

COURSE SYLLABUS

CMPT 100: INTRODUCTION TO COMPUTING

Catalogue Description

A survey of major computer science areas, combining a breadth of topics with depth via specific examples within each topic. Topics include: history of computing, computer applications, analysis and design, high level programming, computer software, computer hardware, artificial intelligence, and the social impact of computers.

Prerequisite(s): Mathematics A30 or B30 or C30; or Foundations of Mathematics 30; or Pre-Calculus 30. **Note:** After CMPT 100, students can take any of 105 and 111. Students can receive credit for only one of CMPT 100, CMPT 102, CMPT 120, CMPT 175. Students may not take CMPT 100 for credit after taking CMPT 105. Also, students may not take CMPT 100 for credit concurrent with or following CMPT 115 or CMPT 117. Students wishing to major in computer science are advised to take CMPT 111. In addition, students majoring in computer science may not use CMPT 100 as a course in their major, but may count it as a junior elective as long as CMPT 100 is taken before CMPT 115 or CMPT 117.

Class Time and Location: Lecture: 10:30 am - 11:20 am MWF Thorvaldson 124
Tutorials: T01 11:30 am - 12:50 pm Wednesday; T03 11:30 am - 12:50 pm Tuesday (Both in Thorvaldson Building S320) [7 Tutorials in all. Schedule to be announced in class.]

Website: Moodle

Instructor Information

Instructor Prof. Nadeem Jamali
Contact: Email: jamali@cs.usask.ca
Office Hours: Location: Thorvaldson 281.6,
Hours: By Appointment

Course Objectives

- Provide an introduction to the science and impact of Computing.

Student Evaluation

Grading Scheme

Assignments 1 through 4	40% (10% each)
Final Project (Assignment 5)	15%
Midterm Exam	15%
Final Exam	30%
Total	100%

Criteria That Must Be Met To Pass

Students should receive a cumulative passing mark to pass the class.

Tentative schedule of midterm and assignment submissions:

- Assignment 1 due 30/9
- Assignment 2 due 14/10
- Assignment 3 due 28/10
- Midterm Exam 4/11
- Assignment 4 due 18/11
- Assignment 5 due 8/12

Note: Midterm and final cumulative marks will be scaled.

Attendance Expectation

- Students will be expected to know all information passed on during lectures and tutorials and through the webpage, Moodle and email. If they miss a lecture or tutorial, they are responsible for acquiring material covered in the session.
- Some topics covered in class may not have corresponding notes associated with them. Students are expected to make their own notes in these cases. Students who miss a class in which such topics are covered are responsible for obtaining notes from other students.

Final Exam Scheduling

The Registrar schedules all final examinations, including deferred and supplemental examinations. Students are advised not to make travel arrangements for the exam period until the official exam schedule has been posted.

Note: All students must be properly registered in order to attend lectures and receive credit for this course.

Textbook Information

Required Text

- None

Recommended Texts

- None

Lecture Schedule

Tentative Schedule:

Week of	Topic
Sept 5	Introduction; Counting
Sept 12	Expressiveness; Number Systems
Sept 19	Number System Conversions; Binary Arithmetic
Sept 26	Logic Gates; Types of Memory; Locality; Computer Organization
Oct 3	Programming Languages; Compilers and Interpreters; Programming in Scratch
Oct 10	Problem Solving in Scratch
Oct 17	Advanced Scratch; Algorithms; Euclid's Algorithm (GCD)
Oct 24	Comparison-Based Sorting; Complexity; $O(n^2)$ Sorting Algorithms
Oct 31	$O(n \log n)$ Sorting Algorithms; Binary Search; Trees; Binary Search Trees
Nov 7	BREAK
Nov 14	Processes; Concurrency; Interference; Coordination
Nov 21	Networking and the Internet
Nov 28	Artificial Intelligence
Dec 5	Wrapup; Review

There will about 7 sessions of tutorials. More details will be announced in class.

Course Overview

CMPT100 is an introductory Computer Science course designed to provide a broad overview of Computer Science and a foundation for lifelong use of and learning about computers. This course is intended for students majoring in areas other than Computer Science. Students who successfully complete CMPT100 and desire further experience in computing may consider taking CMPT140 (leading into the Interactive System Design BAsC degree) or CMPT 141 and CMPT145 (leading to the Computer Science BSc degree). You can also follow-up CMPT100 with CMPT275, if you are interested in business applications. Check out <http://www.cs.usask.ca/undergrad/programs/index.php> for more information on these programs.

There are a number of other first year courses that can be taken by students who want an alternative to CMPT100: CMPT140, for students interested in the Interactive System Design BASc; CMPT 141, for students wishing to take the Computer Science BSc programs; CMPT 113, for Engineering students interested in computing using VBA in EXCEL; CMPT 116, for Engineering students considering a double degree option with Computer Science; CMPT120, for students interested in digital document processing If you take CMPT100, you cannot also get credit for CMPT120.

