

Clackamas Community College

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Section #1 General Course Information

Department: Business & Computer Science: Computer Science

Submitter

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Course Prefix and Number: CS - 260

Credits: 4

Contact hours

Lecture (# of hours): 44

Lec/lab (# of hours):

Lab (# of hours):

Total course hours: 44

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: Data Structures

Course Description:

Covers common data structures used for the storage and manipulation of data, as well as data abstraction, sorting algorithms, and algorithm analysis. Data structures include linked lists, stacks, queues, binary trees, btrees, hash tables, and graphs.

Type of Course: Lower Division Collegiate

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?

Yes

Pre-reqs: CS-162

Have you consulted with the appropriate chair if the pre-req is in another program?

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?

Yes

Area: Computation

GRADING METHOD:

A-F or Pass/No Pass

Audit: Yes

When do you plan to offer this course?

✓ **Spring**

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 linked lists (linear, circular, and doubly linked);
2. explain and implement stacks and queues (using both arrays and linked lists);
3. explain and implement trees (binary, AVL, red-black, btree, 2-3, 2-3-4, etc.);
4. explain and implement hash tables, graphs, and various sorting algorithms;
5. identify the appropriate data structure to use for a particular project;
6. explain how to process various data structures using iteration or recursion, and know the benefits and drawbacks of each;
7. demonstrate how to analyze computer algorithms for operational efficiency.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Linked Lists
2. Stacks and Queues
3. Binary Trees
4. BTrees
5. Hash Tables
6. Graphs
7. Searching and Sorting

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%

Section #2 Course Transferability

Concern over students taking many courses that do not have a high transfer value has led to increasing attention to the transferability of LDC courses. The state currently requires us to certify that at least one OUS school will accept a new LDC course in transfer. Faculty should communicate with colleagues at one or more OUS schools to ascertain how the course will transfer by answering these questions.

1. Is there an equivalent lower division course at the University?
2. Will a department accept the course for its major or minor requirements?
3. Will the course be accepted as part of the University's distribution requirements?

If a course transfers as an elective only, it may still be accepted or approved as an LDC course, depending on the nature of the course, though it will likely not be eligible for Gen Ed status.

Which OUS schools will the course transfer to? (Check all that apply)

PSU (Portland State University)

Identify comparable course(s) at OUS school(s)

PSU: CS163

How does it transfer? (Check all that apply)

:

First term to be offered:

Next available term after approval

:
