# COURSE SYLLABUS
# ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

**Lassonde School of Engineering**
**Electrical Engineering and Computer Science**

**LE / EECS 1710 3.0 Section A**
**PROGRAMMING FOR DIGITAL MEDIA**
**Fall 2018**

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|---|---|
| **Course Title:** | EECS 1710: Programming for Digital Media |
| **Term:** | Fall 2018 |
| **Lectures:** | Tuesday, Thursday: 10:00am – 11:20am<br>Location: LAS C |
| **Laboratories:** | Tuesday: 11:30am – 1:00pm (LAB01/04 in LAS1006/1004)<br>Thursday: 11:30am – 1:00pm  (LAB02/03 in  LAS1006/1004)<br>Location: LAS 1006/1004 (supervised from Week 2: Sept. 14) |
| **Term Dates:** | Sep 5, 2018 – Dec 4, 2018<br>Study Day (Dec 5, 2018), Exam Period (Dec 6 – 21, 2018) |
| **Last Day to Add:** | Sep 18, 2018 (without permission); Oct 2, 2018 (with) |
| **Last Day to Drop:** | Nov 9, 2018 (no grade); Nov 10-Dec 4 ('W' on transcript) |
| **Instructor:** | Dr. Matthew Kyan<br>Phone: (416) 736-2100 ext. 33965<br>Email: mkyan@cse.yorku.ca<br>Web: http://eecs.lassonde.yorku.ca/faculty/matthew-kyan/ |
| **Office Hours:** | Thursday 2-4pm<br>Location: LAS 3030 |
| **TAs:** | Brian Wijeratne<br>Mehrnaz Zhian<br>Sean Delong |
| **Course Website:** | Hosted on Learn Lassonde (https://learn.lassonde.yorku.ca/) |

## COURSE CALENDAR DESCRIPTION

Introduction to program design and implementation focusing on digital media projects including sound, images, and animation; includes algorithms, simple data structures, control structures, and debugging techniques. Lectures (three hours/week) and lab-based instruction. One term. Three credits.

Course credit exclusions: LE/EECS 1530 3.00, LE/SC/CSE 1530 3.00, AP/ITEC 1620 3.00. NCR Note: Students who completed or are taking LE/EECS 1021 3.00 or LE/EECS 1022 3.00 or LE/EECS 1020 3.00 or LE/SC/CSE 1020 3.00 may not take LE/SC/CSE 1710 3.00 for credit.

**EXPANDED DESCRIPTION**

The course lays the conceptual foundation for the development and implementation of Digital Media artefacts and introduces some of the core concepts of Digital Media. Topics include programming constructs, data types and control structures; the object-oriented concepts of modularity and encapsulation; integration of sound, video, and other media; networking constructs (HTTP connections); and the inter-relationships among languages such as Processing, Java, and other Digital Media tools.

Three lecture hours and weekly laboratory sessions. The laboratory sessions form an integral part of the lectures and may cover examinable material that is not covered in class.

This course is an introduction to the interdisciplinary area of practice of New Media; it is not a survey course. As such, the emphasis is on the development of a theoretical conceptual foundation and the acquisition of the intellectual and practical skills required for further courses in the Digital Media program, and thus is intended for prospective majors in this program. It is not intended for those who seek a quick exposure to Digital Media, Digital Media applications or programming.


**COURSE LEARNING OBJECTIVES**

CLO1: Explain and apply fundamental constructs in object-oriented programs, including variables and expressions, control structures (conditionals/loops) and use of simple objects

CLO2: Understand and use simple memory models to explain how data is stored/accessed during program execution

CLO3: Become familiar with the notion of syntax and style, both for programs and documents

CLO4: Write simple programs using a given a software infrastructure, API, and tool chain.

CLO5: Use a set of computing skills such as reasoning about algorithms, tracing programs, test-driven development, and diagnosing faults.

