



ACCEPT THE CHALLENGE!
- Gamification IN on-line higher EDucation -

**“ENTREPRENEURSHIP
– HOW TO BUILD YOUR
START-UP? -”**

Training Course Program



2022

TABLE OF CONTENTS

PART 1. GAMIFIED COURSE OUTLINE	3
PART 2. A DETAILED CONTENT PART	4
PART 3. RATS TO STARS – GAME ELEMENTS	23

PART 1. GAMIFIED COURSE OUTLINE

Module name	No. of hours in class (most assignments included)
Module 1. MODEL OF IDEAL ENTREPRENEUR (<i>Theoretical Intro</i>)	6h
Topic 1. The Entrepreneurial Mindset, Skills & Character Traits	2h
Topic 2. Fundamental Business Related Concepts for Entrepreneurs	3h
Topic 3. Practical Skills Useful for Every Entrepreneur	1h
Module 2. FIND YOUR WHY IN BUSINESS	10h
Topic 1: Personal Discovery	3h
Topic 2: Business Ideas Generation	7h
Module 3. PLANNING & DESIGNING BUSINESS MODELS	40h
Topic 1. What is Business Model?	4h
Topic 2. Business Model Development – Customer Facing Part	20h
Topic 3. Business Model Development – Backstage	8h
Topic 4. Business Model Development – Financial Sustainability	8h
Module 4. FUNDRAISING	8h
Topic 1: Fundraising Opportunities	2h
Topic 2: Finding the Right Investor Match	2h
Topic 3: Negotiate with Investors - Investor Pitch Deck	4h
	64h

PART 2. A DETAILED CONTENT PART

Module 1. MODEL OF IDEAL ENTREPRENEUR

Module aims

The main aim of this module is to provide students with understanding of what entrepreneurship is about and who are entrepreneurs in terms of their mindset, character traits and skills set. The module also explains the basic concepts related to conducting business. Finally it provides students with good practices on skills useful for every entrepreneur.

Hints: *Important role of this module is to convince students that everybody can become an entrepreneur, to develop students' internal motivation to become an entrepreneur and to learn more on how to do this. The subject matter content should be provided in visually appealing manner with real-life examples and mini case studies to stimulate interactions with students and increase discussion dynamics.*

Topic 1. The entrepreneurial mindset, skills & character traits

Learning outcomes

After successful completion of the topic students will be able to list most important character traits and skills of entrepreneur, explain what entrepreneurial mindset is about and what does it mean to be entrepreneurial. This knowledge will constitute the background that will be used as a reference model for *Module 2 – Find your WHY in business.*

Issues to introduce

1. What does it mean to be entrepreneurial and what is an entrepreneur?
2. Typical myths about being entrepreneur.
3. What is entrepreneurial mindset?
4. Character traits & most important skills every entrepreneur should possess.

Sample Assignments

Mandatory Assignments

ID	Assignments	Ind./ Team	Class/ Home
1.1.1	<i>Mind-mapping of ideal entrepreneur profile</i> How? Students will prepare a mindmap presenting ideal entrepreneur with regard to her/his character traits and skills	<i>Team</i>	<i>Class</i>
1.1.2	<i>Checking Entrepreneurial Aptitude</i> How? Students will take personality test and check if his/her personality type will make it easier to be an entrepreneur or it will require an additional effort to be made.	<i>Ind.</i>	<i>Home</i>

Additional Assignments (with lower degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
1.1.3	<i>Writing short essay</i> How? Students will write short essay answering the question provided by the teacher, e.g. <i>What does it mean to be entrepreneurial?, How to develop entrepreneurial mindset?</i>	<i>Ind.</i>	<i>Home</i>

Topic 2. Fundamental business related concepts for entrepreneurs

Learning outcomes

After successful completion of this topic students will be able to define, explain and provide simple examples on basic concepts related to conducting business as well as typical paths they can take as entrepreneurs.

Issues to introduce

1. How do businesses usually develop? Typical lifecycle of businesses.
2. What are the opportunities for making money? Types of income.
3. How to be competitive? Typical competition strategies (differentiation, focusing, tighten ties with customers and suppliers, cost leadership). Value chain model basics.
4. Paths you can take as entrepreneur (Robert Kyosaki Quadrant, side business, start-up, social entrepreneurs)
5. What is an ethical entrepreneurship and how to be an ethical entrepreneur?
6. What is risk and how to make friends with it?

Sample Assignments

Mandatory Assignments

ID	Assignments	Ind./ Team	Class/ Home
1.2.1	<i>Infographics development</i> How? Students develop infographic presenting the lifecycle of business.	<i>Team</i>	<i>Home</i>
1.2.2	<i>Preparing a pitch</i> How? Students are preparing a pitch explaining why specific entrepreneurial path is best suited for him/her.	<i>Ind.</i>	<i>Class</i>

Additional Assignments (with lower degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
1.2.3	<i>Summarizing the paper</i> How? Students are reading the selected classical paper on strategy and write short paper summary with most important points learnt.	<i>Ind.</i>	<i>Home</i>

Topic 3. Practical skills useful for every entrepreneur

Learning outcomes

After successful completion of the topic students will be able to explain best practices related to typical tasks done by entrepreneurs in the area of verbal and written face-to face communication as well as done with the use of electronic means. All these practical hints will be useful during different activities done in the following modules.

Issues to introduce

1. How to plan, organize and conduct meetings?
2. How to prepare and deliver presentations that are visually appealing, to the point and persuasive?
3. How to negotiate?

4. How to communicate electronically? E-mail communication, video conferences and on-line meetings?
5. How to grow your business with hiring new employees – basics of interviews.
6. How to build a team for an enterprise/planned business?

Sample Assignments

Mandatory Assignments

ID	Assignments	Ind./ Team	Class/ Home
1.3.1	<i>Organizing a meeting</i> How? Students prepare a plan for first meeting regarding the new enterprise.	Team	Class
1.3.2	<i>Presentation development</i> How? Students are developing presentation on interests/passion and the vision on how these can be the foundation for business.	Ind.	Home

Additional Assignments (with lower degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
1.3.3	<i>Preparing an interview questions</i> How? Students are preparing a list of questions that prospect employee should answer when applying for specific job position. List of job positions for which the interview questions should be developed is provided by the teacher.	Team	Home

Module 2. FIND YOUR WHY IN BUSINESS

Module Aim

The aim of the module is to make students aware that the success of a business idea should be planned based on the founder's passions, values, talents and personal assets. Only then, developing her/his business will give professional and personal fulfillment. A company that is run with passion is an important competitive advantage. People usually love products and services of those who love their work.

Topic 1: PERSONAL DISCOVERY

Discovering personal assets, values, passions, hobbies and interests.

Learning outcomes

On successful completion of this topic, students will be able to use tools and techniques to identify her/his personal assets, passions, hobbies, interests via self-reflection.

Issues to introduce

1. Discovering interests

The teacher asks *What do you enjoy doing the most?* Interests could be divided into four categories: people and human relationships (e.g., children, homeless people, business people, overweight people); information and ideas (e.g., strategies, processes, statistics,

surveys); issues and matters (education, politics, religion, technology); objects and animals (musical instruments, dogs, fruit trees, insects). It could represent also the interest in particular branch (are you fascinated by education, transportation, health, marketing?)

2. Discovering what triggers emotions.

The teacher asks *What triggers your emotions the most?* It can be both positive and negative (which may be related to problems to be solved) emotions.

