



## CPSC 3620 – Data Structures and Algorithms, sections A and C

### Course Outline – WINTER 2025

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**TIME/ROOM:**                      **Section A:** Wed/Fri 9:00am - 10:15am, room C640  
   **Section C:** Wed/Fri 10:30am - 11:45am, room D631

**INSTRUCTORS**                      **Section A:** Robert Benkoczi (office C556)  
**& OFFICE HOURS:**                robert.benkoczi@uleth.ca  
   Office hours: drop-in between 8:30 am - 2:30 pm Mo-Tr.

**Section C:** Sajad Fathi Hafshejani (office C520)  
   sajad.fathihafshejan@uleth.ca  
   Office hours: We/Fr 12:00 pm - 1:30 pm

**TEXTS:**

- *Algorithms*, by Jeff Erickson, 2019, <http://algorithms.wtf/> (required, open text)
- *Algorithms*, by Sanjoy Dasgupta, Christos H. Papadimitriou, and Umesh V. Vazirani, McGraw Hill, 2006 (supplementary, optional)
- *Open Data Structures* by Pat Morin, <http://opendatastructures.org/> (supplementary, optional)
- *Introduction to Algorithms*, by Thomas Cormen, Charles Leiserson, Ron Rivest, and Cliff Stein, MIT Press, 2009 (reference)

<b>GRADING SCHEME:</b>	Take home quizzes (approx. 10)	10%
	Assignments (approx. 5)	15%
	Exam 1 (Feb 14)	30%
	Exam 2 (final)	35%
	Project	10%

**GRADE DISTRIBUTION:** This information is provided as a guideline only and may be revised in this offering. Minimum percentages for each letter grade are:

A+	95	B+	77	C+	67	D+	55
A	85	B	73	C	63	D	50
A-	80	B-	70	C-	60	F	< 50

**SCHEDULE:**

(as time permits):

1. Divide and conquer algorithms.
2. Greedy algorithms.
3. Dynamic programming.
4. Algorithms for graphs: shortest paths, minimum spanning trees, matching.
5. Data structures: segment trees, heaps, search trees, 2-3 trees, skip lists, hash functions.

**COMMENTS:**

- Take home quizzes consist of a single question posted every Wednesday after class. Answers must be submitted by Friday, before the next class.
- Exam 1: in class, separate questions for sections A and C. Exam 2: during the exam period, common for sections A and C.
- Assignments contain theoretical questions and small programming tasks.
- Work must be submitted by the scheduled time. No provision is made for make-up tests or late assignments, except for medical reasons or emergencies. Talk to your instructor if in doubt. Missed work receives 0 points.
- Requests for remarking tests and assignments are accepted only in writing *no later than one week from the date your graded work was returned*. On the request: identify the assignment, explain why you believe the mark is incorrect, and sign your name. Note that if your work is remarked, your grade may go up, down, or remain unchanged.
- Plagiarism can lead to severe penalties. Please consult the student discipline policy: <https://www.ulethbridge.ca/policy/resources/student-discipline-policy-academic-offences-undergraduate-students>