

**GLIS 617: Information System Design (3 credits), Section 005**

## Course outline

**General information**

Instructor: Dr. Benjamin Fung  
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Office: 3661 Peel St, Room 301  
Instructor's office hr.:  
Wed. 12pm–1pm or by appointment  
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TA's office hr.: Tue. 2:30–3:30 (Rm 513)

*Always use your McGill email address and be sure to include [GLIS 617] in the subject line.*

**Class Meeting**

*Lecture:* Wednesdays, 2:35–4:00 in Rm 627 of the Education Building (3700 McTavish)

*Labs:* Wednesdays, 4:05–5:25 (sec 006) **OR** 5:35–6:55 (sec 007) in Rm 513 (3700 McTavish)

**Email**

To ensure that your emails are properly filed for prompt reading, include [617] in the subject line. If you send your email from mycourses the subject line will be correctly annotated for you.

**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 MIST 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 also 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 the following materials, which you should bring to each class:

- 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/lukWyBH> for an example)
- A whiteboard marker to use in the active learning classroom (rm 627)

**Tentative Course Schedule**

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		<i>Midterm Exam</i>
Oct 13–17	<i>Study Break – No Class</i>	
Week 7	Information retrieval	<i>Assignment out</i>
Week 8	Relational databases	
Week 9	Searching and sorting	
Week 10	TBD	
Week 11	Cloud computing	<i>Assignment due</i>
Week 12	Human computer interaction	
Exam Period		<i>Final Exam</i>

**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. 19)	30%
Midterm Exam (Oct. 8)	20%
Final Exam (early Dec.; TBD)	35%
Lab exercises (10 in total; pass/fail)	10%
Journal entries	5%
<b>Total</b>	<b>100%</b>

*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 **Tuesday 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 19<sup>th</sup>, 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, then I replace the midterm score 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  $\neq$  talking the most. There are many different ways of contributing to class:

- Carefully and thoughtfully reading all course material **before** each class
- 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

### McGill Policy Statements

McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism, and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see [www.mcgill.ca/students/srr/honest/](http://www.mcgill.ca/students/srr/honest/) for more information).

*L'université McGill attache une haute importance à l'honnêteté académique. Il incombe par conséquent à tous les étudiants de comprendre ce que l'on entend par tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le Code de conduite de l'étudiant et des procédures disciplinaires (pour de plus amples renseignements, veuillez consulter le site [www.mcgill.ca/students/srr/honest/](http://www.mcgill.ca/students/srr/honest/)).*

In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

*Conformément à la Charte des droits de l'étudiant de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté.*

If you have a disability please contact the instructor to arrange a time to discuss your situation. It would be helpful if you contact the Office for Students with Disabilities at 514-398-6009 before you do this.

Additional policies governing academic issues, which affect students, can be found in the McGill Charter of Students' Rights (The Handbook on Student Rights and Responsibilities is available at [www.mcgill.ca/files/secretariat/Handbook-on-Student-Rights-and-Responsibilities-2010.pdf](http://www.mcgill.ca/files/secretariat/Handbook-on-Student-Rights-and-Responsibilities-2010.pdf)).

### Acknowledgement and Copyright

In this course, we will be using materials (lectures and lab activities) developed and shared by a number of individuals and institutions, including Nick Parlante (Stanford), Computer Science Inside, CS Unplugged, and Karyn Moffatt (McGill SIS).

**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 of this course should not use this document but instead retrieve the official version from the McGill course management site.