3. Discovering Talents.

The teacher asks *What are you best at?*

4. Defining the knowledge & experience.

The teacher asks *What knowledge have you gained during your educational path/work career?* These can be skills, experiences, abilities and insights.

5. Identifying the personal network - using other people's experiences

The teacher asks *Do you know anyone with expertise in specific area(s), other entrepreneurs who can help you/inspire you?*

6. Insights from *Personal Discovery process* - evaluation of which insights need some additional student's attention.

Sample Assignments

Mandatory Assignments

ID	Assignments	Ind./ Team	Class/ Home
2.1.1	<p><i>Reflection AEIOU activity</i> (Source: [1]) How? Students will make detailed and accurate observations answering the following questions: A = Activities: "What have you been doing? Was this a structured or an unstructured activity? Did you have a specific role to play or were you just a participant?"; E = Environments: Notice where you were when you were involved in the activity. What kind of a place was it, and how did it make you feel?"; I = Interactions: "What were you interacting with – people or machines? Was it a new kind of interaction or one you are familiar with? Was it formal or informal?"; O = Objects: "Were you interacting with any objects or devices? What were the objects that created or supported your feeling engaged?"; U = Users: "Who else was there, and what role did they play in making it either a positive or a negative experience?" Sample template here</p>	<i>Ind.</i>	<i>Class</i>
2.1.2	<p><i>Personal SWOT analysis</i> How? Students will analyze their strengths and weaknesses as well as the opportunities and threats that they face. This helps them to focus on their strengths, minimize weaknesses, and take the greatest possible advantage of opportunities available to them.</p>	<i>Ind.</i>	<i>Class</i>
2.1.3	<p><i>Reflection: Personal Discovery Process - The "My Fit" quadrant</i> How? Students will list out all their passions, hobbies, skills, and experiences gathered. The exercise is designed to summarize what the student has learned about himself/herself in the previous exercises.</p>	<i>Ind.</i>	<i>Home</i>

2.1.4	<p>Reflection: <i>ACTION PLAN - Critical areas needing improvement and growth, things to do.</i></p> <p>In previous exercises, students completed a pre-assessment (figured out where they stand), analyzed their strengths, weaknesses, and abilities, clearly defined and prioritized their goals. The final exercise in this module is to prepare the <i>Action Plan</i> - detailing the actions that they intend to take to achieve goals identified (trainings & courses, additional activities to undertake, meeting people, reading additional books etc.).</p>	<i>Ind.</i>	<i>Home</i>
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Additional Assignments (with higher degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
2.1.5	<p><i>Mind map of student's dream list (goals, aspirations) exercise</i></p> <p>How? Students will prepare the mind map representing his goals and aspirations. They need to analyze: why are they passionate about that goals? What are the ways to achieve the goals, what are obstacles that they might face and ways to overcome those obstacles. Then they can picture themselves having accomplished goal (e.g. in the form of poster, story, journal article)</p>	<i>Ind.</i>	<i>Home</i>
2.1.6	Work with simple <i>List of skills needed to succeed in business</i>	<i>Ind.</i>	<i>Home</i>
2.1.7	Work with simple table <i>Interest Discovery</i>	<i>Ind.</i>	<i>Home</i>
2.1.8	<p><i>Mind map - Personal network</i></p> <p>How? Students will create the map of network of people/institutions that could help and support them in building their business. They will analyze how to foster a community of support through peers and the surrounding business community.</p>	<i>Ind.</i>	<i>Home</i>
2.1.9	<p><i>Hero persona exercise</i></p> <p>How? Students will prepare the persona describing their super strengths, things they have done, accomplishments, and how they can use them as business foundation</p>	<i>Ind.</i>	<i>Home</i>

Additional Assignments (with lower degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
2.1.10	<p><i>The Good Time Journal activity (Source: [1])</i></p> <p>How? Students will be provided with the template for <i>The Good Time Journal</i> activity to identify and analyze the specific activities that made them feel engaged and energized, and those that didn't. Sample template here</p>	<i>Ind.</i>	<i>Home</i>
2.1.11	<p><i>Energy engagement activity (Source: [1])</i></p> <p>How? Students will analyze energy patterns: energy giving or draining regular activities and engagements. Sample template here</p>	<i>Ind.</i>	<i>Home</i>
2.1.12	<p><i>What Matters the Most? exercise</i></p> <p>How? Students will list out the things that she/he care about and analyze what are her/his values and priorities.</p>	<i>Ind.</i>	<i>Home</i>
2.1.13	<p><i>My friends about ME exercise</i></p> <p>How? Students will collect feedback on their strengths and weaknesses from their friends</p>	<i>Team</i>	<i>Home</i>

2.1.14	<i>Learning from mistakes</i> exercise How? Students will analyze some mistakes they've made and what they've learned from them	<i>Ind.</i>	<i>Home</i>
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Topic 2: BUSINESS IDEAS GENERATION

Learning outcomes

On successful completion of this topic, students will be able to use different approaches to generate business ideas that are insightful and actionable. They will be also able to use tools and techniques to generate the list of ideas that fit students' personal assets, are related to passion and interests, comply with values and are oriented on real market needs.

Issues to introduce

1. Introduction to different approaches to come up with business ideas.
2. Business ideas based on *efficiency*
The teacher asks:
Are there any problems to solve? (e.g. a problems noticed when observing others, a problem currently held, a problem already solved, things that may become problems)
What annoys you? What are you missing? What need of yours is unmet? What product or service do you need for it? Are you able to create them yourself?
3. Business ideas based on *product*
The teacher asks: *Can you identify needs that could be fulfilled with better or more specialized offer? What are the products that need to be redesigned or upgraded? Do you know a business model, process or solution that can be adapted to another industry or environment? How can you combine your knowledge or skills with something that already exists to create entirely new value?*
4. Business ideas based on *niche*
The teacher asks: *Are you a believable expert in selected area? Will people believe that you know what you are talking about? What are you good at that a lot of people have trouble with? Can you offer a product or service that members of that niche will pay for?*
5. Survey local business area
The teacher asks: *What are the business options that are available in your local area and that are within your field interest?*
6. The best business ideas for me
Working on *The short list of ideas that should be consider.*

Sample Assignments

Mandatory Assignments

ID	Assignments	Ind./ Team	Class/ Home
2.2.1	<i>List of identified problems</i> How? Students will take the scratchpad and write down things they had a problem with and problems they noticed when observing others	<i>Ind.</i>	<i>Class</i>
2.2.2	<i>How I will find the answer – keep asking</i> exercise How? Students will take one (or more) problem from the list of identified problems and design the question “ <i>Why isn't there a faster/better/longer way to do...?</i> ”. Then they have to point out how they want to find answers to.	<i>Team</i>	<i>Class</i>
2.2.3	Reflection: <i>Mind Map with the best business ideas</i>	<i>Team</i>	<i>Class</i>
2.2.4	Reflection: <i>Business idea Description</i>	<i>Team</i>	<i>Home</i>

	How? Students will describe the best business ideas answering the following questions: <i>Which need will business fulfill? What good/service will provide? To whom will I sell? How will I sell?</i> (3 min. presentations)		
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Additional Assignments (with higher degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
2.2.5	<i>QUORA searching</i> How? Students will search/add questions on <i>Quora platform</i> www.quora.com (Quora is a platform to ask questions, share knowledge and connect with people who contribute unique insights and quality answers).	<i>Team</i>	<i>Home</i>
2.2.6	<i>Opportunity seeking - SCAMPER activity</i> How? Students will apply SCAMPER method to generate business ideas. They can simply take product or service or process that already exists or problem identified in the previous steps and use that as a starting point in SCAMPER activity.	<i>Team</i>	<i>Home</i>
2.2.7	<i>Local business opportunities survey</i> How? Students will survey the local community to find out what type of businesses are operating in. Then they need to identify gaps in the market.	<i>Ind.</i>	<i>Home</i>
2.2.8	Reflection: <i>My personal short list of ideas that should be consider exercise</i>	<i>Ind.</i>	<i>Home</i>

