ECE 1762
Algorithms and Data Structures

Fall 2016

Staff

Professor: Andreas Veneris, veneris@eecg.toronto.edu, SF-2001, office hours: Monday 3pm-4pm.

Admin: Ms. Dubravka Burin, dubravka.burin@utoronto.ca, SF-2001, usually in during business hours

Teaching Assistant: Ryan Berryhill, ryan@eecg.toronto.edu

Lecture Schedule

Class meets every Monday, 4-6pm at Sandford Fleming SF-1105 and every Wednesday, 6-8pm at Mechanical Engineering MC-254. However, on Monday October 24 the class will instead meet in Bahen BA-1220. Some classes will be announced as tutorial time and some other classes will be cancelled, all announcements via the class www page. Tutorial will concentrate on problem solving and homeworks. Sample problem sets will be released well before each tutorial and they will be solved during the tutorial.

Textbook

T. Cormen, C. Leiserson, R. Rivest, C. Stein, *"Introduction to Algorithms,"* McGraw Hill 1990 (2nd edition, 2001, 3rd edition, 2008). If you already have the 1st edition there's no need to get the new one. We will refer to this textbook as *CLRS*. CLRS is a well-written comprehensive textbook used by all major universities. No other text is required and lecture notes are found on class www page.

Prerequisites

You are assumed to have taken undergraduate level courses in discrete mathematics (ECE-203) and introductory algorithms & data structures (ECE-345). Additional background such as CSC-364 or CSC-378 may help but it is not mandatory. Introductory material will be reviewed in the class.

Course Contents

Algorithms and data structures are important in every aspect of the daily life (computer engineering, biology, physics, finance, etc). We expect to cover the following material (2001 ed.): Background (Appendix VIII, Chapters 1-5), Sorting (Chapters 6-9), data structures (Chapters 10-12), advanced algorithms (Chapters 15-17), graph algorithms (Chapters 22-24 and 26), parallel algorithms (handout) and NP-Completeness (Chapters 34-35).

WWW and Newsgroup

The WWW page for the class is `www.eecg.toronto.edu/~ece1762`. The login is "`ece1762`" and the password "`coolclass`". In the WWW page you can find all homeworks, course outline, sample exams and practice problems. We will distribute all material electronically.

Course Requirements and Grading

There are three components to this class:

- One midterm 100min long, 30% of total grade, date:TBA

- One final, 150min long, 40% of total grade, date:TBA

- 5 homeworks, 30% of total grade.

All exams are open book. Homeworks are done in groups of one or two students. Extensions to the homework is sometimes given to all students and it is granted in class. **Absolutely no late homework will be accepted.**

Cheating Policy

Although it is expected that you discuss issues related to the class and homeworks, *cheating is against "fair–play" and will not be tolerated under any circumstances.* If you are caught cheating you'll automatically receive a fail grade for the class. If you think that there is an issue that influences your performance in the class then talk to the instructor.

How to get the most out of this class

Read the textbook, it is a "classic" textbook in the field of combinatorics with many worked-out examples and well outlined theory. Read the WWW! The theory in this class translates to major applications in real-life and it has a long history and many WWW resources. Attend lectures and tutorials, do the practice problems and make sure that you do all homework problems; this is mathematics and you need practice what you read.