**Linux Troubleshooting Crouse Syllabus**

**Section 1 – Introduction and Course Overview**

* What is this course about
* Syllabus Overview
* Download Syllabus

**Section 2 – Troubleshooting Best Practices**

* Follow Policies and Standards
* Documentation or Ticketing Process
* Patience To Work With the Users / Group
* Get Online Help
* Understanding the Issue Before Making a Decision
* Involve Vendor If Needed
* Log Monitor
* Be Honest and Ask Questions

**Section 3 - Lab Setup**

* What is VirtualBox?
* Installing Oracle VirtualBox
* Creating First Virtual Machine
* Linux Installation

**Section 4 - Conceptual Troubleshooting**

* Who is Who?
* Cannot Access Server
* Cannot Install Linux
* Linux Virtual Machine Running Slow

**Section 5 -** System Access Troubleshooting

* Server is Not Reachable
* Cannot Connect to a Website or an Application
* Cannot SSH as root or a Specific User
* Firewall Issue
* Terminal Client is not working
* Cannot Connect using Putty to a VirutalBox VM

**Section 6 - FileSystem Troubleshooting**

* Cannot cd into a Directory
* Cannot Open a File or Run a Script
* Having Trouble Finding Files and Directories
* Cannot Create Links
* Cannot Write to a File
* Cannot Delete, Copy, Move or Rename a File
* Cannot Change File Permissions or View Other Users Files
* Disk Space Full or Add More Disk Space
* Add Disk and Create Standard Partition
* Add Disk and Create Standard Partition
* Add Disk and Create LVM Partition
* Extend Disk with LVM
* How to Delete Old Files
* FileSystem is Corruption
* Corruption in /etc/fstab
* Script to Delete Old Files
* Handouts

**Section 7 - System Administration Troubleshooting**

* Running Out of Memory
* Add Swap Space
* System Rebooted or Process Restarted
* Unable to get IP Address
* IP Assigned but not Reachable
* Having Trouble using vi Editor
* Cannot Run Certain Commands
* Cannot Change Password
* User Account has no Home Directory
* How to Change Every Instance of a Word in a File
* How to Use sed Command
* How to Kill a User Terminal or Process
* Recover Root Password
* SOS Report
* List of Users Logged in by Date
* System is Running Slow

**Section 8 - System Recovery**

* Recover Virtual System
* Recover Physical System
* Disaster Recovery

**Section 9 - Bonus Section**

* What is FileSystem
* File Ownership Commands (chown, chgrp)
* Files and Directory Permissions (chmod)
* System Logs Monitor (/var/log)
* Soft and Hard Links
* curl and ping commands
* Programs and Service Management
* Processes and Jobs (systemctl, ps, kill, top, crontab, at)
* New Network Commands
* Script to Delete Old Files
* Difference Between CentOS/Redhat 5, 6 and 7