

# Syllabus

## Survey 605 Section PLS 1 AI assisted surveys

### 2 credits / 4 ECTS

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**Fall 2026: September 3 - October 22**

The course introduces the students to the latest literature and practices on AI assisted surveys. For each step of the survey process, we will test how and how well, or not, GenAI tools can assist and sometimes replace the researcher in designing, fielding, analyzing, and summarizing survey findings. Before moving to each step of the survey process, we will discuss key topics such as how LLMs generate content, prompt engineering, and the Total Error framework

By the end of the course, you will:

- Learn how to best prompt LLMs for survey research help and assistance
- Know how to evaluate the quality of LLMs outputs
- Familiarize yourself with strengths and challenges of different LLMs tools
- Get familiar with the key papers and research on LLM assisted surveys
- Recognize where LLMs are not necessary
- Understand the ethical usage of LLMs/AI Tools

This Fall course is based on the experimental Spring 2026 course with a cohort of UMD students. Given the rapid advancement of LLM tools and the extreme production of research on the topic, each week's material will contain a new set of slides and references updating the content to the latest on the topic. An extra video recording follows the new set of slides.

### Prerequisites

SURV400 Fundamentals of Survey and Data Science

Knowing the basics of survey and data science is necessary so you can better evaluate the quality of the LLM outputs and answers

## **Class structure and course concept**

This is an online course using a flipped classroom design. It covers the same material and content as an on-site course but runs differently. In this course, you are responsible for watching video-recorded lectures and reading the required literature for each unit prior to participating in mandatory, weekly, one-hour online meetings where students have a chance to discuss the materials from a unit with the instructor. Just like an on-site course, homework will be assigned and graded, and there will be a final exam at the end of the course.

Although this is an online course where students have more freedom in when they engage with the course materials, students are expected to spend the same amount of time overall on all activities in the course- preparatory activities (readings, watching videos), in-class-activities (participating in online meetings), and follow-up activities (assignments and exams) – as in an on-site course. As a rule of thumb, the workload in all courses will be approximately 12h/week. This is a 2-credit/4-ECTS course that runs for 8 weeks. Please note that the actual workload will depend on your personal knowledge.

## **Mandatory weekly online meetings**

*\*\*\* Thursday, 11AM ET, starting September 3, 2026.*

Meetings will be held online through Zoom. Follow the link to the meeting sessions on the course website on <https://elms.umd.edu/>. If video participation via the Internet is not possible, arrangements can be made for students to dial in and join the meetings via telephone.

In preparation for the weekly online meetings, students are expected to watch the lecture videos, read the assigned literature, and answer questions on the discussion board before the start of the meeting. In addition, students are encouraged to post questions about the materials covered in the videos and readings of the week in the forum before the meetings (deadline for posting questions is Wednesday, 8:00 AM ET the day before class).

Students have the opportunity to use the Conferences feature in Canvas to connect with peers outside the scheduled weekly online meetings (e.g., for group projects and study groups). Students are not required to use Canvas Conferences and can use other online meeting platforms such as Google Meet or Skype.

## Grading

Please refer to the reading document posted on Canvas

## Technical equipment needs

The learning experience in this course will mainly rely on the online interaction between the students and the instructor during the weekly online meetings. Therefore, we encourage all students in this course to use a computer or laptop, headset, and Internet connection that allow for good quality video and sound. The instructor will ask all students to participate with video and sound in order to simulate a classroom experience.

The students should have at least 1 subscription to any of these 4 major general purpose GenAI/LLM tools such as ChatGPT 5.6 (Go, Plus or above), Gemini Pro (e.g. Google AI Plus or above), Claude (Pro, Max5X or above) or Copilot (Microsoft 365 personal or above). Students are also encouraged to check for special offers & student discounts. We understand that they come at a monthly cost but recently these prices came down and settled around to less than \$10 per month (with the exception of Claude cheapest plan that is \$20 a month currently). Perplexity Education Pro is another option as it allows access to different pro models at a discounted price for students.

Using a free version of these tools is also accepted with the caveat that the students will not be able to access advanced features we discuss in class.

In any case the grading will be independent from the model used as long as proper documentation is in place as instructed in the assignments

## Long course description

This course will provide comprehensive training on how AI can assist a survey project from beginning to the end.

We will focus on each step of the research process (Callegaro and Yang, 2025)

- Planning
- Execution
- Activation

In the **planning** phase, there are two sub-phases:

- Ideate and define  
AI can be an idea helper and assist in generating research ideas starting from previous knowledge.

A literature review can definitely be assisted by AI, and there are specific tools available for that.

- Design and plan

The design stage is where AI can assist in producing a design brief, analysis plan and map the concepts that are going to be measured using the questionnaire. Here, AI has been used to help draft and pretest the questionnaire, help write survey material such as survey invitations and confidentiality assurances.

The **execution** phase consists of gathering and analyzing data:

Data wizard

- AI can help collect data by interacting with the respondents in open-ended survey questions, for example, or conducting the whole interview in a qualitative manner.
- LMMs can also generate a fully synthetic dataset.

Analysis copilot

- Once the data collection is under way, AI can assist in automating and writing statistical code to analyze the dataset (stat code assistant). It can also be used as theme discovery, for coding of open-ended answers and data visualization.

The **activation** phase consists of:

Insight partner

- Help summarize findings, generate reports and help review the final deliverables, such as a research report or a complete academic paper.

Writing and communication aid

- Develop presentation materials, create multi-media artifacts, generate blog posts for different platforms and images based on content from the research.

