ENGR 59500 – AI, Ethics, & Society – Fall 2025 – 3 cr.

CRN 25576 – T/R 1:30-2:45 PM – SL108 (Indianapolis) / Zoom CRN 25592 – T/R 1:30-2:45 PM – Zoom / SCHM308 (West Lafayatte) CRN 28061 – Online/Asynchronous

Zoom Registration Link: https://purdue-edu.zoom.us/meeting/register/lueHcsPNRz-mDNsAgGAEiA
Zoom Meeting ID: 985 5807 8200

Course Syllabus (Version 1)

INSTRUCTORS	OFFICE HOURS	PHONE	EMAIL
Prof. Brent Jesiek	Tuesdays, 12:30-1:15 PM (Indy TBD / Zoom) Thursdays, 11:00 AM-noon (WL ARMS 1313 / Zoom)	(765) 496-1531	bjesiek@purdue.edu
Lazlo Stepback (GTA)	Wednesdays, 6-7 PM (Zoom)	N/A	i. tepbac@purdue.edu
Omar Yaqub (GTA)	TBD	N/A	oyaqub@purdue.edu

Prof. Jesiek's Online Meeting Room (Zoom): h tps://purdue-edu.zoom.us/my/bjesiek
Lazlo Stepback's Online Meeting Room (Zoom): https://pur.uv-edu.zoom.us/j/3029484729

COURSE DESCRIPTION

This course will introduce students to ethical issues. So ciated with the development, deployment, and use of AI, inclusive of a wide range of technologies ranging from ML to LLMs. The course will include an introduction to common models and processes used in current AI systems, while also attending to deeper phrosophical questions about the kinds of "knowing," "thinking," and "being" that may be possible with AI. The course will introduce ethical principles commonly discussed in the field of AI ethics, and we will practice applying such principles to specific case studies and debates. The course will also explore the relevance and utility of more general ethical frameworks and principles. Including relevant professional codes (e.g., from IEEE, ACM). Handson and case study activities anyolving actual AI tools and dilemmas will be central to the course, including through in-class exercises and assignments. After completing the course, students should have a deeper understanding of their own moral and ethical commitments, both in general and in relation to AI, coupled with an enhanced ability to identify and potentially address ethical issues and concerns related to the design and use of AI tools and systems. Aligned with these aims, the course will require extensive reading, writing, reflection, and discussion.

LEARNING OUTCOMES

Students who complete this course should develop:

- 1. awareness and understanding of key ethical issues and debates most salient for AI,
- 2. knowledge of and the ability to apply foundational ethical frameworks and principles, including general professional codes of conduct and AI-specific ethical standards,

- 3. the ability to critically analyze AI systems and tools, including to identify potential ethical, social, political, legal, sustainability and other concerns, and
- 4. written communication capabilities in alignment with Purdue Core Curriculum guidelines, with emphasis on "clear expression of ideas in writing; includes grammar, organization, and structure" and "the ability to convey ideas concisely and coherently."

LEARNING RESOURCES, TECHNOLOGY, and TEXTS

There is no required textbook or other materials that need to be purchased for this class. However, key papers and online resources are assigned during the semester, all available on the course site in Brightspace. Lecture slides and recordings are also posted to Brightspace. Students will at times be asked to use general purpose AI/LLM platforms/tools in the course, but are not expected to pay for premium access to such platforms/tools.

COURSE REQUIREMENTS and GRADING SCALE

COURSE REQUIREMENTS	PERCENT	GRADINC SCALE		LE
Participation & Engagement	15%	20-93.2%	A 93-99.9%	A+ 100%+
Weekly Activities	15%	B- 80-81.2%	B 83.3-86.5%	B+ 86.6-89.9%
Homework Assignments	20% (-' x 5%)	C- 70-73.2%	C 73.3-76.5%	C+ 76.6-79.9%
Group Project	10%	D- 60-63.2%	D 63.3-66.5%	D+ 66.6-69.9%
Exam #1	20%		F 59.9% or less	
Exam #2	20%			
Total	100%			

TYPICAL WEEKLY SCHEDULE

In general, this course follows a regular weekly schedule of assigned tasks and meetings as summarized below, with partially distinct expectations depending on enrollment in the face-to-face or online section. Deviations to this typical schedule due to holidays/breaks, exams, etc. will be communicated well in advance. Content quizzes will cover the assigned pre-class readings/materials for a given week, and may be randomly generated from a larger question pool.

