
IENG/MANE332 - Production Planning I TERM PROJECT

Project Background

As a newly appointed Production Operations Planning and Management team (**Group of 5 Students**), you have been asked to advise top management on the various production planning and strategy tasks advised below:

Project Tasks

The following tasks form the basis of the project:

- 1- Choose an engineering organisation in a manufacturing sector of your own choice with production operations and provide an introduction to your chosen organisation (including its brief history), and to its products, departments and services **[300 words]**.
- 2- Identify and analyse the production system for this chosen organisation. Identify the key manufacturing processes of the manufacturing organisation such as: Laser cutting, welding, bending, turning, assembly, paint etc, generating a flow-chart as shown in Appendix A. Analyse (e.g., identify the type of layout against the production system such as Mass Production vs. Product Layout etc.) and provide a 2-D (or 3-D) sketch of the basic layout of the manufacturing operations in the light of the production system **[500 words]**.
- 3- Identify 4 performance objectives for your organisation, defining operations performance for the organisation. Adopting appropriate methods, formulate operations strategy for your organisation **[600 words]**.
- 4- Discuss the importance of forecasting for the organisation, reviewing the available methods. Adopt a trend based and a seasonal forecasting method to predict demand for two separate products for a time period of 5 years **[600 words]**.
- 5- Identify and analyse OEE for a key manufacturing process of your organisation. Review capacity management options for your manufacturing organisation and formulate a capacity plan, discussing its implications, advantages and disadvantages **[800 words]**.
- 6- Identify 4 suppliers of your organisation, categorising them based on the products they supply. Formulate a supply chain management strategy for

these suppliers, including the relationship management and sourcing strategies **[600 words]**.


- 7- For one of these suppliers, analyse and answer 'how much' and 'when' to order questions, adopting the necessary approaches for inventory management as required **[800 words]**.
- 8- Discuss the importance of production planning and control systems for the organisation, outlining its benefits. How could this system be implemented and would there be any challenges associated with this? Develop an exemplar master production schedule for your organisation, discussing its implications **[800 words]**.

Guidance notes

- Choose an engineering organisation in the manufacturing sector, which you will be able to apply all or most of the concepts and tasks above. Consider typical manufacturing processes and statistics when assuming your data, justifying your assumptions as required.
- You can select an organisation you worked during one of your placements or another of your acquaintance to provide practical examples to support your project.
- Structure and format your report, as per the project grading scheme provided below.
- Time management and teamwork is crucial in this project. Groups are advised to be formed early, tasks shared among members and term project work commenced as early as possible. A weekly recommended plan is provided below, which is advised to be followed.
- Write the project as a guidance document for top management, unfamiliar with production operations planning and control fields.
- **DO NOT** exceed the word limits designated for each project task and the total word limit of **5500 words (excluding your References)**.
- Open the link: **<https://ie.emu.edu.tr/en/others/report-writing>**, you will find the guidelines and format sample and you should adopt all appropriate report writing practices, an appropriate referencing system and appendices. (example of the format, font size and type, spaces between statements and the titles, margins, numbering, list of contents, list of figures, list of tables, references and list of appendices...etc).

Project Milestones and Time Management

You are recommended to work through the project throughout the semester, in line with the weekly course plan and hit the milestones advised below:

IENG332 - Recommended Milestones for the Term Project			
No	Project Requirements	Task	Recommended to Be Completed By:
1		Introduction	WK2
2		Production System, Processes and Basic Layout	WK3
3		Operations Performance & Strategy	WK4
4		Forecasting	WK7
5		Capacity Management	WK8
6		Supply Chain Management	WK9
7		Inventory Management	WK11
8		P&C System and Master Production Scheduling	WK12
C		Conclusions	WK12
F		Proofread, Compile Title, TOC, and Exec. Summary, Format your Report, and Finish Your Report	 WK12

You are encouraged to engage with the instructor and TAs of the course to iron out any issues/questions that may appear during the project, in line with the milestones above.

Project Grading Scheme

IENG332 - TERM PROJECT GRADING SCHEME					
Group: 1		<div><div>0</div><div>Not Included</div><div>60</div><div>Satisfactory</div><div>90</div><div>Outstanding</div></div>			
Organisation Selected:					
Turnitin Score: %		<div><div></div></div>			
No	Project Requirements	Task	Weight	Rating (0 - 100)	Grade
T		Title Page, Table of Contents & Executive Summary	3%		0.00
1		Introduction	3%		0.00
2		Production System, Processes and Basic Layout	5%		0.00
3		Operations Performance & Strategy	5%		0.00
4		Forecasting	10%		0.00
5		Capacity Management	15%		0.00
6		Supply Chain Management	5%		0.00
7		Inventory Management	15%		0.00
8		P&C System and Master Production Scheduling	10%		0.00
C		Conclusions	4%		0.00
F		Formatting, Organisation & Referencing	25%		0.00
Final Grade (Out of 100)					

- **Distinction/Outstanding – 90% +**

Work of a distinguished quality that demonstrates a detailed knowledge base and awareness of the wider implications. The work will clearly show the ability to analyse, synthesise, evaluate and interpret concepts, principles and data. There will be strong evidence of competence across a range of specialised skills, using them to plan, develop and evaluate problem solving strategies.

- **Merit - 75 – 89%**

Work of a very good quality that demonstrates a high degree of ability in subject areas/key skills. Evidence of strong analysis, synthesis, evaluation and the ability to develop judgements. The work should be able to show consistent evidence of capability, including self-evaluation and the ability to effectively use a range of techniques in various situations.

- **Satisfactory - 60 – 74%**

Work of satisfactory quality that demonstrates a good knowledge of theories and provides some evidence of analysis and evaluation. The work may be rather standard, limited, but will be mostly accurate. There may be some errors and omissions.

- **Fail - 0 – 59%**

Work that is well below the standard in relation to one or more subject based or key skills area. It may address to some extent some of the subject matter, but such factors are outweighed by major deficiencies across remaining areas.

Formatting, Organisation and Referencing

Students are required to implement a proper report format, and referencing system (As advised in: <https://ie.emu.edu.tr/en/others/report-writing>) for their reports, effectively organizing their reports and effectively utilising in-text citations for all information that they obtain from textbooks, research articles, internet and any other sources including Figures/Tables. These sources are then required to be clearly demonstrated at the References section, included at the end of the reports, in line with the referencing system adopted. The level of organization and implementation of references will highly influence grading of the reports.

Submissions, Deadlines and Final Remarks

You are required to submit your project report and other relevant files to the project submission page on **LMS**. Failure to submit any of these before the deadline, and/or exceeding a Turnitin Score of 25% **WILL** result in refusal of your project or severe deductions from your project grade. You may assign one member of the team to be responsible for the submission of the report and Turnitin similarity test.

In addition to the project report, you are required to conduct a **10-minute presentation + 2-minute Q&A** of your project analysis to your colleagues and to your instructor. Please note that due to time restrictions, your presentation will be stopped at 10 minutes, thus the presentation should be well-structured and concise (Grading will only consider the information presented in your 10-minute slot and Q&A).

The project grade will consist of both the submitted report and the presentation with the weightings outlined below:

Project Report: 80%

Project Presentation: 20%

The reports are due on:

7th June 2022, Tuesday (17:00 – TRNC Local Time)

Project presentations are due on:

Week commencing (w/c) 6th June 2022, full timetable to be announced.

Good luck!

Ali Baştas, PhD CQP MEng DipQ

Appendix A: An exemplar flow chart of Manufacturing Steps/Processes for a Product

