths, and weaknesses of cryptography as a security tool
24.08 Describe authentication and identification schemes
24.09 Define secure software.
24.10 Describe the use and purpose of encryption.
24.11 Define the advantages of Secure Socket Layer (SSL).
24.12 Define certificate authority.
24.13 Identify basic aspects of intrusion detection and steps to protect the web server from these threats.
24.14 Explain the history of cryptographic methodology.
24.15 Describe cryptographic attack models.
24.16 Describe the secret key and public key encryption methodology.
24.17 Use hashing techniques.
24.18 Use digital signatures in a network environment.
24.19 Explain applied cryptography.
24.20 Use authentication processes in heterogeneous environments.
24.21 Create secure environment through defensive programming.
24.22 Explain the basic elements of Security Testing and Auditing.
24.23 Describe the capabilities of effective signature filter techniques.
24.24 Explain the importance of architectural design detection of intrusions.
24.25 Describe interoperability aspects of various commercial IDS solutions.
24.26 Define and utilize various network based Intrusion Detection Solutions (IDS).
24.27 Detect various exploitation attempts in a network environment.
24.28 Explain intrusion detection and denial of service.
24.29 Describe techniques for gathering intelligence on intrusion detection and the latest tools and techniques used by hackers.
24.30 Define and recognize structured attacks and differentiate from unstructured attacks.
24.31 Explain management issues related to intrusion detection.
24.32 Implement appropriate security measures following risk analysis.
24.33 Implement appropriate security measures to minimize risks from hackers.
24.33 Issue and manage digital certificates.

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Florida Department of Education
CURRICULUM FRAMEWORK

Program Title:	**E-Business Software Technical Certificate**
Occupational Area:	**Business Technology Education**
PSVC	
CIP Number:	**0506.120103**
Grade Level:	**College Credit**
Length:	**21 credit hours**
Certification:	**E-Business Software Technical Certificate**
SOC Code:	**15-1099**

I. MAJOR CONCEPTS/CONTENT: This certificate is designed to prepare students for employment in occupations in e-business software. Typical positions include Computer Specialist, All Other (SOC 151099), testing analysts, support analysts, systems installation analysts, applications and systems programmers, systems integrator, and developers. This certificate also provides supplemental training for persons currently or previously employed in these occupations.

II. LABORATORY ACTIVITIES: Laboratory activities are an integral part of this certificate. The tools, test equipment, materials and processes used in this laboratory are similar to those used in industry as defined by DACUM participants. Students should be able to use equipment such as compilers, debuggers and testing tools.

III. SPECIAL NOTE: 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.

Cooperative training – OJT is appropriate for this program. Whenever cooperative training – OJT is offered, the following are 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

workstation that reflects equipment, skills and tasks that are relevant to the occupation which the student has chosen as a career goal.

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.

IV. INTENDED OUTCOMES-After successfully completing the certificate, the student will be able to:

07.0 Perform project management activities
16.0 Conduct systems analysis and design.
25.0 Use various software applications, languages, and protocols for E-business environment.
26.0 Support software products for E-business.
32.0 Maintain systems quality and perform testing activities.

July 2007

Florida Department of Education
STUDENT PERFORMANCE STANDARDS

Program Title: E-Business Software Technical Certificate
Secondary Number:
Postsecondary Number: 0506.120103

07.0 PERFORM PROJECT MANAGEMENT ACTIVITIES-The student will be able to:
- 07.01 Describe the role of project management (PM) within the organization.
- 07.02 Identify the strengths and weaknesses of various project life cycle designs.
- 07.03 Understand the importance of project scope management.
- 07.04 Compare and contrast project selection methods.
- 07.05 Build a Work Breakdown Structure (WBS), Gantt chart, and Pert Chart and describe those different elements.
- 07.06 Compare and contrast types of cost estimates.
- 07.07 Examine cost control and earned value analysis.
- 07.08 Examine organizational planning, staff acquisition, and team development.
- 07.09 Examine risk identification, quantification, response development, and response control.
- 07.10 Compare and contrast project tracking and project reporting.
- 07.11 Understand change control and configuration control.
- 07.12 Understand subcontracting and outsourcing.
- 07.13 Discuss and analyze project management case study.

