

University of Lethbridge  
Department of Mathematics and Computer Science

Computer Science 3620 (online) – Data Structures and Algorithms  
Course Outline – FALL 2020

---

**COURSE**

**COMPONENTS:**

- Live online Q&A sessions during class schedule time. There are no live lectures, nor recorded lectures in the course.
- Weekly lecture notes, homework questions, and assignments will be provided.
- Course project.
- Final exam: oral exam (see [https://www.youtube.com/watch?v=\\_3x5zuFTYvM](https://www.youtube.com/watch?v=_3x5zuFTYvM)) or Moodle exam, tbd.
- MS Teams will be used to manage the course: lecture notes and reading assignments, submission of work for grading, etc. Moodle will be used for anything that MS Teams cannot handle suitably. The set of tools used may be revised during the semester. Please let your instructor know what works and what doesn't.

**INSTRUCTOR:**

Robert Benkoczi (office C556)  
[robert.benkoczi@uleth.ca](mailto:robert.benkoczi@uleth.ca)

**TEXTS:**

*Algorithms* by Dasgupta, Papadimitriou, and Vazirani (recommended).  
additional reading will be provided if necessary.

**GRADING**

**SCHEME:**

Assignments (10)	25%
Final exam	40%
Project	35%

**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):

Principles:

- 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:

- Work must be submitted at the scheduled time; no provision is made for make-up tests or late assignments, except for medical reasons or emergencies. Missed assignments receive 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, briefly explain why you believe the mark is incorrect, date and sign. 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 calendar.

### LINKS

- MS Teams: [teams.microsoft.com](https://teams.microsoft.com) (login using your U of L credentials).
- Moodle: <http://moodle.uleth.ca/>
- Instructor's page including contact information: <http://www.cs.uleth.ca/~benkoczi/>