

Instructor: Earl Foxwell

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Classes: Wednesdays and Fridays, 1400-1530 TH244

This course deals with the fundamental concepts of programming languages including syntax, semantics, control, data types and abstraction. Programming paradigms include imperative, functional, logic and object-oriented. Key topics also include inheritance and polymorphism, as well as object modelling.

Course Materials:

Textbook: Comparative Programming Languages, 3rd edition – Wilson and Clark (ISBN: 0-201-71012-9)

Recommended: The Unified Modeling Language User Guide (ISBN: 0-321-26797-4)

Recommended: Design Patterns: Elements of Reusable Object-Oriented Software – Gamma, Helm, Johnson and Vlissides (ISBN: 0-201-63361-2)

Evaluation:

Assignments (4): 20%

Midterm: 20%

Final Exam: 60%

Note: A final grade of at least 40% is required for the final exam in order to receive credit for the course.

The midterm will be Friday October 25th, at 14:00 (2:00pm), during lecture time.

Final Exam:

The final exam will not be a traditional scheduled exam. Instead, it will be a “take-home” exam. The exact format and scheduling will be provided in a separate document. Third-party plagiarism-detection tools (e.g. Turnitin) may be used to verify integrity of the process.

Subject Overview:

- Introduction to the course, history of languages
- Types, values, declarations
- Expressions, statements, program structure
- Procedures, functions, methods
- Structured data
- Classes, inheritance, polymorphism
- UML and Design Patterns
- Functional languages
- Logic Programming

Additional Notes:

- Assignments will only be graded if they include a signed cover page with your correct student number stapled to the front. See the COSC home page to generate a cover page with barcode.
- Please read the department's policy on medical notes on the COSC home page. Other reasons may be used for granting extensions or other accommodations, at the instructor's discretion, but only if the instructor is contacted *in advance* of assignment due dates.
- All assignments will have a firm due date. Late dates will not be assigned, and late submissions will not be accepted.

- Assignments will be coded in several languages. Assignment specifications will tell you which language to use. Electronic submission will be required, and solutions may be run through MOSS to test for plagiarism. Plagiarism is a serious offense and will be treated accordingly. See <http://www.cosc.brocku.ca/about/policies/plagiarism> for details.
- Due dates apply to both electronic and physical submission. Failure to submit either by the posted due date will result in a zero for that piece of work.
- As part of Brock University's commitment to a respectful work and learning environment, the university will make every reasonable effort to accommodate all members of the university community with disabilities. If you require academic accommodations related to a permanent disability to participate in this course, you are encouraged to contact the Student Development Centre Services for Students with Disabilities (4th Floor Schmon Tower ext. 3240) and also to discuss these accommodations with the instructor.
- Wednesday, November 6th is the last day for voluntary withdrawal without academic penalty. 15% of the final grades will be available to students by November 1st.

Note: Content has been generously provided by Dr. Michael Winter.