16.0 CONDUCT SYSTEMS ANALYSIS AND DESIGN --The student will be able to:
- 16.01 Perform a preliminary investigation of a systems project.
- 16.02 Perform a detailed systems investigation and analysis of the project.
- 16.03 Design the input and output for the system.
- 16.04 Design the data files for the systems.
- 16.05 Design the processing flow of the system.
- 16.06 Design a system to insure that only valid data is accepted and processed, completely and accurately.
- 16.07 Establish a project plan for the development and implementation of the systems.
- 16.08 Program and test the system.
- 16.09 Develop the final systems documentation.
- 16.10 Conduct necessary training and file conversion to properly implement the system.
- 16.11 Understand industry-standard models for developing and maintaining software such as the Capability Maturity Model.
- 16.12 Be able to use industry-standard tools such as Unified Modeling Language (UML) to model a systems development project.

25.0 USE VARIOUS PROGRAMMING SOFTWARE APPLICATIONS, LANGUAGES AND PROTOCOLS FOR E-BUSINESS ENVIRONMENT --The student will be able to:
- 25.01 Explain the key network protocols used with the World Wide Web including Transmission Control Protocol (TCP), Internet Protocol (IP), and Hypertext Transfer Protocol (HTTP)
- 25.02. Explain how applets differ from applications in terms of program form, operating context, and how they are started.
- 25.03. Describe and use single- and multi-dimensional arrays.

25.04. Create classes that use inheritance aspects of the object-oriented paradigm.
25.05. Explain the use of keywords such as: static, final, abstract, inner classes, interface, etc.
25.06. Describe the error handling constructs.
25.07. Write a program that reads and writes text files.
25.08. Understand the hierarchy of classes designed for aggregate data such as Collections, and use sets and lists.
25.09. Identify deprecated classes, and explain how to migrate.
25.10. Use the jar tool.
25.11. Explain and use event handling in a GUI.
25.12. Use network utilities to monitor network activity, determine IP addresses, and locate Web servers.
25.13. Differentiate between client-side scripting and server-side scripting.
25.14. Manipulate the objects contained in the Document Object Model (DOM).
25.15. Use variables and constants within a script.
25.16. Use variables, constants, and arithmetic operators to create valid arithmetic expressions.
25.17. Dynamically alter the sequence of script execution.
25.18. Use built-in functions as well as create custom functions, subroutines, and procedures within software using scripting languages.
25.19. Create server pages using languages such as Active Server Pages (ASP) or Java Server Pages (JSP).
25.20 Write programs in a language such as java that allows use of objects like Socket, SocketServer, URL and Connection.
25.21. Create and use server-side include files.
25.22. Use a standard object such as Request to process forms and access server variables
25.23. Use a standard object such as Response to control output from the server.
25.24 Create programs that communicate across the Internet using conventions such as Remote Method Invocation.
25.25. Create and use the Global Application File.
25.26. Understand appropriate use of and demonstrate ability to incorporate and utilize cookies in e-Business software.
25.27. Integrate standard object model components with server pages.—
25.28. Create web page using data from a database.
25.29 Implement programs that use local or remote databases with standard protocols.
25.30 Create applications such as Servlets that send HTML pages to Internet clients.
25.31 Use a scripting language on the client side of a distributed program.
25.32 Create and use reusable objects such as Java Beans appropriately in distributed applications.
25.33 Implement levels of security in distributed software applications and applets.
25.34 Read simple UML diagrams, and create UML documents that model programs.
25.35 Use built-in objects for error handling, file creation, and dictionary access in e-Business software.
25.36 Explain protocols designed to allow programming designed to provide network services for applications on small homogenous networks, such as NetBIOS programming