CLO6: Gain exposure to and build simple programs or games that manipulate and render state to the console, to files or as audio/visual outputs

**TEXTBOOK(S)**

Required Text:

> There is NO required textbook for this course.
> All necessary materials, notes and online resources will be provided (as needed)

Other Texts/Reference Materials:

> M. Guzdial and B. Eriscon, "Introduction to Computing & Programming with JAVA - A Multimedia Approach", ISBN 0-13-149698-0
> *(this text is available for rent over the semester period until Dec 19 2018, from amazon.com for $23)*
>
> J. Lewis and W. Loftus, "Java Software Solutions", 9th Ed., ISBN-13: 9780134462028; Pearson, 2018.
>
> R. Sedgewick and K. Wayne, "Computer Science – An Interdisciplinary Approach"; ISBN-13: 978-0-13-407642-3; Addison-Wesley, 2017. (the e-version of this text is available on amazon.com for $39)
>
> "Absolute Java" (5th Edition or higher) by Savitch. The book is available in Steacie Library.
>
> "Java Pocket Guide" by Liguori
>
> "Eclipse IDE Pocket Guide" by Burnette might be useful as well.

**COURSE SCHEDULE:**

| Week | Topics | Dates | Activity |
|------|--------|-------|----------|
| 1 | Course Introduction<br><br>JAVA Basics | Sep 6 – Sep 12 | Lab 0 (on own) |
| 2 | JAVA Basics | Sep 13 – Sep 19 | Lab 1 exercises |
| 3 | Methods & Objects | Sep 20 – Sep 26 | Lab 2 exercises |
| 4 | Methods & Objects<br><br>Arrays & Loops | Sep 27 – Oct 3<br><br>Oct 4 | Lab 4 exercises |
| 5 | FALL READING DAYS | Oct 8 – Oct 11 | |
| 6 | **MIDTERM (20%)** | Oct 15 | Lab 5 excercises |

| | Arrays & Loops | Oct 18 - Oct 24 | |
|---|---|---|---|
| 7 | Decision Making | Oct 25 – Oct 31 | **LabTest 1 (15%)** **(in sched. lab session)** |
| 8 | Decision Making | Nov 1 – Nov 7 | Lab 6 exercises |
| 9 | Working with Graphics | Nov 8 – Nov 14 | Lab 7 exercises |
| 10 | Working with Graphics | Nov 15 – Nov 21 | Lab 8 exercises |
| 11 | Working with Sound | Nov 22 – Nov 28 | **Lab Test #2 (15%)** **(in sched. lab session)** |
| 12 | Working with Sound/Course Review | Nov 29 – Dec 3 | |
| | Exam Period - **FINAL (35%)** | Dec 6 – Dec 21 | |

**COURSE EVALUATION:**

| Assessment | Weight | When (tentative schedule) |
|---|---|---|
| Labs (8 in total) | 15% | Weeks 1-11 (during regular lab time - due 1 week following) |
| Lab Test 1 | 15% | Oct 25 - Oct 31, 2018 (during regular lab time) |
| Lab Test 2 | 15% | Nov 22 - Nov 28, 2018 (during regular lab time) |
| Midterm | 20% | Oct 16, 2018 (in class) |
| Final Exam | 35% | To be set by the Registrar's Office (will be announced on this site) |

Labs are graded for correctness and style convention.

All tests are held in the PRISM lab during your regularly scheduled lab section. The tests may include both programming and written questions, all of which are submitted electronically.

The final grade is obtained by adding the scores of the labs, tests, and exams and converting this score to a letter grade using the table below:

| Score | Grade |
|-------|-------|
| ≥90   | A+    |
| ≥80   | A     |
| ≥75   | B+    |
| ≥70   | B     |
| ≥65   | C+    |
| ≥60   | C     |
| ≥55   | D+    |
| ≥50   | D     |
| ≥40   | E     |
| <40   | F     |

## COURSE POLICIES

Missed Tests:
The student must notify their instructor as soon as is reasonably possible if the student misses a test. Only those students with a documented reason for missing a test, such as illness, compassionate grounds, etc., will be considered for some sort of accommodation.

Midterm & Final Exams
Tests will cover content from both lectures and lab materials.

Tests are closed-book. Crib sheets, calculators and electronic dictionaries are NOT allowed unless otherwise stated. Use of unauthorized aids will yield a grade of zero and academic misconduct charges (see below)

Contact:
All correspondence to students is emailed to the email accounts of students who are registered in the course. It is vital that you activate your Badger account and check it for messages regularly. The news page will contain announcements, corrections, and updates. Students are responsible for checking the news page regularly.

Academic Honesty:
Students may do their labs in groups of no more than 2 students. Each group is expected to do their own work. Advanced software tools will be used to detect the copying of code. If one group copies from another group, both groups are considered academically dishonest.

