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Syllabus
Course description

Course title	Shaping the Next Generation: Trends in Technology and Sustainable Innovation
Course code	tbd
Scientific sector	SECS-P/08
Semester	First Semester
Academic Year	2025-2026
Credits	6
Day and time of the lectures	6pm (Mondays)
Place or/and online	Bolzano
Total lecturing hours	36
Level (bachelor, master, for everybody)	All
Prerequisites	None

Specific educational objectives	In our rapidly evolving world, the importance of understanding and embracing emerging technologies and sustainable innovations cannot be overstated. These advancements can transform industries, reshape societal norms, and address some of the most pressing global challenges, including climate change, healthcare accessibility, and economic inequality. By staying abreast of these trends, individuals and organizations can better navigate the complexities of the modern technological landscape and contribute to a more sustainable, equitable future.
	This course provides a comprehensive overview of emerging technologies and sustainable innovation trends. It is designed for individuals seeking professional skills and knowledge essential in navigating and leveraging the rapidly evolving technological landscape.
	• The course will offer students a foundational understanding of key emerging technologies such as digital transformation, artificial intelligence, and green technology innovation. It will discuss the scientific principles behind these technologies, their development, and their potential impact on various sectors and society.
	• Students will gain insights into practical applications of these technologies across different industries, finance, and education. They will learn about the challenges and opportunities presented by these innovations, enabling

them to make informed decisions and implement effective strategies within their professional fields.

• The course will emphasize the importance of ethical considerations and corporate digital responsibility in using emerging technologies. Students will explore the role of local governments and NGOs in promoting sustainability and the advantages of sustainable transportation systems, such as public transportation, cycling, and the adoption of electric vehicles.

• The course will analyze trends and predictions for future technological advancements, inspiring students to innovate and pioneer new solutions. They will have the foresight and adaptability needed to thrive in an ever-changing technological environment.

Lecturer	**Dr. Stephen Oduro** E523/Noi Park Stephen.oduro@unibz.it Tel. +390471013048 https://www.unibz.it/en/faculties/economics-management/academic-staff/person/48492-stephen-oduro
Scientific sector of the lecturer	SECS-P/08
Teaching language	*English/Italian*
List of topics covered	The topics to be covered include, but are not limited to: -Introduction to emerging technologies and their impact on society -Green technologies & society -The future of work & emerging technologies (remote work, digital nomadism, and the gig economy) -Digital transformation for sustainability -Corporate Digital Responsibility principles (including EU Green Deals and Sustainable Development Goals (SDGs) -Fundamentals of AI and its impact on society and individuals -Sustainable transportation and innovation (Mobility (EVs, bike-sharing, public transport, smart cities) -Circular Economy & Sustainable Design
Teaching format	*Frontal lectures, exercises, and projects*

Learning outcomes	**Knowledge and understanding** • Acquire a foundational understanding of emerging technologies such as digital transformation, artificial intelligence, and industrial automation.

- Understand the scientific principles behind these technologies and their potential impact on various sectors and societies.
- Recognize the role of ethical considerations and sustainability in the application of these technologies.

Applying knowledge and understanding
- Develop practical skills to implement emerging technologies in different industries, including healthcare, finance, and education.
- Identify challenges and opportunities presented by technological advancements and devise effective strategies.
- Utilize knowledge of sustainable practices to promote environmentally-friendly solutions in professional fields.

Making judgments
- Critically evaluate the implications of emerging technologies on society and the environment.
- Make informed decisions regarding the adoption and integration of new technologies in various sectors.
- Assess the ethical considerations and digital responsibilities associated with technological innovations.
- Critically appraise alternative approaches to using and managing digital technologies at firm and individual level for sustainability
- Evaluate the advantages and disadvantages of technologies and innovation

Communication skills
- Develop communication skills for presenting and discussing real business cases or other project assignments in the context of technology and innovation
- Effectively communicate complex technological concepts to diverse audiences.
- Collaborate with stakeholders to promote the adoption of sustainable and innovative practices.
- Present informed arguments on the advantages and challenges of emerging technologies.

