Washtenaw Community College Comprehensive Report

CST 118 Microsoft Command Line Fundamentals
Effective Term: Winter 2017

Course Cover

Division: Business and Computer Technologies
Department: Computer Instruction
Discipline: Computer Systems Technology
Course Number: 118
Org Number: 13400
Full Course Title: Microsoft Command Line Fundamentals
Transcript Title: MS Command Line Fundamentals
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: Three Year Review / Assessment Report
Change Information:
Course description
Outcomes/Assessment
Objectives/Evaluation
Other:
Rationale: Addition of a section on Microsoft's Powershell Scripting language which has become an essential tool in the configuration and management of Windows Servers as well as Windows Clients.
Proposed Start Semester: Winter 2017
Course Description: In this course, students use the command line, utilizing the MS-DOS operating system as the instructional tool. Relevant commands used regularly by network administrators are emphasized. Activities include learning command syntax, parameters, redirection, error messages and file/directory structures. Networking activities include mapping drives, capturing printers, network backups, preparation of removable boot devices, batch file creation and an intro Powershell Scripting. This course was previously ELE 118.

Course Credit Hours

Variable hours: No
Credits: 2
Lecture Hours: Instructor: 30 **Student:** 30
Lab: Instructor: 0 **Student:** 0
Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 30 **Student:** 30
Repeatable for Credit: NO
Grading Methods: Letter Grades
Audit
Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

No Level Required

Requisites

Level II Prerequisite
CIS 100 minimum grade "C"
or equivalent

General Education

Degree Attributes
High School articulation approved

Request Course Transfer

Proposed For:
Eastern Michigan University

Student Learning Outcomes

1. Identify various MS-DOS commands knowing each functionality, including syntax, error messsages, options, and the use of the editor and redirection in the use of multiple commands, etc.

   Assessment 1

   Assessment Tool: Departmental Written Exam - the Final exam is a comprehensive Exam of the whole course and will be used also as the assessment tool.

   Assessment Date: Fall 2019

   Assessment Cycle: Every Three Years

   Course section(s)/other population: Two sections are run in the fall of each year. One section will be assessed, selected randomly.

   Number students to be assessed: Twenty students (full class) or the whole number taking the class

   How the assessment will be scored: Departmentally-developed rubric using four methods of evaluation using correct answers from the departmental developed test, two methods for the course as a whole and two methods for each individual outcome.

   Standard of success to be used for this assessment: Course Success: 1. Average score for the test including all students taking the test will be 70% or higher. 2. Average number of students equaling or exceeding 70% correct answers for all questions on the assessment test will be 70%. Outcome Success: Average of all student scores for that outcome's part of the test is equal to or exceeds 70%. (Average number of students equaling or exceeding 70% correct answers for all questions used for for that outcome will be 70% - Note this one is extremely difficult to achieve and will not be used as a standard of success, but will be used for "Continuous Improvement" and "Action Plans".)

   Who will score and analyze the data: Departmental faculty will score and analyze the data, however, while the tests will be "blind-scored", they will NOT be "blind-analyzed". Without including some knowledge of the actual students when analyzing, no complete and thorough evaluation of the results can be performed.

2. Distinguish folder and file system structures both physically and logically, and incorporate an understanding of PATH and its relationship to this structure.

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3. Define the various methods of implementing networking from the command line, including establishing the communication link through a redirector, attaching to network shares or devices and performing recovery over the network.

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4. Use the DOS boot process, the necessary files, boot records, etc. to an extent necessary to create bootable removable devices for operating system recovery purposes.

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5. Identify the various commands and techniques used to create batch files and Powershell scripts, including evaluation of the resulting process to determine outcomes based on the structure and path through the file.