25.37 Understand the use of client-side operating system tools such as Windows redirector.
25.38 Produce software that can interface with operating system services used to broadcast messages within a domain, such as mailslot networking technology.
25.39 Utilize appropriate operating system interfaces to redirect output of one application as input of another through the use of pipe networking technology.
25.40 Describe the protocol address families supported by Winsock and create a socket.
25.41 Create connection-oriented and connectionless Winsock protocols.
25.42 Describe various Winsock I/O models.
25.43 Differentiate between options used with sockets and other operating system techniques used to manipulate device parameters of special files, such as ioctl.
25.44 Describe various name space models.
25.45 Register and query a service.
25.46 Use transport service providers and name space service providers.
25.47 Explain the history of Extensible Markup Language (XML)
25.48 Use the Document Type Definitions that define an XML document structure.
25.49 Use schemas for validating an XML document.
25.50 Incorporate XML code into web documents, and manipulate the contents of an XML document.
25.51 Explain the use and purpose of Xpath and Simple API.
25.52 Write SXLT documents
25.53 Use XSL transformations
25.54 Explain Extensible Hypertext Markup Language (XHTML).
25.55 Explain emerging trends in XML-related technologies.
25.56 Explain and use the different elements that make code easier to read.
25.57 Explain and use the different data types available in scripting languages.
25.47 Explain and use standard control structures such as repetition, selection, and sequence in the appropriate programming language.
25.48 Output data from scripting languages such as PERL to various formats.
25.49 Explain the benefits of using subroutines and libraries in code.
25.50 Debug code from scripting languages such as PERL.
25.51 Explain basic Internet and server-side scripting security issues and common techniques to fix them.
25.52 Use a scripting language such as PERL to create and manage form data submitted over the Internet.
25.53 Examine the use of shopping carts on the Internet and how scripting languages such as PERL can be use in these applications.
25.54 Examine the use of auctions via the Internet and how scripting languages such as PERL can be used.
25.55 Understand industry standard program design techniques.
25.56 Develop the logic for a program using both flowcharting and pseudo code.
25.57 Develop looping and nested looping logic.
25.58 Document programs.

25.59 Develop the logic of: three-level control break program, an extract program, an edit program, a file matching and an update program.
25.60 Interpret a simple table.

26.0 DEVELOP SOFTWARE APPLICATIONS FOR E-BUSINESS ENVIRONMENT --The student will be able to:
26.01 Explain the architecture of a Wireless Application Protocol (WAP) application
26.02 Identify a variety of WAP micro-browsers.
26.03 Configure Web servers to recognize appropriate MIME types.
26.04 Identify a variety of vendor supplied development toolkits and explain the strengths and weakness of each.
26.05 Explain the purpose of a WAP gateway.
26.06 Evaluate various WAP gateway products and describe the strengths and weaknesses of each.
26.07 Create Wireless Markup Language (WML)decks.
26.08 Create client-side scripts using WML Script.
26.09 Incorporate ease of use features into WAP applications.
26.10 Incorporate dynamic content in WAP applications by using ASP.
26.11 Design software applications that are accessible by a variety of wireless and wired devices.
26.12 Explain alternatives to using ASP to create dynamic content for WAP applications.
26.13 Create a strategy to convert existing HTML based web sites to WAP.
26.14 Build a simple email system accessible from wireless devices.
26.15 Explain security issues and options in a WAP application.
26.16 Integrate the push model of information delivery.
26.17 Explain the architecture of Wireless Telephony applications (WTA) and other wireless architectures.
26.18 Use various HTML elements.
26.19 Explain the various database concepts and vocabulary including: tables, columns, rows, data types, primary and foreign keys, relationships, queries, and relational database design techniques.
26.20 Use operating system services such as a personal web server for database development.
26.21 Explain server security and permissions.
26.22 Evaluate the advantages / disadvantages of different server platforms.
26.23 Explain scripting concepts and syntax.
26.24 Connect common databases using standard protocols.
26.25 Display data from a database using a Web interface.
26.26 Write and modify a database record using a Web interface.
26.27 Enable Web security features and tune Web applications.
26.28 Design and implement a basic shopping cart application.

