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SPECIALIZED DOCTORAL COURSE

Basic Information:

Course Title: **Law and Ethics in Information Technology**
Lecturer: Prof. Stoyan Stavru
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Total Teaching Hours: 30 hours of lectures + 90 hours of independent work in the library and with resources on the conceptual project of the dissertation

Annotation

The course examines the legal and ethical issues associated with the use of generative artificial intelligence (AI) and large language models (LLMs) in the humanities and social sciences. Important distinctions are drawn regarding the ways these new tools are utilized in research, with particular attention paid to the challenges facing doctoral candidates, given that their training is aimed at obtaining the doctoral degree. This necessitates a clear distinction between ethically permissible uses of LLMs in education and research, as well as an overview of existing regulations and practices relevant to the work of doctoral candidates. The topics covered are categorized into two main groups: those related to academic reading (literature reviews, familiarization with primary sources, interpretation of original texts, etc.) and those related to academic writing (planning and structuring arguments, text generation, using AI for editing academic texts, etc.).

Course content

Topic 1: Specifics of the humanities and social sciences.

Topic 2: Generative AI in education and science. Large Language Models. Prompt engineering. Agentic AI.

Topic 3: Generative AI as a research tool. Automated research.

Topic 4: „Close“, „distant“ and „weak“ reading. Literature review. Risks of delegating interpretive tasks to AI.

Topic 5: AI in empirical research. Synthetic data and simulations of social behavior.

Topic 6: Plagiarism and the use of Large Language Models. AI and academic writing.

Topic 7: The generative „turn“ in scientific authorship. Authorship and genealogy.

Topic 8: Artificial intelligence and the phenomenology of authorship. Co-authorship. Hyper-authorship.

Topic 9: Generative AI in publishing policies. Peer review. Prohibitions and disclosure requirements.

Topic 10: Tools for detecting the use of generative AI. Proving violations. Regulations and potential sanctions.

Topic 11: AI and the evaluation of research projects. Inequalities and competitiveness. Artificial intelligence in the work of ethics committees.

Topic 12: The impact of Large Language Models on the content of scientific texts. Homogenization and diversity.

Topic 13: Generative AI and criteria for scientific contribution.

Topic 14: Traceability and safeguarding of AI-assisted research. Research log, reproducibility, and accountability.

Topic 15: Cognitive load and intellectual dependency. Loss of research skills. The „dead science“ hypothesis.

Teaching and assessment methods

Legal analysis of applicable Bulgarian, European, and international legislation.

Conducting discussions and deliberations.

Independent research into issues, including the verification of primary sources and the preparation of an analysis related to the dissertation's conceptual framework.

Examination via the defense of an independent analysis of a case study or research problem. Assessment criteria: accuracy of sources, distinction between legal and ethical arguments, critical discussion of alternatives, and substantiation of conclusions.

Competencies acquired as a result of training

- ability to navigate key ethical and legal terminology and use it when discussing the ethically permissible uses of generative artificial intelligence in the humanities and social sciences;
- ability to use large language models in carrying out research tasks in a manner consistent with current regulations;
- ability to apply relevant publishing practices regarding the ethically permissible use of generative artificial intelligence in the humanities and social sciences.

Literature:

Bender, E. M., T. Gebru, A. McMillan-Major, S. Shmitchell On the Dangers of Stochastic Parrots: Can Language Models Be Too Big? // Proceedings of FAccT ’21, 2021, p. 610-623, https://doi.org/10.1145/3442188.3445922;

Birhane, A., A. Kasirzadeh, D. Leslie, S. Wachter Science in the Age of Large Language Models. // Nature Reviews Physics, 2023, № 5, p. 277-280. https://doi.org/10.1038/s42254-023-00581-4;

Bjelobaba, S., L. Waddington, M. Perkins, T. Foltýnek, S. Bhattacharyya, D. Weber-Wulff Maintaining Research Integrity in the Age of GenAI: An Analysis of Ethical Challenges and Recommendations to Researchers. // International Journal for Educational Integrity, 2025, № 21, 18. https://doi.org/10.1007/s40979-025-00191-w;

Floridi, L., M. Chiriatti GPT-3: Its Nature, Scope, Limits, and Consequences. // Minds and Machines, 2020, № 30, p. 681-694. https://doi.org/10.1007/s11023-020-09548-1;

Gao, C., F. Howard, N. Markov, E. Dyer, S. Ramesh, Y. Luo, A. Pearson Comparing Scientific Abstracts Generated by ChatGPT to Real Abstracts with Detectors and Blinded Human

Reviewers. // npj Digital Medicine, 2023, No 6, art. No 75. https://doi.org/10.1038/s41746-023-00819-6;

Islam, G., M. Greenwood Generative Artificial Intelligence as Hypercommons: Ethics of Authorship and Ownership. // Journal of Business Ethics, 2024, Vol. 192, p. 659-663. https://doi.org/10.1007/s10551-024-05741-9

Messeri, L., M. Crockett Artificial Intelligence and Illusions of Understanding in Scientific Research. // Nature, 2024, No 627, p. 49-58. https://doi.org/10.1038/s41586-024-07146-0;

Piper, A. A Theory-First Approach toward Using Generative AI for Humanities Research. // Computational Humanities Research, 2026, Vol. 2. https://doi.org/10.1017/chr.2026.10039

Mann, S., A. Vazirani, M. Aboy, B. Earp, T. Minssen, I. Cohen, J. Savulescu, J. Guidelines for Ethical Use and Acknowledgement of Large Language Models in Academic Writing. // Nature Machine Intelligence, 2024, No 6, p. 1272-1274. https://doi.org/10.1038/s42256-024-00922-7

van Dis, E., J. Bollen, W. Zuidema, R. van Rooij, C. Bockting ChatGPT: Five Priorities for Research. // Nature, 2023, No 614, p. 224-226. https://doi.org/10.1038/d41586-023-00288-7.

Institutional sources:

Европейски съюз Регламент (ЕС) 2024/1689 на Европейския парламент и на Съвета от 13 юни 2024 година (Актът за изкуствения интелект), публикуван в Официален вестник на Европейския съюз L, 2024/1689. https://eur-lex.europa.eu/legal-content/BG/TXT/HTML/?uri=OJ:L_202401689;

ALLEA The European Code of Conduct for Research Integrity. Revised Edition 2023. Berlin: All European Academies. https://doi.org/10.26356/ECOC;

European Commission Living Guidelines on the Responsible Use of Generative AI in Research. 2026, Third edition. https://tinyurl.com/2s48akjn;

Miao, F., W. Holmes Guidance for Generative AI in Education and Research. Paris: UNESCO. 2023, https://unesdoc.unesco.org/ark:/48223/pf0000386693.

Additional information

There are no prerequisites. It is recommended that the doctoral student be able to work with sources in English.