Additional Assignments (with lower degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
2.2.9	<i>Creativity Booster - warm up exercise</i> (e.g. "This is not..." exercise) How? Students will make up some object and then write down a description starting with "This is not..." (how object could be used in different ways)	<i>Team</i>	<i>Home</i>
2.2.10	<i>The 5 W's activity</i> How? Students will take one (or more) problem from the <i>list of identified problems</i> . They need to ask and answer questions using the five W's (who, what, when, where, why) to show understanding of the problem	<i>Team</i>	<i>Home</i>
2.2.11	<i>Industry interview</i> How? Students will talk to a random person from local/national industry and ask question "What are top problems or difficulties they experience frequently throughout the day?" Then, they should make a list of collected problems and research them to get more information.	<i>Ind.</i>	<i>Home</i>

MODULE 3. PLANNING AND DESIGNING BUSINESS MODELS

Module aims

The main aim of this module is to provide students with understanding on what is *business model thinking*, what are the main components of every business model and what is an interplay among them. The module also explains techniques used to plan, design and prototype business models such as *Business Model Canvas*, *Value Proposition Canvas* and *Personas*.

Hints: Important role of this module is to develop the business model mindset oriented on prototyping and testing what complies with current trends in approaches to entrepreneurship such as for example Business Model Generation or Lean Startup.

Topic 1: WHAT IS BUSINESS MODEL?

Learning outcomes

After successful completion of this topic students will be able to explain what is business model thinking. They will also gain a good understanding of what typical business model components are and how they are interrelated as well as tested. Students should also be able to use business model canvas technique on the basic level.

Issues to introduce

1. What is a business model?
2. What is a business model thinking?
3. Business Model Canvas technique – what it is?, what are the basic components about?, what are benefits from using this technique?, how to use it in different scenarios and contexts?
4. How to test business model and its selected components.

Sample Assignments

Mandatory Assignments

ID	Assignments	Ind./ Team	Class/ Home
3.1.1	<p><i>Understanding Business Model Elements and Interrelationships – simple template</i></p> <p>Identification of business model components for selected business. Describing and discussing business model elements – mini case study.</p> <p>How? The teacher provides short description of specific company including information about all the aspects needed and simple template with named components of business model. Students identify, name and discuss all the business model components elements as well as interconnections between elements. During the discussion teacher can ask questions “What would happen if...?” suggesting the change in specific component and students try to explain how this change may affect other elements of business model.</p>	Team	Class
3.1.2	<p><i>Developing Business Model Canvas from scratch – understanding and improving business models of existing companies</i></p> <p>How? The teacher selects one well known company (e.g. Pinterest, Bolt, Spotify) and asks students for mapping its business model with the use of canvas. Students have to identify, name and assign the elements to specific segments on business model canvas. After business model canvas is completed students are requested to brainstorm ideas on how the business model can be improved with regard to current value proposition. From the ideas generated one is selected and used to redesign business model by adding/deleting/modifying elements on canvas. Improved business model is presented to the audience and discussed.</p>	Ind.	Class

Additional Assignments (with higher degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
3.1.3	<p><i>Business Model as a Puzzle with Canvas</i></p> <p>Creating business model canvas of existing company – business model canvas in puzzle activity.</p> <p>How? The teacher provides business model canvas template and set of cards with short phrases describing elements of different business model components. After the context is set up what means that information about core of business is provided students put the cards into selected segments on canvas. After the activity is finished teacher can provide new cards and asks about consequences of adding them to current business model (e.g. new elements of value proposition, new elements of customer segments, new elements of resources).</p>	Team	Home

Additional Assignments (with lower degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
3.1.4	<p><i>Understanding Business Model Elements and Interrelationships – Mind-mapping Business Model</i></p> <p>How? The teacher provides short description of specific company including information about all the aspects needed and students develop a mind-map for business model. After initial mind-map is ready teacher can ask questions “What would happen if...?” suggesting the change in specific component and students create new version of business model mind-map. Finally different versions of mind-maps can be compared, discussed and conclusions drawn. This will enable to understand the dynamics of business models and the need for constant re-design according to market changes.</p>	Ind.	Home

Topic 2: BUSINESS MODEL DEVELOPMENT – THE CUSTOMER FACING PART

Learning outcomes

After successful completion of this topic students will be able to design value proposition that addresses the most important needs of target customer segments, plan the mechanisms for building relationships with customers and channels throughout which value proposition will be delivered. After successful completion of this topic students will be able to validate business idea with use of selected tools and techniques and draw conclusions based on the results collected.

Issues to introduce

1. Customer segments (what is market segmentation and what typical approaches to segmentation are commonly used, what are the jobs to be done and how to understand them, what is a difference between customers’ pains and gains).
2. How to model customer segments? Using Personas for modeling customers’ profiles.
3. Value proposition concepts (what is value added, what is a difference between value and activities, when the value proposition is unique from the market segment perspective and how this can be determined with competitors analysis, dimensions for value proposition analysis).

4. How to design value proposition – Value Proposition Canvas technique.
5. What are channels? Anatomy of channel.
6. Types of channels depending on stage in customer decision making process. Channels examples.
7. What is customer lifecycle?
8. How to manage customer acquisition, retention and extension?
9. Advertisement strategies and forms basics (active push vs. passive pull strategy, traditional and digital advertisement forms, cross-selling and up-selling).
10. What is Customer Relationship Management? What is a relationship with customer? Methods of building relationships with customers.
11. What is business idea validation?
12. Introduction to testing methods and tools (Surveys, Talking to experts, Pitch experiments with prototypes...)
13. Overview of the testing process.

Sample Assignments

Mandatory Assignments

ID	Assignments	Ind./ Team	Class/ Home
3.2.1	<i>Creating minimum viable personas with template provided</i> How? Based on information collected on business idea, students develop simple persona for identified customer segments according to template provided by the teacher.	<i>Team</i>	<i>Class</i>
3.2.2	<i>Identifying and describing value proposition for selected businesses</i> How? Students are provided with list of possible dimensions for value proposition analysis with short description of every list item (e.g. price, product features, community etc.). Then the teacher selects 2-3 well-known companies and students identify the value proposition elements and shortly describe them from the perspective of benefits for target group of customers.	<i>Team</i>	<i>Class</i>
3.2.3	<i>Identifying and describing value proposition for business under development</i> How? Students are provided with list of possible dimensions for value proposition analysis with short description of every list item (e.g. price, product features, community etc.). For every dimension students generate ideas for value proposition elements and shortly describe them from the perspective of benefits for selected target group of customers described in personas prepared for selected business idea.	<i>Ind.</i>	<i>Class</i>
3.2.4	<i>Designing offer architecture and its relationships with value proposition.</i> How? Students are provided with simple template that should be filled with names of products/product features/services and comprehensive description of how every item of offer architecture is related to customers' needs – problems to be solved. Finally students are assessing the uniqueness of value proposition through benchmarking with competitors' offer architectures.	<i>Team</i>	<i>Class</i>

