Spring 2026

CS 481E/581E

AI and Society

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COURSE DESCRIPTION

This course examines the rapidly evolving field of artificial intelligence (AI) and its societal implications. It surveys state-of-the-art research on AI models (e.g., large language models, diffusion models, and agentic assistants) and their real-world impacts. Students will engage with recent academic research, industry white papers, and policy documents while conducting a semester-long group research project to gain hands-on experience with state-of-the-art AI tools. Through lectures, readings, discussions, and presentations, students will learn to: (1) Explain the applications, abilities, and limitations of modern AI models; (2) Analyze the social, ethical, and economic consequences of these systems; (3) Evaluate and propose strategies for the safe and trustworthy deployment of AI technologies.

USEFUL LINKS

The course website is https://yangkclab.github.io/ai-and-society-course/Spring2026, which contains the schedule and other course resources. Please check the website regularly for updates.

The up-to-date syllabus can be downloaded from https://yangkclab.github.io/ai-and-society-course/versions/Spring2026/content/syllabus.pdf.

CREDIT HOURS

This course is cross-listed as CS 481E and CS 581E.

Both sections are 3 credit hours, which means that in addition to the scheduled lectures/discussions, students are expected to do at least 6.5 hours of course-related work each week during the semester. This includes things like: completing assigned readings, participating in discussions, preparing written assignments, and other tasks that must be completed to earn credit in the course.

COURSE OBJECTIVES

This course is designed to provide the students with a comprehensive understanding of AI and its societal implications. In particular, upon successful completion of this course, the students will be able to:

- Explain the applications, abilities, and limitations of modern AI models.
- Analyze the social, ethical, and economic consequences of AI technologies.
- Evaluate and propose strategies for the safe and trustworthy development of AI technologies.

PREREQUISITES AND CO-REQUISITES

- CS [436/536] - Introduction to Machine Learning, or equivalent
- CS [465/565] - Introduction to Artificial Intelligence, or equivalent
- Or by instructor's approval

RELATIONSHIP WITH ABET

- Student Outcome 5 (Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline): All projects are required team projects of 2-3 students.
- Exposure to information management: This course is a designated course for this requirement.

TEXTBOOK AND REFERENCE BOOKS

Material in this class is delivered via lecture and reading research papers, industry white papers, and policy documents; there is no textbook.

COURSE FORMAT AND TOPICS

This class combines seminar-style lectures with reading, discussions, presentations, and semester-long group projects.

The following is a non-exhaustive list of topics that will be covered in the course:

- AI's impact on labor market
- AI's impact on education
- AI's impact on scientific research
- AI's impact on healthcare
- AI's impact on information ecosystems
- AI's impact on society
- Governance and regulation of AI
- Human-AI interaction
- Ethics and bias in AI

LECTURE NOTES AND SUPPLEMENTAL MATERIALS

- Lecture notes will be provided via PDFs or other formats delivered in class.
- All paper reading assignments will be made available via Brightspace and Google Drive.

ASSIGNMENTS

- **Paper readings**. The best way to understand AI's impact on society is to explore the state-of-the-art research by reading recent papers, industry white papers, and policy documents. All students are required to complete regular reading assignments before class and submit a short reflection on the materials.
- **Discussion sessions**. Each class session focuses on a specific topic through reading and discussion. The materials will include one or more core documents, supplemented by additional supporting readings. One or two student leaders will guide each discussion, preparing slides for 50-60 minutes of presentation. The remaining time will be devoted to class discussion, with all students expected to actively participate.
- **Project**. Students will complete a semester-long group project (2-3 members) that relates to at least one central course topic. The project requires three deliverables: a proposal, a final report, and a presentation.
- **Essay**. Students must write an essay, due at the end of the semester, reflecting on how AI is changing their work and life.

Important notes about assignments:

- Late assignments may sometimes be accepted with penalty, which will typically be 5% per day late (including weekends and holidays). We will not accept assignments more than 5 days after the due date unless there is a very compelling reason.
- Grading disputes, regrading and missing grades.
  - Should you dispute any grading, please be aware that we will not re-grade any single issue you have. Instead, your work will be re-evaluated from scratch. The new grade may be higher, lower, or stay the same. This new grade will not be changed.
  - No re-grading can be requested two weeks after the date when the graded work is returned to students.

  - The scores of your submissions will be made available to you after the assignments are graded.

METHOD OF ASSESSMENT

The following percentage weights will be used to assess student work:

- Participation: 50%
  - Leading the discussion: 20%
  - Reflection: 15%
  - Participation in the discussion: 15%
- Project: 40%
  - Proposal presentation: 5%
  - Proposal: 5%
  - Final presentation: 5%
  - Final report: 25%
- Essay: 10%

GRADING DETERMINATION

Your final grade for this course is largely based on your performance relative to the performance of other students in the class. In other words, if your work is consistently better than average, you are likely to receive an A. The specific break down of grades is:

- A: 100–90
- B: 89–80
- C: 79–70
- D: 69–60
- F: 59–0

There are no +/- grades.

ACADEMIC HONESTY EXPECTATIONS AND VIOLATION PENALTY

- The School of Computing at Binghamton wrote a letter to all computer science students about the importance of academic honesty. The letter is available at https://www.binghamton.edu/watson/about/academic-honesty.html.
- Please review the academic honesty document and make sure that you understand it!
- Each assignment must include the following statement, verbatim, followed by your group members' names in a file called "HONESTY.md":

  > "We have done this assignment completely on our own. We have not copied it, nor have we given our solution to anyone else. We understand that if we are involved in plagiarism or cheating, we will have to sign an official form that we have cheated and that this form will be stored in our official university records. We also understand that we will receive a grade of 0 for the involved assignment and our grade will be

reduced by at least one level (e.g., from A to B) for our offense, and that we will receive a grade of "F" for the course for any additional offense of any kind."

