The School of Computer Science at the University of Windsor sits on the Traditional Territory of the Three Fires Confederacy of First Nations. We acknowledge that this is the beginning of our journey to understanding the Significance of the history of the Peoples of the Ojibway, the Odawa, and the Pottawatomie.

Introduction to Algorithms and Programming I

Course description: This course is the first of a two-course sequence designed to introduce students to algorithm design and programming in a high-level language such as C. The main objectives of the course are to develop the ability to identify, understand and design solutions to a wide variety of problems. Topics include: computer system overview, hardware and software, problem solving steps, concepts of variables, constants, data types, algorithmic structure, sequential logic, decisions, loops, modular programming, one-dimensional arrays, text files. If possible, problems like searching/sorting will be addressed. (3 lecture hours and 1.5 laboratory hours a week).

Instructor	Curtis Bright (cbright@uwindsor.ca)	Lambton Tower 5110
Lectures (Sec. 2)	Tuesday & Thursday 11:30 AM – 2:20 PM	Erie Hall 1114
Labs	Wednesday 7:00 PM – 9:50 PM	West Library 305C
Graduate Assistant	Jasmin Patel (patel8m6@uwindsor.ca)	Lambton Tower 3107

Commitment: At least 21 hours per week (6 hours lecture, 3 hours lab, and at least 12 hours of self-study per week)

Prerequisite: None

Course webpage: Brightspace (`https://brightspace.uwindsor.ca/`)

Office hours: Tuesday & Thursday 2:30 PM – 3:30 PM or by appointment (held in LT 5110)

Textbooks: The lecture notes, slides, and lab tutorials are the main reference for the course. The following books are recommended and can be checked out for 2 hours from the Leddy library:

- K. N. King, *C Programming: A Modern Approach*, 2nd edition, W. W. Norton, 2008. (Online resources available at `http://knking.com/books/c2`).
- Deitel & Deitel, *C How to Program*, Pearson, 2016, 8th edition.

Learning outcomes: At the end of the course, the successful student will know and be able to:

- Discuss and explain programming and working in a modern computing system environment.
- Define and implement C program solutions to problems involving use of sequential logic, decision logic and repetition logic control structures, simple standard input and output using C library functions, simple output formatting, simple and array data structures, simple array algorithms including search, functions with different parameter-passing mechanisms, and variables with different scope.
- Use tools for top-down design approach to problem solving, such as structure chart, flowchart, test and verification and tracing.
- Prepare and create algorithmic solutions to a wide variety of problems.
- Work with the standard UNIX operating system.

- Work with computers in terms of creating and executing programs.
- Follow professional principles of protection of intellectual property.
- Present program solutions to the others.
- Create efficient C programs for simple real-world problems (like student-record collection or matrix calculation).

Course topics:

1. C Fundamentals
2. Formatted Input/Output
3. Expressions
4. Selection Statements
5. Loops
6. Basic Types
7. Arrays
8. Functions
9. Program Organization

Evaluation:

Lab Assignments (15%)	Evenings of September 11, 18, 25 and October 2, 9
Midterm 1 (25%)	In-class on September 19
Midterm 2 (25%)	In-class on October 3
Final Exam (35%)	In-class on October 22

Note: Students are advised that the schedule and topics are tentative and that the material and/or depth and order of presentation are subject to change at the discretion of the instructor and student pace.

Lecture	Dates	Topics (Approximate)
1	September 5	Introduction and C Fundamentals
2	September 10	Input/Output
3	September 12	Expressions
4	September 17	Logic and Decisions
5	September 19	Loops
6	September 24	Data Types
7	September 26	Arrays
8	October 1	Functions
9	October 3	Functions
10	October 8	Program Organization
11	October 10	Program Organization
12	October 22	Final Exam

Teaching assistants: The teaching assistant(s) will be holding regular weekly office hours dedicated to help students. It is highly recommended that you take advantage of this resource by seeking interactive assistance towards understanding the course materials and guidance for completing the

homework. Graders are also accessible to review your graded work and help make corrections or fix grading errors. If you are facing difficulties in the course, please contact the instructor or the teaching assistant(s). You are expected to spend sufficient time to complete all the readings and the assigned work. If you are not able to get hold of the teaching assistant(s) during posted office hours, or do not get timely response from them please report the matter promptly to the course instructor with the situation details. If you identify an exceptional assistant who goes above and beyond, please inform the instructor and consider nominating the person for related university/faculty awards for their commitment.

