University of Lethbridge

Mathematics & Computer Science

CPSC 3620 – Data Structures and Algorithms
Course Outline – WINTER 2026

TIME/ROOM: **Mon/Wed 10:30am - 11:45am, room AH118**

INSTRUCTOR & OFFICE HOURS:
Robert Benkoczi (office C556)
`robert.benkoczi@uleth.ca`
Office hours: between 12 pm - 1:15 pm Mo-Fr,
(subject to change; check `https://www.cs.uleth.ca/~benkoczi/wordpress/`).

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)

GRADING SCHEME:

Assignments (approx. 4)	20%
Midterm exam (Wed Feb 25)	30%
Final exam	40%
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:

- 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 code of conduct: `https://www.ulethbridge.ca/policy/resources/student-code-conduct-policy`

AI USE:

- You may use generative AI platforms to help you develop ideas to solve a problem in an assignment or project, or to expand your knowledge. Always check the answers given and analyse them critically.
- Choose carefully which AI engine you use to summarize academic work and obtain references. ChatGPT is known to generate credible but fake paper references.
- Any submitted work must be the result of your own thinking process. Work submitted that you are unable to explain receives 0 points.