

COURSE OUTLINE

CMSY-249

Introduction to Perl

3 Credits

HOWARD COMMUNITY COLLEGE

Description

This course is an introduction to computer programming using Perl. It will present intermediate topics needed to create, design, write, test, debug and document programs to run Perl on an Apache web server.

Prerequisite: CMSY-121. (3 hours weekly)

Overall Course Objectives:

Upon successful completion of this course students will:

1. Download and install Perl on Windows.
2. Learn how to create, run and debug CGI scripts.
3. Understand the role of a CGI script in creating interactive Web sites.
4. Use scripts to collect data from Web page visitors.
5. Learn how to use scalar, array, and hash variables in a script.
6. Manipulate files using Perl.
7. Understand the purpose and use of subroutines and how to employ them.
8. Write CGI / Perl scripts to create interactive Web pages.
9. Locate resources on the World Wide Web to assist in writing programs.

Major Topics

- I. Introduction to Perl
 - A. Installing Perl
 - B. Security issues
 - C. Debugging, using Perl's Error Reporting and viewing the system Error Log
 - D. Documentation for Perl
- II. Perl Data
 - A. Numbers and Strings; Constant and Variables; Scalars vs. list vs. hashes
 - B. Arrays; Operators and Functions; Quotation marks
- III. Getting Data Information
 - A. Documenting scripts
 - B. Statements, blocks and scope
 - C. Single-valued and Multiple-valued Form data
 - D. Getting all the form elements, names, and values
- IV. String manipulations
 - A. Convert a string to uppercase letters using the **uc** function
 - B. Convert a string to lowercase letters using the **lc** function
 - C. Return, replace, or insert text using the **substr** function
 - D. Use the **index** function to locate a string within another string
 - E. Replace text using the transliteration operator
 - F. Use the binding operators
 - G. Perform pattern matching using the matching operator
 - H. Include metacharacters in a search pattern
 - I. Replace text using the substitution operator

- V. Conditionals and Loops
 - A. Comparing numbers
 - B. Logical Operators
 - C. Creating loops with do, for, for each
- VI. Arrays
 - A. Assigning a list to an array variable
 - B. Referring to a particular item in an array
 - C. Modifying the members of an array
- VII. User-Defined Functions
 - A. Create and call a user-defined function
 - B. Exit a script using the Perl **exit** statement
 - C. Pass information to and receive information from a user-defined function
 - D. Access the contents of an environment variable
 - E. Code the repetition structure using the Perl **while** and **until** statements
- VIII. Working with Hashes
 - A. Assigning a list of hash
 - B. Getting a value by using a key
 - C. Adding or replacing a key-value pair
- IX. Two ways of remembering Info about your visitors
 - A. Hidden Fields and email
 - B. Using script to send email
 - C. Cookies
 - D. Creating a cookie
 - E. Sending a cookie to the browser
 - F. Accessing the information stored in a cookie
- X. Files and Directories
 - A. Opening, closing, renaming, removing a file
 - B. Writing to an external file and reading data from it
 - C. Opening a directory and reading its contents

Course Requirements

Grading criteria

Specific criteria, assignments and activities for evaluating student mastery of objectives will be described in the individual class syllabus, but will include the following:

1. Projects developing web page elements with HTML and Perl.
2. Written tests and quizzes.

Other Course Information

This course is a Business Elective and an Internet Elective.