



COSC1367: Introduction to Problem Solving using Generative AI

(Fall 2026)

Instructor: Dr. Haibin Zhu **Office:** A124A **Ext:** 4434

Web: <http://uts.nipissingu.ca/haibinz>;

Email: haibinz@nipissingu.ca

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

Course Title: Introduction to Problem Solving with Generative AI

Prerequisites: None

Course Description:

Students are introduced in an accessible and interdisciplinary manner to Artificial Intelligence (AI), with a special focus on generative AI technologies such as ChatGPT and DALL·E. Students will examine fundamental AI concepts, real-world applications, and ethical and societal implications. Students from all disciplines can take this course as it requires no prior programming or technical background.

Course Objectives:

By the end of the course, students will be able to:

- Understand basic AI concepts, including machine learning and neural networks.
- Analyze the capabilities and limitations of generative AI tools.
- Apply generative AI in practical contexts (e.g., Coding, Math, Data Analysis, ...).
- Evaluate social, ethical, and legal implications of AI.
- Communicate clearly about AI technologies and their impact.

Assessment Methods:

- **Participation / Engagement** – 10%
- **Weekly Lab Assignments** – 40%
- **AI Project: Report and Presentation** – 50%

Instructional Methods:

- Lectures with multimedia demonstrations
- Interactive in-class labs using generative AI tools
- Group discussions and debate
- Weekly journaling or reflection activities

Required Materials:

- No textbook required. Readings and tools provided online.
- Access to generative AI platforms (free versions or institutional access).

Weekly Topics & Schedule

Thursday, Lectures: 10:00AM - 11:20AM, Labs: 11:30AM - 12:50PM, RM: A120

Time	Week	Topic	Notes
09/10	1	Introduction to AI	Your First Experience with Generative AI
09/17	2	Problem Solving	Solving a problem (Teams Formed)
09/24	3	How to Detect Errors	Can You Find an AI Mistake?
10/01	4	Prompt Engineering	How to Write Prompts?
10/08	5	How AI works	Data, Algorithms, Machine learning
10/15	6	No Class	Study Week
10/22	7	C++ Programing with AI	Programming in C++ with AI
10/29	8	Solving Math Problems with AI	Calculus with AI
11/05	9	Data Analysis with AI	Data Analysis
11/12	10	Financial Services with AI	Using AI to help deal with financial situations
11/19	11	AI and Society	Education, law, healthcare, labor, surveillance
11/26	12	Career Development with AI	Strengths, gaps, goals, and learning priorities
12/03	13	Team Presentations	6-9 Presentations, 20 minutes each

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](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](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