

Florida Department of Education

CURRICULUM FRAMEWORK

Program Title: Enterprise Resource Planning (ERP)  
Software Specialist  
Occupational Area: Business Technology Education  
Program Classification: PSV  
Program Type: AS\* or AAS\*  
Grade Level: College Credit  
CIP Number: 0506120108 AAS  
1506120108 AS  
Length: 63 College Credits

I. MAJOR CONCEPTS/CONTENT: The purpose of this program is to prepare students for employment as an ERP specialist, ERP developer, ERP interface technician, ERP administrator, ERP database specialist, ERP designer, ERP planner, or to provide supplemental training for persons previously or currently employed in these enterprise resource occupations.

The content prepares individuals to work in enterprise resource software environments such as SAP, Oracle, PeopleSoft, MAPICS, Great Plains, and others.

II. LABORATORY ACTIVITIES: Laboratory activities are an integral part of this program and include the use of computers, computer software, and enterprise resource hardware and software.

III. COMPLEMENTARY SOFTWARE AND EQUIPMENT: The following tools and equipment are required for this program: enterprise resource software, servers, workstations, peripheral devices, network operating systems software, application programming interfaces, dynamic link libraries, function libraries, middleware, open database connectivity (ODBC), Web server software, database server and client software, Web browser software, FTP client software, firewall software, backup software and hardware, data communications tools, LAN and WAN network infrastructures, anti-virus software, network monitors, database management software, and encryption software.

IV. INSTRUCTOR QUALIFICATIONS:

Preferred:

Masters Degree in Field or Masters degree and 18 hours in Management Information Systems, Computer Programming, Database Management Systems, Information Studies, or Information Science. Experience working in enterprise resource planning related fields such as SAP, Oracle, PeopleSoft, MAPICS, or Great Plains, or related area. Industry Certification in appropriate area.

Minimum:

Associate Degree in field and two or more years of related work

experience.

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

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

A distinction should be made between distance learning products that contain conceptual and theoretical content ("content products") as opposed to those that may serve merely as a framework for such content ("delivery products"). Many products contain both elements, but each product should be examined with this distinction in mind. Presently available delivery products offer a variety of delivery mechanisms that utilize both synchronous and asynchronous tools to allow interaction with instructors, fellow students, and practicing professionals. A good delivery product should include the following components: An online grade book and progress status report; grade reporting tool for students to view grades; quiz development tool; administration tools, such as grade distribution status reports and other statistical data; backup, download, and upload tools; student and Web page access tracking; glossary and index tools; assignment drop-box; email and discussion tools; chat room and white board; capability to incorporate multimedia; student presentation component; easily accessible Help files; and course announcement tools. Two of the most popular of these programs are Blackboard and WebCT.

Many studies and comparative evaluations of distance learning products have been performed over recent years and results are often published on the Web. A list of web sites containing information related to this issue can be found in Appendix A. The Florida Community College Distance Learning Consortium (web site at [www.distancelearn.org](http://www.distancelearn.org)) contracts each year with a number of vendors offering a computer based training (CBT) in a broad spectrum of information technology topics. Florida community colleges can select courses covering those topics appropriate for their programs to enhance both traditional and online offerings within this degree. Three major CBT products that contain conceptual and theoretical content related to this program have been documented and compared in the appendices at the end of this framework. The products reviewed were:

Course Technology ([www.course.com](http://www.course.com)) NetG ([www.netg.com](http://www.netg.com)) SmartForce ([www.smartforce.com](http://www.smartforce.com))

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

#### VII. MODEL FOR ACCELERATED WORKFORCE EDUCATION

Instead of the traditional sixteen-week course model, classes could be given in an accelerated eight-week model. These classes would meet five hours per week. Due to the technical nature of these classes, it is our recommendation that each class should meet for a minimum of two and one-half hours per session. Another accelerated option available is a four-week model with each course meeting ten hours per week, preferably two hours per day, five days a week. A hybrid model combining instructor led training and online Internet modules is another alternative.

