Expectations

Computer Science Department
CS2211a: Software Tools & Systems Programming
Fall 2013
Instructor: Mahmoud R. El-Sakka
Office: MC-419
Email: elsakka@csd.uwo.ca
Phone: 519-661-2111 x86996

Instructor and Teaching Assistance

- ***Instructor***
  - Professor *Mahmoud El-Sakka*
    Middlesex College, Room 419
    Phone: 519-661-2111 x86996
    Email: *elsakka@csd.uwo.ca*
- ***Graduate Teaching Assistance (TA)***
  - Mahmud Hasan, *mhasan62@uwo.ca*
  - Golam Maruf, *gmaruf@uwo.ca*
  - Daniel Servos, *dservos5@uwo.ca*

Course schedule

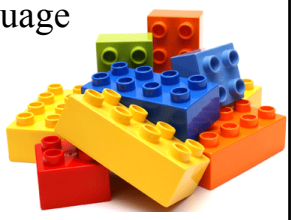
- ***Lectures***
  - ***Time & place:*** Tuesday from 3:30 pm to 4:30 pm at ***SSC-2036***, and Thursday from 3:30 pm to 5:30 pm at ***SSC-2036***
- ***Office hours***
  - ***Instructor:*** Thursday from 10:30 am to 12:30 pm at ***MC419***
  - ***TAs:*** 30 minutes immediately after each lab session at ***MC08***
- ***Labs (at MC08)***
  - Tuesday:
    - From 12:30 pm to 1:30 pm (***session-03***)
    - From 4:30 pm to 5:30 pm (***session-02***)
  - Thursday:
    - From 11:30 am to 12:30 pm (***session-04***) and
    - From 5:30 pm to 6:30 pm (***session-05***)

Course schedule

	8:30 to 9:30	9:30 to 10:30	10:30 to 11:30	11:30 to 12:30	12:30 to 1:30	1:30 to 2:30	2:30 to 3:30	3:30 to 4:30	4:30 to 5:30	5:30 to 6:30	6:30 to 7:30
Monday											
Tuesday					Lab section 3	TA O.H.		Lec.	Lab section 2	TA O.H.	
Wednesday											
Thursday		Instructor O.H.		Lab section 4	TA O.H.			Lecture		Lab section 5	TA O.H.
Friday											

Why am I taking this course?

- The professor who is teaching this course is giving good marks!!!
- To know more about low-level programming, e.g., assembly language
- To know more about operating systems
- ✓ To understand the principles and fundamentals of Unix operating system and ***how to use it***
- ✓ To learn and master C programming language



Prerequisites

- Computer Science 1027a/b (or 2101a/b)
  - with a grade of at least 65% or
- Computer Science 1037a/b
  - with a grade of at least 60%
- *Students are responsible for ensuring that they have either:*
  - *prerequisites for this course, or*
  - *written special permission from their Dean to enroll in.*

Antirequisites

- Software Engineering 2250a/b

CS2211 is a prerequisite in many courses

- ***CS2212: Introduction to Software Engineering***
- CS3101: Theory and Practice of High Performance Computing
- CS3305: Operating Systems
- CS3307: Object-Oriented Design and Analysis
- CS3319: Databases I
- CS3325: Law in Computer Science
- CS3340: Analysis of Algorithms I
- CS3342: Organization of Programming Languages
- CS3346: Artificial Intelligence I
- CS3357: Computer Networks I
- CS3350: Computer Architecture

Textbooks

- Harley Hahn,
  Guide to Unix and Linux, © 2009
- K. N. King
  C Programming: A Modern Approach, 2nd edition, © 2008

- Both books are required
- Both are available in
  - the UWO book store,
  - the used book store (maybe), and
  - in the Taylor library on 2 hour reserve

Guide to Unix and Linux (ToC)