	Day(s)				
Section	Friday-Monday	Monday	Tuesday	Wednesday	Thursday
Face-to-Face (CRN 25576 and 25592) and Online Sync (28061)	Engage with assigned content	Engage with assigned content; HW due dates	Class meeting	Content quiz and/or activity (due 11:59 PM)	Class meeting
Online Async (CRN 28061)	Small group meetings	Group notes (due 11:59 PM) HW due dates	Engage with assigned content	Content quiz and/or activity (due 11:59 PM)	Review content and recordings

HOMEWORK ASSIGNMENTS (4 x 5% = 20%) and GRADING

NOTES: Relevant learning objectives are indicated in brackets. An expected length (number of words) is specified for each assignment, and a sample homework grading rubric is provided below. All homework assignments have Monday due dates, and must be submitted by 11:59 PM (ET).

Assignment #1 – AI on the Ethics of AI [O3, O4]

The objective of this assignment is to explore how ethical principles are described and implemented in a large language model (LLM). You will act as a critical prober, interrogating an AI platform about its own safety guardrails, ethical principles, and limitations

Assignment #2 – Ethics Autobiography [O2, O4]

We often do not consider the ethical implications of the regular activities we do in our daily lives, but they are present, nonetheless. For this assignment you will be asked to record observations of all actions you take in a day, including what might seem like mundane tasks like brushing your teeth or searching for something online and then write a reflection about the ethics of these actions.

Assignment #3 – TBD [TBD]

Under development - additional der als will be shared during the semester.

Assignment #4 – TBD [TPD]

Under development - additional details will be shared during the semester.

GROUP PROJECT (10%)

Under development - additional details will be shared during the semester.

EXAMS $(2 \times 20\% = 40\%)$

There are two exams in this course, one scheduled during Week 6 and a second during finals week. Students enrolled in the on-campus/residential sections (CRNs 25576/25592) are required to complete the exams in-person during regular class time (Exam #1) and the scheduled final exam time (Exam #2). The in-person exam will be paper-based and allow limited use of supporting resources (e.g., crib sheet or similar). Students enrolled in the online/asynchronous section (CRN 28061) will be required to complete the exam within a designated period of time using the Respondus web browser, and with limited use of supporting resources (e.g., crib sheet or similar). Additional information about the exams, including coverage, question types, etc., will be reviewed and discussed in class. Some amount of in-class review will be scheduled before each exam.

Sample Assignment Grading Rubric

	SCORE (maximum 10 points total possible score)				
	Proficient	Developing	Attempted	Deficient	
CRITERIA	4 points 3.5 points		3 points	-0.5 for each issue	
1. Content (Assignment- Specific)	Addresses the required content completely (see assignment).	One major gap or shortcoming in submitted work (see assignment).	Two major gaps or shortcomings in submitted work (see assignment).	Three or more major gaps or shortcomings in submitted work (see assignment).	
	2 points	1.5 points 1 points		0.5 / 0 points	
2. Mechanics (Grammar, Spelling, Readability)	Few or no obvious grammar, spelling, readability issues.	Some grammar, spelling, and/or readability issues.	Many grammar, spelling, and readabi ity issues.	Writing quality is very poor, document is difficult to read.	
3. On-Time Submission	Submitted on time.	Submitted up to Submitted up one hour late. Submitted up to 24h late		Submitted more than 24h late.	
	1 points	0.75 points	0.5 points	0.25 / 0 points	
4. Format (Layout, Citations)	Follows the required format, including layout and citations.	Mostly follows the required format, only	Significant formatting sst es and/or i consistencies.	Does not follow the required format, major deficiencies.	
5. Completion	Meets required length, includes all requested material.	Modestly below required leng h, minor content gaps.	Much shorter than required, major content oversights.	Incomplete, missing major parts of required content.	

