Course Contents:

This course covers:

- Introduction to the fundamentals of programming techniques
- Using Visual Studio.NET IDE Environment for C programming
- Declaring Variables and Constants in C (#define), Memory Concepts, preprocessors (#include)
- Programming using C Data types (int, char, float, double, long double, typedef, enum)
- Operators (Assignment Operators, Arithmetic Operators, Relational Operators, Logical Operators, Bitwise Operators, Operator Precedence). Decision Making: Equality and Relational Operators
- Control structures (if, else, while, for, do while, switch, case, continue, break)
- Input/Output (printf, scanf, getchar, puts, gets, format specifiers). Formulating Algorithms with Top-Down, Stepwise Refinement
- Functions in C (call by value, call by reference). Recursion vs. Iteration
- Arrays (Passing Arrays to Functions, Sorting Arrays). Multiple-Subscripted Arrays
- Files Processing(file modes, fopen, fclose, fseek, rewind)
- Strings Manipulation(strcpy, strncpy, strcat, strncat, strchr, atoi, atol, atof)
- Pointers in C (address, & operator, * operator, pointer arithmetic, pointers and arrays)

➢ Text Book

C How to Program (7th Edition)
Paul J. Deitel, Harvey M. Deitel
Paperback, 1008 Pages, Prentice Hall, Latest Edition
ISBN-13: 9780136123569

Lakehead UNIVERSITY

CS1411 Introduction to Programming I

Instructor

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Course Description

- This course provides a thorough introduction to programming in the C language. Students should gain an understanding of C language and be able to apply the basic syntax and code construction to some applications. The course uses a practical, problem-solving approach. It is designed for people with no prior programming experience. By the end of the course, you will have learned how to apply numerous concepts to real-word computer problems.

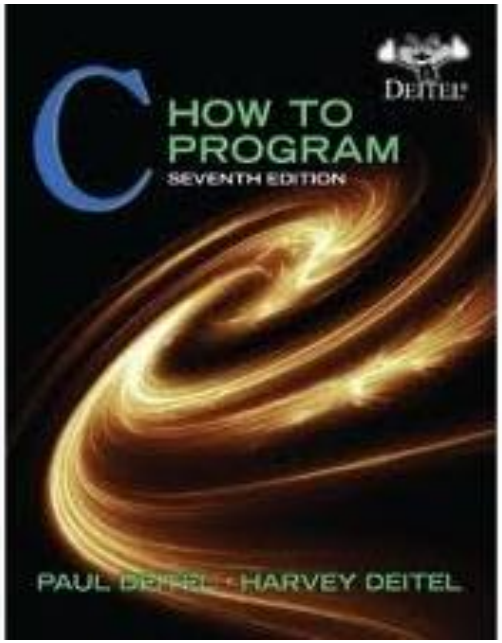
The Main Learning Outcomes

A student who successfully completes the course will have the ability to:

- understand the basic terminology used in computer programming
- write, compile and debug programs in C language.
- use different data types in a computer program.
- design programs involving decision structures, loops and functions.
- write program modules (e.g. functions) and explain the difference between call by value and call by reference
- understand the dynamics of memory by the use of pointers.
- use different primitive data structures and create/update basic data files.

Department of Computer Science

CS1411
Computer Programming I



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Marking Scheme

- **Assignments (20%)**
- **Mid-Term Exam1 (15%)**
- **Mid-Term Exam2 (15%)**
- **Lab Exercises (10 %)**
- **Final Exam (40%)**

Academic Accommodations

Lakehead University is committed to achieving full accessibility for persons with disabilities. Part of this commitment includes arranging academic accommodations for students with disabilities to ensure they have an equitable opportunity to participate in all of their academic activities. If you think you may need accommodations, you are strongly encouraged to contact Student Accessibility Services (SAS) and register as early as possible. For more information, please visit: http://studentaccessibility.lakeheadu.ca

Honor Code

Students must solve their programming assignments individually and avoid copying from others including web sources. Lakehead University is dedicated to learning and the advancement of knowledge. The University expects and requires of its students behaviour compatible with its high standards of scholarship and conduct. For more information see the following link:

https://www.lakeheadu.ca/faculty-and-staff/policies/university-advancement

Assignments

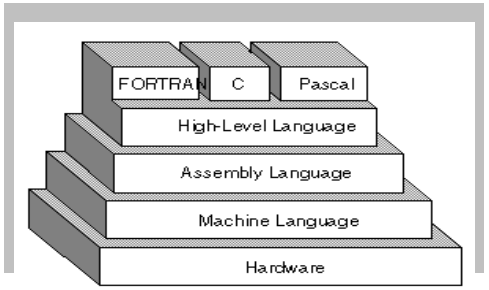
There will be 4-5 assignments in this term. These assignments are to be submitted to the TA. You must allocate enough time to complete the assignment on time. All assignment must be done individually. Plagiarism will be dealt according to the penalties and procedures of the university. Late assignment will be downgraded 10% per day and cannot be accepted after 2 days.

Desire2Learn Course Materials

All the course materials are posted on Desire2Learn under the course "COMP 1411"

Lab Tests

There will be two lab tests on materials covered in lectures.



Method of Instruction

Instruction in this course is through lecture, class discussion, and online material. Problems are solved on board, and programming problems solved in the computer lab. All exams are *closed book* and *closed notes*. Class participation is important and will help your final grade.

Attendance

Although class attendance is not mandatory, you are responsible for whatever is done in class. While our textbooks cover most basic concepts, class is your only source for the specifics that will allow you to learn the material. Make sure you get the notes and assignments if you miss a class.

General Policy

You are strongly encouraged to participate in the class discussion as well as to ask for help during my office hours. You can also talk to me on my telephone extension or to email me for any further help and advice. I will be more than glad to assist you. You are most welcome