

SCOPE OF COURSE:

Database publishing is becoming an important part of Web publishing, for everything from a searchable online storefront to a company's inventory records. This course covers the design and production of dynamically-generated Web pages utilizing database applications and CGIs. The mechanics of generating dynamic (interactive, constantly updated), database-driven and/or augmented sites.

SPECIFIC COURSE OBJECTIVES:

The successful student will be able to:

1. Demonstrate an understanding of the difference between static and dynamic web pages.
2. Demonstrate an understanding of what a web server is and what role it plays in publishing static web pages.
3. Demonstrate an understanding of Common Gateway Interfaces (CGIs).
4. Demonstrate an ability to work with simple CGIs.
5. Demonstrate an understanding of databases: what they are, and what they can provide to web publishing efforts.
6. Demonstrate an understanding of middleware CGIs that act as the intermediary between a web server and a database.
7. Demonstrate competence in using the FileMaker Pro Web Companion for simple Instant Web Publishing.
8. Demonstrate competence in using the FileMaker Pro Web Companion for more complex Custom Web Publishing.
9. Demonstrate competence in using a third party middleware CGI product (Lasso/Tango/MGI).
10. Demonstrate the ability to use (Claris) Home Page for inserting CDML tags to allow web pages to interact with a database.
11. Demonstrate the ability to search and retrieve information from a database (web-based front end).
12. Demonstrate the ability to add and delete information from a database (web-based front end).
13. Demonstrate the ability to publish dynamic web pages integrating content from a database.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. MODULE 1: Web site concepts
 - A. Server
 1. Fields requests for files
 2. Sends requested file, if found
 - a. Issues error message if not

- B. Client
 - 1. Web Browser
 - a. Issues request for file
 - b. Displays web page files sent by server
- C. Common Gateway Interface
 - 1. Small program/application/script
 - 2. Resides and executes on server
 - 3. More than just an interface to a database
 - a. Hit counters
 - b. Email form data
 - 4. Sometimes transparent
 - a. No modification to web page to function
 - 5. Sometimes requires additional web page coding
 - a. Attributes of existing HTML tags
 - (1) Form data
 - (2) Other...
 - b. Specialized tags
 - (1) Unique to each CGI application/script
 - 6. Unique requirements for each CGI
- D. Database
 - 1. Does not have to live on same machine as server
 - a. Machine must be on Internet/Intranet
 - 2. Structure
 - a. File
 - b. Records
 - c. Fields
 - 3. Behaviors
 - a. Add
 - b. Delete
 - c. Sort
 - d. Query
 - e. Search
 - f. Calculate
 - 4. Interaction
 - a. User
 - b. Other applications/scripts

II. MODULE II: Simple Web Page Scripting

A. Cookies

- 1. Javascript
- 2. Data stored locally
- 3. Practical application
 - a. Understanding requirements of provided solution

- b. Identifying authoring actions to be taken
- c. Implementing requirements
- d. Testing

III. MODULE III: Simple CGI Applications

A. Simple CGI

1. Hit Counters

- a. Data stored on server
- b. Practical application
 - (1) Understanding requirements of provided solution
 - (2) Identifying authoring actions to be taken
 - (3) Implementing requirements
 - (4) Testing

B. Complex CGI

1. Guest book, Calendar, or Sendmail

- a. Data stored on server
- b. Practical application
 - (1) Understanding requirements of provided solution
 - (2) Identifying authoring actions to be taken
 - (3) Implementing requirements
 - (4) Testing

IV. MODULE IV: Database Applications

A. Basic activities

- 1. Designing record template
- 2. Adding records
- 3. Deleting records
- 4. Sorting records
- 5. Querying
- 6. Searching
- 7. Calculating

B. "Instant Web Publishing"

- 1. Overview
- 2. Benefits/Drawbacks
- 3. Setup
 - a. Enabling Web Companion
 - b. Preparing for "Instant Publishing"
- 4. Accessing Published Data
 - a. Opening
 - b. Browsing records
 - c. Modifying records

C. Custom Web Publishing

- 1. Overview
- 2. "Format file" template
 - a. Static/dynamic forms

3. CDML - Claris Dynamic Markup Language
 - a. CDML tags
 - b. CDML tag syntax
 - c. CDML tools
 - (1) (Claris) Home Page
 4. Enabling/configuring Web Companion
 5. Preparing for Custom Web Publishing
 6. Creating/saving Format template files
 7. Enabling Web Companion Sharing
 8. Accessing/testing Custom Web Publishing
 - a. Open database home page
 - b. Testing
 - c. Troubleshooting
 9. Web Companion issues
 - a. Interface options
 - b. Security
 - (1) Access privileges
 - c. TCP/IP port number
- V. MODULE V: Database applications and CGI middleware
- A. Middleware CGIs
 1. Interface between server and database
 2. Different solutions for different servers
 - B. Lasso/Tango/MGI
 1. Overview
 2. Benefits/Drawbacks
 3. Unique characteristics
 4. Templates (Format files, Query Documents)
 5. Tags/scripting language specific to CGI
 6. Using CGI-specific template editor
 - C. Implementation
 - D. Test
 - E. Publish

REQUIRED READING:

Langer, Marie. Database Publishing with Filemaker Pro on the Web. PeachPit Press, 1998. ISBN: 0201696657.

SUGGESTED READING: None

REQUIRED WRITING:

Final Paper (2-5 pages) on current web design issue or topic covered in class.

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short term classes.

Students will work on and complete both in-class practice and in-class homework assignments. The in-class practice assignments focus on learning a particular tool or skill; the homework assignments concentrate on the practical application of course material.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

- lecture
- laboratory
- lecture-laboratory combination
- directed study

This course may be offered as a distance education course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.
Yes No

If yes, check all that apply. (See guidelines for preparation for definitions.)

- telecourse
- mediated instruction
- computer assisted instruction

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students):

- 40% Final Presentation
- 10% Written assignments
- 40% Assignments
- 10% Exams

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes No Number of times course may be taken for
credit:

If yes, identify specific provision of Title 5 Division 2 section(s) 55761-55763 and
58161 which qualifies course as repeatable:

581161(c)(2)(A)

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