



Creating innovations: everything from idea to reality

Course description

VILNIUS TECH "LinkMenu fabrikas"

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Funded by
the European Union

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Course Objective

In this course, you will learn how to identify problems that need solutions, generate, and develop ideas that address these problems, manage projects efficiently, protect your intellectual property, license your product, and pitch your idea to potential investors to secure funding. By the end of this course, you will have a solid understanding of the product development process and the tools and techniques needed to turn your ideas into successful products.

Learning Outcomes

Upon completion of this course, you will be able to:

- Identify problems that require solutions and apply critical thinking skills to develop creative ideas that address these problems.
- Apply project management techniques to effectively plan and execute product development projects, ensuring that they are completed on time, within budget, and to the desired quality standards.
- Understand the importance of intellectual property protection, and be able to identify and implement strategies to safeguard their ideas and inventions.
- Develop an understanding of licensing agreements and how they can be used to commercialize their products and generate revenue.
- Develop effective pitching skills and be able to present their ideas confidently to potential investors,
- Utilize a range of tools and techniques to bring their ideas to life, including brainstorming, lean business canvas,
- Gain valuable skills and knowledge that can be applied to a wide range of industries and sectors, making them more
- Understand the importance of teamwork and collaboration in product development, and be able to work

customers, and other stakeholders.

market research, and product testing.

attractive to employers or potential investors.

effectively as part of a team to achieve project goals.

Contents

This course offers a combination of theoretical and practical assessments to equip students with the knowledge and skills required for product development and creating a startup. The course's adaptability is one of its key features, allowing students to undertake it independently or in a classroom setting. In the latter scenario, students will engage in group work and, alongside theoretical and practical insights, undertake concrete innovation progress steps. Students will create one or more concrete ideas based on their technological and engineering skills, present a patent, and develop a patenting strategy. Additionally, they will pitch their business idea to the class or invited industry leaders and innovators. The course also presents opportunities for students to collaborate with companies.

Course structure details

The course comprises five modules, each consisting of 4-5 units, with each module being worth 1 ECTS credit. The modules cover essential topics such as problem identification, idea generation and development, project management, intellectual property, and licensing, and pitching business ideas to secure funding. Every unit has separate topics. At the end of each unit, there is an activities section with self-assessment activities presented to better understand the theoretical part of a unit.

In the classroom, classes can be structured as follows: (1) a short introduction, with a follow-up from the previous class, as well as a theoretical introduction to the day's topic; (2) the tactical part with a general understanding of what, why, and how, and finally (3) an introduction to the assignments followed by teamwork with a concrete company case if applicable. Possibilities are given to interact with companies and/or organizations based on their challenges.

Students can also complete the course independently. They just need to complete modules and assignments on the e-Learning Platform on their own.

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Academic prerequisites: On the level of bachelor's degree in engineering, product design, business management or any other. No prior knowledge of business, engineering, product design or innovation is required in this course.

Form of instruction: Online interactive courses or/and classroom instruction.

Comments on form of instruction: Individual work or lectures, group work and group assignments.

Exam details: Optional online assignments after each module / final pitching in case of a classroom setting.

Prerequisites for examination of participation: Submission of a final business idea. Presenting at the pitching session.

ECTS: 5

Level: Bachelor or Master

Language of instruction: English

Access link: <https://makeademy.eu/e-learning-platform/>

Modules:

MODULE 1 Mastering problem identification

1 Introduction to Problem Identification

- Key Concepts And Terminology
- Importance Of Problem Identification In New Product Development
- Methods For Gathering Customer Insights
- Quiz

2 Problem Analysis Frameworks

- Overview Of Problem Analysis Frameworks
- Root Cause Analysis
- SWOT Analysis
- Five Whys Technique
- Quiz

3 Identifying Customer Pain Points

- Methods For Uncovering Customer Pain Points
- Surveys And Questionnaires
- Quiz

