

CSC 130: DATA STRUCTURES AND ALGORITHM ANALYSIS

In Workflow

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Approval Path

1. Wed, 16 Sep 2020 21:47:00 GMT
Anna Baynes (shaverdian): Approved for CSC Committee Chair
2. Thu, 17 Sep 2020 16:28:02 GMT
Nikrouz Faroughi (faroughi): Approved for CSC Chair
3. Fri, 02 Oct 2020 17:34:12 GMT
Gareth Figgess (figgess): Rollback to CSC Committee Chair for ECS College Committee Chair
4. Mon, 12 Oct 2020 22:30:14 GMT
Anna Baynes (shaverdian): Approved for CSC Committee Chair
5. Mon, 12 Oct 2020 23:21:36 GMT
Nikrouz Faroughi (faroughi): Rollback to CSC Committee Chair for CSC Chair
6. Tue, 13 Oct 2020 05:00:01 GMT
Anna Baynes (shaverdian): Approved for CSC Committee Chair
7. Tue, 13 Oct 2020 15:30:47 GMT
Nikrouz Faroughi (faroughi): Approved for CSC Chair
8. Fri, 16 Oct 2020 17:02:24 GMT
Gareth Figgess (figgess): Approved for ECS College Committee Chair
9. Fri, 16 Oct 2020 17:26:09 GMT
Kevan Shafizadeh (kevan): Approved for ECS Dean

Date Submitted: Wed, 16 Sep 2020 21:46:09 GMT

Viewing: CSC 130 : Data Structures and Algorithm Analysis

Last edit: Mon, 12 Oct 2020 23:21:35 GMT

Changes proposed by: Anna Baynes (219700742)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
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Catalog Title:

Data Structures and Algorithm Analysis

Class Schedule Title:

Data Structure+Algorithm Analy

Academic Group: (College)

ECS - Engineering & Computer Science

Academic Organization: (Department)

Computer Science

Will this course be offered through the College of Continuing Education (CCE)?

No

Catalog Year Effective:

Spring 2021 (2021/2022 Catalog)

Subject Area: (prefix)

CSC - Computer Science

Catalog Number: (course number)

130

Course ID: (For administrative use only.)

111971

Units:

3

In what term(s) will this course typically be offered?

Fall, Spring

Does this course require a room for its final exam?

Yes, final exam requires a room

Does this course replace an existing experimental course?

No

This course complies with the credit hour policy:

Yes

Justification for course proposal:

1. The prerequisite change is to avoid students worried about failing their current course from occupying enrollment. Our current course waitlists are filled.
2. The Computer Science department reviewed our courses based on current teaching practice and professional organization recommendations. This update is required for Computer Science program external accreditation.

Course Description: (Not to exceed 80 words and language should conform to catalog copy.)

Specification, implementation, and manipulation of abstract data types and their structures: balanced trees, priority queues, sets, hash tables, and graphs; recursion; searching and sorting algorithms; asymptotic analysis; NP completeness; fundamental graph algorithms including graph search, shortest path, and minimum spanning trees.

Are one or more field trips required with this course?

No

Fee Course?

No

Is this course designated as Service Learning?

No

Does this course require safety training?

No

Does this course require personal protective equipment (PPE)?

No

Does this course have prerequisites?

Yes

Prerequisite:

CSC 20, CSC 28; CSC 28 may be taken concurrently. Not currently enrolled in CSC 130.

Prerequisites Enforced at Registration?

Yes

Does this course have corequisites?

No

Graded:

Letter

Approval required for enrollment?

No Approval Required

Course Component(s) and Classification(s):

Discussion

Discussion Classification

CS#04 - Lecture /Recitation (K-factor=1 WTU per unit)

Discussion Units

3

Is this a paired course?

No

Is this course crosslisted?

No

Can this course be repeated for credit?

No

Can the course be taken for credit more than once during the same term?

No

Description of the Expected Learning Outcomes: Describe outcomes using the following format: 'Students will be able to: 1), 2), etc.'

1. Describe the purposes, pros and cons, and uses and applications of different data structures.
2. Choose a correct combination of data structure and algorithm to form an optimal solution for a given problem.
3. Evaluate algorithm efficiency by analyzing the time complexity and space complexity.
4. Apply some algorithm techniques, e.g. divide-and-conquer, dynamic programming, to solve real-world problems.

Assessment Strategies: A description of the assessment strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers) which will be used by the instructor to determine the extent to which students have achieved the learning outcomes noted above.

LO 1-4 will be assessed with homework assignments and examinations

Is this course required in a degree program (major, minor, graduate degree, certificate?)

Yes

Has a corresponding Program Change been submitted to Workflow?

No

Identify the program(s) in which this course is required:**Programs:**

BS in Computer Science

BS in Computer Engineering

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?

No

Will there be any departments affected by this proposed course?

No

I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.

I/we agree

University Learning Goals

Undergraduate Learning Goals:

Intellectual and practical skills

Is this course required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?

No

GE Course and GE Goal(s)

Is this a General Education (GE) course or is it being considered for GE?

No

Please attach any additional files not requested above:

130v3.docx

Reviewer Comments:

Gareth Figgess (figgess) (Fri, 02 Oct 2020 17:34:12 GMT): Rollback: Explain reason for course description change in justification section. Add reason for prerequisite change.

Nikrouz Faroughi (faroughi) (Mon, 12 Oct 2020 23:21:36 GMT): Rollback: update

Key: 1033