

University of Lethbridge
Department of Mathematics and Computer Science

CPSC 3620 – Data Structures and Algorithms
Course Outline – Fall 2014

LECTURES: MWF 11:00 – 11:50 **ROOM:** B543

INSTRUCTOR: Robert Benkoczi (office C556)

OFFICE HOURS: www.cs.uleth.ca/~benkoczi,
by appointment,
or drop in anytime I am in the office.

TEXT: *Algorithms*
by Jeff Erickson, (online, CC license)
Algorithms
by Dasgupta, Papadimitriou and Vazirani
(available online from the authors)

GRADING SCHEME:	Assignments (6)	30%
	Project	10%
	Midterm	20%
	Final exam	40%

GRADE DISTRIBUTION: This information is provided as a guideline only and may be revised in this offering.

	A+	A	A-	B+	B	B-	C+	C	C-	D+	D	F
Minimum %	95	85	80	86	73	70	76	63	60	55	50	0

SCHEDULE: (as time permits):

- Review of O notation.
- Analysis of recursive and non-recursive algorithms.
- Brute force algorithms, backtracking.
- Divide and conquer.
- Dynamic programming.
- Greedy algorithms.
- String matching.
- Treaps and skip lists.
- Graph algorithms, combinatorial optimization (flow algorithms, matching).
- Elementary notions of complexity theory, dealing with NP completeness.

COMMENTS:

- Math or algorithm design questions sent to me by e-mail will, most probably, remain unanswered. Please see me in person.
- Late assignments are not accepted except for emergencies. Please talk with your instructor.
- Requests for remarking the midterm or the assignments are accepted only in writing, no later than one week after the paper was handed out. Please explain the reason for your request as clearly and succinctly as possible.
- Plagiarism can lead to severe penalties – consult the calendar.

LINKS:

- Course webpage: <http://moodle.uleth.ca/>