

Clackamas Community College
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Section #1 General Course Information

Department: Business & Computer Science: Computer Science

Submitter

First Name: Rich

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Course Prefix and Number: CS - 227

Credits: 4

Contact hours

Lecture (# of hours): 33

Lec/lab (# of hours):

Lab (# of hours): 33

Total course hours: 66

For each credit, the student will be expected to spend, on average, 3 hours per week in combination of in-class and out-of-class activity.

Course Title: Computer Hardware & Repair

Course Description:

An in-depth course in computer hardware. Covers operational concepts, identification, installation, configuration, and troubleshooting of power supplies, motherboards, microprocessors, memory modules, disk drives, optical drives, and expansion cards. This course, in conjunction with CS-228, covers the topics of the CompTIA A+ certification exam.

Type of Course: Career Technical Preparatory

Is this class challengeable?

Yes

Can this course be repeated for credit in a degree?

No

Is general education certification being sought at this time?

No

Does this course map to any general education outcome(s)?

No

Is this course part of an AAS or related certificate of completion?

Yes

Name of degree(s) and/or certificate(s): Computer Science AAS & Certificate

Are there prerequisites to this course?

No

Are there corequisites to this course?

No

Are there any requirements or recommendations for students taken this course?

No

Are there similar courses existing in other programs or disciplines at CCC?

No

Will this class use library resources?

No

Is there any other potential impact on another department?

No

Does this course belong on the Related Instruction list?

No

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Fall**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

No

Will this course appear in the college catalog?

Yes

Will this course appear in the schedule?

Yes

Student Learning Outcomes:

Upon successful completion of this course, students should be able to:

1. explain and implement proper safety procedures when working with computer components,
2. use PC repair tools, techniques, and procedures appropriately;
3. explain concepts, organization and operation of PC hardware and associated software;
4. identify different case, power supply, and motherboard from factors and components;
5. identify PC hardware components, and explain the advantages and disadvantages of different types of components;
6. upgrade a computers power supply, CPU, memory, disk drives, video cards, and other internal components;
7. completely disassemble and reassemble a PC;
8. diagnose and repair common hardware and driver problems;
9. evaluate and select appropriate components to meet a customer's specifications or needs.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Safety.
2. Power supplies: operation, form factors, features, testing and replacing.
3. Microprocessors: operation, packages, features, and upgrading.
4. Memory: operation, packages, types, testing, and upgrading.
5. Cases and motherboards: form factors, features, integrated components, and expansion busses.
6. Disk drives: types, operation, interfaces, and file systems.
7. Removable media: Optical disks and flash memory.
8. Ports and Peripherals: USB, firewire, input devices, multimedia devices
9. Video: Monitors, video cards, and interfaces.
10. Portable Computers: features, components, batteries, upgrading and repairing
11. Troubleshooting.

Does the content of this class relate to job skills in any of the following areas:

- | | |
|--------------------------------------|-----------|
| 1. Increased energy efficiency | No |
| 2. Produce renewable energy | No |
| 3. Prevent environmental degradation | No |
| 4. Clean up natural environment | No |
| 5. Supports green services | No |

Percent of course: 0%

First term to be offered:

Next available term after approval

:
