

Department of Electrical and Computer Engineering

**ENSF 592 Programming Fundamentals for Data Engineers**

**FINAL EXAM**

Location: ICT 319-320

Date and Time: Dec 9, 2019, 15:30 – 18:30 (3 HOURS)

INSTRUCTOR: Dr. Y. Pauchard

This is an open book computer-based exam.

There are 7 questions in this exam for a total of 40 marks:

Q1 (5pts), Q2(5pts), Q3(8pts), Q4(5pts), Q5(6pts), Q6(6pts), Q7(5pts)

EXAM INSTRUCTIONS

THINGS THAT YOU MUST DO BEFORE/DURING EXAM:

- Everyone MUST restart their computers before the start of the exam and turn off any application that allows remote access (you have to turn off any running application/process before or during the exam, if the instructor asks you). For instance, if you have installed Dropbox, you need to turn it off before the exam.
- Get the necessary files on D2L (Final\_Exam Module) at the start of exam (access will be given at 15:30).
- Write your name and ID at the top of the *.ipynb* solution template file or as a comment on the first line of your own *.py* file.
- You MUST upload your solution file before the end of exam (i.e., 18:30) on YOUR D2L account Final\_Exam dropbox.
- You can write your code on the given *.ipynb* template file (the FinalExam-SolutionTemplate.ipynb file) OR submit a *.py* file which includes your name and ID as the first comment. If you use your own *.py* file, you must submit ONE file where each question is commented and all source codes are in order from Q1 to Q7.
- If necessary, you may submit one *.ipynb* and one *.py* file and cross-reference the files.

WHAT IS ALLOWED:

- You are allowed and encouraged to use your own laptop. As a fall-back, you may use one of the lab desktops.

- You can bring notes and books.
- Access to any file in your local machine (including e-books, lab solutions, class notes, etc.) is allowed.
- You can READ Internet!
- You can use any IDE of your choice.

**WHAT IS NOT ALLOWED:**

- No communication or other collaborative work with another person in the exam room or outside, with any means (e.g., call, message, email, posting a note, etc.), is allowed.
- You cannot write anything on Internet. That is, you are only reading from Internet. For instance, you cannot post a question on QA sites.
- Your computer cannot be accessible by any one.
- Cell phones must be off as well.

**SUGGESTIONS:**

- Bring a USB memory stick, and keep constant copies of your solution in case your computer crashes or hangs. You can even write directly in the memory stick.
- Upload your file frequently prior to the end of exam.
- You can upload multiple copies! ONLY the last copy that is submitted before 18:30 will be marked!

**NOTE:**

- Be aware that the instructor and exam invigilators will be looking at your screen regularly!
- Note that code plagiarism detection tools will be run on all solutions and student answers that are too similar will be flagged.
- If you face problem uploading your solution, raise your hand and an invigilator will come to help you. If the problem continues you may be asked to email the solution to the instructor!

## **EXAMINATION RULES AND REGULATIONS**

### **STUDENT IDENTIFICATION**

Each candidate must sign the Seating List confirming presence at the examination. All candidates for final examinations are required to place their University of Calgary I.D. cards on their desks for the duration of the examination. (Students writing mid-term tests can also be asked to provide identity proof.) Students without an I.D. card who can produce an acceptable alternative I.D., e.g., one with a printed name and photograph, are allowed to write the examination.

A student without acceptable I.D. will be required to complete an Identification Form. The form indicates that there is no guarantee that the examination paper will be graded if any discrepancies in identification are discovered after verification with the student's file. A Student who refuses to produce identification or who refuses to complete and sign the Identification Form is not permitted to write the examination.

### **EXAMINATION RULES**

- (1) Students late in arriving will not normally be admitted after one-half hour of the examination time has passed.
- (2) No candidate will be permitted to leave the examination room until one-half hour has elapsed after the opening of the examination, nor during the last 15 minutes of the examination. All candidates remaining during the last 15 minutes of the examination period must remain at their desks until their papers have been collected by an invigilator.
- (3) All inquiries and requests must be addressed to supervisors only.
- (4) Candidates are strictly cautioned against:
  - (a) speaking to other candidates or communicating with them under any circumstances whatsoever;
  - (b) leaving answers exposed to view;
  - (e) attempting to read other student's examination paper/code.The penalty for violation of these rules is suspension or expulsion or such other penalty as may be determined.
- (5) Candidates are cautioned against writing in their answer any matter extraneous to the actual answering of the question set.
- (6) The candidate is to write his/her name on each answer book as directed and is to number each book.
- (7) A candidate must report to a supervisor before leaving the examination room.
- (8) If during the course of an examination a student becomes ill or receives word of a domestic affliction, the student should report at once to the supervisor, hand in the unfinished paper and request that it be cancelled. If physical and/or emotional ill health is the cause, the student must report at once to a physician/counsellor so that subsequent application for a deferred examination is supported by a completed Physician/Counsellor Statement form. Students can consult professionals at University Health Services or University Counselling Services during normal working hours or consult their physician/counsellor in the community.  
Should a student write an examination, hand in the paper for marking, and later report extenuating circumstances to support a request for cancellation of the paper and for another examination, such a request will be denied.
- (9) Smoking during examinations is strictly prohibited.