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Course Objectives

1. Identify various DOS internal/external commands, detailing the difference between the two types.
2. Demonstrate proficiency in the use of the command line, using the proper syntax, parameters and switches with the various commands.
3. Recognize and interrupt command DOS error, warning, and information messages which appear during the use of the command line, and show the ability to take proper corrective action to correct the condition.
4. Define the various types of command line redirection, both input and output, and describe file to device redirection, device to file, command to command, etc.
5. Distinguish between the different types of HELP available for using DOS commands, both from the command line, and using the help program.
6. Demonstrate the use of the DOS editor in modifying configuration files including the use of the "Alt" key with other keys, the search and replace function, and copy/paste operations.
7. Distinguish the different filename conventions/limitations used with DOS, and the types and purposes of various files (executables which run programs, ACII (text) files, etc.).
8. Demonstrate the use of the DIR, FIND and SORT commands to do file searches, including the proper switches to display/filter information in various forms and from various places in the directory structure.
9. Identify the basics of how data is tracked and organized on a disk - the FAT file table, the Directory Entry Table, and the relationship of these in finding files.
10. Distinguish between the various methods of formatting (low level - physical and high-level logical)

and show proficiency in the use of the format command and its switches.

11. Demonstrate proficiency in the use of commands to compare, copy, move, rename, find and delete files.
12. Identify the functions of "Path" - both in keeping track of files on the disk, and used as a TSR in locating executable files.
13. Demonstrate proficiency in attaching to the network from the command line; including accessing network file shares and capturing network printers.
14. Identify the different types of backup techniques including full, incremental, differential, copy, etc.
15. Identify and implement the commands and procedures for various types of Fault Recovery Backups including XCOPY, a file by file copy backup program, and the Ghost Imaging Process.
16. Implement the use of other DOS Fault Recovery techniques including recovery of files with UNDELETE, the use of the ATTRIB command to handle hidden files, as well as accessing the NTFS file system from DOS to backup key Windows System files.
17. Investigate the use of other file system repair/recovery utilities such as SCANDISK.
18. Identify the relationship of the motherboard BIOS and the operating system to the initial boot process.
19. Categorize the three key DOS operating system files, identifying the function of each, and their relationship to each other.
20. Categorize the various DOS commands used in the two main boot configuration files, and create both of them - an Autoexec.bat and Config.sys ideally suited for use with a recovery disk.
21. Create and test a bootable floppy disk, a bootable CD ROM and a bootable USB device to be used for operating system recovery.
22. Troubleshoot and fix various boot/startup problems using the DOS operating system commands from an emergency recovery device.
23. Categorize batch file-specific DOS commands, (including REM, ECHO, GOTO, CHOICE, IF, FOR, CALL, etc.) associating with them their functionality and use in batch files.
24. Incorporate batch file operations such as branching and looping with the IF and GOTO statements for handling conditional processing during batch file configuration.
25. Configure batch files to incorporate user interaction during batch file processing using the PAUSE and CHOICE commands.
26. Design batch files to handle multiple inputs using the SHIFT and GOTO commands as with the FOR in DO command.
27. Create, configure, and test various batch files, incorporating all of the functionality described above.
28. Identify Powershell Commands associated with the MS-DOS commands learned throughout the course, work with Powershell scripts for Windows Reports, and alter the focus of the Powershell Command Line.

New Resources for Course

Each student should have a USB flash drive of their own for getting a copy of class lectures. Floppies and USB drives are supplied to Students as part of Lab Projects, both of which must be returned.

Course Textbooks/Resources

Textbooks

Van Wolverton. *Running MS-DOS* , 6th or newer ed. Redmond, Washington 98052: Microsoft Press,

1994, ISBN: 1-55615-633-2.

Manuals

Downen, Gary; Reichert, William. CST 118 Command Line Lab Manual, Xanedu Publishing, 12-31-2011

Periodicals

Software

Equipment/Facilities

Level III classroom
Computer workstations/lab
Data projector/computer

Reviewer	Action	Date
Faculty Preparer:		
William Reichert	*Faculty Preparer*	*May 21, 2016*
Department Chair/Area Director:		
John Trame	*Recommend Approval*	*Jun 14, 2016*
Dean:		
Kimberly Hurns	*Recommend Approval*	*Jun 22, 2016*
Curriculum Committee Chair:		
David Wooten	*Recommend Approval*	*Jul 24, 2016*
Assessment Committee Chair:		
Michelle Garey	*Recommend Approval*	*Jul 25, 2016*
Vice President for Instruction:		
Michael Nealon	*Approve*	*Jul 28, 2016*