

Course Outline

COURSE: CSIS 182 **DIVISION:** 50 **ALSO LISTED AS:**

TERM EFFECTIVE: Fall 2015 **CURRICULUM APPROVAL DATE:** 03/23/2015

SHORT TITLE: OPERATING SYSTEMS

LONG TITLE: Operating Systems

| <u>Units</u> | <u>Number of Weeks</u> | <u>Type</u> | <u>Contact Hours/Week</u> | <u>Total Contact Hours</u> |
|--------------|------------------------|-------------|---------------------------|----------------------------|
| 4 | 18 | Lecture: | 4 | 72 |
| | | Lab: | 0 | 0 |
| | | Other: | 0 | 0 |
| | | Total: | 4 | 72 |

COURSE DESCRIPTION:

This course will survey current computer operating systems. Topics include file system management, systems requirements, network systems integration, security, and regular maintenance procedures. This course has the option of a letter grade or pass/no pass. **ADVISORY:** CSIS 1 or CSIS 2 or equivalent computer experience

PREREQUISITES:

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

L - Standard Letter Grade

P - Pass/No Pass

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

02 - Lecture and/or discussion

05 - Hybrid

72 - Dist. Ed Internet Delayed

STUDENT LEARNING OUTCOMES:

1. Articulate what functions operating systems perform.

Measure: Homework and quizzes.

PLO: 1, 2

ILO: 1, 2,3,7

GE-LO:

Year assessed or anticipated year of assessment: 2014

2. Articulate data management including random access memory and file systems.

Measure: exams, homework

PLO: 1

ILO: 2,3,7

GE-LO:

Year assessed or anticipated year of assessment: 2014

3. Demonstrate proficiency for installing operating systems..

Measure: demonstration

PLO: 2

ILO: 2,3,7

GE-LO:

Year assessed or anticipated year of assessment: 2014

4. Articulate various input and output technology associated with operating systems.

Measure: exams, homework

PLO: 1,2

ILO: 2,3,7

GE-LO:

Year assessed or anticipated year of assessment: 2014

5. Demonstrate ability to setup simple networks.

Measure: exam, demonstration

PLO: 1

ILO: 1,2,3,7

GE-LO:

Year assessed or anticipated year of assessment: 2014

6. Perform basic operating system maintenance and support.

Measure: Exam, demonstration, homework

PLO: 2

ILO: 1,2,3,7

GE-LO:

Year assessed or anticipated year of assessment: 2014

PROGRAM LEARNING OUTCOMES:

1.Student will demonstrate entry-level skills and knowledge of the networking profession

2. Students will be eligible to take the industry A+ hardware exam.

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Curriculum Approval Date: 03/23/2015

(4 Hours) Lecture: What an Operating Systems is; Types of Operating Systems.

History of Operating Systems; Single-Tasking versus Multitasking; Single-User versus Multi-User Operating Systems; Current Operating Systems

Student Performance Objectives:

- Describe what an operating system does.
- Describe the types of operating system.
- Discuss the history of operating system development.
- Discuss single-tasking versus multitasking.
- Differentiate between single-user and multi-user operating systems.
- List and briefly describe current operating systems.

Out of Class Assignment: Read chapters on operating system theory.

(4 Hours) Lecture: Computer Hardware; Popular PC Processors; System Architecture Popular. PC Operating Systems.

Student Performance Objectives:

Explain the characteristics of the hardware platform such as design type, speed, cache, address bus, and data bus.

- Describe the basic features and system architecture of PC processors.
- Identify the basic features and characteristics of basic PC operating systems.

Out of Class Assignment: Read chapter on initial installation of operating systems.

(4 Hours) Lecture: File systems

Student Performance Objectives:

- Explain the basic functions of all file systems.
- Describe the major elements of the Windows Operating file systems.

Out of Class Assignment: Read chapter on file systems.

(4 Hours) Lecture: Preparing for Operating System Installation and installation of Windows Operating systems

Student Performance Objectives:

Discuss the overall process of operating system installation. Prepare for operating system installation.

(4 Hours) Lecture: Operating System Installation

Student Performance Objectives:

Install several different operating systems using software provided.