## Primary Readings

Callegaro, M., & Yang, Y. (2025, July 10). *The role of AI tools in survey research* [Webinar]. European Social Survey and NatCen Social Research Survey Methodology Seminar Series, [Online](#) video and PDF.

Kreuter, F. (2025). AAPOR presidential address: “That ain’t the way I heard it!” on the role of surveys in shaping (and being shaped by) generative AI. *Public Opinion Quarterly*, 89(3), 950–962. <https://doi.org/10.1093/poq/nfaf049>

Huang, C. (Host). (2025, December 10). *From surveys to LLMs: The new era of social data – with professor Frauke Kreuter* (No. 119) [Podcast]. Australian Research Council Centre of Excellence for Mathematical and Statistical Frontiers (ACEMS). <https://www.therandomsample.com.au/podcast/social-data-science/>

Rothschild, D., Marlar, J., Amaya, A., Barari, S., Buskirk, T. D., Cobb, C., Gennai, J., Hillygus, S., Korlakai Vinayak, R., Krupenkin, M., Lee, S., Steiger, D., & Webb, B. (2026). *Responsible AI integration in survey research*. American Association for Public Opinion Research. <https://aapor.org/wpcontent/uploads/2026/05/Responsible-AI-Integration-In-Survey-Research.pdf>

von der Heyde, L., Keusch, F., Buskirk, T. D., & Eck, A. (2026). *AI in the loop?! A systematic review of the use of large language models in survey and public opinion research* (Eubj4\_v1). SocArXiv. [https://osf.io/preprints/socarxiv/eubj4\\_v1/](https://osf.io/preprints/socarxiv/eubj4_v1/)

## Academic conduct

Clear definitions of the forms of academic misconduct, including cheating and plagiarism, as well as information about disciplinary sanctions for academic misconduct may be found at <https://www.president.umd.edu/sites/president.umd.edu/files/documents/policies/III100A.pdf> (University of Maryland)

Knowledge of these rules is the responsibility of the student, and ignorance of them does not excuse misconduct. The student is expected to be familiar with these guidelines before submitting any written work or taking any exams in this course. Lack of familiarity with these rules in no way constitutes an excuse for acts of misconduct. Charges of plagiarism and other forms of academic misconduct will be dealt with very seriously and may result in oral or written reprimands, a lower or failing grade on the assignment, a lower or failing grade for the course, suspension, and/or, in some cases, expulsion from the university.

## Accommodation for students with disabilities

In order to receive services, students at the University of Maryland must inform their instructor at the start of the course regarding any necessary accommodations and contact the Accessibility & Disability Service (ADS) office to register in person for services. Please call the office to set up an appointment to register with an ADS counselor. Contact the ADS office at 301.314.7682; <https://www.counseling.umd.edu/ads/>.

## Course evaluation

In an effort to improve the learning experience for students in our online courses, students will be invited to participate in an online course evaluation at the end of the course (in addition to the standard university evaluation survey). Participation is entirely voluntary and highly appreciated.

## Detailed class by class table of content

### Class 1 Introduction to AI/LLMs tools

- How GenAI and LLMs work
- Hallucinations & HalluCitations
- GenAI and LLMs tools + agentic browsers

### Class 2 Quality & transparency of LLMs, Ethics, Environmental concerns, fairness & bias, Loss of skills and Ethical use Evaluating the quality of LLMs

- LLMs transparency
- Ethics of GenAI/LLMs tools
- Environmental concerns
- Fairness and bias
- Loss of skills, productivity and quality of work
- Ethical use of AI for research purposes: key concepts

### Class 3: Prompt engineering & beyond, personal data protection & enterprise settings

- Prompt engineering
- Custom instructions in LLMs & MyGPTs & variations
- Personal data protection settings
- Data protection settings when working with survey data

### Class 4 TSE & beyond, AI & surveys framework, and using AI in the design phase

- TSE, TEF, & TED-on
- How survey researchers are thinking about AI assisted research
- AI assisted research conceptual framework
- Systematic review of papers using GenAI in survey research
- Before the design phase: using AI to help managing meetings and analyze research proposals
- Specialized AI tools to help conducting a literature review
- General purpose AI tools features that can help conducting a literature review
- Research plan with AI assistance

## Class 5 Research plan with AI assistance + AI & to collect qualitative insights

- Research plan with AI assistance
- AI & Qualitative research
- AI as Qual assistant / interviewer

## Class 6 AI to analyze qualitative research output & Generating surveys questions

- AI to analyze qual research output
  - Recent debate in the qualitative community about GenAI
  - Short excursion into Qualitative data analysis software
  - Recent studies comparing AI-assisted coding with human qualitative coding
- Generating survey questions with the help of AI
- AI as an expert reviewer of a questionnaire

## Class 7 AI pretester & helping respondents, Respondents helping themselves + AI-assisted open-ended coding and data analysis

- AI to pretest questionnaires
- AI assisting the respondent to provide better answers
- Replacing/complementing surveys using LLM assisted open ended questions
- Respondents using AI to answer open-ended questions
- Agentic browsers filling out questionnaires
- AI-Assisted open-ended answers coding
- LLM helping analyzing survey data

## Class 8 LLM analyst & survey result writer + Silicon samples

- LLM helping writing code to analyze survey data
- AI to generate insights
- AI helping writing survey results
- Generating synthetic respondents
  - LLMs answering questions based on personas
  - Digital twins methodology
- Final thoughts