During tests, students are expected to do their own work. Looking at someone else's work during the test, talking during the test, using aids not permitted (such as a phone) during the test, and impersonation are all examples of academically dishonest behaviour. Students are expected to read the Senate Policy on Academic Honesty:
http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/

Land Acknowledgement:

We acknowledge our presence on the traditional territory of many Indigenous Nations. The area known as Tkaronto has been care taken by the Anishinabek Nation, the Haudenosaunee Confederacy, the Huron-Wendat, and the Métis. It is now home to many Indigenous Peoples. We acknowledge the current treaty holders, the Mississaugas of the New Credit First Nation. This territory is subject of the Dish With One Spoon Wampum Belt Covenant, an agreement to peaceably share and care for the Great Lakes region.

The Indigenous Framework for York University: A Guide to Action can be found here: http://indigenous.info.yorku.ca/

Meaning of a land acknowledgement: http://healthydebate.ca/opinions/indigenous-land-acknowledgements

Academic Integrity:
You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process.  Academic credentials you earn are rooted in principles of honesty and academic integrity.  To this end, plagiarism will not be tolerated in this course.

All students must become familiar with the departmental policy on academic misconduct. All plagiarism incidents will be reported and penalized in accordance with the departmental and university policies.  The minimum penalty is typically a 0 on the piece of work in question, up to and including receiving a failing grade in the course.  Penalties also include a transcript note, and can include suspension or expulsion from the university.

Following are only three examples of academic misconduct:
1. Plagiarism, e.g., the submission of work that is not one's own or for which other credit has been obtained
    a. Most types of plagiarism include:
        • Downloading or buying research papers (downloading a paper from a website and submitting it as your own work)
        • Copying and pasting (copying and pasting portions of text from online journal articles or websites without proper citation)
        • Copying or submitting someone else's work (copying a paper /lab report /formula /design /computer code /music /choreography /assignment and submitting as your own work.
2. Improper collaboration in group work if not expressly allowed
3. Copying or using unauthorized aids in tests and examinations

** You must use York University standards when submitting your own work even if you were taught to document your sources differently in the past.
    • Tutorial: http://www.yorku.ca/tutorial/academic_integrity/plagdef.html

There is an academic integrity website with comprehensive information about academic honesty and how to find resources at York to help improve students' research and writing skills, and cope with University life. Students are expected to review the materials available at the following links:

Senate Policy on Academic Honesty - http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/

Academic Integrity - http://lassonde.yorku.ca/academic-integrity

Access/Disability:
York University is committed to principles of respect, inclusion and equality of all persons with disabilities across campus. The University provides services for students with disabilities (including physical, medical, learning and psychiatric disabilities) needing accommodation related to teaching and evaluation methods/materials. These services are made available to students in all Faculties and programs at York University.

Students in need of these services are asked to register with disability services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are encouraged to schedule a time early in the term to meet with each professor to discuss your accommodation needs. Please note that registering with disabilities services and discussing your needs with your professors is necessary to avoid any impediment to receiving the necessary academic accommodations to meet your needs.

Additional information is available at the following websites:
   Counselling & Disability Services: http://cds.info.yorku.ca/
   York Accessibility Hub: http://accessibilityhub.info.yorku.ca/

Student Links

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and other academic settings, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. The policy and procedures governing disruptive and/or harassing behaviour by students in academic situations is available online.

Student Rights and Responsibilities
http://oscr.students.uit.yorku.ca/student-conduct

Religious Observance
https://w2prod.sis.yorku.ca/Apps/WebObjects/cdm.woa/wa/regobs

Academic Accommodation for Students with Disabilities
http://secretariat-policies.info.yorku.ca/policies/academic-accommodation-for-students-with-disabilities-policy/

Counselling and Disability Services
http://cds.info.yorku.ca/

York University Racism Policy and Procedures
http://secretariat-policies.info.yorku.ca/policies/racism-policy-and-procedures/

York University's Policies on Sexual Violence
http://secretariat-policies.info.yorku.ca/policies/sexual-violence-policy-on/

York University's Policies on Gender/LGBTQ*/Positive Space
http://rights.info.yorku.ca/lgbtq/


Student Conduct:

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom and other academic settings, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. The policy and procedures governing disruptive and/or harassing behaviour by students in academic situations is available online: http://secretariat-policies.info.yorku.ca/policies/disruptive-andor-harassing-behaviour-in-academic-situations-senate-policy/