The School of Computer Science provides free tutoring services for all Undergraduate Students: `https://tutor.myweb.cs.uwindsor.ca/`

Grading: A numeric (integer-valued) final grade out of 100 will be assigned to each student based on the evaluation scheme given above. Non-integer values will be rounded to the nearest integer. A final grade below 50 will be considered as a failure. Your individual program may have higher requirements to maintain good standing; please consult your program requirements and plan accordingly. If you are registered in a course and do not attend or participate or write any evaluations you will be assigned a grade of NR (no report). You must withdraw from the course if you do not wish to attend it; not showing up does not constitute withdrawal and will impact your academic record.

Voluntary withdrawal (dropping the course): You may drop a course within the first 2 weeks add/drop period (1 week in case of 6-week courses) without it showing up on your academic record. Please check with the Registrar's office calendar on the important dates for withdrawing voluntarily from a course after the add/drop period should you feel you need to withdraw. It is strongly recommended that you seek academic advice from your instructor or an academic advisor prior to withdrawing from courses.

Absences due to medical or other extenuating circumstances: Medical leaves, illness, death (in the family), and other difficult circumstances as determined in bylaw 54 are at times unavoidable and would interrupt your academic career. You must report any issues to the instructor as soon as possible prior to considering any academic accommodations. The instructor reserves the right to determine if an accommodation is merited and the nature of the accommodation related to the course evaluation. All requests for alternate considerations on medical grounds or other difficult matters must be made in writing (email) to the instructor along with supporting documents prior to the end of the course. No alternate accommodations will be considered after the end of the course.

Makeup and missed assessment policy: If you miss a test, assignment or other assessment in the course you will receive a zero mark for the missed work. If you wish to have alternate considerations due to a valid reason (as per senate bylaw 54) you must inform the instructor in writing (email) as soon as possible, preferably before the assessment, and not later than seven calendar days. Considerations for any make-up or late submissions will be done on a case-by-case basis on compassionate grounds while maintaining fairness as much as possible. No alternate considerations will be given to any missed assessment if the instructor is not informed within seven calendar days after its due date. The instructor will refuse any unsubstantiated and late requests.

Grade appeal: Informal reviews and appeals of the marks for assignments, midterm, exams and/or projects will be considered only if requested within 10 days after the release of the corresponding grades. After the 10-day period students will have to submit a formal appeal if they wish within 6 weeks. See Senate Bylaws 54 (Undergraduate Students) and Senate Bylaws 55 (Graduate Students) for more details on appealing about grades.

Grading policies: The last seven calendar days prior to, and including, the last day of classes are free from any procedures for which a mark will be assigned. (Extensions on compassionate grounds are excluded).

The final exam schedule is announced by the Registrar's office, normally after the add/drop period, and students are expected to be available for the entire exam period and not make any prior travel plans, vacations, or other commitments until after the exam dates are announced. No alternate exams accommodations will be made on those grounds.

No forms of assessment shall be scheduled or made due on days identified as break days such as reading weeks, holidays, or days that the University is officially closed.

Student perceptions of teaching: The Student Perceptions of Teaching (SPTs) forms will be administered in the last two weeks of classes for courses 12–24 weeks in duration, in the last week of classes for courses 6–11 weeks in duration, or in the last two days of classes for courses of 5 or fewer weeks in duration. Students will be provided with up to 15 minutes in class to complete the SPTs online.

