CIS*1910 – Discrete Structures in Comp I
Course Outline – Winter 2017

Instructor: Luiza Antonie
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Teaching Assistants:

Timetable
Lecture: Tuesday,Thursday 11:30-12:50, THRN, Room 1200
Labs:
Section 01, Monday, 07:00PM - 08:50PM, MINS, Room 017
Section 02, Wednesday, 03:30PM - 05:20PM, MCKN, Room 233
Section 03, Wednesday, 12:30PM - 02:20PM, MCKN, Room 238
Section 04, Wednesday, 09:30AM - 11:20AM, MCKN, Room 238
Section 05, Friday, 12:30PM - 02:20PM, MCKN, Room 233
Section 06, Monday, 03:30PM - 05:20PM, MINS, Room 017
Section 07, Thursday, 03:30PM - 05:20PM, MCKN, Room 236

Calendar Description

This course is an introduction to discrete structures and formal methodologies used in computer science, including Boolean, algebra, propositional logic, predicate logic, proof techniques, set theory, equivalence relations, order relations, and functions.

Lecture Topics

- Unary / binary operations on a set, Boolean algebra / expressions, fundamental laws, duality principle

- Propositional logic, propositions, logical operations / equivalences, truth tables, conjunctive / disjunctive normal form

- Predicate logic, predicates, quantifiers, combining / negating predicates, nested quantifiers

- Rules of inference, direct / existence / uniqueness proofs, proofs by contraposition / contradiction / cases / induction

- Set builder notation, cardinality, power sets, set operations, Venn diagrams, Cartesian product, tuples

- Binary relation over two sets / on a set, inverse / composite of binary relations

- Equivalence relations / classes, partitions

- Partial / total order relations, Hasse diagrams, maximal / minimal elements, greatest / least elements, upper / lower bounds, supremum / infimum

- Partial / total functions, image / preimage of a set under a function, injections, surjections, bijections, inverse / composite of functions, sum / product of real functions, monotonicity of real functions of a real variable

- Numeral systems, base b expansion, base conversion

Textbook:

- We will use an online, interactive textbook from zybooks.zyante.com
  University of Guelph CIS 1910 Antonie Winter 2017: Discrete Math

- To get the textbook follow these instructions:

  – Sign up at zyBooks.com

  – Enter zyBook code UOGUELPHCIS1910AntonieWinter2017

  – Click Subscribe

Course Web Page:

`http://courselink.uoguelph.ca`

Course Assessment

			Learning Outcomes	Due Date&Location
Assessment 1:	Assignments (3)	30%	3,4,5,6	Jan 27th, Feb 17th, Mar 17th
Assessment 2:	Midterm Examination	30%	1,2,3,4	Feb 28th, In class
Assessment 3:	Final Examination	40%	1,2,3,4	April 22nd, 2017
Total:		100%		

Notes:

- All assignments will be posted on the course web page and they will be submitted via DropBox on Courselink.

- All students will benefit from a 48 hour grace period after the original due date of the assignments. In all but exceptional circumstances, this should allow enough flexibility to accommodate any unforeseen events that could otherwise impact your work. In fairness to the vast majority of students who are responsible in handing in their work on time, a deduction of 10% will be applied on the first minute that the assignment is handed in after the grace period. An additional 20% deduction will be applied every 24 hours thereafter.

- It is academic misconduct to collaborate on assignments which do not explicitly allow for group work. It is also misconduct to represent other student's work as your own. There are penalties for doing this. All parties to misconduct will be reported to the Director of the School of Computer Science as participants in academic misconduct. See Academic Misconduct in Section VIII of the Undergraduate Calendar for the causes and penalties of misconduct.

- Failure to submit assignments correctly will result in a substantial loss of marks.

Course Learning Outcomes

University Policies

Academic Consideration
When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for Academic Consideration: http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml

Academic Misconduct
The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor. The Academic Misconduct Policy is detailed in the Undergraduate Calendar: https://www.uoguelph.ca/registrar/calendars/undergraduate/2016-2017/c08/c08-amisconduct.shtml

Accessibility
The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Centre for Students with Disabilities as soon as possible. For more information, contact CSD at 519-824-4120 ext. 56208 or email csd@uoguelph.ca or see the website: http://www.csd.uoguelph.ca/csd/

Drop date
The last date to drop one-semester courses, without academic penalty, is Friday, March 10, 2017. For regulations and procedures for Dropping Courses, see the Academic Calendar:

Policy on Re-grade Request

Any request to remark an exam, assignment or quiz must be addressed to your instructor in writing (hard copy) within one week and must include the following (i) your name, contact information (telephone and email), and signature, (ii) a clear description of where and why you feel that you were graded in error, and (iii) the following statement exactly as it appears here "In requesting a re-grade I promise that I have not written on, erased, or in any way changed my copy of the exam/assignment since it was handed back to me. I understand that to do so would constitute a serious academic offence. I also understand that my entire exam/assignment will be re-graded (with particular attention paid to the points that I have brought up) and understand that as a result my score on the exam/assignment could fall as well as rise."

E-mail Communication

As per university regulations, all students are required to check their *uoguelph.ca* e-mail account regularly: e-mail is the official route of communication between the University and its students. When contacting the TAs and instructor by e-mail, please be sure to use your University of Guelph e-mail address. We apologize not to be able to reply to e-mail inquiries sent from outside the university.

Recording of Materials: Presentations which are made in relation to course work, including lectures, cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.