



COSC 3657 Distributed Systems

Fall Semester 2025

Instructor: Dr. Haibin Zhu

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Office Hours: Tue. 6:00pm-7:30pm, Thur. 2:00: -7:30pm, Teams, Emails, and by appointment

Land acknowledgement:

Nipissing University sits on the territory of Nipissing First Nation, the territory of the Anishnabek, within lands protected by the Robinson Huron Treaty of 1850. We are grateful to be able to live and learn on these lands with all our relations.

Course descriptions:

Introduction to computer networks and computer systems interconnected by networks, including both the hardware and software of selected LANs and WANs, the issues of reliable and secure communication, layered models, distributed file systems and concurrency will be discussed. In this course, we will study some of the most important concepts in the design of distributed operating systems. Throughout the course, we will try to relate the material covered to the support of large-scale computing on the Internet.

Prerequisites: COSC 2667 and COSC 2767

Recommended Textbook: Distributed Systems: Concepts and Design, Coulouris, G., Dollimore, J., Kindberg, T., and Blair, G., Pearson, 2011. Price: CAD\$268.

Reference Book: M. van Steen and A.S. Tanenbaum, Distributed Systems, 4th ed., distributed-systems.net, 2023

Grading:

- | | |
|---------------------------------|------------|
| • 3 projects: 30% (10%+10%+10%) | ○ B: 79-70 |
| • 1 Midterm Test: 30% | ○ C: 69-60 |
| • Final Exam: 40% | ○ D: 59-50 |
| ○ A: 100-80 | ○ F: 49-0 |

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.

https://archive.org/details/distributedsystem0000unse_01ed/page/n5/mode/2up

<https://www.distributed-systems.net/index.php/books/ds4/ds4-ebook/>

https://ftp.utcluj.ro/pub/users/civan/CPD/3.RESURSE/6.Book_2012_Distributed%20systems%20_Coulouris.pdf

Schedule for COSC3657
(Meeting at RM A120, Tue. 3:00-5:50pm)

No.	Date	Lecture	Notes
1	9/2	Lecture 1	Introduction
2	9/9	Lecture 2	Operating System Support, Project 1
3	9/16	Lecture 3	System Models
4	9/23	Lecture 4	Networking and Internetworking
5	9/30	Lecture 5(Holiday)	Interprocess Communication, Client-server communication (Self-Study)
6	10/7	Review and Test (4:00-5:50pm)	Midterm Test , Project 1 Due. Project 2
	10/14	No class.	Study Week
7	10/21	Lecture 6	Distributed Objects and Remote Invocation
8	10/28	Lecture 7	Distributed File Systems,
9	11/4	Lecture 8	Distributed Naming Services Names, Directory Services, Project 2 Due, Project 3
	11/11	Holiday	No class
10	11/18	Lecture 9	Synchronization, Time and Global States Event ordering / synchronization Centralized vs. distributed schemes,
11	11/25	Lecture 10	Coordination and Agreement
12	12/02	Lecture 11	Transactions and Concurrency Control, Project 3 Due
	12/03	Review	
		Fina Exam	

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

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&loadusercredits=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