32.0 MAINTAIN SYSTEMS QUALITY AND PERFORM TESTING ACTIVITIES -- The student will be able to:
32.01 Identify the advantages and disadvantages of client-server computing.
32.02 Establish controls in a client-server framework.
32.03 Explain software testing methodology.
32.04 Describe the planning, executing and controlling of the testing process.
32.05 Perform Graphical User Interface testing.
32.06 Explain the server applications testing processes.
32.07 Explain testing in a networked application environment.

32.08 Incorporate cross-level functional testing within a data-driven framework-based environment.
32.09 Use client-server testing metrics.
32.10 Explain testing integration on the desktop.
32.11 Explain testing for web-based client-server applications.
32.12 Select and use appropriate automated test tools.

July 2007

Florida Department of Education
CURRICULUM FRAMEWORK

Program Title:	**E-Business Technology TC**
Occupational Area:	**Business Technology Education**
CIP Number	**0506120104**
Grade Level:	**College Credit**
Length:	**21 credit hours**
Certification:	**E-Business Technology Technical Certificate**
SOC Code:	**15-1099**

I. MAJOR CONCEPTS/CONTENT: This certificate is designed to prepare students for employment in occupations in e-business technology. Typical positions include: Computer Specialist, All Other (SOC 151099), support specialist (networking/ operating systems/LAN/WAN), systems engineer (architecture requirements/ user needs/infrastructure), network and database administrator, junior programmer, test specialist, application specialist (support and network administration). This program also provides supplemental training for persons currently or previously employed in these occupations.

II. LABORATORY ACTIVITIES: Laboratory activities are an integral part of this certificate. The tools, test equipment, materials and processes used in this laboratory are similar to those used in industry as defined by DACUM participants. Students should be able to use equipment such as protocol analyzers, recovery tools and hand tools, cable tester, cables and connectors, switches, routers, packet sniffers, etc.

III. SPECIAL NOTE: 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.

Cooperative training – OJT is appropriate for this program. Whenever cooperative training – OJT is offered, the following are 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 workstation that reflects equipment, skills and

tasks that are relevant to the occupation which the student has chosen as a career goal.

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.

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

7.0 Perform project management activities.
12. Demonstrate proficiency in the use of web browsers and access to internet resources.
16.0 Conduct systems analysis and design.
27.0 Perform Web server management activities.
28.0 Support E-Business applications and product development.
29.0 Maintain network infrastructure.
31.0 Perform technical requirements to support UNIX operating system.
32.0 Maintain systems quality and perform testing activities.

July 2007

Florida Department of Education
STUDENT PERFORMANCE STANDARDS

Program Title: **E-Business Technology Technical Certificate**
Secondary Number:
Postsecondary Number: **0506120104**

07.0 PERFORM PROJECT MANAGEMENT ACTIVITIES-The student will be able to:
- 07.01 Describe the role of project management (PM) within the organization.
- 07.02 Identify the strengths and weaknesses of various project life cycle design.
- 07.03 Understand the importance of project scope management.
- 07.04 Compare and contrast project selection methods.
- 07.05 Build a Work Breakdown Structure (WBS), Gantt chart, and Pert Chart and describe those different elements.
- 07.06 Compare and contrast types of cost estimates.
- 07.07 Examine cost control and earned value analysis.
- 07.08 Examine organizational planning, staff acquisition, and team development.
- 07.09 Examine risk identification, quantification, response development, and response control.
- 07.10 Compare and contrast project tracking and project reporting.
- 07.11 Understand change control and configuration control.
- 07.12 Understand subcontracting and outsourcing.
- 07.13 Discuss and analyze project management case study.