4 Market Research for Problem Identification

- Competitive Analysis
- Trend Analysis
- Quiz
- Final Assessment

MODULE 2 Idea generation and development

1 Design thinking methods

- Overview Of Design Thinking
- Importance Of Design Thinking In Innovation
- Brainstorming Techniques for Ideation and Prototyping
- Importance Of Testing In Design Thinking
- Individual Work Task: "Testing and Iterating in Design Thinking"
- Quiz

2 Creativity and Innovation

- Understanding The Concepts Of Creativity And Innovation
- Practicing Divergent And Convergent Thinking
- Utilizing lateral thinking methods

3 Decision making

- Importance of Decision Making in Ideation
- Different Approaches To Decision Making
- Prioritizing Ideas Based On Criteria
- Decision Matrices And Scoring Models
- Analytical Hierarchy Process (AHP)
- Multi-Criteria Decision Analysis (MCDA)
- Individual reflection

4 Types of innovation

- Understanding the Concept of Innovation
- Exploring The Connection Between Innovation And Sustainability
- Examples Of Sustainable Product Innovation
- Definition And Importance Of Product Innovation
- Quiz: Understanding Product Innovation

5 Validating the idea

- Common Challenges In Validating Ideas
- Benefits Of Validating Ideas Through Prototype Testing
- Considerations When Defining A Prototype
- Using Feedback To Make Iterative Improvements

MODULE 3 Project management (how to twin an idea into reality)

1 Time management

- Understanding the importance of time management in teamwork
- Exploring the benefits of effective time management
- Developing a shared understanding of team priorities
- Creating Manageable Schedules and Timelines
- Individual Work: "Time Management Self-Assessment and Improvement Plan"

2 Resources management

- Understanding the importance of resource management
- Types of resources in project work
- Resource leveling
- Resource Allocation Strategies
- Balancing workloads
- Quiz

3 Risk management

- Understanding the Concept of Risk
- The importance of risk management
- Overview of the risk management process
- Probabilistic and deterministic risk assessment
- Qualitative Risk Assessment
- Activity: Qualitative Risk Assessment

4 Finance management

- Understanding the importance of project cost management
- Types of cost estimates
- Methods And Techniques For Estimating Project Costs
- Developing a budget baseline
- Allocating project funds
- Tracking and controlling project costs
- Quiz

5 Project management tools

- Benefits Of Using Agile Project Management Tools
- Key features and functionalities of Scrum-based Agile Project Management Tools
- Scrum-based Agile Project Management Tools
- Introduction to Kanban-based Agile Project Management Tools
- Popular Kanban-Based Agile Project Management Tools In The Market
- Overview Of Lean Methodology
- Quiz

MODULE 4 IP & Licensing

1 What Is An IP License?

- Importance and benefits of IP licenses
- Key Elements Of An IP License Agreement
- Activity: Get to know more about the IP in EU
- Quiz

2 Patents and Licensing

- Copyrights and licensing
- Trademarks and licensing
- Trade Secrets And Licensing
- Other types of IP licenses

3 How to license a product?

- Identifying Potential Licensing Partners
- Creating a Product Licensing Plan
- Determining licensing goals and objectives
- Drafting a comprehensive licensing agreement
- Understanding Royalty Structures And Payment Terms

4 Selling the patents, trademarks and other IP

- Creating a patent sales strategy
- Selling Trademarks
- Overview of the patent selling process
- Selling Copyrights And Their Considerations
- Transfer and Selling of Industrial Designs
- Activity: Assignment

MODULE 5 Pitching your idea and finding funding

1 Funding sources

- Overview of the funding sources
- Crowdfunding
- Angel Investors and Venture Capitalists
- Government and EU Grants

2 How to prepare a Tender

- Types of investor packages
- What does the investor package entail?
- Benefits of investor package

3 Business modeling

- Most common business models
- How to choose the right business model?
- How to write a business plan
- Activities

4 Idea presentation and pitching

- Elevator pitch
- Pitch Deck
- Lean Canvas and Business Model Canvas
- Pitch Deck Case Study
- Activities



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