



■ Corder Enterprises International ■



Building World Class MIS Teams, for you!

---

## CU019 - UNIX C Shell Programming

**Length: 4 Days**

### Description

The C shell is the optional user interface on Berkeley UNIX systems and implements features such as job control, command line editing, aliases, and additional built in commands not found in the standard Bourne shell. Topics include an overview of the C Shell and it's functions, control constructs (foreach, while, switch, etc.), conditional branching, quoting, positional parameters, command substitution, pipelines, use of built-in shell commands, job control, history and alias mechanisms, sub-shells, shell programming efficiencies, and debugging. After completion of this course the attendee will be able to use the C Shell to design and develop complex command language programs.

### Course Objectives

Upon completion of this course the attendee will be able to:

1. state how the shell functions as a user interface and command line interpreter;
2. execute commands using foreground and background processing;
3. modify built-in shell variables and create and use user-defined shell variables;
4. use I/O redirection, pipes, quoting, and file name expansion mechanisms;
5. create structured shell programs which accept and use positional parameters and exported variables;
6. use the shell flow control and conditional branching constructs (while, foreach, switch, if, etc.);
7. state the order in which command line arguments are evaluated;
8. use shell debugging mechanisms to improve shell program efficiency and detect and correct errors.

### Course Materials

1. UNIX C Shell Programming Student Guide and course notes.

### Prerequisites

1. UX001 - Fundamentals of UNIX, UX021 - Fundamentals of AIX, or equivalent experience using UNIX.

---

## CU019 - UNIX C Shell Programming

---

### Course Content

#### IOVERVIEW OF THE SHELL

- A Shell Overview
- B Interpreting Commands
- C Logging In
- D Processes
  - 1 Process Creation
  - 2 fork and exec
- E User Environment
- F Setting and Printing Variables
- G I/O Redirection
- H Pipelines
- I File Name Generation
- J Quoting
- K Command Substitution
- L Background Processing
- M Tilde Substitution
- N Arithmetic Evaluation
- O Environment
- P Job Control
- Q History and Alias Mechanisms
- R Command Line Editing
- S Login and Setup Files
  - 1. .login, .cshrc, and .logout

#### II CREATING AND EXECUTING SHELL PROGRAMS

- A Creating a Shell Program
- B Executing a Shell Program
- C Debugging Shell Programs

#### III SHELL VARIABLES & PARAMETERS

- A Variables
- B Assigning Variables
- C Printing Variables
- D Reading Input
- E Variable Types
- F Exporting Variables
- G Variable Arrays
- H Predefined Variables
- I Environment Variables
- J Special Shell Parameters
- K Positional Parameters
- L shift Command
- M set and setenv Commands
- N unset Command
- O The source Command

---

## CU019 - UNIX C Shell Programming

---

### IV CONDITIONAL TESTING

- A if Statement
- B The switch Statement
- C exit Command

### V LOOPING MECHANISMS

- A The foreach Loop
- B The while Loop
- C break, continue, and goto Statements

### VI SUBSHELLS

### VII PROGRAMMING CONSIDERATIONS

- A Resource Consumption
- B Processes and Files
- C Programming Hints

### VIII COURSE CONCLUSION