3.2.5	<p><i>Designing Offer Architecture with Value Proposition Canvases. How the problems will be solved or benefits created by the products/services offered?</i></p> <p>How? Students are provided with value proposition canvas template. The activity is being done according to multi-step process in iterative manner. After a first job to be done is identified and put on customer profile in canvas, ideas for pains/gains related to the job under consideration are listed. For every pain and gain possible solutions are brainstormed and put on product map in canvas. Then each solution is described as pain reliever or gain generator in terms of vision how it'll work to reduce pain or create gains. The process is repeated for all jobs to be done identified. Completed value proposition canvas is presented to the audience and discussed.</p>	<i>Ind.</i>	<i>Class</i>
3.2.6	<p><i>Minimum viable product (MVP) exercise</i></p> <p>How? Students will develop the Minimum viable product (MVP) – a list of main features (<i>considered as most unique</i>) of product or service business will offer to customer segments</p>	<i>Team</i>	<i>Class</i>
3.2.7	<p><i>Questionnaire building for feedback conversation – prototyping, presentation and feedback gathering.</i></p>	<i>Team</i>	<i>Class</i>
3.2.8	<p><i>Product Box Development</i></p> <p>How? Student will present the business model to other students and asks them to design a product box that represents the value proposition they'd want to buy from them. This enables to learn what matters to others and which features they get excited about.</p>	<i>Team</i>	<i>Home</i>
3.2.9	<p><i>Setting the goals for every stage in channel. Planning the channels for business.</i></p> <p>How? The teacher provides students with channel canvas template. Students are setting the business goals at every stage and generate the ideas on how these goals could be achieved with specific channels and activities undertaken. For example on <i>Awareness</i> stage the goal is to <i>raise awareness about our company's products and services</i>. The channel would be <i>social media</i>, and the activity would be to <i>develop product profiles of Facebook and Instagram platforms</i>.</p>	<i>Team</i>	<i>Class</i>
3.2.10	<p><i>Designing the customer relationships building mechanisms for the business.</i></p> <p>How? The teacher provides students with the list with short description of typical mechanisms used for customer relationship building process (e.g. community, co-creation, automated services etc.). Students are selecting mechanisms best suited for business under development and prepare justification of decisions made.</p>	<i>Ind.</i>	<i>Class</i>

Additional Assignments (with higher degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
3.2.11	<p><i>Describing target groups with demographic segmentation</i></p> <p>How? Based on business idea selected during the activities done in <i>Topic 2</i> students prepare short description of target group by taking into consideration demographic dimension. The teacher provides a simple template with characteristics names related to demographic segmentation and</p>	<i>Team</i>	<i>Home</i>

	students fill the template in with information on prospect customers.		
3.2.12	<i>Describing target groups with psychographic segmentation</i> How? Based on business idea selected during the activities done in <i>Topic 2</i> students prepare short description of target group by taking into consideration psychographic dimension of segmentation. The teacher provides a simple template with characteristics names related to <i>psychographic segmentation</i> and students fill the template in with information on prospect customers.	Team	Home
3.2.13	<i>Creating comprehensive personas with template provided</i> How? Students develop comprehensive persona for customer segments according to template provided by the teacher.	Team	Home
3.2.14	<i>Developing value proposition from the perspective of efficiency, product features and niche</i> How? Students are provided with 3 mind maps including only main topic – efficiency, product and niche. The mind-maps should be developed with ideas related to planned offer architecture of business with regard to every perspective set by answering questions – <i>How typical processes done by customers on daily basis can be improved with regard to number of steps, time required or usability?, How the products I'd like to offer may be enriched by new product features, additional services or information products?, How can I build the community around the product or service I'd like to offer, and what value added elements of my offer can be developed by community members? After I'll have the community built what products/services I can offer to its members?</i>	Team	Home
3.2.15	<i>Minimum viable product (MVP) exercise</i> How? Students will develop the Minimum viable product (MVP) – a list of main features related to value proposition based on <i>efficiency, product features and niche</i> .	Team	Class
3.2.16	<i>Building the prototype activity</i> How? Students will build the prototype/prototypes of product/service offered by business.	Team	Home

Additional Assignments (with lower degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
3.2.17	<i>Describing the mechanisms for customer relationships building for selected businesses.</i> How? The teacher provides students with mini case study describing activities done by specific company. Students explain how these activities support building relationships with customers.	Team	Home

Topic 3: BUSINESS MODEL DEVELOPMENT - THE BACKSTAGE

Learning outcomes

After successful completion of this topic students will be able to determine and plan activities needed to create unique value proposition, resources required for carrying out key activities

and business partners who will provide support in the areas that are outside the core competences of the business under development.

Issues to introduce

1. Business processes and their relationship with value proposition. Classical value chain model and its transformation in digital economy.
2. Types of resources needed for conducting business processes related to value proposition – human, physical, intangible, financial resources.
3. Business partners – what am I planning to do on myself and what activities should be outsourced. Outsourcing basics. Value net concept.

Sample Assignments

Mandatory Assignments

ID	Assignments	Ind./ Team	Class/ Home
3.3.1	<p><i>Identifying and describing required activities for business under development – Gap Matrix Analysis</i> How? Students are provided with a matrix. The matrix can be oriented on offer architecture or value proposition. In case of offer architecture the matrix includes on one dimension offer architecture elements (<i>every element of offer architecture has already been connected with value proposition in previous assignments</i>) and students are requested to identify and name activities that have to be done in order to provide customers with specific offer element (product/service). In case of value proposition the matrix includes on one dimension value added elements (<i>every element of value proposition has already been connected with offer architecture in previous assignments</i>) and students are requested to identify and name activities that have to be done in order to provide customers with specific benefits. The process is being done until all gaps are filled with activities names. Final step is to make decision for every activity identified if it is a part of business core processes or should be outsourced to business partners.</p>	Team	Class
3.3.2	<p><i>Key resources identification – what types of resources are needed to start planned business?</i> How? Students are provided with list of key activities needed for creating and delivering value proposition elements and name the resources required for every activity in terms of human resources, physical resources, financial resources and intangible resources.</p>	Team	Class
3.3.3	<p><i>Designing value net structure for business under development</i> How? Students are provided with matrix including on one dimension the activities identified for the business under development. Then they will decide which activities should be outsourced and what role of business partner will be responsible for specific activity. The final step is to do on-line research and find prospect business partners that can play the roles identified. The final step will be to develop mindmap showing the value net of business planned.</p>	Ind.	Class

Additional Assignments (with higher degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
3.3.4	<i>Key activities identification for selected businesses</i> How? Students are provided with list of value proposition elements for 3 selected well-known companies and students name the activities/processes related to every value proposition element.	<i>Ind.</i>	<i>Home</i>
3.3.5	<i>Analysis of value net structure of selected businesses – mini case study</i> How? Students are provided with short description of 3 well-known companies as well as typical roles played by business partners in value nets (e.g. <i>Outbound logistics - Fedex, UPS; Payments - Citibank, Paypal; Advertisement - yahoo.com, TV Channel, Facebook</i> etc.). Students are requested to describe the value net of every company in the form of mindmap. In the center of each mindmap should be the names of activities that constitute the core of the company under consideration and on the branches will be the names of roles and typical responsibilities of business partners.	<i>Ind.</i>	<i>Home</i>

Topic 4: BUSINESS MODEL DEVELOPMENT - FINANCIAL SUSTAINABILITY

Learning outcomes

After successful completion of this topic students will be able to develop revenue generation model for planned business with regard to market mechanisms for pricing products/services and portfolio of revenue generation sources as well as plan cost structure for an enterprise. Student will also be able to plan the validation experiments with selected tool/ technique.