- Chapter 1: Introduction to Unix
- Chapter 2: What Is Unix? What is Linux?
- Chapter 3: The Unix Connection
- Chapter 4: Starting to Use Unix
- Chapter 5: *GUIs: Graphical User Interfaces*
- Chapter 6: *The Unix Work Environment*
- Chapter 7: *Using the Keyboard With Unix*
- Chapter 8: Programs to Use Right Away
- Chapter 9: Documentation: The Unix Manual and Info
- Chapter 10: Command Syntax
- Chapter 11: The Shell
- Chapter 12: Using the Shell: Variables and Options
- Chapter 13: Using the Shell: Commands and Customization

Guide to Unix and Linux (ToC)

- Chapter 14: Using the Shell: Initialization Files
- Chapter 15: Standard I/O, Redirection, and Pipes
- Chapter 16: *Filters: Introduction and Basic Operations*
- Chapter 17: *Filters: Comparing and Extracting*
- Chapter 18: *Filters: Counting and Formatting*
- Chapter 19: *Filters: Selecting, Sorting, Combining, and Changing*
- Chapter 20: *Regular Expressions*
- Chapter 21: *Displaying Files*
- Chapter 22: The vi Text Editor
- Chapter 23: The Unix Filesystem
- Chapter 24: Working With Directories
- Chapter 25: Working With Files
- Chapter 26: Processes and Job Control

C Programming: A Modern Approach (ToC)

- **Basic Features of C**

Chapter 1: Introducing C
Chapter 2: C Fundamentals
Chapter 3: Formatted Input/Output
Chapter 4: Expressions
Chapter 5: Selection Statements
Chapter 6: Loops
Chapter 7: Basic Types
Chapter 8: Arrays
Chapter 9: Functions
Chapter 10: Program Organization

C Programming: A Modern Approach (ToC)

- **Advanced Features of C**

Chapter 11: Pointers
Chapter 12: Pointers and Arrays
Chapter 13: Strings
Chapter 14: The Preprocessor
Chapter 15: Writing Large Programs
Chapter 16: Structures, Unions, and Enumerations
Chapter 17: Advanced Uses of Pointers
Chapter 18: Declarations
Chapter 19: Program Design
Chapter 20: Low-Level Programming

C Programming: A Modern Approach (ToC)

- **The Standard C Library**

Chapter 21: The Standard Library
Chapter 22: Input/Output
Chapter 23: Library Support for Numbers and Character Data
Chapter 24: Error Handling
Chapter 25: International Features
Chapter 26: Miscellaneous Library Functions
Chapter 27: Additional C99 Support for Mathematics

Course Website

- Lecture notes, assignments, labs, and class information will be posted on the Online Western's Learning (***OWL***) system (***https://owl.uwo.ca***)
- You are responsible for reading this information frequently
- Lecture will be posted in pdf format
- *Possessing (and even reading) lecture notes is not a suitable substitute for attending lectures*

Assignment Conduct

- There will be 5 equal weight assignments
- Tentative assignments schedule:

Assignment no.	To be assigned on	Due in	Due on
1	Thursday September 19	7 days	Thursday September 26
2	Thursday October 3	7 days	Thursday October 10
3	Thursday October 17	7 days	Thursday October 24
4	Thursday November 7	7 days	Thursday November 14
5	Thursday November 21	7 days	Thursday November 28

- Assignments are due at 23:55 of the due date
- All submission will be submitted *electronically*
- Late assignments are ***strongly discouraged***
  - *10% will be deducted from a late assignment (up to 24 hours after the due date/time)*
  - After 24 hours from the due date/time, late assignments will receive a ***zero*** grade

Assignment Conduct

- Assignments may involve
  - the use of Unix operating system utilities,
  - shell scripts programming,
  - C programming, and/or
  - concept questions (non-programming) related to the course material.
- Assignment descriptions will be posted on the course website by the dates listed above
- Any changes, updates, and clarifications to assignments will also be posted on the website. It is your responsibility to monitor these pages closely

Assignment Conduct

- A program that produces the correct output is not necessarily a ***working*** program
  - It must also satisfy the specifications given in the assignment description
- Other criteria in terms of which an assignment will be evaluated include
  - coding style
  - comments
  - efficiency
- To be eligible for a full mark in an assignment, shell scripts and C programs ***must*** run under Unix on the departmental computing equipment
  - You may develop assignments on your home computer
  - It may take time to get it working at a different environment