VIII. SPECIAL NOTES: Industry certifications have become an important measure of success in the information technology fields. Whenever possible, current industry certifications should be addressed within the program.

The traits and attitudes characterized by DACUM industry participants as necessary for student success within this program include: Ability to work under stress, analytical, communicator, considerate, dependable, detail oriented, documentation skills, eager to learn, empathetic, ethical, flexible, friendly, honest, listening, negotiator, open minded, organizer, presentation skills, professionalism, punctuality, reliability, time manager, visionary, well spoken, good work ethics, and good writing skills.

This degree requires the inclusion of the minimum number of credits of general education coursework required by SACS.

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

#### **General Education Requirements (credits as required by SACS):**

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

#### **Foundation Courses:**

- 01.0 Demonstrate an understanding of Enterprise Resource Planning (ERP) and Electronic Business fundamentals
- 02.0 Demonstrate proficiency in developing Electronic Resource Planning (ERP) systems solutions
- 03.0 Demonstrate proficiency in Enterprise Resource Planning (ERP) technical functional requirements
- 04.0 Demonstrate proficiency in Enterprise Resource Planning (ERP) project planning
- 05.0 Demonstrate proficiency in Enterprise Resource Planning (ERP) project coordination
- 06.0 Demonstrate proficiency in developing Enterprise Resource Planning (ERP) customer business function requirements
- 07.0 Demonstrate competence in communications with Enterprise

Resource Planning (ERP) customers

- 08.0 Demonstrate proficiency in business and management processes
- 09.0 Demonstrate proficiency with high-level computer programming languages as related to Enterprise Resource Planning (ERP) software
- 10.0 Perform general organizational computing workplace competencies
- 11.0 Demonstrate employability skills
- 12.0 Demonstrate business communication skills
- 13.0 Demonstrate professional development skills

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CURRICULUM FRAMEWORK

Program Title: Enterprise Resource Software Specialist

**Foundation Courses**

- 01.0 Demonstrate an understanding of enterprise resource planning (ERP) and electronic business fundamentals. The student will be able to:
- 01.01 Identify characteristics of the American enterprise system, electronic business (e-commerce), and ERP systems.
  - 01.02 List the types of large-scale business environments that ERP systems support.
  - 01.03 Understand ERP terminology.
  - 01.04 Describe how ERP uses a collection of software applications to manage the entire organization.
  - 01.05 Describe how ERP systems integrate sales, manufacturing, logistics, accounting and other enterprise business functions.
  - 01.06 Describe how ERP systems share common database and business analysis tools.
  - 01.07 Describe how e-commerce has changed society.
  - 01.08 Differentiate between the various e-commerce and ERP business models.
  - 01.09 Identify e-commerce market sectors.
  - 01.10 List factors that contribute to economic growth and impact supply and demand.
  - 01.11 Identify characteristics of different types of business ownership.
- 02.0 Demonstrate proficiency in developing electronic resource planning (ERP) systems solutions. The student will be able to:
- 02.01 Research available enterprise solutions.
  - 02.02 Review evaluations of comparable ERP software programs and vendors.
  - 02.03 Compare collected data.
  - 02.05 Participate in demonstrations of ERP software programs.
  - 02.06 Assess hardware requirements.
  - 02.07 Assess software requirements.
  - 02.08 Analyze solution integration activities.
  - 02.09 Establish benchmarking and sizing criteria.
  - 02.10 Assist in identifying overall costs.
  - 02.11 Understand the difference and relationship between ERP and Customer Relation Management (CRM) software.
  - 02.12 List and compare implementation costs.
  - 02.13 List and compare training costs.
- 03.0 Demonstrate proficiency in enterprise resource planning (ERP) technical functional requirements. The student will be able to:
- 03.01 Demonstrate understanding of issues related to shared data and integrated databases.