Support contacts: The School of Computer Science has a team of support staff and access to student academic advisors to assist you through any inquiries you may have about our courses and programs. Please use one of the following emails:
For CompSci undergraduate programs and advising, including IT certificate: csinfo@uwindsor.ca
For Computer Science Society: `https://css.uwindsor.ca/`
For CompSci graduate programs (MSc, MSc-AI stream, and PhD): csgradinfo@uwindsor.ca
For CompSci professional graduate programs (MAC/MAC-AI stream): macprogram@uwindsor.ca
For the office of the Director of the School of Computer Science: csdir@uwindsor.ca
For CompSci technical support: `https://help.cs.uwindsor.ca/`
For International Student Centre: `https://www.uwindsor.ca/international-student-centre/`
For Student Accessibility Services: `https://www.uwindsor.ca/studentaccessibility/`
For other general inquiries: `https://ask.uwindsor.ca/`
For student counselling services (ext. 4616): `https://www.uwindsor.ca/studentcounselling/`
For student health services (ext. 7002): `https://www.uwindsor.ca/studenthealthservices/`
For student Peer Support Centre (ext. 4551): `https://www.uwindsor.ca/studentexperience/wellness/`
For USci Faculty of Science student support network: `https://www.uwindsor.ca/science/usci/`

Good2Talk provides free, 24/7, single-session professional counselling and referral by phone to post-secondary students in Ontario. Services are provided in English and French, with translation

services available in 100+ languages.

- Call: 1-866-925-5454 (reach professional counsellors)
- Text: GOOD2TALKON to 686868 (reach trained volunteers)
- Webpage: `https://good2talk.ca/`

Wellness Together Canada provides free, 24/7 professional mental health and substance use coun-selling by phone to anyone in Canada and Canadians abroad. Service is provided in English and French, with translation services available by request.

- Call: 1-866-585-0445 (reach professional counsellors)
- Text: WELLNESS to 686868 (reach trained volunteers)
- Webpage: `https://www.wellnesstogether.ca/`

Students with disability: Students who require academic accommodations in this course due to a documented disability must contact an Advisor in Student Accessibility Services (SAS) to complete SAS Registration and receive the necessary Letters of Accommodation. After registering with SAS, you must present your Letter of Accommodation and discuss your needs with the course instructor as early in the term as possible. Please note that deadlines for the submission of documentation and completed forms to SAS are available on their website `http://www.uwindsor.ca/studentaccessibility/`.

Exam conflicts: If you have a conflict with two exams at the same time, you will need to talk to both instructors and ask which one is willing to move your exam to a different day or time.

If you have a conflict with examinations due to the following reasons, view the Office of Registrar Alternative Final Exam Policy at `https://www.uwindsor.ca/registrar/516/alternate-final-exams`:

- Conflict with religious conviction during the regularly scheduled time slot.
- Three or more final examinations in a 24-hour period.

Religious Observances: Requests for accommodation of specific religious or spiritual observance must be presented to the instructor no later than 2 weeks prior to the conflict in question (in the case of final examinations within two weeks of the release of the examination schedule). In extenuating circumstances, this deadline may be extended. If the dates are not known well in advance because they are linked to other conditions, requests should be submitted as soon as possible in advance of the required observance. Timely requests will prevent difficulties in arranging constructive accommodations. `https://www.uwindsor.ca/ohrea/sites/uwindsor.ca.ohrea/files/religious_accommodation_for_students.01mar2013.web_ver.pdf`

Exam content confidentiality: Examinations, quizzes, assignments, and projects are given in this course are protected by copyright. Reproduction or dissemination of examinations or the contents or format of examinations/quizzes in any manner whatsoever (e.g., sharing content with other students), without the express permission of the instructor, is strictly prohibited. Students who violate this rule or engage in any other form of academic dishonesty will be subject to disciplinary action under Senate Bylaw 31: Academic Integrity.

Recording of lectures: Lectures and discussions can be recorded by requesting explicit permission from the instructor. Students planning to do so shall send a request (via email is sufficient) before the lecture is delivered. Students, however, are not allowed to post or share any recorded material to any other individual or party outside of this course.

