**PROJECT TEMPLATE**

Within the scope of the course, you are expected to propose an engineering solution for a problem that you will identify in areas such as health, environment and safety in universal and social dimensions and to project your proposed engineering solution.

**CHAPTER I. PROJECT PROPOSAL CONTENT**

1. **Project Team**

The following table should be completed for each project team member

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| **Student ID** | **Name Surname** | **e-mail** | **Mob. Phone No** |
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\*Team leader (Identify the team leader by putting a \* next to the team leader's name)

## **Problem Identification and Development of Solution Strategy**

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| **Project Title:** You should write a title that describes your project proposal or the output you will achieve. |
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| **Problem Definition:** Within the scope of the UN Sustainable Development Goals, what is the problem you have identified in areas such as health, environment and safety? Is there an existing solution for the problem you are addressing? What are the factors that make it necessary to address this problem? The problem should be explained by referring to research reports and statistics published by institutions such as TSI (TÜİK). |
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| **Solution Proposal:** What is the engineering solution you propose for the problem you have addressed? What are the global and societal impacts of your engineering solution on health, environment and safety? |
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| **Project Objectives:** What are the outputs to be achieved as a result of the proposed project? |
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| **Methods/Techniques/Technologies to be used:** What is the method/technique/tool/technology that will be used to achieve the output targeted in the project? What are the technical/technological uncertainties to be overcome for the solution proposal? It should be explained by referring to studies published in the literature. |
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1. **Project Management and Economic Feasibility Analysis**

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| **Innovative Aspect of the Project:** What is the novelty element of your proposed engineering solution? What makes your idea different from the status quo? |
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| **R&D Aspect of the Project:** What is the R&D content of your proposed engineering solution? What are the uncertainties in the problem you are addressing and what are the elements for which you have to develop a solution? |
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| **Defining the Project Scope:** A detailed description of the project and product should be made. Requirements for the project and work breakdown structures that will enable the realization of the project output should be created. Define the change management to be followed in the project. |
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| **Developing the Project Schedule:** Define the activities that constitute the subcomponents of the work breakdown structure, define the relationships between activities (predecessor-successor and dependencies) and draw a project network diagram and Gantt chart by estimating activity durations. Analyze the probability of completing the project in the foreseen time by defining the critical path. |
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| **Calculation of Project Costs:** The resources needed for each work activity should be analyzed and the project budget should be planned. The financial resources required for the project budget in periodic intervals should be presented graphically. Alternative strategies should be analyzed if necessary. |
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| **Financing:** How will the necessary financing be provided to cover the costs of the proposed project. Sources such as venture capital, grant support (TUBITAK, Development Agency, European Union Funds), investor tours should be analyzed for their suitability to the project idea. |
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| **Risk Management:** Risks that may cause the project to fail should be identified, analyzed and risk mitigation actions should be planned. Here, risk analysis should be planned separately for the project development process and for the go-to-market phase of the project.  In the step of identifying risks, one of the analysis tools such as Fault Tree Analysis (FTA), Cause and Consequence Analysis (CCA), Bow Tie should be used.  Risks should be analyzed with quantitative analysis tools such as Failure Modes and Effects Analysis (FMEA), Probability Impact Analysis, Expected Monetary Value Analysis. Risk, risk magnitude and mitigation action plan should be presented in a table. |
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| **Customer Type and Target:** The target potential customers and market size of the project should be explained. Numerical data on market size should be presented in this area. If possible, official authority sources such as TSI (TÜİK) or research reports can be referenced. |
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| **Revenue Generation Model:** What kind of revenue model will the output from the project be offered to the market? What is the break-even point of the product? |
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| **Competitor and Competing Product Analysis:** Conduct a SWOT analysis of the project output and identify the advantages and weaknesses of your product compared to competitor products. |
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| **Go-to-Market Strategy:** What are the marketing strategies to be followed to promote the project output in the market? |
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# **Intellectual and Industrial Property Rights and Legal Dimension**

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| **Intellectual and Industrial Property Rights:** Information should be given about the type and types of protection that can be provided for the product or idea you will develop. Fill in the relevant forms for the project in accordance with the application guidelines. |
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| **Legal Consequences of the Engineering Solutions Offered:** In this context, the impacts of the proposed solution on society and the environment should be analyzed. Information should be provided on whether there is a need for an ethics committee approval document during the realization of the project, what are the standards to which the product is subject, whether there are any legal or legislative obstacles to the development of the product, and how the product will be legally protected in case of emergence (Industrial Property Law). |
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| **Sustainable Development Goals:** Explain which one or ones of the following UN Sustainable Development Goals the proposed solution relates to |
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