Learning skills
- Develop adaptability to keep pace with rapid technological changes.
- Foster a continuous learning mindset to stay updated with the latest technological advancements and trends.
- Encourage innovation by exploring new ideas and solutions for future readiness.

	• Systematically make decisions between different routes of action about emerging technologies • Develop and evaluate concepts related to technology and innovation in businesses

Assessment	Project work
Assessment language	English/Italian
Evaluation criteria and criteria for awarding marks	**100% Project work** The group assignments (project works), which are presented as a .ppt file, involve analyzing and discussing any key emerging technology and its implications for business, society, and individuals in Bolzano, discussing both the advantages and disadvantages. The presentations are expected to be based on theoretical concepts covered in class and the extant literature. The group work will be presented in groups in class. **Project focus:** The groups/teams will pitch a startup or nonprofit idea that uses technology to address a social or environmental issue in Bolzano. Participants research and map sustainable initiatives in Bolzano or South Tyrol, then present how technology could amplify their impact (e.g., AI, blockchain, BDAs). The criterion for the assessment will be clarity of answers, mastery of language, ability to summarize, evaluate, and establish relationships between topics, ability to work in a team, creativity, skills in critical thinking, and ability to summarize in one's own words and communicate findings effectively and efficiently.

Required readings	**Slides (PPT)** Books Pink, S. (2022). *Emerging technologies/Life at the edge of the future*. Routledge. Elliott, A. (2019). *The culture of AI: Everyday life and the digital revolution*. Routledge.
Supplementary readings	Aziz, F., Li, C., Khan, A. U., & Khan, A. (2024). Emerging trends and insights in sustainable innovation performance: A two decade literature review (2002–2022). *Journal of Cleaner Production*, *467*, 142805. Burbules, N. C., Fan, G., & Repp, P. (2020). Five trends of education and technology in a sustainable future. *Geography and sustainability*, *1*(2), 93-97.

Fagerli, D. (2018). *Various perspectives on the consequences of artificial intelligence for our professional life* (Master's thesis).

Heras García, M. A. D. L. (2022). AI Implications for the Future of Work. In *Artificial Intelligence for Business: Innovation, Tools and Practices* (pp. 97-114). Cham: Springer International Publishing.

Rawashdeh, A. (2025). The consequences of artificial intelligence: an investigation into the impact of AI on job displacement in accounting. *Journal of Science and Technology Policy Management*, *16*(3), 506-535.

Howard, J. (2019). Artificial intelligence: Implications for the future of work. *American journal of industrial medicine*, *62*(11), 917-926.

Guo, R., Lv, S., Liao, T., Xi, F., Zhang, J., Zuo, X., ... & Zhang, Y. (2020). Classifying green technologies for sustainable innovation and investment. *Resources, Conservation and Recycling*, *153*, 104580.

Moor, J. H. (2005). Why we need better ethics for emerging technologies. *Ethics and information technology*, *7*(3), 111-119.

Bouma, H. (1998). Gerontechnology: Emerging technologies and their impact on aging in society. *Gerontechnology*, 93-104.

Jain, A., & Ranjan, S. (2020). Implications of emerging technologies on the future of work. *IIMB Management Review*, *32*(4), 448-454.

Le Blanc, P., Ulfert, A. S., Peeters, M., Rispens, S., & Scherer, S. (2024). How emerging technologies shape the future of work. *European Journal of Work and Organizational Psychology*, *33*(2), 115-119.

Parry, E., & Battista, V. (2023). The impact of emerging technologies on work: a review of the evidence and implications for the human resource function. *Emerald Open Research*, *1*(4).

Silvestre, B. S., & Țîrcă, D. M. (2019). Innovations for sustainable development: Moving toward a sustainable future. *Journal of cleaner production*, *208*, 325-332.

	Burbules, N. C., Fan, G., & Repp, P. (2020). Five trends of education and technology in a sustainable future. *Geography and sustainability*, *1*(2), 93-97.