12.0 DEMONSTRATE PROFICIENCY IN THE USE OF WEB BROWSERS AND ACCESS TO INTERNET RESOURCES. The student will be able to:
- 12.01 Explain the history, purpose and use of the World Wide Web
- 12.02 Describe proper Internet etiquette and usage.
- 12.03 Explain how to connect to the Internet
- 12.04 Explain the purpose and use of browsers and search engines
- 12.05 Understand and use a Web browser tools to navigate the Web.
- 12.06 Demonstrate proficiency in email technologies by using email, setting up email accounts, and explaining communication and privacy issues specific to email.
- 12.06 Send electronic messages
- 12.06 Explain communication issues specific to email
- 12.07 Set up an email account.
- 12.07 Participate in an email a web-based discussion group.
- 12.08 Explain and use proper Usenet electronic bulletin board etiquette.
- 12.09 Explain the guidelines for evaluating information needs before beginning a search an electronic search
- 12.10 Explain issues associated with pornography, free speech, censorship, filtering, and copyright on the Web.
- 12.12 Describe how to critically evaluate online information content.
- 12.14 Use bookmarks to create a bibliography
- 12.11 Capture images, text, sound, and data from Web pages
- 12.12 Work with File Transfer Protocol (FTP) clients
- 12.13 Identify and use instant messaging software
- 12.14 Design and publish a simple Web page using HTML and other Web page design software tools.

16.0 CONDUCT SYSTEMS ANALYSIS AND DESIGN --The student will be able to:

16.01 Perform a preliminary investigation of a systems project.
16.02 Perform a detailed systems investigation and analysis of the project.
16.03 Design the input and output for the system.
16.04 Design the data files for the systems.
16.05 Design the processing flow of the system.
16.06 Design a system to insure that only valid data is accepted and processed, completely and accurately.
16.07 Establish a project plan for the development and implementation of the systems.
16.08 Program and test the system.
16.09 Develop the final systems documentation.
16.10 Conduct necessary training and file conversion to properly implement the system.
16.11 Understand industry-standard models for developing and maintaining software such as the Capability Maturity Model.
16.12 Be able to use industry-standard tools such as Unified Modeling Language (UML) to model a systems development project.

27.0 PERFORM WEB SERVER MANAGEMENT ACTIVITIES -- The student will be able to:
27.01 Perform console management in the author and user mode.
27.02 Navigate and create a custom management console.
27.03 Create new user accounts.
27.04 Implement groups into a domain.
27.05 Change the domain mode.
27.06 Manage software settings, scripts, and security settings.
27.07 Manage administrative templates.
27.08 Manage folder redirection.
27.09 Configure and administer network printers.

28.0 SUPPORT E-BUSINESS APPLICATIONS AND PRODUCT DEVELOMENT -The student will be able to:
28.01 Identify the different components to systems development life cycle and how they are interrelated.
28.02 Identify deliverables for user project and build subprojects within lifecycle components.
28.03 Create physical structure of web-based architecture.
28.04 Create requirements for business request, develop web components necessary to satisfy request and test for acceptance.
28.05 Use web browser and web authoring tools.
28.06 Write required queries to get required answer sets.

31.0 PERFORM TECHNICAL REQUIREMENTS TO SUPPORT UNIX OPERATING SYSTEM -- The student will be able to:
31.01 Explain the history of UNIX
31.02 Explain basic command syntax for approximately 100 common shell commands governing the file-system, printing and process control.
31.03 Identify various UNIX editors and use the vi editor.
31.04 Schedule and reprioritize processes running under UNIX.
31.05 Use commands to get information and communicate with remote users.
31.06 Search for strings of text in files using shell meta-characters.
31.07 Use Awk to generate reports or filter text.
31.08 Use Korn shell scripts to control flow, input, output and jobs.
31.09 Use C shell variables and arrays.

