



<b>Module title</b>	Ethics and Sustainability of Artificial Intelligence (AI)
<b>Module content</b>	<p><b>Brief description</b>          "Ethics and Sustainability of Artificial Intelligence (AI)" focuses on AI's non-technical aspects. This module gives students a comprehensive understanding of the ethical and sustainable considerations of using and developing AI. By developing an understanding of the social, ethical, and ecological impact of AI technologies and learning how to deal responsibly with these challenges by AI, participating students will shape the future of responsible AI use.</p>
<b>Learning contents</b>	<p><b>Broadening knowledge</b>          The module broadens students' knowledge by enabling them to gain an in-depth understanding of AI technologies' diverse social, moral, and ecological impacts and critically examine them. By discussing fairness and bias in AI algorithms, data protection, and the sustainability of AI systems, students learn how to use AI technologies responsibly and ethically in their future professional practice.</p> <p><b>Utilization and transfer</b>          Students are qualified to transfer ethical awareness and sustainable approaches into AI practice, enabling them to deal responsibly with AI technologies in various professional contexts.</p> <p><b>Scientific innovation</b>          By focusing on ethics and sustainability in AI, this module promotes the development of innovative approaches and applications that overcome technical challenges and prioritize ethical guidelines and environmental sustainability, paving the way for thoughtful and future-proof AI innovations.</p> <p><b>Scientific self-understanding / professionalism</b>          This module strengthens students' scientific self-understanding by guiding them to recognize and internalize the importance of ethical considerations and sustainability principles in the research and development of AI and AI-based technologies. At the same time, it promotes their professionalism as they learn to deal responsibly with their work's social, ecological, and moral dimensions, making them prudent and ethical professionals in their future professional environment.</p>
<b>Teaching methods</b>	<ul style="list-style-type: none"> <li>• lecture</li> <li>• research-oriented projects</li> <li>• group work</li> <li>• literature study</li> <li>• academic writing, including peer-reviewing</li> </ul>
<b>Requirements/prerequisites</b>	<p><b>Recommended prior knowledge</b>          An independent opinion and a willingness to engage in discussion are essential for this module; however, no prior knowledge of the basics of AI or within the social and ecological contexts is needed.</p>



<b>Recommended Literature</b>	<ul style="list-style-type: none"><li>• VÉLIZ, Carissa. Oxford Handbook of Digital Ethics. Oxford University Press, 2023.</li><li>• ASIMOV, Isaac. Die Isaac-Asimov-Sammlung. Runaround. I, Robot, 1950.</li><li>• FUCHS, Christian. Digitale Ethik: Medien, Kommunikation und Gesellschaft, Band 5. Routledge, 2022.</li><li>• VAN WYNSBERGHE, Aimee. Nachhaltige KI: KI für Nachhaltigkeit und die Nachhaltigkeit von KI. AI and Ethics, 2021.</li><li>• ADAMS, Douglas; SCHWARZ, Benjamin. Per Anhalter durch die Galaxis, 1990.</li><li>• LAVISTA FERRES, Juan M.; AI for Good: Applications in Sustainability, Humanitarian Action, and Health, Wiley, 2024.</li></ul>
<b>Examination</b>	<b>Graded examination</b> <ul style="list-style-type: none"><li>• Presentation (with written elaboration)</li></ul> <b>Duration and scope of the examination</b> <ul style="list-style-type: none"><li>• Presentation: approx. 20 minutes, associated paper: approx. 5 pages per person</li></ul>
<b>Max. Participants</b>	16
<b>Language of lecture</b>	English
<b>Promoter of the module</b>	Prof. Dr. Julius Schöning
<b>Module instructor / Home University</b>	Prof. Dr. Julius Schöning, University of Applied Sciences Osnabrück, Germany