COSC1567: Programming in C++

(Winter 2026)

Instructor: Dr. Haibin Zhu **Office:** A124A **Ext:** 4434
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Office Hours: Tue. & Thu.: 4:30pm-7:30pm, or by appointment, Teams, and email

Course Description:
The main purpose of this course is to provide students with a strong understanding C++ programming language and an introduction to object-oriented programming, including functions, pointers, arrays, structures, classes, inheritance, friends and operator overloading, and exception handling.

Prerequisite Courses: COSC1557E

Textbook: Walter Savitch, Absolute C++, 4/E, Addison-Wesley, 2009, 984 pp, ISBN-10: 0136083811, ISBN-13: 9780136083818,
Reference: Farrell, Joyce, Object-Oriented Programming Using C++, 3/e, *Course Technology,* ©2008. ISBN: 0-619-03361-4
Web Sites: http://www.pearsonhighered.com/educator/product/Absolute-C/9780136083818.page .

Course grades:
- 10 laboratory assignments (20%).
- 4 programming projects (16%), and
- 2 tests (30%),
- 1 comprehensive final exam (34%).

The course grade is determined by the standard college formula based on the course average:
- "A" (80-100),
- "B" (70-79),
- "C" (60-69),
- "D" (50-59), or
- "F" (0-49).

The tests and exams are open-book and open note. *Generally, there are no makeup tests and quizzes. You must show strong evidences and authorization to have a makeup test.*

Couse Outcomes:
- To understand how C++ improves C with object-oriented features.
- To learn how to write inline functions for efficiency and performance.
- To learn the syntax and semantics of the C++ programming language.
- To learn how to design C++ classes for code reuse.
- To learn how to implement copy constructors and class member functions.
- To understand the concept of data abstraction and encapsulation.
- To learn how to overload functions and operators in C++.
- To learn how containment and inheritance promote code reuse in C++.
- To learn how inheritance and virtual functions implement dynamic binding with polymorphism.
- To learn how to design and implement generic classes with C++ templates.
- To learn how to use exception handling in C++ programs.

Late-Submission Policy
- All the submission deadlines will include extra time for the consideration of accidental events such as (not limited to) unavailable resources (machines are down,) sickness of students, etc. This means that additional extensions are generally not granted.
- I reserve the right to penalize lateness with one third of the earned points of the item per class day.

Last But Not Least
Feel free to make comments, suggestions, and such things.

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Note: Everything may be subject to change, please pay attention to the class declarations.

Schedule for COSC1567E

Lecture: R313, Tuesday, Thursday 12:00pm-1:20pm, Labs: ??, Wed. 2:30-3:20pm

Weeks	Date	Topics and Labs	Notes
1	01/06+08	Topic 1	Overview of Programming and Control Structures
	01/07	*Lab 1*	Control Structures
2	01/13+15	Topic 2	Array and Pointers, Prj1
	01/14	*Lab2*	Array and Pointers
3	01/20+22	Topic 3	Functions
	01/17	*Lab 3*	Array and Pointers
4	01/27+29	Topic 4	Using Structures and Classes, **Test 1, Prj1 due**
	01/28	*Lab 4*	Functions
5	02/03+05	Topic 5	Class Features and Design Issues
	02/04	*Lab 5*	Class
6	02/10+12	Topic 6	C++ Coding using ChatGPT, Project 2
	02/11	*Lab 6*	Class
	02/17+19	**Study week**	**No class**
	02/18	**No lab**	**No lab**
7	02/24+26	Topic 7	Friends and Namespace, Proj2 due, Prj3
	02/25	*Lab 7*	Friends
8	03/03+05	Topic 8	Overloading Operators
	03/04	*Lab 8*	Overloading Operators
9	03/10+12	Topic 9	Inheritance Prj3 due
	03/11	***Test 2 （Lab）***	
10	03/17+19	Topic 10	Advanced I/O, Prj4
	03/18	*Lab 9*	Advanced I/O
11	03/24+26	Topic 11	Templates
	03/25	*Lab 10*	Templates
12	03/31, 04/02	Topic 12	Exception Handling, Prj4 due
	04/01	*Lab 11*	Review Lab
	04/??	Final	

COURSE POLICIES AND OTHER IMPORTANT NOTICES

Academic Integrity statement and link to Academic Calendar Policy

https://academiccalendar.nipissingu.ca/Catalog/ViewCatalog.aspx?pageid=
viewcatalog&topicgroupid=3366&entitytype=GEN&entityid=2024&loaduser edits=False

The University takes the most serious view of offences against academic honesty such as plagiarism, cheating, impersonation and the presentation of altered or falsified documents. Penalties for dealing with such offences will be strictly enforced.