Equity, diversity, and inclusiveness (EDI): This course, along with all its components such as lab sections are, without question, safe places for students of all races, genders, sexes, ages, sexual orientations, religions, disabilities, and socioeconomic statuses. Disrespectful attitude, sarcastic comments, offensive language, or language that could be translated as offensive and/or marginalize anyone are absolutely unacceptable. Immediate actions will be taken by the instructor to protect the safety and comfort of the students. An ethnically rich and diverse multi-cultural world should be celebrated in the classroom. The instructor, too, must treat every student equally and with the respect and compassion that all students deserve. Furthermore, UWindsor is committed to combatting sexual misconduct. All members are required to report any instances of sexual misconduct, including harassment and sexual violence, to the Sexual Misconduct Response & Prevention Office so that the victim may be provided appropriate resources and support options.

- `https://www.uwindsor.ca/sexual-assault/`
- For police/ambulance emergency call 911 (in Canada)
- For campus police call 519-253-3000 ext. 4444 for emergency, and 1234 for non-emergency issues.

Academic integrity: As defined in the University of Windsor's Student Code of Conduct, plagiarism is the act of copying, reproducing or paraphrasing significant portions of one's own work, or someone else's published or unpublished material (from any source, including the internet), without proper acknowledgement, representing these as new or as one's own.

Policy on misconduct: The instructor will put a great deal of effort into helping students to understand and learn the material in the course. However, the instructor will not tolerate any form of cheating. The instructor will report any suspicion of academic integrity to the Director of the School of Computer Science. If sufficient evidence is available, the Director will begin a formal process according to the University Senate Bylaws which will lead to more review, a strict punishment if convicted, and a note on your permanent student record. The following behaviours will be regarded as cheating:

1. Copying assignments or labs or presenting someone else's work as your own.
2. Plagiarism-detection software (e.g., Turnitin) will be used for all student assignments in this course.
3. Allowing another student to copy an assignment/project from you and present it as their own work.
4. Copying from another student during a test or exam.
5. Referring to notes, textbooks, etc., during a test or exam (unless otherwise stated).
6. Talking during a test or exam.
7. Not sitting at the preassigned seat during a test or exam.
8. Communicating with another student in any way during a test or exam.
9. Having access to the exam/test paper prior to the exam/test.

10. Explicitly asking a proctor for the answer to a question during an exam/test.
11. Modifying answers after they have been marked.
12. Any other behaviour which attempts unfairly to give you some advantage over other students during the grade-assessment process.
13. Refusing to obey the instructions of the officer in charge of an examination.

The list given above is not exhaustive. More examples are given in Appendix A, Senate Bylaws 31. Complete guidelines and procedures on the sanctions imposed by the university are also listed in Table A.1 of Senate Bylaws 31.

In this course any assessment that is deemed plagiarized or in violation of the academic integrity policy will NOT BE GRADED and receive a grade of ZERO unless a different ruling is provided by the adjudication committee formally reviewing the case.

Examples of sanctioning include: (from Table A.1 in Appendix A of Bylaw 31)
For first offence: mark reduction up to zero, censure 6–12 months; and for subsequent offence: suspension 4–24 months, censure up until graduation.

Use of Generative AI (Artificial Intelligence) tools is prohibited: In this course, use of any generative AI system (including, but not limited to ChatGPT, Claude, Jenni, Github Copilot, DaLL-E, and Midjourney) is considered an unauthorized aid that may provide an unearned advantage, and therefore may not be used in the creation of work submitted for grades or as part of any assignment in this class. Use of generative AI systems in graded assignments for this course is considered academic misconduct and may be subject to discipline under Bylaw 31: Academic Integrity. Students cannot use Generative AI tools (e.g., ChatGPT, Bard) to produce assignments or reports. Any assignments or reports submitted by students must be their own work and must be free from AI-generated content.