COURSE REQUIREMENTS and EXPECTATIONS

General

- All homework assignments are due at the end of the indicated Monday (i.e., submitted no later than 11:59 PM on the indicated Monday due date). All homework assignments must be submitted via the corresponding Brightspace link. Homework submitted up to one day late (24 hours) is accepted with a penalty (see grading rubric for additional details).
- Quizzes (and/or other learning activities) are required most weeks, completed in Brightspace, and due at the end of the indicated Wednesday (i.e., submitted no later than 11:59 PM ET on the indicated due date). These will always cover the assigned readings/materials associated with that week's classes. The associated deadlines are firm, and quizzes will NOT be available after the deadline.
- There are no makeup quizzes or exams, but ONE low quiz/activity grade will be dropped.

Face-to-Face/Synchronous (CRNs 25576/25592)

• Participation in all classes is EXPECTED and counts for a substantial part of your course grade. Any adverse circumstances that may impact your ability to attend and/or participate in the class should be proactively discussed with the course instructor. Excused absences will be handled on a case-by-case basis, with appropriate documentation (see below).

- You are permitted THREE unexcused class absences without penalty. Every additional unexcused absence will reduce your course grade by 1%, up to a maximum of 15%.
- Your class participation grade will be based on your attendance in class sessions, your active and engaged participation in class discussions, groupwork, and other class activities.

Online/Asynchronous (CRN 28061)

- You will be assigned to a discussion group that will meet most weeks to discuss the most recent week's assigned content and class recordings, identify key take-aways, and pose lingering questions. Discussion prompts and activities will be provided for these meetings. Groups are expected to: meet for 30-60 minutes at a mutually agreed upon time (between Friday and Monday); document and report what group members were present and absent; and submit a substantial written summary of their group discussion and activities.
- You may miss ONE group meeting without penalty. Every additional unexcused absence from group meetings will reduce your course grade by 1%, up to a maximum of 15%. Excused absences are handled on a case-by-case basis, v i'n appropriate documentation expected (see below).

ATTENDANCE POLICY

Face-to-Face/Synchronous (CRNs 25576/25592)

This course follows the <u>University Academic Regula ions regarding class attendance</u>, which state that students are expected to be present for every meeting of the classes in which they are enrolled. Attendance will be taken at the beginning of class and lateness will be noted. When conflicts or absences can be anticipated, such as for many University-sponsored activities and religious observations, you should inform me class and information and advance as possible. For unanticipated or emergency absences when advance motification is not possible, contact me as soon as possible by Purdue e-mail or phone. For alisences that do not fall under excused absence regulations (see below), this course follows the following procedures:

- 1. Do not come to class if you are recting ill, but DO e-mail me at <u>bjesiek@purdue.edu</u>, with the subject line. TCE59500 Absence. I do not need details about your symptoms just let me know you are feeling ill and cannot come to class. If it is an emergency, please follow the University regulation; ou medical care (see below).
- 2. Unless it falls under the University excused absence regulations (see below), any work due should be submitted on time via our course Brightspace.
- 3. If that day's class involves assessed work such as a test, we will discuss if and how you can make up the work.
- 4. The most important consideration in any absence is how it will affect your achievement of the assignment objectives and the course learning outcomes.

For cases that fall under **excused absence regulations**, you or your representative should contact or go to the <u>Office of the Dean of Students (ODOS) website</u> to complete appropriate forms for instructor notification. Under academic regulations, excused absences may be granted by ODOS for cases of grief/bereavement, military service, jury duty, parenting leave, or certain types of medical care. The processes are detailed, so plan ahead.

Online/Asynchronous (CRN 28061)

Students enrolled in the online section are expected to be present for, and engage actively in, weekly small group meetings, as described above. Active engagement means coming to meetings prepared, including by reviewing the assigned content and class recordings. Students who miss or expect to miss a group meeting for any reason (illness, travel, conflict with other scheduled events or family obligations, etc.) should notify their fellow group members, preferably in advance. Students seeking to have a group meeting absence excused should proactively contact the instructor with appropriate explanation and documentation (see above). If a group encounters persistent difficulties with attendance and/or engagement among group members, they are strongly encouraged to contact the instructor for advice and assistance. If you are unable to complete an assignment, quiz, test or other class deliverable on time due to an illness or other circumstances, please refer to the section above regarding course and university policies for handling absences.

