Computer Science 2211a 2020

Software Tools and System Programming

September 8, 2020

Outline

Software Tools and System Programming

Course Instructors

- Professor Max Magguilli

- email: cs2211a@uwo.ca

- Office: MC 386

- Tel: 519 661-2111 83539

- Office hours (appointments):
  Tuesday 10:30-11:30, Thursday
  11:30-12:30,

- Drop in hours:
  Thursday 10:30-11:30

- Professor Kaizhong Zhang

- email: cs2211a@uwo.ca

- Office: MC 372

- Tel: 519 661-3826

- Office hours (appointments):
  Tuesday 10:30-11:30, Thursday
  11:30-12:30,

- Drop in hours:
  Thursday 10:30-11:30

How to Keep Informed

- http://owl.uwo.ca/portal
  - ▶ Announcements
  - ▶ Lecture notes and videos
  - ▶ Labs
  - ▶ Assignments
  - ▶ Class information
  - ▶ Supplemental information
- Your email account at UWO
  - ▶ Important notices
  - ▶ Forward your email if you don't check it regularly

Access to GAUL

GAUL (Graphics And Undergraduate Laboratory)

Computer Science Undergraduate Network

- Connect to GAUL
  - ▶ ssh YourUserName@compute.gaul.csd.uwo.ca
  - ▶ Older Windows: need PuTTY
- Transfer files
  - ▶ sftp YourUserName@compute.gaul.csd.uwo.ca
  - ▶ Older Windows: need WinSCP or FileZilla
- YourUserName (user name) and password
  - ▶ Same as your UWO email account

Text and References

- S. Das, Your UNIX/Linux: The Ultimate Guide
  - An introduction to Unix
  - A manual to use Unix
- K. N. King, C Programming: A Modern Approach
  - C programming
  - Complete coverage of C89 and C99
- Both books are required

Two Keyword for the Course

- Unix
  - An Operating System (OS)
  - e.g. Solaris, HP-UX, AIX, Irix, Unicos, Dynix, Free/Open/Net BSD, Linux (Ubuntu, Mandriva, Red Hat, CentOS, Fedora), macOS, and Android
  - Some commonalities with DOS, Windows
  - Many unique features
  - Initially popular in universities and corporations
  - Widely used in modern servers, workstations, and mobile devices
- C
  - A programming language
  - Relationship to Unix, C++, and Java

Unix vs. Windows

- Similar things
  - Files vs. files
  - Processes vs. processes
  - Shells vs. command prompt windows
  - Utilities vs. software applications
- Differences
  - Multiple users
  - More stable
  - More features of shells
    - ⋆ Shell programming (shell scripts)
    - ⋆ Redirection and pipes
    - ⋆ Regular expression

Java vs. C

Java

- A programming language
- Object oriented
- Garbage collector
- No pointers
- Better programming style, security

C

- A programming language
- Function oriented
- Manage your own memory
- Pointers
- More efficient and powerful

Student Evaluation

- 10 (out of 12) Labs: 10%
- 5 Assignments: 30%
- 2 Quizzes: 20%
- Final exam: 35%
- Peer review: 5%

A necessary condition to obtain a passing mark

- Must get 49% marks for the weighted final exam and quiz average
- Must get 49% marks for the weighted assignment average

Labs

- Details are scheduled each week
  - Solving lab problems
  - Interact with TA
  - Practice/tutorial on Unix and C
- Submission via OWL
  - Due midnight (11:55pm) of the due date
  - Include "CS2211a Lab Submission Form" with your submission
  - A copy of you lab in your GAUL account will not be accepted as submission
  - Check "CS2211a Lab Submission Guidelines"
  - Will let you know the details
  - Late submission will not be considered ▸ more info

Assignments

- Assignments involve
  - Concept questions (non programming)
  - Unix command questions
  - C programming
  - Shell programming

- Programming assignments must be able to run on GAUL: compute.gaul.csd.uwo.ca
  - You may develop assignments on your home computer
  - Before submission, must be able to run on GAUL
  - It takes time to get it work at a different environment
  - TA will only mark your assignment on GAUL

