# **THE CONTENTS OF INDUSTRIAL ENGINEERING DESIGN PROJECTS**

**GROUND RULES**

1. The sections given below can be used similarly or with different names in the reports to be submitted. However, in addition to these, in the IED-1 and IED-2 report content, there should be sections like summary, reference list, etc. which are also required.
2. Within the scope of IED-1, the Methodology section is expected to be completed. All of the content given below must be covered in the IED-2 report.
3. There should be a conclusion section in IED-1 where what has been done so far is summarized and interpreted, and what will be done in the next semester is explained.
4. The requirements for the content can be seen from the template prepared for the design project.
5. The content that should be present in the report is given as items below. It is presented as a guideline about what the content of the project should be. The order of execution of the sections given below may be different in your own project.

**CONTENTS**

1. **INTRODUCTION**

* Basic information such as the purpose of the design project, the problem to be solved, why this problem is important, and which tools and techniques are suggested to be solved.

The contents should be clarified in line with the advisor's guidance.

1. **SYSTEM ANALYSIS**

* Identification of the system to which the design belongs
* Examining the boundaries of the system, its stakeholders, possible opportunities and threats in its environment.
* Identifying the problem or area of ​​improvement in the system, defining the relevant constraints and needs (Business and stakeholder needs)
* Defining the basic system requirements of the design (Basic functions and features expected to be in the design)
* Determining the purpose of the study and emphasizing the benefits and improvements it will provide to the stakeholders
* Defining the success criteria of the designed system
* Determining the business model, product/service or process to be designed

The contents listed do not have to be in the given order.

1. **LITERATURE REVIEW**

* Explanation of the problem, the methods used to solve the problem, and which criteria are used in solution techniques.
* Justifying the industrial engineering tools and methods to be used in solving the problem based on the literature.

The content to be prepared in this section should be based on the literature, namely scientific articles, conference proceedings, books, patents, etc..

1. **METHODOLOGY**

* Revealing the methodology to be followed while developing the design (Flow chart, system architecture, etc.)
* Explanation of the tools and methods to be used in the study, in which order, for what purpose, and how they will be used.

It should be noted that more than one industrial engineering technique should be used in the project.

1. **APPLICATION**

* Explanations about the company, organization or unit where the design will be implemented.
* Application of the methodology described in the previous section
* Generating alternative solutions
* Analysis and interpretation of findings
* Evaluation of alternative solutions (here, the most appropriate solution should be determined by considering multiple criteria and success factors such as scenario analysis, risk analysis, and evaluation of tradeoffs)

1. **CONCLUSIONS & RECOMMENDATIONS**

* A brief summary of the design development steps
* Applicability of the design and its managerial contributions
* Examining the environmental, social and economic impacts of design
* Examining the ethical dimension of design (In terms of virtue, justice, duty, utilitarianism)