NONDISCRIMINATION STATEMENT

Purdue University is committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters tolerance, sonsitivity understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her potential. In pursuit of its goal of academic excellence, the University each to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the each nge of ideas, and enriches campus life. A hyperlink to Purdue's full Nondiscrimination Policy Statements is included in our course Brightspace under "University Policies and Statements."

ACCESSIBILITY

Purdue University strives to make learning experiences accessible to all participants. If you anticipate or experience physical or academic harriers based on disability, you are encouraged to contact the Disability Resource Center at. Ire purdue.edu or by phone: 765-494-1247, as soon as possible. If the Disability Resource Center (DRC) has determined reasonable accommodations that you would like or contact in this class, you must send me your Course Accommodation Letter. Instructions on sharing your Course Accommodation Letter can be found by visiting: https://www.purdue.edu/drc/stuclents/course-accommodation-letter.php. You are encouraged to contact me as soon as possible to discuss implementation of your accommodations.

EQUITY and RESPECT

Throughout the semester, we will be exploring personal morality and professional ethics from a wide variety of viewpoints. We will encourage you to examine your perspectives and values as individuals, students, aspiring professionals, and individuals from a variety of personal backgrounds and with diverse educational and career goals. As we experience self-discovery, we encourage you to acknowledge, respect, and appreciate differences.

Additionally, students should expect the instructors to treat them professionally and with respect. Students are encouraged to attend office hours, and in all interactions, should have their questions and concerns taken seriously. The instructors will make a good faith effort to give timely and appropriate feedback on all assessments (i.e., homeworks, quizzes, tests, etc.), typically within one week of submission.

ACADEMIC INTEGRITY

Academic integrity is one of the highest values that Purdue University holds. As the Purdue Honor Pledge states: "As a boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue." For additional information, also see <u>Academic Integrity: A Guide for Students</u>. Individuals are encouraged to alert university officials to potential breaches of this value by either emailing integrity@purdue.edu or by calling 765-494-8778. While information may be submitted anonymously, the more information is submitted the greater the opportunity for the university to investigate the concern. More details are available on our course Brightspace under "University Policies and Statements."

This course in particular provides opportunities to learn about and practice professionalism, including high standards of ethical conduct. I expect that you will not engage in cheating on quizzes and exams, e.g., you will not copy the work of others, or use unauthorized resources. Additionally, all homework assignments must be written in your own words, with ideas and quotations from others (including those sourced using AI/LLM too's) cited appropriately. If you are ever uncertain about what is appropriate or permissible, please and the instructor.

Incidents of academic misconduct in this course will be a dressed by the course instructor and referred to the Office of Student Rights and Responsibilities (OSRR) for review at the university level. Any violation of course policies as it relates to academic integraty will result minimally in a failing or zero grade for that assignment, and at the instructor's discretion may result in a failing grade for the course. In addition, all incidents of academic misconduct will be forwarded to OSRR, where university penalties, including removal nom the university, may be considered.

POLICY on AI/LLM TOOLS

Students who use AI-generated writing for any portion of their written assignments, except when specifically directed to do so, will or deemed in violation of the academic integrity expectations for this course. Violations carringly de a failing grade on an assignment, failing grade in the course, and restrictions from further plass participation. All suspected incidents of academic dishonesty will also be referred to the Office of Student Rights and Responsibilities (OSRR) for further review, as described above.

Using AI tools to help with such things as idea generation or planning your work may be appropriate uses of AI/LLM tools, though your context and the nature of the assignment must be considered. Also, keep in mind that words and ideas generated by some AI tools make use of other, human authors' ideas without referencing them, which, as things stand, is controversial in itself and can be viewed as a form a plagiarism. If use AI tools for any aspect of any graded work in this class where such use is not already required or otherwise expected, you must disclose such use with a brief acknowledgement and explanation, e.g.:

I acknowledge the use of ChatGPT (https://chat.openai.com/) to plan my essay, and generate some initial ideas which I used in background research and self-study in the drafting of this assessment.

