EXPONENTIAL TECHNOLOGIES AND ETHICS

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| **Course code** | *MNG249* |
| **Course title** | *Exponential technologies and ethics* |
| **Course type** | *Compulsory* |
| **Year of study** | *I* |
| **Semester** | *Autumn* |
| **ECTS** | *6 ECTS; 24 hours of lectures, 24 hours of seminars, 112 hours of individual work, 6 hours of consultation* |
| **Coordinating lecturer** | *Dr. Eigirdas Žemaitis* |
| **Study form** | *Hybrid: in class and online* |
| **Course prerequisites** | *None* |
| **Language of instruction** | *English* |

# Course description

**T**he course will enable students to analyse and explore exponential and breakthrough technologies, which have impact on business and society. Students will be able to identify emerging technologies and evaluate their business potential. In this course students will overview main exponential technologies and their implications on management issues. Students will understand technological ecosystem and its role in digital business creation. Students will learn how technology trends can be managed and what kind of digital business processes and activities need to be applied. Students will understand the importance of future emerging technologies scouting. Students will analyse potential ethical issues related with application of exponential technologies. After this course students will understand potential implications and opportunities of exponential technologies.

# Aims of the course

The main aim of the course is to provide knowledge and understanding of exponential technologies and its application for the development of sustainable digital business. The course discusses various contemporary ethical issues and risks related with the exponential technology applications.

# Learning outcomes

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| **Course learning outcomes (CLO)** | **Degree level learning objectives (Number of LO)** | **Study methods** | **Assessment methods** |
| CLO1 To be able to define the exponential technologies | LO 2 | Individual study Reflection and discussions | Final exam |
| CLO2 To be able to critically evaluate exponential technologies and its importance to the digital business and innovation activities | LO 2 | Group project  Practicing, reflecting, and discussions | Group task, and individual reflection |
| CLO3 To able understand digital technologies ecosystem and its role in business development | LO 2, LO 4 | Individual study  Practicing, reflecting, and discussions | Final exam, group task, and individual reflection |
| CLO4 To be able to identify and analyse technology trends and emerging technologies. | LO 2 | Group project | Group task, and individual reflection |
| CLO5. Will be able to understand ethical implications of exponential technologies and will be able to create sustainable and responsible technological business | LO 2 | Individual study  Practicing, reflecting, and discussions | Final exam and individual reflection |
| CLO6. Develop critical thinking ability and problem-solving skills through experiential learning. | LO 16 | Lectures, seminars, group project | Exam, reflection, and feedback on other groups research projects |

**Learning methods**

In this course students will be encouraged to use future prediction articles and reports and will be encouraged to identify possible technology scenarios. Students will be able to create innovative exponential technology analytical projects by visiting companies and interviewing experts. Students will create innovative video projects, which reflects exponential technologies applications.

# Cheating issues

The teaching and testing methods are chosen taking into account the purpose of the minimization of cheating opportunities. The ISM regulations on academic ethics will be fully applied in the course.

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| **Week (and**  **class)** | **TOPIC (Lectures)** | **IN-CLASS HOURS** | |
| **Lectures** | **Seminars** |
| 1 | Intro to disruption and exponential technologies. | 2 | 2 |
| 2 | Overview of disruptive technologies. Digital business perspectives.. | 2 | 2 |
| 3 | Trend driven innovation. New business sources.Technological and social trends. Search of new opportunities for business. | 2 | 2 |
| 4 | Technology disruption cycles. Gartner hype cycle. | 2 | 2 |
| 5 | Blockchain technologies. Internet of things. Future of work. Virtual reality. Artificial intelligence. | 2 | 2 |
| 6 | Exponential technologies impact on business. Redefining operational process. Business model transformation. | 2 | 2 |
| 7 | Management of exponential technology scouting. | 2 | 2 |
| 8 | Digital business infrastructure, ecosystem. Main players. | 2 | 2 |
| 9 | Value creation in digital ecosystems. | 2 | 2 |
| 10 | Exponential technologies risk management. | 2 | 2 |
| 11 | Digital Ethics: emerging social and moral norms for technology applications. | 2 | 2 |
| 12 | Review session for the final exam. | 2 | 2 |
|  | **Total:** | **24** | **24** |

**Individual work, group work and assessment:**

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|  | **HOURS** | **EVALUATION**  **(%)** |
| Individual essay | 24 | 20% |
| Final exam | 50 | 40% |
| Group project presentation | 38 | 40% |
| **Total** | **112** | **100%** |

**Course requirements:**

1. **The final exam** will count for 40% of the final grade. It may consist of essay questions that will be based on the material presented in classes, seminars, and required readings.
2. Individual essay will count for 20 % of the final grade. It will include analysis of current technology trends and identification of possible scenarios. Details will be provided during the course
3. **The group project presentation** willcount for 40% of the final grade. It will be based on a group project. In the group project students will be encouraged to implement company visits to get hands on information on emerging technologies, analysis of open data, discussions on possible ethical issues. Details will be provided during the course.
4. **Re-taking of the final exam.** Students who receive a failing final grade will have the right to re-take the exam and individual essay. It will count for **60 %** of the final grade and will cover the content of the entire course. **Group assignment cannot be resubmitted at a later time**.

# Main readings:

F. Corea. 2017. Artificial Intelligence and Exponential Technologies: Business Models Evolution and New Investment Opportunities. Springer.

McAfee, A., Brynjolfsson, E. 2017. Machine, platform, crowd: Harnessing our digital future.

Delloite report. 2019. Future of risk in the digital era | Transformative change. Disruptive risk.

Gartner Top Strategic trends 2021.

https://www.gartner.com/smarterwithgartner/gartner-top-strategic-technology-trends-for-2021/

Additional readings will be provided on e-learning platform.