Issues to introduce

1. What is financial sustainability? Revenues vs. costs.
2. What is revenue generation model? *Market mechanisms for price determination* (fixed price, dynamic pricing, bartering) and *revenue sources models* (sales, advertisement, subscription, affiliate, transaction revenue source model).
3. Thinking about a planned enterprise in terms of *costs structure*.

Sample Assignments

Mandatory Assignments

ID	Assignments	Ind./ Team	Class/ Home
3.4.1	<i>Identifying and describing revenue generation model for business under development</i> How? Students will analyze the offer architecture (products/services) from the perspective of possible pricing mechanisms and revenue sources models and fill in the revenue generation model template for business under development.	<i>Team</i>	<i>Class</i>
3.4.2	<i>Planning the cost structure for business</i> How? Students will analyze the possible costs sources from the perspective of key activities identified as well as cooperation with key partners, channels and customers relationships building process. The costs sources will be named and put into the template provided.	<i>Team</i>	<i>Class</i>
3.4.3	<i>Creating Business Model Canvas for planned business</i>	<i>Team</i>	<i>Home</i>

	How? This is an assignment that combines the results of analysis, planning and design processes conducted throughout previous assignments. Students will be requested to put it all together and prepare business model canvas for planned enterprise. The business model developed should be presented to the audience and discussed from the perspective of all nine segments. The presentation should follow the best practices introduced as a part of the assignment's additional materials (short movie with hints how to present <i>Business Model Canvas</i>).		
3.4.4	<i>The most risky assumption</i> activity How? Students will look for the riskiest assumptions in their business model and in all the information they have gathered so far. The ones absolutely necessary validating business idea to become a reality, should go to the bottom, afterward those less important.	<i>Ind.</i>	<i>Class</i>
3.4.5	<i>Seven Questions to Assess Your Business Model Design</i> How? Students will score business model design by answering seven questions related to such aspects as: switching costs, recurring revenues, earnings vs. spending, game-changing cost structure, others who do the work, scalability, protection from competition.	<i>Team</i>	<i>Class</i>

Additional Assignments (with higher degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
3.4.6	<i>Identifying and describing revenue generation model for selected businesses – mini case study.</i> How? The teacher provides students with the table template including such columns as market mechanism for pricing products/services, revenue generation source model and selects 5 well-known companies operating on the market. Students should propose the elements of revenue generation model for every company and explain their choices from the perspective of how it works.	<i>Ind.</i>	<i>Home</i>
3.4.7	<i>Hypothesis formulation</i> activity How? Students will formulate a hypothesis regarding of <i>The most risky assumptions</i> . They need to answer the questions: what does assumption really mean for their business? how can they measure it? They need to describe the simple prototype/s that will test hypothesis.	<i>Ind.</i>	<i>Home</i>
3.4.8.	<i>Role playing planning</i> activity How? Students will plan role playing workshop simulating the real context of the user's life	<i>Team</i>	<i>Home</i>

Additional Assignments (with lower degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
3.4.9	<i>LEAN CANVAS exercise</i> (Source: [3]) How? Students will develop the Lean Canvas template	<i>Team</i>	<i>Home</i>

Module 4. FUNDRAISING

Module Aim

The aim of the module is to provide with the basic knowledge on fundraising issues that are essential element of startup success. The key skill of the startup founder is the ability to obtain sufficient funding to start and grow the business. The module also presents the various options available: crowdfunding, business angel investors, VC and business incubators.

Topic 1: FUNDRAISING OPPORTUNITIES

Looking for the potential investors in startups and understand selection criteria.

Learning outcomes

On successful completion of this topic, student will be able to identify the different available funding options for startups and understand their selection criteria

On successful completion of this topic, student will be able to understand the opportunities associated with different sources of financing

On successful completion of this topic, student will be able to search for information on the potential investor's selection process

Issues to introduce

1. Phases of the company's development and the need for funds
2. Types of investors in different start-up funding stages:
Each funding opportunity (mainly: FFF-friends, fools and family, crowdfunding, business angel investors, VC, business incubators) should be described in following areas:
When do this type of investor invest?
Why do this type of investor invest?
Which type of investment cases is this type of investor looking for?
What are the pros and cons of this type of investor?
What is the typical investment process for this type of investor?
How to find/apply this type of investor?
3. Analysis of the fundraising process
What is the process that should be followed to obtain funding? Analysis of the websites of the well-known international/national different types of investors (VC, business angel networks, business incubators) as well as crowdfunding portals.
4. Hands on Work Time - Analysis of the funding options in terms of their fit to chosen business idea.

Sample Assignments (*computer classroom desired)

Mandatory Assignments

ID	Assignments	Ind./ Team	Class/ Home
4.1.1	<i>Various funding opportunities</i> How? Students will prepare simple as a table/visual summary of characteristics, advantages and disadvantages of different types of investors	<i>Ind.</i>	<i>Class</i>
4.1.2	<i>The process that should be followed to obtain funding</i>	<i>Team</i>	<i>Home</i>

	How? Students will prepare a visual description of the process of raising funds from one of the selected types of investors (VC, business angel networks, business incubators, crowdfunding portals)		
4.1.3	<i>List of chosen types of investors that fit to student's business idea</i> How? Students will prepare the short lists of potential suitable investors (including the name of the investor, webpage, investor's needs). Then, the list should be prioritized.	<i>Ind.</i>	<i>Class</i>

Additional Assignments (with lower degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
4.1.4	<i>Well known investors</i> How? Students will prepare the information regarding the famous investors (e.g Robert Lewandowski <i>who</i> is involved in many investments.	<i>Ind.</i>	<i>Home</i>
4.1.5	<i>How to find and apply?</i> How? Students will prepare the leaflet summarizing the information how to find and apply chosen type of investor	<i>Team</i>	<i>Home</i>

Topic 2: FINDING THE RIGHT INVESTOR MATCH

Preparation of the Investment Proposal for own business idea

Learning outcomes

On successful completion of this topic, student will be able to prepare Investment Proposal with use of the template for chosen type of investor.

Issues to introduce

1. Investment Proposal form
Students are asked to visit the website of the chosen international/national type of investor that fit to her/his idea (e.g. VC, business angel network) or suitable crowdfunding portal and find the application form / idea submission form with all documents required.
2. Hands on Work Time - Investment Proposal preparation
Students are asked to prepare the Investment Proposal for her/his business idea

Sample Assignments (*computer classroom desired)

Mandatory Assignments

ID	Assignments	Ind./ Team	Class/ Home
4.2.1	<i>Investment Proposal for business idea</i> How? Students will prepare the Investment Proposal for their business idea with use of the template for chosen type of investor (downloaded from the proper website)	<i>Team</i>	<i>Class</i>

Topic 3: NEGOTIATE WITH INVESTORS - IDEA PRESENTATION

Identifying essential information for business idea presentation

Create pitch deck for student's business idea

Learning outcomes

On successful completion of this topic, student will be able to create Investor Pitch Deck

Issues to introduce

1. Introduction to pitch deck topic
What is the investor pitch deck?
What is the main goal for the investor pitch deck?
What are the key slides that should be included in investor pitch deck?
What should be in a successful investor pitch deck?
 The teacher introduces what is a pitch deck and what is the main goal for this tool. It should be underlined that well-designed, comprehensive pitch deck is key to convince investors that business idea has potential.
2. Presentation of the most popular layouts for Investor Pitch Deck.
3. Common mistakes in startup pitch deck
What are the mistakes when creating investor pitch decks?
4. Hands on Work Time - Investor Pitch Decks preparation.