Out of Class Assignment: Read chapter on upgrading operating systems to newer versions.

(4 Hours) Lecture: Upgrading your Operating System.

Student Performance Objectives:

- Prepare for an operating system upgrade.
- Explain the importance of testing system upgrades before implementing them.
- Describe how and why to make backups before upgrading your operating system.
- Successfully upgrade the operating systems covered in class.

Out of Class Assignment: Read chapters on operating systems relation to output, input, and storage devices.

(8 Hours) Lecture: Input/output Devices; Device Drivers; Printer Technologies

Student Performance Objectives:

- Review how operating systems interface with input, output, and storage devices.
- Describe the need for software drivers for specific hardware output devices.
- Discuss software driver installation within major operating systems.
- Describe popular printer technologies, connections, and methods of installation.
- Discuss general display adapter design, types of adapters and hardware installation.
- Identify important considerations when installing and using a variety of input device.

Review basic disk drive interface technologies.

Out of Class Assignment: Read chapter on operating systems interface with communications devices.

(8 Hours) Lecture: Network Communications

Student Performance Objectives:

Discuss basic computer communications in different operating systems.

Out of Class Assignment: Read chapter on operating systems connectivity with networks.

(8 Hours) Lecture: Networking Basics and Resource Sharing
Out of Class Assignment: Read chapter on resource sharing over a network.

Student Performance Objectives:

Explain basic networking theory such as network topologies, packaging data to transport, and how devices connect to a network.

Describe network transport and communication protocols and determine which protocols are used in specific computer operating systems.

Explain how bridging and routing are used on networks.

Explain LANs and WANs.

Describe how network and workstation operating systems are used for remote networking.

(8 Hours) Lecture: Networking Connectivity

Student Performance Objectives:

Explain the principles behind sharing disks and files on a network.

Explain how to set up accounts, groups, security and disk and file sharing on network server operating systems.

Explain how to set up file and disk sharing on client operating systems.

Explain how to set up printer sharing on server and client operating systems.

Discuss how network and Internet servers are used for vast information sharing networks.

Out of Class Assignment: Read chapter on standard operating and maintenance procedures.

(8 Hours) Lecture: Sharing Resources Over a Network

Student Performance Objectives:

Explain files system maintenance techniques for different operating systems.

Perform regular file system maintenance by finding and deleting unused files and directories.

Perform disks maintenance that includes defragmenting, relocating files and folders, running disk and file repair utilities, and selecting RAID options.

Set up and perform disk, directory, and file backups.

Explain how to install software for best performance.

Tune operating systems for optimal performance.

(4 Hours) Review for Final Exam

(2 Hours) Written Final Exam

METHODS OF INSTRUCTION:

Lecture, computer demonstrations, projects, internet resources

METHODS OF EVALUATION:

CATEGORY 1 - The types of writing assignments required:

Percent range of total grade: 10 % to 15 %

Written Homework

CATEGORY 2 -The problem-solving assignments required:

Percent range of total grade: 35 % to 45 %

Homework Problems

Quizzes

CATEGORY 3 -The types of skill demonstrations required:

Percent range of total grade: 20 % to 30 %

Performance Exams

CATEGORY 4 - The types of objective examinations used in the course:

Percent range of total grade: 20 % to 30 %

Multiple Choice

True/False

Matching Items

Completion

REPRESENTATIVE TEXTBOOKS:

Required:

Jean Andrews, CompTIA A+ Guide to Managing and Maintaining Your PC, Course Technology, 2013, or other appropriate college level text.

Reading level of text, Grade: 12+ Verified by: ev

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:

CSU GE:

IGETC:

CSU TRANSFER:

Transferable CSU, effective 200630

UC TRANSFER:

Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education:

Program Status: 1 Program Applicable

Special Class Status: N

CAN:

CAN Sequence:

CSU Crosswalk Course Department: CSIS

CSU Crosswalk Course Number: 182

Prior to College Level: Y

Non Credit Enhanced Funding: N
Funding Agency Code: Y
In-Service: N
Occupational Course: C
Maximum Hours:
Minimum Hours:
Course Control Number: CCC000329635
Sports/Physical Education Course: N
Taxonomy of Program: 070800