Course Title: Shell Scripting IV

Course Description:
An in-depth study of shell features that make shell scripting rival third generation programming languages, including arrays, functions and getopts. Finally, a method for creating generic shell scripts that are driven by external data files is introduced.

Course Prerequisite(s):
Shell Scripting Parts 1, 2 and 3 (or equivalent experience)

Course Objectives:
An in-depth look at functions
Arrays and their uses
Use getopts to simplify and/or expand scripting
How to use external data files and create generic scripts

Student Expectations:
Fully meet the course prerequisites.

Textbook(s): OPTIONAL
UNIX Shell Programming Third Edition
Kochan; SAMS
ISBN: 0-672-32490-3

Next Class Possibilities:
ANSI-C

Lesson Plan – by session

Saturday Morning
Session 1: An in-depth look at functions
POSIX, Korn, and Bash definitions
Scope of Variables
Arguments to functions
Return codes and output redirection
External functions

Session 2: Using getopts to Simplify Scripting
Overview of the command
Script simplification
Functionality expansion
Arguments to options
OPTIND and OPTARG
Case study
Review of Programming Logic

**Saturday Afternoon**

### Session 3: Arrays and their uses
- Korn shell forms
- Bash
- C-Shell (implicit arrays)
- Iterating through the array
- External initialization
- Review of Menus

### Session 4: External data files and generic scripts
- Arrays that define arrays
- Control files and their structure
- Initialization from external data files
- Generic code: a different thought process
- A case study
- When shell just isn’t enough