Sample Assignments

Mandatory Assignments

ID	Assignments	Ind./ Team	Class/ Home
4.3.1	<i>Key slides</i> How? Students will choose from a various parts of Investment Proposal template (previous assignment) those, they think are the most important for a potential investor and should be included in the pitch deck	<i>Team</i>	<i>Class</i>
4.3.2	<i>Investor Pitch Decks</i> How? Students will prepare the Investor Pitch Decks with 10/20/30 rule (10 slides, be no more than 20 minutes long, and should only include up to 30 points).	<i>Team</i>	<i>Home</i>
4.3.3	<i>Pitch in formula of Dragon's Den</i> How? Students will present the business idea following some rules: must start the meeting by stating the name of the business, the amount of money they are pitching for and the percentage of equity they are willing to give away in their company. They must follow this with a pitch of up to three minutes. In next part they have to answer all the questions asked. Each student should present.	<i>Team</i>	<i>Class</i>

Additional Assignments (with higher degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
4.3.4	<i>Common mistakes in pitch deck - infographic</i> How? Students will prepare in a visual form (e.g. infographic) presentation on common mistakes in pitch deck preparation	<i>Team</i>	<i>Home</i>
4.3.5	<i>One-Sentence Pitch Format</i> How? Students will explain what they are going to offer within their business idea in a few simple words. Example template for the sentence:	<i>Ind.</i>	<i>Home</i>

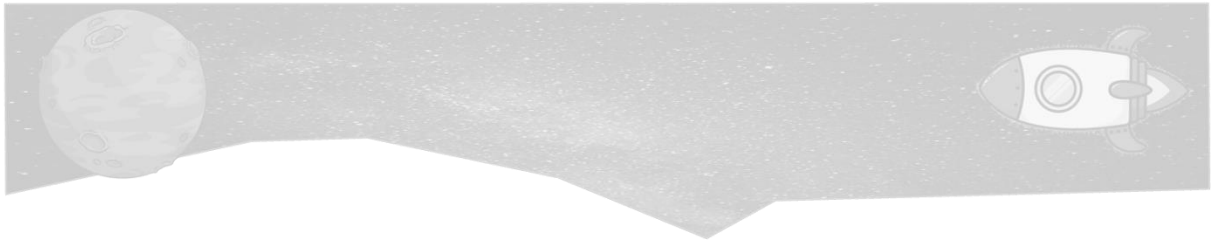
	“Because we believe [in this ambitious vision], [company] [is building/is bringing to market/has launched/is] [2-3 words defined offering] to [enable/empower/offer/help] [a specific persona] to [achieve a defined outcome] [by leveraging this unique asset/by adopting this innovative approach]”		
4.3.6	<p><i>Get To Know Your Audience</i></p> <p>How? Students will prepare the description/persona of the audience for her/his pitch deck presentation (answering the following questions: Who is the audience for pitch? What are they thinking as they sit in the audience?, What action would you like the audience to take as a result of your pitch?</p>	<i>Ind.</i>	<i>Home</i>

Additional Assignments (with lower degree of difficulty)

ID	Assignments	Ind./ Team	Class/ Home
4.3.7	<p><i>Explain it like I am six years old exercise</i></p> <p>How? Students will prepare an explanation of the business idea in such a way as to remove its complexity.</p>	<i>Ind.</i>	<i>Home</i>
4.3.8	<p><i>40 words pitch exercise</i></p> <p>How? Students will present their business idea in 40 words or less. They can continue only when their viewer asks them a question. Then students will only have 40 words to answer it.</p>	<i>Ind.</i>	<i>Home</i>
4.3.9	<p><i>The 3-act pitch exercise</i></p> <p>How? Students will prepare the pitch in form of the three act story, using no more than 40 words for each act. The pitch should consist of three acts: Act 1. They meet the hero. Act 2. They discover a problem. Act 3. The hero finds the solution.</p>	<i>Ind.</i>	<i>Home</i>
4.3.10	<p><i>The Review exercise</i></p> <p>How? Students will prepare the review from the potential client’s point of view of their business idea and its products</p>	<i>Team</i>	<i>Home</i>

References

1. Burnett, B., Evans D. (2016) *Designing Your Life: How to Build a Well-Lived, Joyful Life*. Knopf.
2. Osterwalder, A., & Pigneur, Y. (2010). *Business model generation: A handbook for visionaries, game changers, and challengers*. John Wiley & Sons.
3. Ries E. (2011) *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*. Penguin Books Ltd.



PART 3. RATS TO STARS - GAME ELEMENTS

The subject can be implemented in a traditional manner or in a gamified form. This section presents the elements of the game into which the parts of the subject program were transformed. The difference between the gamified classes and the traditional ones was the reward system and the point system (in the form of carrots), as well as the introduction of levels, badges and a plot, which gives the activities a playful character.

1. STORYLINE

The class takes the form of a mission, with students turning into members of a family of rats. The teacher should introduce students to the plot in the first class by giving them the story of a rat family that wants to reach the planet Mars, which is rich in cheese. Students can be given a description of the plot in the form of a letter calling on all rat families to conquer Mars. Students, while performing tasks, have to complete the tools and elements, which are helpful in accomplishing the mission.

The goal of the mission of students playing members of the rat family is to build a rocket, land on Mars and take over this cheese planet before humans. Other detailed information needed to complete the mission will be provided to students during class.

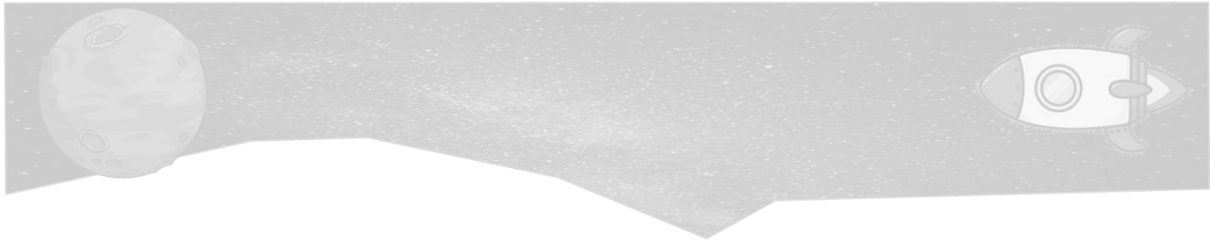


Once upon a time, in a junkyard far far away...

... for years, the rat families living there have been sharing a great legend about a planet, called Mars, that is made out of red cheddar cheese. All they want now is to reach this treasure. Unfortunately, they have no idea how to do that! One night a little rat discovered a newspaper in the junkyard with an inspiring headline: humans want to land on Mars!

The plan was then created: build a rocket and take over the cheese planet before these ugly humans reach there.