Plagiarism

Essentially, plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Plagiarism should be noted and reported to the Dean. Students should be informed of the University's definition and policy on plagiarism at the beginning of each course.

Most commonly plagiarism exists when: the work submitted or presented was done, in whole or in part, by an individual other than the one submitting or presenting the work; parts of the work (e.g. phrases, ideas through paraphrase or sentences) are taken from another source without reference to the original author; the whole work (e.g. an essay) is copied from another source; and/or a student submits or presents a work in one course which has also been submitted or presented in another course (although it may be completely original with that student) without the knowledge or prior agreement of the instructors involved.

Cheating: Cheating at tests or examinations includes, but is not limited to, dishonest or attempted dishonest conduct such as speaking to other candidates or communicating with them under any circumstances whatsoever; bringing into the examination room any textbook, notebook, or memoranda not authorized by the examiner, or leaving answer papers exposed to view.

For information on Petitions and Grade Appeals, follow this link: https://academiccalendar.nipissingu.ca/Catalog/ViewCatalog.aspx?pageid=
viewcatalog&catalogid=9&chapterid=695&topicgroupid=3365&loaduseredit s=False

Library statement

The Harris Learning Library enriches academic achievement, scholarly research, and life-long learning goals by supporting exploration, innovation, teaching, and research. The Library works in partnership with Nipissing University and Canadore College students, staff, and faculty through the provision of exemplary services and a diverse range of resources. The Learning Library home page (http://www.eclibrary.ca/library/) is your Gateway to library services, instructional tutorials, LibGuides and a wealth of academic books, articles, and streaming videos accessible through the OMNI Search tool. Friendly, knowledgeable staff are always ready to provide help by email, phone, or in person.

Student Code of Conduct https://www.nipissingu.ca/departments/student-development-and□services/student-rights-responsibilities

At Nipissing University, students are free to think, speak, write, create, study, learn, pursue social, cultural and other interests, and freely associate together for all these purposes, subject to the requirement that they respect the rights of members of the University and general community to pursue these same freedoms and privileges. In order to secure these rights, the University will use its best efforts to ensure the following: that those who wish to teach and those who wish to learn can do so under proper conditions; that academic and general facilities are available to those who wish to use them for their normal purposes; that freedom of movement and freedom from harassment are protected; that all property, including records, documents, and the like is protected; that those who wish to file a complaint have the right to do so without fear of reprisal.

Supporting Students

Your success and well-being are important. If you find yourself struggling while at Nipissing University and it is having a negative impact on your academic progress, success, or mental health, please be aware there are many supports available to help through Student Development & Services (SDS). Academic writing, math and science supports; peer tutoring; individualized accommodations for students with disabilities; personal or group counselling;

and sexual violence prevention and education awareness, are only a few of the support services aimed at helping you succeed.

SDS also works closely with faculty to support your success while in class. One of the ways this is done is through Student Retention Alert. Student Retention Alert is an early alert referral system that allows faculty and staff to identify a concern regarding your academic progress or well-being and connect you with 17 resources or support services on campus. You are under no obligation to follow through with a referral unless you want to; it is your choice unless otherwise stated (i.e. a breach of the Code of Student Rights and Responsibilities). Student Retention Alert does not affect your academic standing, transcript, or overall academic record and your information is kept private and confidential; it is only accessible to authorized University personnel who will reach out to you to see how they can help.

For more information or to reach out for support contact: Student Development and Services Visit https://www.nipissingu.ca/sds or email sds@nipissingu.ca Student Retention Alert Visit www.nipissingu.ca/nusuccess or email nusuccess@nipissingu.ca Nipissing is committed to supporting your success and well-being