GLIS 617: Information System Design (3 credits), Section 001

Course outline

DISCLAIMER: This syllabus is provided for informational use only. Content and assignments may change before the start of the course and may differ between course sections. Students enrolled in this course are to retrieve the official version from the McGill course management site.

Course Description

The orientation of this course is to help prepare information professionals to participate in the design of information systems through hands-on experience with the foundational concepts of the field. Topics will include computer terminology and the syntax and semantics of programming languages. Our emphasis will be on the use of these techniques for text parsing, searching, and database design, which are fundamental to the field of information science.

Learning outcomes

By the end of the course, you should be able to:

- Understand and use ICT terminology, relevant to data representation and storage
- Implement a simple computer program for text parsing and searching
- Understand fundamental concepts of digital data representation
- Understand basic concepts of database models

Instructional method

The instructional methods used in this course are somewhat different from those used in other courses in the MLIS program. The first 90 minutes will consist of interactive demonstration-based lectures and group activities to provide an overview of that week's content. For the remaining 90 minutes, the class will be divided into two sections, to complete lab activities in the computer lab to apply the concepts learned in class.

Textbook

There are two textbooks for this course:

- [required] Meyers, M. (2013). A Smarter Way to Learn JavaScript. (Kindle version from Amazon.ca; PDF version may also be available)
- [optional] Snyder, L. (2014). Fluency with Information Technology: Skills, Concepts, and Capabilities (6th edition). Addison-Wesley. (From the Bookstore or Amazon.ca)

Class Materials

You will need a blank composition notebook to use as a journal. (Approx. 9.5" x 7.5"; at least 50 pages; not spiral bound; See http://bit.ly/1ukWyBH for an example).

Course Outline

Week 1	Course overview; Introduction to computational thinking	
Week 2	Storing, manipulating, and representing data	
Week 3	Repeating actions with simple loops	
Week 4	Nested loops	
Week 5	Controlling execution with conditional statements and Boolean logic	
Week 6	***Midterm Exam***	
Oct 13—17	***Study Break – No Class***	
Week 7	Information retrieval	***Assignment out***
Week 8	Relational databases	
Week 9	Searching and sorting	
Week 10	TBD	
Week 11	Computer networking	***Assignment due***
Week 12	Human computer interaction	
Exam Period	***Final Exam***	

Assignments and Evaluation

Your final course grade will be based on an individual programming assignment, weekly lab exercises (individual or in pairs) and journal entries, a midterm, and a final exam.

Assignment	**Weight**
Individual Assignment (due Nov 20)	30%
Midterm Exam (Oct 9)	20%
Final Exam (December exam period; TBD)	35%
Lab exercises (10 in total; pass/fail)	10%
Journal entries	5%
Total	**100%**

You are expected to prepare for class discussions and participate in class.
No extensions, delays, or late assignments will be accepted unless a physician's certificate is provided.

Lab Exercises (10% of final grade; distributed across 10 lab exercises)

Each week you will be given a set of exercises to work on in the lab. The goal is for these exercises to be realizable within the lab period. However, to ensure you have enough time to fully understand the exercises and the concepts they employ, lab exercises are due the **Monday following the lab by 5:00pm, and are to be submitted online via mycourses.**

These exercises will not be graded; however, they will be reviewed at the start of the following lab. You will receive 1% for each reasonable submission. There will be a total of 10 exercises over the course of the 12-week term.

Lab exercises may be completed with one (1) partner. You must include your partner's name on your submitted work. You cannot change partners within an individual exercise, but can use different partners for different exercises. Working with a partner can help enrich the learning process; however, it is your responsibility to ensure you are effectively using your partner to help you learn and are not merely copying someone else's work.

Journal Entries (5% of the final grade)

Programmers rarely produce code without first spending time planning and thinking about the solution. A code journal is a good place to collect these notes for future use. You will be expected to maintain a code journal where you will plan your solutions before programming them and reflect on your progress. These journals will be collected twice during the term, at each of the two exams. Please be sure to bring your journal with you to the exams.

Individual Assignment (30% of the final grade)

A larger assignment will enable you to bring together the topics of the course. This must be completed independently. Detailed descriptions and instructions will be posted on mycourses once the concepts required for them have been taught. **The assignment is due at the start of class on Nov 20th, and is to be submitted online via mycourses.**

Exams (Midterm worth 20% and final worth 35%)

A midterm and a final exam will be given during the course of the semester to reinforce the concepts taught in class and presented in the laboratory exercises. If you perform better on the final exam than on the midterm, I will replace your midterm with your final exam score.

Class Participation (not graded)

Active class participation enriches both your learning experience and that of your peers. Though no grade is explicitly given for class participation, rarely extra credit can be awarded for exceptional effort. Note that participation ≠ talking the most. There are many different ways of contributing to class:

- Carefully and thoughtfully reading all course material **before** each class including review the lab activities before the lab
- Being an active listener. Paying attention to others when they are speaking and limiting your use of distracting technologies during class
- Helping others during the labs, and actively seeking help when you are stuck (Note that this doesn't mean sharing and copying answers, but rather receiving or providing an explanation meant to help the asker to find the answer him/her self).
- Participating in discussions, either by offering your own thoughts, constructively commenting on those of others, or asking thoughtful and challenging questions
- Posting relevant information or questions to the class discussion board and/or acknowledging or building on the postings of others
- Coming to office hours to chat or ask questions about the course content