Failure to submit your HONESTY.md file with the above text, verbatim, will result in your project not being graded and you receiving a 0 for the submission.

- Each group project submission must include a statement of contribution, which describes which group members did what part of the assignment in a file called "CREDITS.md". Failure to submit your CREDITS.md file will result in your submission not being graded and receiving a 0 for the submission.
- The use of generative AI tools is allowed for this course given that students follow the guidelines detailed below. Violation of the guidelines and inappropriate use of generative AI tools will be considered cheating and will be reported as Category 1 academic dishonesty violation. More than one incident of cheating of any kind will result in an F for the entire course.

GENERATIVE AI POLICY

Since this course focuses on AI and its societal impacts, students are permitted to use generative AI tools to enhance their learning and understanding of course material. However, students are strongly encouraged to complete coursework independently to maximize learning outcomes and develop critical thinking skills.

Generative AI tools include but are not limited to:

- Large language models (LLMs), such as ChatGPT, Claude, and Gemini
- Coding assistants, such as Cursor, GitHub Copilot, and Claude Code.

Students are allowed to use generative AI tools to:

- Enhance their understanding of course material, such as gathering information and explaining concepts.
- Clarify ideas and polish their writing.
- Assist with project implementation and report writing.

Students should be aware that generative AI outputs can be erroneous, and they are fully responsible for verifying accuracy. Additionally, AI outputs may not meet assignment requirements. Since students are ultimately accountable for their submitted work, the quality of the work will be reflected in their grade.

Students who choose to use generative AI tools must include an "AI_usage_statement.md" file in their submitted projects. The statement should include the following information:

- Which generative AI tools were used
- How the generative AI tools were used
- How the AI-generated content was integrated into the project

The following are not allowed:

- Using generative AI tools to generate entire assignments without modification. Submitted work

should reflect the student's own understanding, ideas, and effort.
- Any use of generative AI tools without properly acknowledging it in the AI usage statement.

MANAGING STRESS

If you are experiencing undue personal or academic stress at any time during the semester or need to talk with someone about a personal problem or situation, I encourage you to seek support as soon as possible. I am available to talk with you about stresses related to your work in my class. Additionally, I can assist you in reaching out to any one of a wide range of campus resources, including:

- Dean of Students Office: 607-777-2804
- Decker Student Health Services Center: 607-777-2221
- University Police: On campus emergency, 911 or 607-777-2222
- University Counseling Center: 607-777-2772
- Interpersonal Violence Advocate: 607-777-2804
- Harpur Advising: 607-777-6305
- Office of International Student & Scholar Services: 607-777-2510
- Ombudsman: 607-777-2388
- Services for Students with Disabilities: 607-777-2686 (Voice, TTY)

TITLE IX POLICY

In the event that you choose to write or speak about experiencing or surviving sexual violence (including sexual harassment, dating, and domestic violence), sexual assault, stalking, and rape, please keep in mind that federal and state laws require that, as your instructor, notify the Title IX Coordinator. He will contact you and provide you with on and off campus resources and discuss your options with you. If you would like to disclose your experience confidentially, you can contact the University Counseling Center, Decker Student Health Services, Harpur's Ferry, Ombudsman, or the Binghamton University Interfaith Council (BUIC).

For more information, please go to the VARCC website (https://www.binghamton.edu/centers/varcc/index.html), or the Title IX at Binghamton University website (https://www.binghamton.edu/services/title-ix/index.html).

MENTAL HEALTH

Diminished mental health, including significant stress, mood changes, excessive worry, or problems with eating and/or sleeping can interfere with optimal academic performance. The source of symptoms might be largely related to your coursework; if so, I invite you to speak with me (or your other faculty) directly. However, problems with relationships, family worries, loss, or a personal struggle or crisis can also contribute to decreased academic performance and may require additional professional support. Binghamton University provides a variety of support resources: the Dean of Students Office and University Counseling Center offer coaching on ways to reduce the impact on your grades. Both of these resources can help you manage personal challenges that impact your well-being or ability to thrive at Binghamton University. Accessing them, especially early on, as symptoms develop, can help support your academic success as a University student.

In the event I think you could benefit from such support, I will express my concerns (and the reasons for them) to you and remind you of our resources. While I do not need to know the details of what is going on for you, your ability to share some of your situations with me will help me connect you with the appropriate support.

CLASS ATTENDANCE REQUIREMENT

Attendance is required and attendance will be checked regularly. If you are unable to attend class, you must notify the instructor in advance with a valid reason. Failing to do so will result in a penalty to your final grade. Showing up late is considered missing the class.

COMMUNICATION

Slack is the primary communication platform for this course. Students are encouraged to help each other on Slack. Please contact the instructor to be added to the course Slack workspace.

Email may also be used for course-related communication. Students must use their Binghamton email address and include "[CS481E]" or "[CS581E]" in the subject line. Emails sent from non-binghamton.edu addresses or without the appropriate subject line identifier may be ignored.

The instructor will strive to respond to Slack messages and emails within two business days. But exceptions may occur, for example, if the instructor is traveling. Please plan accordingly—communications sent shortly before assignment deadlines may not receive timely responses.