CISC204, Logic for Computing Science: Course Syllabus

Calendar Description:
Elements of mathematical logic with computing applications. Formal proof systems for propositional and predicate logic. Interpretations, validity, and satisfiability. Introduction to soundness, completeness and decidability.

Learning Outcomes:

<table>
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<tr>
<th>Program Code</th>
<th>Learning Outcome</th>
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<tbody>
<tr>
<td>2.1</td>
<td>Construct syntactic and semantic proofs in propositional and predicate logic</td>
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<tr>
<td>3.1</td>
<td>Express English language and mathematical expressions in logic Determine semantic equivalences, satisfiability and validity</td>
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<tr>
<td>2.1</td>
<td>Verify the correctness of computer programs Apply model checking for verification</td>
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Textbook:
The textbook for this course is *Logic in Computer Science: Modelling and Reasoning about Systems* by Huth & Ryan, 2004 (ISBN 978-0521543101, pub. Cambridge University Press). We will cover, from the text: all of Chapter 1; all of Chapter 2; some of Chapter 3; some of Chapter 4; and some of Chapter 5.

We will provide additional instructional material as needed and as appropriate.

Grading Method:
There will be 5 in-class tests, graded numerically. All components of this course will receive numerical percentage marks. The final grade you receive for the course will be derived by converting your numerical course average to a letter grade according to Queen’s official grade conversion scale.

The lowest of the 5 test results will be worth 10% of the final mark; the other 4 tests will each be worth 22.5%. Because of this policy, and the attendance requirements of Academic Regulation 6.1, no make-up or re-write tests will be offered.

If you have any question about your mark, please fill out the online form. Include the form and your marked test in an envelope and hand them in to the instructor no later than one week after the marked test is returned. Your entire test will then be re-marked and, as a result, your mark may go up or down, or remain unchanged. Please note that no request for a re-mark will be considered if your answers were written in *pencil* or *erasable ink*.

Test Schedule:
The in-class tests are planned to occur during 5 Wednesday classes:

- Test #1: Sept 27 Week 3
- Test #2: Oct 11 Week 5
- Test #3: Nov 1 Week 8
- Test #4: Nov 15 Week 10
- Test #5: Nov 29 Week 12

Additional Syllabus Information
Please see the course’s “Syllabus Addendum” for additional information on academic integrity, accommodation requests, extenuating circumstances, and relevant copyright protection.