Assignment Conduct

- Assignments will be marked by the Teaching Assistants, who follow marking schemes provided by the instructor
- Every effort will be made to have assignments marked within 3 weeks of the hand-in date, preferably sooner
- When assignment marking has been completed, you will be informed via the course website and/or email

Assignment Conduct

- A request for an assignment mark adjustment must be made within 2 weeks following the first handed-back day
  - You should direct any marking questions in the first instance to your TA
  - If you disagree with the TA, you may want to further discuss the issue with the course instructor
  - All assignment marks are considered final after 2 weeks

Assignment Conduct

- Assignments are to be done individually
  - ***Never*** let others look at your assignments
  - ***Do not*** ask to look at others' assignments
  - We use automated tools to screen for cheating
- You should read the definition and penalties of scholastic offences at: http://www.csd.uwo.ca/current_students/undergraduate_students/scholastic_offences.html
- Students are expected to adhere to the Rules of Ethical Conduct to use the computing facilities of the Department: http://www.csd.uwo.ca/current_students/undergraduate_students/rules_of_ethical_conduct.html

Laboratory Conduct

- Labs act as practice/tutorial sessions where you can solve a problem and interact with TAs and other students
  - There will be ***11*** equal weight one-hour labs
  - Four time-slots will be provided per week (one slot per section)
    - Tuesday: 12:30 pm--1:30 pm (*section 3*)
    - Tuesday: 4:30 pm--5:30 pm (*section 2*)
    - Thursday: 11:30 am--12:30 pm (*section 4*) and
    - Thursday: 5:30 pm--6:30 pm (*section 5*)
  - All lab sessions will be held in room ***MC08***
  - Lab descriptions will be posted on the course website
  - Any changes, updates, and clarifications to labs will also be posted on the website
    - It is your responsibility to monitor these pages closely

Study Questions

- Each week, a set of study questions will be posted
- These questions should help you practice and comprehend the material

- Remember:
  - Education is *a short term pain* that leads to ***a long term gain***
  - No *pain* no ***gain***

Student Evaluation

- ***5 Assignments: 20%***
- ***11 Labs: 10%***
  - To be eligible for full marks, you must participate and complete at least 10 out of 11 labs
  - Participating and completing all 11 labs is recommended
- ***Midterm 1: 15%*** (Introduction to Unix Operating System)
  - *Tentative: on Saturday October 19, 2013 (10:30 am -- 12:30 pm) at P&AB-106 and P&AB-148*
- ***Midterm 2: 15%*** (C Programming)
  - *Tentative: on Saturday November 9, 2013 (10:30 am -- 12:30 pm) at P&AB-106 and P&AB-148*
- ***Final exam: 40%*** (C Programming)
  - *Date/time/location: TBA*

Student Evaluation

- ***To be eligible to receive a passing grade in the course***
  - your total marks on the two midterms and the final exams must be at least 50%
- ***To be eligible to receive a grade of 60% or higher (i.e., to be eligible for Honours Programs) in the course***
  - your total marks on the two midterms and the final exams must be at least 60%

Academic Accommodation for Medical Illness

- If you are unable to meet a course requirement due to illness or other serious circumstances, you ***must provide*** valid medical or other supporting documentation to your ***Dean's office*** as soon as possible and contact your instructor immediately
- It is the student's responsibility to make alternative arrangements with their instructor ***once the accommodation has been approved by the Dean's office*** and ***the instructor has been informed***
- In the event of a missed final exam, a "*Recommendation of Special Examination*" form must be obtained from the ***Dean's office*** immediately
- For further information, please see: http://www.uwo.ca/univsec/handbook/appeals/accommodation_medical.pdf
- A student requiring academic accommodation due to illness should use the *Student Medical Certificate* when visiting an off-campus medical facility **or** request a *Record's Release Form* (located in the ***Dean's office***) for visits to Student Health Services
- The form can be found at http://www.uwo.ca/univsec/handbook/appeals/medicalform.pdf