Assignments

- All Assignments will be posted on OWL
  - ▶ Please monitor these pages closely for possible updates and corrections
- Assignments are to be done individually
  - ▶ Never let others look at your assignments
  - ▶ Do not ask to look at others' assignments
  - ▶ We may use automated tools to screen for cheating

Assignment Tentative Schedule

Assignment	Weight	Due date (11:55pm)
1	5%	September 22, 2020
2	6%	October 6, 2020
3	6%	October 20, 2020
4	6%	November 6, 2020
5	7%	November 29, 2020

Assignment Submission

- Assignments are submitted via OWL

- Due midnight (11:55pm) of the due date

- Include "CS2211a Assignment Submission Form" with your submission

- A copy of your assignment in your GAUL account will not be accepted as submission

- Check "CS2211a Assignment Submission Guidelines"

- Will let you know the details

Late Assignment Policy

- The late penalty percentage: $\textbf{round}(\ (\mathbf{2^{(late\_days+2)}} - \mathbf{2})/\mathbf{5}\ ) \times \mathbf{5}$

1 day	2 days	3 days	4 days
5%	15%	30%	60%

- After four days, the penalty will be 100%

- Unless your have either a self-reported absence or a recommendation from an academic advisor ▸ more details

Online Quizzes

- Quizzes:

Quiz	Weight	Date & Time
1	10%	Oct. 22, @11:00am
2	10%	Nov. 19, @11:00am

- Open book but must be done individually

- Missed quizzes will result in a mark of 0

- If you have a self-reported absence or a recommendation from an academic advisor, you are allowed to take the makeup quizzes

- Makeup Quizzes:

Quiz	Weight	Date & Time
1	10%	Oct. 29, @11:00am
2	10%	Nov. 26, @11:00am

- No other makeup quizzes will be given ▶ more details

Academic Consideration and Self-Reported Absence

- If you have either a self-reported absence or a recommendation from an academic advisor.

- We acknowledge the university policy with the following arrangement

- For labs, you must provide detailed information in the "CS2211a Lab Submission Form" when submitting your lab ▶ details

- For assignments, you must provide detailed information in the "CS2211a Assignment Submission Form" when submitting your assignment for late penalty reduction ▶ details

- You do not need to contact the instructor

- We will not reply any such inquiry.

Academic Consideration and Self-Reported Absence for Labs

- Academic consideration:
  - In CS2211a Lab Submission Form,
    - ★ State clearly the days recommended by the academic advisor
    - ★ Include a text copy of the email from the advisor
    - ★ If the number of days recommended is more then four, please send an email to cs2211a<at>uwo.ca after your lab submission to inform our TAs about your late submission.
- Self-reported absence:
  - We only use 10 out of 12 lab marks
  - Should not use self-reported absence for labs
- Do not need to contact the instructor
- Will not reply inquiry

Academic Consideration and Self-Reported Absence for Assignment

- Academic consideration:
  - In CS2211a Assignment Submission Form,
    - ★ State clearly the days recommended by the academic advisor
    - ★ Include a text copy of the email from the advisor
    - ★ If the number of days recommended is more then four, please send an email to cs2211a<at>uwo.ca after your assignment submission to inform our TAs about your late submission.
- Self-reported absence:
  - In CS2211a Assignment Submission Form,
    - ★ State clearly the two days requested
    - ★ Include a text copy of the email from UWO
- Do not need to contact the instructor
- Will not reply inquiry

Academic Consideration and Self-Reported Absence for Quizzes

- If you have a self-reported absence or a recommendation from a academic advisor for both the missed quiz and the missed makeup quiz
- The weight of the missed quiz will be placed on the final exam
- Contact the instructor with all the documentations immediately after the final exam

Scholastic Offences and Ethical Conduct

- You should read the computer science department definition and penalties of Scholastic Offences at: ▸ scholastic offences

- Students are expected to adhere to the Rules of Ethical Conduct to use the computing facilities of the computer science department: ▸ ethical conduct