Policy and statement adapted from: <a href="https://www.ucl.ac.uk/students/exams-and-assessments/assessment-success-quide/engaging-ai-your-education-and-assess-quide/engaging-ai-your-education-and-assess-quide/engaging-ai-your-education-and-assess-quide/engaging-ai-your-education-ai-your-edu

EMERGENCY PROVISIONS

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Relevant changes to this course will be posted onto the course website or can be obtained by contacting the instructors or TAs via email or phone. You are expected to read your @purdue.edu email on a frequent basis.

A link to Purdue's Information on <u>Emergency Preparation and Planning</u> is located on our Brightspace course site under "University Policies and Statements." This website covers topics such as Severe Weather Guidance, Emergency Plans, and a place to sign up for the Emergency Warning Notification System. I encourage you to download and review the <u>Emergency Preparedness for Classrooms document</u>.

The first day of class, I will review the Emergency Preparedness plan for our specific classroom, following Purdue's required Emergency Preparedness Briefing. Please make note of items like: the location to where we will proceed after evacuating the building if we hear a fire alarm; the location of our Shelter in Place in the event of a to nat's warning; and the location of our Shelter in Place in the event of an active threat such as a shooting.

MENTAL HEALTH/WELLNESS STATEMENT

If you find yourself beginning to feel some stress, anxiety and/or feeling slightly overwhelmed, try Therapy Assistance Online (TAO), a web and app-based mental health resource available courtesy of Purdue Counseling and Psychological Services (CAPS). TAO is available to all students at any time by creating an account on the TAO connect website, or downloading the app from the App Store or Google Play. It others free, confidential well-being resources through a self-guided program informed by psychotherapy research and strategies that may aid in overcoming anxiety, depression and other concerns. It provides accessible and effective resources including short videos, brief exercises, and relf-reflection tools.

If you need support and internation above options and resources, please contact or see the Office of the Dean of Students, Cail 765-494-1747. Hours of operation are M-F, 8 AM- 5 PM.

If you find yourself struggling to find a healthy balance between academics, social life, stress, etc., sign up for free one-on-one virtual or in-person sessions in West Lafayette with a <u>Purdue Wellness Coach at RecWell</u>. Student coaches can help you navigate through barriers and challenges toward your goals throughout the semester. Sign up is free and can be done on BoilerConnect. Students in Indianapolis will find support services curated on the <u>Vice Provost for Student Life website</u>.

If you're struggling and need mental health services: Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of mental health support, services are available. For help, such individuals should contact <u>Counseling and Psychological Services (CAPS)</u> at 765-494-6995 during and after hours, on weekends and holidays, or by going to the CAPS offices in <u>West Lafayette</u> or <u>Indianapolis</u>.

SAMPLE/PARTIAL COURSE SCHEDULE (will be updated/expanded during semester)

Wk	Date	Topics and Readings	Activities & Assignments
1	1 Introductions, Course Objectives, Foundational Concepts		
	T 8/26	Introductions, Course Objectives Read: Course Syllabus; Hall (2025)	
	R 8/28	Technology, Society, Engineering, Politics, & Agency Read: Winner (1980) (see activity instructions)	Week 1 Activity (due Wed. 8/27)
2	Histor	ical, Disciplinary, and Technical Landscapes	
	T 9/2	Historical and Disciplinary Landscape for AI Read: Russell & Norvig (2022), pp. 19-45	
	R 9/4	Technical Landscape for AI Read: Russell & Norvig (2022), pp. 45-53; The 2025 AI Index Report – Top Takeaways	Week 2 Activity (due Wed. 9/3)
3			
	T 9/9	Cartesian Dualism and Other Theories o 'Mind' Read: Speaks (2018); Thomas (2025), pp. 1-2	
	R 9/11	Agents and Intentionality; Philosophy of Computation Read: Searle (1980); van Leeuwan (2015), pp. 1-4	Week 3 Activity (due Wed. 9/10)
4	Engine	eering Ethics 101	HW #1 (due 9/15)
5	AI Eth	ics 101	
6	Wrap-	up Topics, Exam Review, Exam #1	
7	Case S	tudy #1	HW #2 (due 10/6)
		SUDIFICION	