31.10 Troubleshoot various system problems.

32.0 MAINTAIN SYSTEMS QUALITY AND PERFORM TESTING ACTIVITIES -- The student will be able to:

32.01 Identify the advantages and disadvantages of client-server computing.

32.02 Establish controls in a client-server framework.

32.03 Explain software testing methodology.

32.04 Describe the planning, executing and controlling of the testing process.

32.05 Perform Graphical User Interface testing.

32.06 Explain the server applications testing processes.

32.07 Explain testing in a networked application environment.

32.08 Incorporate cross-level functional testing within a data-driven framework-based environment.

32.09 Use client-server testing metrics.

32.10 Explain testing integration on the desktop.

32.11 Explain testing for web-based client-server applications.

32.12 Select and use appropriate automated test tools.

July 2007

Florida Department of Education
CURRICULUM FRAMEWORK

Program Title:	**E-Business Ventures TC**
Occupational Area:	**Business Technology Education**
PSVC	
CIP Number:	**0506.120105**
Grade Level:	**College Credit**
Length:	**24 credit hours**
Certification:	**E-Business Ventures Technical Certificate**
SOC Code:	**15-1099**

I. **MAJOR CONCEPTS/CONTENT-**This certificate is designed to prepare students for employment in occupations in e-business. Typical positions include: Computer Specialist, All Other (SOC 151099), E-business specialists or developers, E-product specialists, line/middle managers, assistant managers, supervisors, entrepreneurs and small business owners. This program also provides supplemental training for persons currently or previously employed in these occupations.

II. LABORATORY ACTIVITIES-Laboratory activities are an integral part of this certificate. The tools, test equipment, materials and processes used in this laboratory are similar to those used in industry as defined by DACUM participants. Students should be able to use equipment such as computers, presentation software, wireless and handheld devices, audio/visual equipment, and Internet access through multiple browsers.

III. **SPECIAL NOTE-**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.

Cooperative training – OJT is appropriate for this program. Whenever cooperative training – OJT is offered, the following are 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 workstation that reflects equipment, skills and tasks that are relevant to the occupation which the student has

chosen as a career goal.

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.

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

11.0 Understand issues related to E-Business.
18.0 Compare and contrast E-Business with traditional business.
19.0 Identify, classify, and demonstrate management activities for E-Business.
20.0 Identify legal and ethical issues for E-business.

July 2007

Florida Department of Education
STUDENT PERFORMANCE STANDARDS

Program Title: E-Business Technical Certificate
Secondary Number:
Postsecondary Number: 0506.120105

11.0 UNDERSTAND ISSUES RELATED TO E-BUSINESS-- The student will be able to:
- 11.01 Explain the difference between intranet and internet and the role of each in e-Business.
- 11.02 Explain the history, purpose and use of the World Wide Web and how it has enabled e-Business
- 11.03 Describe the rise of various e-Business models such as information and content models, broadcast/content aggregations models, interactive models, and content provider models.
- 11.04 Explain security issues related to electronic payment.
- 11.05 Explain issues of advertising, marketing and solicitation activities affecting e-business.

18.0 COMPARE AND CONTRAST E-BUSINESS WITH TRADITIONAL BUSINESS MODELS-- The student will be able to:
- 18.01 Describe the evolution e-business, how it has changed the market place, and the benefits to society.
- 18.02 Define e-business and its categories.
- 18.03 Describe how business operations have changed due to e-business.
- 18.04 Explain the basic business models of electronic marketing.
- 18.05 Identify critical success factors for electronic marketing.
- 18.06 Explain the impact of the Internet on customers and markets for businesses.
- 18.07 Describe consumer buying behavior and organizational buying behavior.
- 18.08 Explain how service industries conduct business electronically.
- 18.09 Describe several innovative applications in the service sector.
- 18.10 Explain how business-to-business commerce is conducted.
- 18.11 Describe the application and key technologies for business-to-business e-commerce models.
- 18.12 Describe the relationship between the Internet, intranet and extranet.
- 18.13 Describe the typical electronic payment system.
- 18.14 Identify the various payment options in e-commerce.
- 18.15 Explain the strategic planning issues for e-business.
- 18.16 Identify the critical success factors of an e-business project/venture.
- 18.17 Discuss contractual issues and copyright infringement on the Web.
- 18.18 Explain the global economics and its impact e-business.
- 18.19 Describe the major components and impact of Web-based economics

19.0 IDENTIFY, CLASSIFY AND DEMONSTRATE MANAGEMENT ACTIVITIES FOR E-BUSINESS --The student will be able to:
- 19.1 Define the role of the entrepreneur in business-in the United States and across the World.
- 19.2 Describe the entrepreneurial profile.