2. AWARDS

In frame of the course program, the student completes Mandatory Tasks and Additional Tasks. By completing the tasks, the student receives the following types of Awards:

- **Basic Awards** – for meeting the minimum requirements for the Task: Rocket Components, Documents, Cheese and Fuel (obtained only for Mandatory Tasks) or Carrots (only for Additional Tasks)
- **Performance Bonus** – depending on the quality of the Task submitted: Carrots (can be obtained both for Mandatory Tasks & Additional Tasks)

PERFORMANCE BONUS

These bonuses are always packs of 1 to 4 carrots, depending on the quality of Task submitted by the Student/Team. It is intended to represent different grades for a Task (e.g. no bonus = 3.0; 1 bonus Carrot = 3.5; 2 bonus Carrots = 4.0, etc.). Teachers may adapt the range to the grading scale in her/his country, e.g. use 0 to 5 Carrots in case of the six-step scale A-F).

The system of Additional Tasks gives students a wide range of options and a lot of room for maneuver, allowing them to tailor the gameplay to their own abilities. The student can choose from a pool of available additional tasks (choose those that best suit his or her preferences and interests, e.g. he or she can focus on written tasks or more creative, graphic tasks, etc.) to earn additional performance bonuses - carrots. The proposed system is designed to leave space for the student to act, to make autonomous decisions as to how to pass the course.

BASIC AWARDS

All types of Basic Awards are provided as quantities (Rocket Components, Fuel, Cheese for Mandatory Tasks and Carrots for Additional Tasks) or levels (Documents). The following Basic Awards are used in the game:

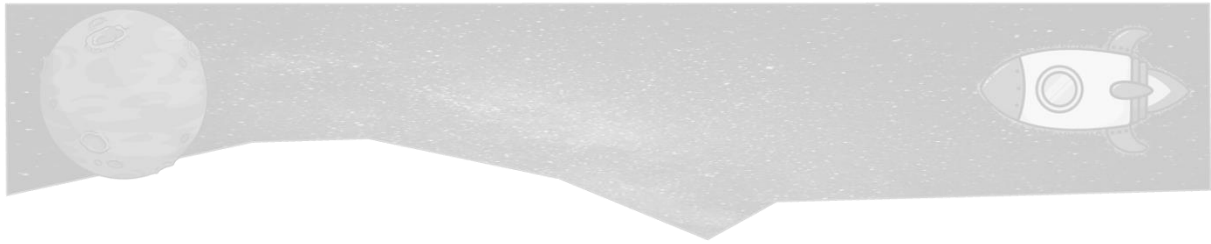
Award type: ROCKET COMPONENT

- microwave
- calculator
- mobile phone
- tin cans for fuel
- tin cans for food
- parachute

Award type: DOCUMENT

- space pilot license (5 Levels)
- map of space (4 Levels)





Award type: FUEL

- baking soda
- vinegar

Award type: FOOD

- cheese
- carrot

Fig. 1. Components required to pass STEP 1.

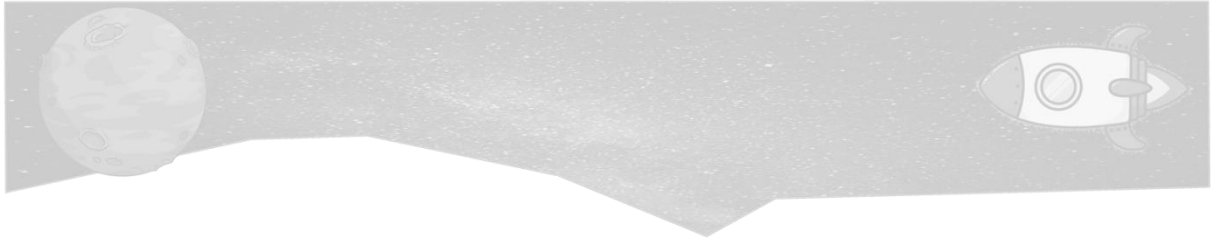
REQUIRED TO PASS THE STEP:		
Components	Type	Min. Qty/Level for this Step
MICROWAVE	Rocket	1
CALCULATOR	Rocket	1
MOBILE PHONE	Rocket	1
TIN CANS FOR FUEL	Rocket	1
TIN CANS FOR FOOD	Rocket	0
PARACHUTE	Rocket	0
SPACE PILOT LICENCE	Docs	Lev.1
MAP OF SPACE	Docs	-
BAKING SODA	Fuel	3
VINEGAR	Fuel	1
CHEESE	Food	0
CARROT	Food	0

For each Module of the course program (as well as Steps in the journey to Mars), the minimum number of units of each type of award to be achieved was specified. Awards such as Rocket Components, Documents, Cheese and Fuel, that are necessary to reach Mars, have been assigned only to Mandatory Tasks.

Fig. 2. Awards granted in frame of the Module 1.

ALLOCATION OF AWARDS TO TASKS				
Subject	Mand/Add	Basic Award	Performance Bonus	Max. Carrots
Mind-mapping of ideal entrepreneur profile	Mandatory	1 Mobile Phone	1 to 3 Carrots	3
Checking Entrepreneurial Aptitude	Mandatory	1 Tin Can Fuel	1 to 3 Carrots	3
Infographics development	Mandatory	1 Space Pilot Licence Lev.1	1 to 3 Carrots	3
Preparing a pitch	Mandatory	1 Microwave	1 to 4 Carrots	4
Organizing a meeting	Mandatory	1 Vinegar + 3 Baking Soda	1 to 2 Carrots	2
Presentation development	Mandatory	1 Calculator	1 to 3 Carrots	3
Writing short essay	Additional	2 Carrots	1 to 3 Carrots	5
Summarizing the paper	Additional	1 Carrot	1 to 2 Carrots	3
Preparing interview questions	Additional	2 Carrots	1 to 2 Carrots	4
				30





3. GAME PROGRESS (STEPS)

In the proposed game storyline, there is the possibility of achieving four levels of progress of the game (called Steps) on the journey to Mars, where the fourth level means landing on Mars (achievement of the game goal). Each student, in order to pass the subject (grade of 3.0), must reach Mars – achieve Step 4. While achieving a given level (passing the Step) the student will earn a certain number of points - carrots (performance bonus) as well as awards (the required rocket components, documents, food and fuel). Reaching the next level involves raising student's qualification and advancement of the trip.

The following STEPS are used in the game:

STEP 1: aimed to BUILD & LAUNCH THE ROCKET

STEP 2: aimed to GET TO THE MOON

STEP 3: aimed to GET TO THE MARS ORBIT

STEP 4: aimed to LAND ON MARS

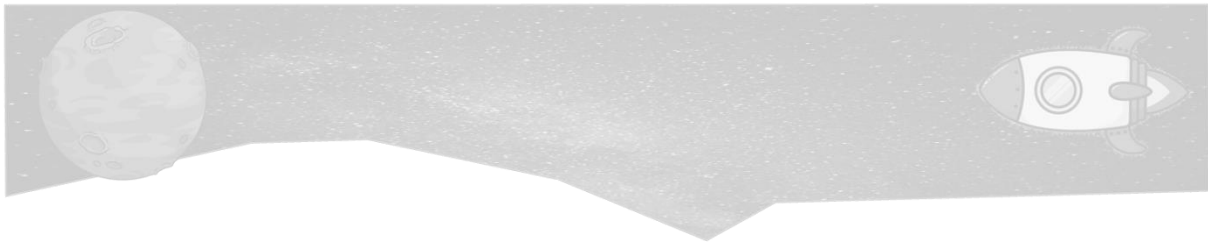
To build and launch a rocket (STEP 1) a Rat Family needs at least:

- 1 microwave
- 1 calculator
- 1 mobile phone
- 1 tin cans to store fuel (bags of baking soda and bottles of vinegar)
- 1 space pilot licence (Level 1)
- 3 bags of baking sodas (fuel)
- 1 bottle of vinegar (fuel)