Policies

Recording of Lectures

Video or audio recording of lectures is not allowed, except with explicit permission of the instructor.

Late Assignments

- Assignments must be turned in at the times and dates and locations they are due, unless you have received permission in advance for an extension.

Missed Assignments

Students should submit early versions of their assignments frequently to avoid the possibility of missing a deadline. Students will receive a zero for assignments missed without prior permission from the instructor.

If there is a compelling reason why seeking prior permission is not possible, the student should contact the instructor at the earliest opportunity for consideration of alternative arrangements. The instructor will judge whether the reason is compelling.

Missed Examinations

1. Students who miss an exam should contact the instructor as soon as possible. If it is known in advance that an exam will be missed, the instructor should be contacted before the exam.
2. "A student who is absent from a final examination due to medical, compassionate, or other valid reasons, may apply to the College of Arts and Science Undergraduate Students Office for a deferred exam. Application must be made within three business days of the missed examination and be accompanied by supporting documents."

(<http://artsandscience.usask.ca/students/help/success.php>)

Incomplete Course Work and Final Grades

"When a student has not completed the required course work, which includes any assignment or examination including the final examination, by the time of submission of the final grades, they may be granted an extension to permit completion of an assignment, or granted a deferred examination in the case of absence from a final examination.

Extensions past the final examination date for the completion of assignments must be approved by the Department Head, or Dean in non-departmentalized Colleges, and may exceed thirty days only in unusual circumstances. The student must apply to the instructor for such an extension and furnish satisfactory reasons for the deficiency. Deferred final examinations are granted as per College policy.

In the interim, the instructor will submit a computed percentile grade for the class which factors in the incomplete coursework as a zero, along with a grade comment of INF (Incomplete Failure) if a failing grade.

In the case where the student has a passing percentile grade but the instructor has indicated in the course outline that failure to complete the required coursework will result in failure in the course, a final grade of 49% will be submitted along with a grade comment of INF (Incomplete Failure).

If an extension is granted and the required assignment is submitted within the allotted time, or if a deferred examination is granted and written in the case of absence from the final examination, the instructor will submit a revised assigned final percentage grade. The grade change will replace the previous grade and any grade comment of INF (Incomplete Failure) will be removed.

A student can pass a course on the basis of work completed in the course provided that any incomplete course work has not been deemed mandatory by the instructor in the course outline and/or by College regulations for achieving a passing grade." (<http://policies.usask.ca/policies/academic-affairs/academic-courses.php>)

For policies governing examinations and grading, students are referred to the Assessment of Students section of the University policy "Academic courses: class delivery, examinations, and assessment of student learning" (<http://policies.usask.ca/policies/academic-affairs/academic-courses.php>)

Academic Honesty

The University of Saskatchewan is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Student Conduct & Appeals subsection of the University Secretary Website and avoid any behaviour that could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

All students should read and be familiar with the Regulations on Academic Student Misconduct, http://www.usask.ca/university_secretary/honesty/StudentAcademicMisconduct.pdf, as well as the Standard of Student Conduct in Non-Academic Matters and Procedures for Resolution of Complaints and Appeals,

http://www.usask.ca/university_secretary/honesty/StudentNon-AcademicMisconduct2012.pdf.

Academic honesty is also defined and described in the Department of Computer Science statement on Academic Honesty:

<http://www.cs.usask.ca/students/academic-honesty/index.php>.

For more information on what academic integrity means for students see the Student Conduct & Appeals subsection of the University Secretary Website at:

http://www.usask.ca/university_secretary/pdf/dishonesty_info_sheet.pdf

Examinations with Disability Services for Students (DSS)

Students who have disabilities (learning, medical, physical, or mental health) are strongly encouraged to register with Disability Services for Students (DSS) if they have not already done so. Students who suspect they may have disabilities should contact DSS for advice and referrals. In order to access DSS programs and supports, students must follow DSS policy and procedures. For more information, check <http://www.students.usask.ca/disability/>, or contact DSS at 966-7273 or dss@usask.ca.

Students registered with DSS may request alternative arrangements for mid-term and final examinations. Students must arrange such accommodations through DSS by the stated deadlines. Instructors shall provide the examinations for students who are being accommodated by the deadlines established by DSS.

Student Supports

Student Learning Services (SLS) offers assistance to U of S undergrad and graduate students. For information on specific services, please see the SLS web site <https://www.usask.ca/ulc/>.

The Student and Enrolment Services Division (SESD) focuses on providing developmental and support services and programs to students and the university community. For more information, see the SESD web site <http://www.usask.ca/sesd/>.