IE490 Final Project Report Guidelines

IE490 is a **design project** which should have open-ended solutions to satisfy the needs of a process or product from real life. Thus, the problem the project intends to solve needs to be clearly defined, the methods used need to be specified, the final outcome(s) needs to be evaluated, and the whole design process needs to be presented.

You have already submitted your proposal and completed your progress presentation. The bases of your final report should be these two items. You must first summarize what you completed in these and then extend your project to an in depth analysis, results, suggestions and conclusions. There is a fixed template on department's web site for your final report writing format and use of this template is mandatory. The main structure should be in the following form where you may include additional subsections to elaborate on important perspectives.

- **Abstract:** List the objectives, describe concisely and realistically what the product described in this work is intended to accomplish, and summarize the accomplishments. (Max 250 words)

1. **Introduction:** A brief summary of the project should be given where the motivation and contributions should be highlighted. You should clearly present the design requirements and expectations of the project. (Project proposal you submitted earlier is a good source of start for this section)
2. **Problem Description:** A detailed explanation of problem with respect to limitations and restrictions must be given (Economical, environmental, social, legal, ethical, political sustainability, safety etc. aspects should be elaborated). A root cause and effect analysis can be given in the form of a flow chart.
3. **Methodology and Literature Review:** Relevant literature about your topic such as current applications and interesting articles must be reviewed. The summary of this review and the list of references should be submitted in the pre-determined format. A thorough investigation of appropriate methodology, assumptions made and possible alternatives should be given in this chapter as well. It is important to investigate the current approaches to similar problems in Turkey and provide a critical comparison to the world conditions.
4. **Design and Solution Approach:** Detailed analysis and solution procedure must be given here. Details on your design parameters such as objective(s), constraints, targets, specifications, benchmarks etc. must be clearly presented. Data collection and management procedure (observation scheme or experimentation phases) must be clearly stated.
5. **Analysis of Results:** Interpretation of results as a decision support tool and a continuous feedback mechanism should be highlighted. Implementation concerns along with limitations, as a part of a large system, should be stated. Critical performance indicators must be stated and sensitivity analysis should be performed.
6. **Conclusions and Discussions:** A brief summary of the problems, methodology and results can be given. Potential impact of your results (as a DSS, process or product) on all stakeholders from economical, environmental, safety, ethical, political etc. values should be elaborated. You must illustrate clear evidences to support the claim in succeeding the goals you set in your proposal at the beginning of the project.

- **References:** A complete list of material used must be cited.
- **Appendix:** Include extra material such as software inputs/outputs, bulk graphs/tables