To fly safely through Space and get to the Moon (STEP 2) a Rat Family will need **(in addition to what they collected in the Step 1):**

- 1 calculator
- 1 mobile phone
- 3 tin cans to store fuel (bags of baking soda and bottles of vinegar)
- 2 tin cans to store food (cheese)
- 1 space pilot licence (Level 2)
- 1 map of space (Level 1)
- 10 bags of baking sodas (fuel)
- 3 bottles of vinegar (fuel)
- 10 units of cheese





To get to the Mars orbit (STEP 3) a Rat Family will need **(in addition to what they collected in the Step 1 and Step 2):**

- 1 microwave
- 3 calculators
- 2 mobile phones
- 4 tin cans to store fuel (bags of baking soda and bottles of vinegar)
- 4 tin cans to store food (cheese)
- 2 space pilot licences (Level 3 + Level 4)
- 1 map of space (Level 2)
- 15 bags of baking sodas (fuel)
- 6 bottles of vinegar (fuel)
- 20 units of cheese

To land on Mars (STEP 4) a Rat Family will need **(in addition to what they collected in the Step 1, Step 2 and Step 3):**

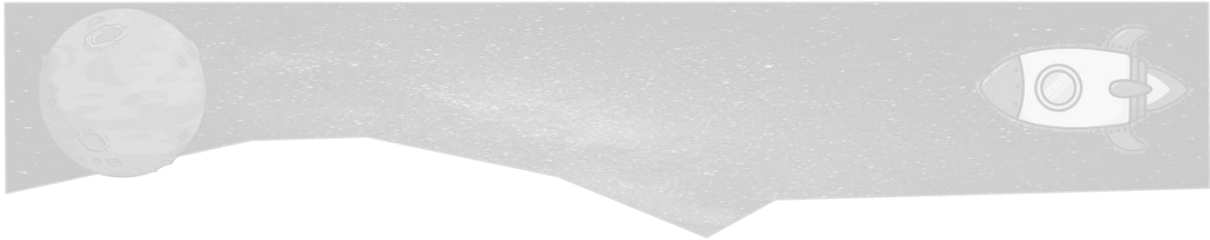
- 1 calculator
- 2 tin cans to store fuel (bags of baking soda and bottles of vinegar)
- 1 tin can to store food (cheese)
- 1 parachute
- 1 space pilot licence (Level 5)
- 1 map of space (Level 3)
- 5 bags of baking sodas (fuel)
- 3 bottles of vinegar (fuel)
- 5 units of cheese

NOTE: Summing up the requirements for ALL Steps 1-4 together gives us the following list necessary for the Rat Family **to complete the whole journey to Mars:**

- 2 microwaves
- 6 calculators
- 4 mobile phones
- 10 tin cans to store fuel (bags of baking soda and bottles of vinegar)
- 7 tin cans to store food (cheese)
- 5 space pilot licences (Level 1 + Level 2 + Level 3 + Level 4 + Level 5)
- 3 maps of space (Level 1 + Level 2 + Level 3)
- 33 bags of baking sodas (fuel)
- 13 bottles of vinegar (fuel)
- 35 units of cheese

It looks like a really challenging trip on a BIG spaceship!





4. EXTRA BONUSES - WIDGETS

Students may be rewarded for their activity, involvement, behavior, not only with performance bonuses (carrots) and basic awards (rocket components, documents, fuel, food) but also with widgets – extra bonuses which are supposed to provide them with satisfaction or reasons to be proud and encourage them to continue their effort. The widgets will also provide the students with some extra Carrots at the end of the Game.

In order to get a special widget, a student must meet certain conditions.

Examples:

- torch - gives additional 5 carrots per each Step completed (passed).
- old refrigerator - allows storage of unlimited number of carrots (without the refrigerator you simply lose all your Carrots as there is no room in your spaceship to store it there!)
- bag of fertilizer - increases student's pool of carrots by 30% (rounded down)
- umbrella - adds 50% of Performance bonus for Mandatory tasks in module 4, rounded down
- watering can - adds extra 20 carrots
- sprinklers - adds extra 20 carrots

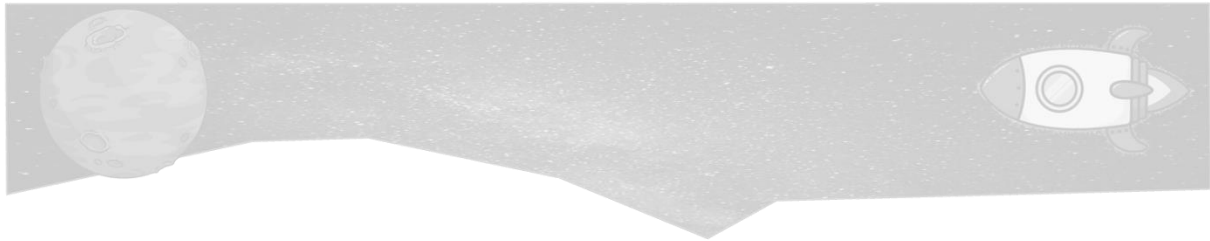
The teachers can come up with their own ideas!!!

5. FINAL RATIng

In the gamification system, the traditional assessment have been replaced by a point system, which is transformed into a grading system after the completion of *the Rats To Stars Mission* (after the course is completed). Some assignments are performed as a team assignments. In case of team tasks, the awards are given to all the members of the team.

The system assumes that when engaging in task, the student will obtain the carrots and required items (rocket components, documents, food and fuel) that will allow him to reach Mars. And only by reaching Mars does the student pass the course (with grade 3,0). Student should solve all mandatory tasks at an acceptable level to achieve the course learning outcomes at minimum level (5th Step).





At the end of the class the grades for the module/course are given according to the quantity of Carrots in the students pool. The second requirement is to reach Mars, only by reaching Mars does the student pass the course (with grade 3,0).

For a 6-level grading scale the teacher can apply the following grading policy based on the number of carrots collected:

Let X be the maximum number of carrots a student may collect as Basic Awards and Performance Bonus (Note: Carrots provided by the Widgets are not included here!):

Grade 2.0 (no pass) – the Rat Family is not able to reach Mars

Grade 3.0 (E, lowest acceptable) – the Rat Family landed on Mars (passing all 4 Modules)

Grade 3.5 (D) - for having a Carrot pool of at least 20% of X ;

Grade 4.0 (C) - for having a Carrot pool of at least 40% of X ;

Grade 4.5 (B) - for having a Carrot pool of at least 60% of X ;

Grade 5.0 (A) - for having a Carrot pool of at least 80% of X .

The teacher may adjust the percentage requirements to the rules of his university.

In case there is a need for ongoing assessment of student progress with grades, the designed game allows for the assignment with partial grades after the completion of each module of the course. Students are graded individually.



Grading assumptions:

- *The designed grading system assumes that in order to achieve the learning outcomes at minimum level, the student should solve all mandatory tasks at an acceptable level.*
- *Higher grades depend on the student's Carrot Pool size.*
- *Higher grades are awarded according to the grading policy presented above (or individually designed by the teacher) based on the number of carrots collected.*
- *If it is necessary to prepare a ranking of teams, the teacher can compare information on the number of carrots earned by each team.*

ANNEXES:

1. GRADING RULES - OUTLINE (xls file)
2. RULES IN BRIEF for teachers (ppt file)
3. GRADING SHEET – TEACHER'S AID (xls file)

NOW YOU CAN ENJOY THE GAME WITH YOUR STUDENTS!





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