- 03.02 Design relational databases.
- 03.03 Develop relational databases.
- 03.04 Utilize database toolset - GUI.
- 03.05 Exhibit working knowledge of query language.
- 03.06 Develop an application that interfaces with a database.
- 03.07 Create simple interfaces for data conversion between sources and systems.
- 03.08 Design and develop interface between ERP modules and systems.
- 03.09 Develop simple programs using ERP development tools.
- 03.10 Create usable reports with writing tools and languages related to applicable ERP systems.
- 03.11 Identify different operating system architectures.
- 03.12 Identify networking protocols' benefits and limitations.
- 03.13 Document technical modifications to programs and systems.
- 03.14 Exhibit proficiency in the concepts of distributed applications.
- 04.0 Demonstrate proficiency in enterprise resource planning (ERP) project planning. The student will be able to:
  - 04.01 Describe project planning fundamentals and concepts.
  - 04.02 Identify project stakeholders.
  - 04.03 Determine stakeholder needs.
  - 04.04 Determine stakeholder training requirements.
  - 04.05 Identify potential stakeholder conflicts of interest.
  - 04.06 Define the scope of a project.
  - 04.07 Create project timelines.
  - 04.08 Establish rules of communication between project stakeholders.
  - 04.09 Create approval plans.
  - 04.10 Create conflict resolution plans.
  - 04.11 Define and sequence tasks.
  - 04.12 Identify technology-related risks.
  - 04.13 Establish project hardware and software dependencies.
  - 04.14 Identify and assign project resources and materials.
  - 04.15 Budget resources.
  - 04.16 Identify training needs.
  - 04.17 Document project plan.
  - 04.18 Construct an implementation schedule for a large project.
- 05.0 Demonstrate proficiency in enterprise resource planning (ERP) project coordination. The student will be able to:
  - 05.01 Use workflow software tools.
  - 05.02 Identify and manage project resources.
  - 05.03 Identify and manage project risks.
  - 05.04 Collaborate with team members.
  - 05.05 Facilitate project changes.
  - 05.06 Participate in project implementation activities.

- 05.07 Perform a detailed project analysis.
- 05.08 Describe the scale and impact of the project on the organization.
- 05.09 Identify how business process integration will change the relationships between traditional functional departments within the organization.
- 05.10 Describe any role re-definement by function within the organization.
- 05.11 Describe the cost and time parameters of the project and implementation schedule for a large project.
- 06.0 Demonstrate proficiency in developing enterprise resource planning (ERP) customers' business function requirements. The student will be able to:
  - 06.01 Identify, document, and compile stakeholder requirement.
  - 06.02 Define the scope, objectives, and parameters of the project.
  - 06.03 Interview users and analyze their workflow systems and procedures.
  - 06.05 Identify integration points by department and process
  - 06.06 Describe the function and supporting activities for Joint Application Development (JAD) meeting.
  - 06.07 Describe the overall impact the project will have on the organization.
  - 06.08 Assist in identifying potential problem areas.
  - 06.09 Assist with user training.
  - 06.10 Identify solutions and methods to fulfill requirements.
- 07.0 Demonstrate competence in communications with enterprise resource planning (ERP) customers. The student will be able to:
  - 07.01 Summarize and document project overview.
  - 07.02 Create ERP design modules.
  - 07.03 Write program test scripts.
  - 07.04 Present design models.
  - 07.05 Coordinate activities and resources with all relevant departments.
  - 07.06 Schedule meetings.
  - 07.07 Create progress reports.
  - 07.08 Prepare boardroom presentations.
  - 07.09 Deliver and explain procedure to stakeholders.
  - 07.10 Act as a training intermediary for stakeholders.
  - 07.11 Identify and define long-term implications of system changes.
  - 07.12 Explain the difference between outsourcing and in-house support.
  - 07.13 Apply effective customer relations.
  - 07.14 Describe techniques for keeping the customer informed.
  - 07.15 Demonstrate proper follow-up techniques.
- 08.0 Demonstrate proficiency in business and management processes. The student will be able to:

- 08.01 Identify forms of business and not-for-profit organizations.
- 08.02 Describe basic functions within the typical business organization.
- 08.03 Describe various forms of management hierarchies and organizational design.
- 08.04 Identify the responsibilities and duties of managers by level or function within the organization.
- 08.05 Contrast the operations and organizational form of small organizations and large enterprises.
- 08.06 Describe the role of Information Technology in modern business management.
- 08.07 Explain the interrelationships between business processes including marketing, production, finance, accounting, and human resources.
- 08.08 Identify software packages that support the business processes used by large enterprises.
- 08.09 Describe the general accounting process.
- 08.10 Interpret and use financial reports, budgets, and basic financial analysis techniques.
- 08.11 Use productivity software to create spreadsheets, documents, reports, schedules, databases, and Internet communication.
- 08.12 Describe the role of labor in modern business management.
- 08.13 Describe the functions of human resource management.
- 08.14 List the basic components of business contracts.
- 09.0 Demonstrate proficiency with high-level computer programming languages as related to enterprise resource planning (ERP) software. The student will be able to:
  - 09.01 Describe the programming languages applicable to ERP software.
  - 09.02 Apply structured programming for a high-level program as related to ERP software.
  - 09.03 Write a program in a high-level language as related to ERP software.
  - 09.04 Identify and define associated system level concepts .
  - 09.05 Describe mid-range and mainframe computer environments that support ERP.
- 10.0 Perform general organizational computing workplace competencies. The student will be able to:
  - 10.01 Follow oral and written instructions.
  - 10.02 Prepare, outline, and deliver a short oral presentation.
  - 10.03 Prepare visual material to support an oral presentation.
  - 10.04 Interpret appropriate information from graphics, maps, or signs.
  - 10.05 Participate in group discussions as a member and as a leader.
  - 10.06 Apply effective time-management skills.
  - 10.07 Demonstrate self-motivation and responsibility to complete an assigned task.

- 10.08 Identify issues contained within professional codes of conduct.
- 10.09 Identify software licensing issues.
- 10.10 Identify privacy issues.
- 10.11 Identify encryption issues.
- 10.12 Identify legal liability issues.
- 10.12 Describe acceptable use policies for computer environment.
- 10.13 Identify copyright issues.
- 10.14 Apply principles and techniques for being a productive, contributing member of a team.
- 10.15 Identify and use acceptable strategies for resolving conflict in the workplace.
- 10.16 Identify techniques for stress management and prevention of job burnout.
- 11.0 Demonstrate employability skills. The student will be able to:
  - 11.01 Describe different job search methods, including online and traditional.
  - 11.02 Conduct a job search.
  - 11.03 Identify documents, which may be required when applying for a job interview.
  - 11.04 Complete a job application form correctly.
  - 11.05 Demonstrate competence in job interview techniques.
  - 11.06 Identify acceptable work habits.
  - 11.07 Demonstrate knowledge of the "Florida Right-To-Know Law" as recorded in Florida Statutes Chapter 442.
- 12.0 Demonstrate business communication skills. The student will be able to:
  - 12.01 Accurately fill out forms and create documents commonly used in business and industry.
  - 12.02 Read and understand graphs, charts, diagrams, and tables commonly used in this industry/occupation area.
  - 12.03 Read and follow written and oral instructions.
  - 12.04 Answer and ask questions coherently and concisely.
  - 12.05 Use correct grammar in written and oral communication.
  - 12.06 Demonstrate appropriate telephone communication skills.
  - 12.07 Demonstrate appropriate verbal skills.
  - 12.08 Demonstrate appropriate listening skills.
  - 12.09 Demonstrate appropriate business etiquette skills.
  - 12.10 Use and follow ethical standards as related to ERP.
- 13.0 Demonstrate professional development skills. The student will be able to:
  - 13.01 Identify corporate strategies and policies.
  - 13.02 Build mentor relationships.
  - 13.03 Identify industry trends and developments.
  - 13.04 Continue formal education.
  - 13.05 Network with industry professionals.
  - 13.06 Read industry journals and magazines.

- 13.07 Attend seminars, workshops, and tradeshow.
- 13.08 Obtain industry and field certifications as required for career advancement.