19.3 Discuss the role of the internet in helping small business expand their market opportunities both in the United States and abroad.
19.4 Explain the importance of strategic management to a business.
19.5 Describe the components of a marketing plan and explain the benefits of preparing one.
19.6 Describe how to prepare financial statements & use them to manage the business.
19.7 Describe effective pricing strategies.
19.8 Discuss the links among pricing, image, and competition.
19.9 Explain what seed capital is and why it is so important to the entrepreneurial process.
19.10 Explain the difference in the three types of capital small businesses require: Fixed, Working and Growth.
19.19. Explain the stages in the location decision.
19.12 Describe the location criteria and outline the basic location options for retail and service business.
19.13 Explain purchasing, quality control, vender analysis and managing inventory while using technology to gain a competitive edge.
19.14 Explain the challenges involved in the entrepreneur's role as leader and what it takes to be a successful leader.
19.15 Learn management succession and risk management strategies in family business together with ethics and social responsibility.
19.16 Describe, explain and discuss business's responsibility to employees, customers, investors and the community.
19.17 Describe management's historical role in business operations.
19.18 Compare and contrast different management philosophies.
19.19 Compare and contrast the employees' personal needs with those of the organization.
19.20 Describe methods managers can use to deal with management politics.
19.21 Describe the nature of management's legal environment for traditional and electronic environments.
19.22 Describe the planning process of managers.
19.23 Discuss the characteristics and functions of an organization chart.
19.24 Describe the act and benefits of delegation.
19.25 Summarize the components of job descriptions and specifications.
19.26 Define and describe the activities involved in making a job analysis.
19.27 Discuss potential problems in evaluating employees and methods to avoid problems.
19.28 Discuss strategies managers may use to build and sustain high morale and motivation.
19.29 Describe methods of direct and indirect compensation.
19.30 Describe various employee relations practices.
19.31 Summarize strategies to improve personal and organizational communication.
19.32 Discuss the role of information systems in the control system.
19.33 Discuss the steps in the basic decision making process.
19.34 Describe several factors that influence decision-making.
19.35 Distinguish among management functions.
19.36 Demonstrate knowledge of the relationship between authority and responsibility to task accomplishment.

19.37 Select the most effective communication systems.
19.38 Identify problems and make an appropriate decision.

20.0 INDENTIFY LEGAL AND ETHICAL ISSUES FOR E-BUSINESS -- The student will be able to:

20.01 Describe the procedure to obtaining protection under each intellectual property law.
20.02 Describe and recognize material that is defamatory.
20.03 Explain the right of publicity and the right of privacy.
20.04 Explain copyright assignment and the Visual Artists Rights Act.
20.05 Discuss licensing text, photos, films, television clips, characters, and games, Domain name registration, Cybersquatting and anti-cybersquatting regulations.
20.06 Describe the importance in choosing a strong trademark.
20.07 Understand basic laws that apply to e-commerce.
20.08 Explain how Article Two of the UCC that applies to the sale of goods involved in E-business.
20.09 Discuss current US laws that regulate e-business, such as the Uniform Computer Information Transactions Act, clickwraps, sales tax, and advertising.
20.10 Explain the meaning of linking, framing and caching.
20.11 Discuss the permission required for linking, revenue-sharing agreements, and liability issues pertaining to linking.
20.12 Discuss e-mail litigation, including anti-spam laws.
20.13 Describe licensing music for use.
20.14 Discuss copyright issues important to ISPs.
20.15 Explain other liability issues for ISPs, such as, defamation, privacy, trademark and patent.
20.16 Discuss when to use trademark protection and trade secret protection for their property.