

ASSESSMENT

Work Group: 50% - Individual grade divided as following:

- 25% Workshop I (Presentation and Slides Report); 25% Workshop II (Presentation and Slides); 50% Final Report.
- Each student must evaluate the contribution of the remaining members of the group. The individual grade can be adjusted according to this information, as well as the participation in both presentations. The member's evaluation is due on the Final Report delivery and should be handed in a closed envelope. If not, the respective final grade will not be published.
- There is a 10% penalty in the individual grade if the student does not attend at least two sessions in each workshop.

Final Exam: 50% - 1st round; 2nd round; or special round

- The final exam covers all the topics and a **minimum grade of 8.5** is required.

Students are not allowed to take any notes to the exam. A formula sheet and necessary tables will be provided.

• **WORK GROUP DESCRIPTION**

The course includes a project that will require the analysis of a real production process. The work group must be done in teams so that it is as close as possible to the real world. Each team has to identify and observe a production process of goods or services and come up with a set of improvement recommendations related to Operation Management topics.

Each group must have **five students**. The deadline for the submission of groups' information is **February 26**. Each group must send an e-mail to their class teacher, including the name, student number, e-mail and the practical class in which he is enrolled. Since groups are supposed to start work during the second week, changes after the deadline will not be accepted.

VERY IMPORTANT: Each group must send an e-mail to their class teacher **by March 18** with a proposal of the company and the process to analyze. Only processes that allow a good learning experience will be approved. (Have a back-up plan!)

The project is divided in two phases with two corresponding Workshops. In the ***first phase***, **the groups should analyze and characterize the process** (production or assembly process, distribution process or services). Groups should also obtain the required information for

Workshop I (see deliverables). A local visit to the company is essential to understand how the process is implemented and to quantify its main elements.

Some examples of processes: textile production, bicycles assembly line, processing insurance premiums, fast mail service, processing sales by catalog or by internet, equipment sale and assembly, laundry, clinical exams lab, credit decision, etc

Some **recommendations** that should help students when choosing a process:

1. Choose a repetitive process, so that you can observe several times each phase of the process and detect eventual deviations. Following this recommendation is crucial to have the work facilitated.
2. Avoid fast-food operations, video stores, counter service in retail stores, oil change services or car washing. Even if they have easy access, usually they do not have a lot of improvement opportunities. This type of processes will only be approved if a particular reason exists.
3. Identify processes with a well defined client's portfolio and that use a significant number of operators (usually more than 10).
4. Pick places that allow you a direct observation of the work done by the persons involved in the process and where it is possible to obtain information about how the organization tries to improve the process.
5. Define with precision the scope of the process that you are observing.
6. You can choose processes that you are familiar with. However, usually is more difficult to observe with objectivity something that we know quite well.

During the **second phase** you should audit the process based on Operations Management topics. The goal is to verify if the process is following Operations Management recommendations that make it more efficient. The process should be analyzed in detail. Each group should select **two themes/ one theme** to be approved. The themes should be selected from the available list or others that are within the scope of Operations Management.

VERY IMPORTANT: Each group must send an e-mail to their class teacher by **April 5** with a proposal of the chosen themes.

Proposed Themes

Resolution of Quality Problems
Supplier's evaluation
Traceability of the Product (only in production processes)
Results' Orientation

Clients' Orientation
Operators Training
Operators' Involvement (empowerment, quality training, autonomy)
Maintenance and Reliability
Sustainability (design for environment, clean production, circular economy, etc)
Stock Management
Orders Management
Waiting-Lines Management
Stock Handling and Control
Scheduling
Production planning and control
Circular economy practices
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The themes choice should take into account the type of selected process. Some themes are not appropriated for all types of processes. For this reason the chosen themes must be approved.

✓ **WORKSHOP I**

Each group will have **15 minutes** to present, followed by a 5 minutes **Q&A** session. If the time limit is exceeded, the professor will interrupt the presentation. The file with your presentation should be copied into the available desktop in the room, before the class starts. **All group members have to attend to the presentation and participate either on the presentation or in the Q&A session.**

Deliverables:

On the presentation day, all groups must hand **two** copies of the Workshop I Report: Project Management Plan and Process Description (Slides format), which must include the following topics:

1. Project Management Plan:

- Each group must hand a plan with all activities performed since the beginning of the project until its conclusion (ex: Activity 1 – first group meeting). You should also do a CPM analysis (Network Diagram) indicating the starting and ending times of each activity, duration and resources, a Gantt graph with the status of each activity (actual data of Workshop I and estimated data afterwards) and a matrix of responsibilities.
- All the elements should be obtained from **MS Project** outputs, except the matrix of responsibilities.

2. Process Description (Slides Format)

- Description of the Background of the Process: company, sector, process goals, clients and suppliers, unit of analysis.
- Demand characterization
- A diagram representing how the process is integrated in the company.
- A detailed flowchart representing the process.
- Description of the main inputs, outputs and process activities.
- Processing time for each activity and operators in charge for its execution.
- Capacity of each production center.
- Cycle time and necessary average time to produce one unit (waiting times in services).
- Capacity of the process.

- Levels of capacity utilization.

✓ **WORKSHOP II**

The goals of the Workshop II are: **(1)** ensure the timely conclusion of the project; **(2)** provide students a time to receive feedback about the work done, which will contribute to the improvement of the final report.

Each group will have **15 minutes** to present, followed by a 5 minutes **Q&A** session. If the time limit is exceeded, the professor will interrupt the presentation. The file with your presentation should be copied into the available desktop in the room, before the class starts. **All group members have to attend to the presentation and participate either on the presentation or in the Q&A session.**

Deliverables:

The presentation must follow the following structure:

1. Have a maximum of **15** PowerPoint *slides*.
2. The slides should have an adequate letter size so that they are visible for the entire room.
3. The first slide should include the name of the group elements, name of the company, title of the process and the chosen themes.
4. The second slide should present the company and how the process is located inside the company.
5. The third slide should present the production process diagram.
6. The following slides should present the approach of the company to the chosen themes, strengths and weaknesses and improvement proposals, underlying the potential impact for the company.

✓ **FINAL REPORT**

The final report should include a cover, an index, **6 main sections** and the appendixes. Use a 12pt Times New Roman letter, spacing 1.5 between lines and 2.5cm margins. All pages must be numbered.

- **Cover (1st page)**

This page should include the title of the process, chosen themes, name of the company, date and group information (i.e., group number, students' name, number and e-mail).

- **Index (1 page)**

- **6 Sections**

1. **Executive Summary** (1/2 pages)

In this section you should summarize, in a maximum of 150 words, the main goals and conclusions of the work done and the main improvement recommendations.

2. **Background** (around 2 pages)

In this section you should contextualize the work: company description, business strategy, clients, competitive priorities for the company in the operation area in particular and the role of the studied process in the persecution of strategic goals.

3. **Analysis Method** (around 2 pages)

This section should provide details about the method that your group used to gather the information, namely when the process observation was done, under what conditions, how long the process observation took and possible limitations that you could have faced that had impact in your conclusions.

4. **Production Process Analysis** (around 2 pages)

This section should include a description of the production process and a summary of the main issues that came out during Workshop 1. Numerical calculations should be included as appendixes. Furthermore, it should also include a description of observed behaviors,

which, in your opinion, can affect the process performance as well as evaluation measures for the different quality dimensions.

5. Process Audit (around 4 pages)

This section should include a description of how the chosen themes were approached inside the company and the group's analysis of the **strengths** and **weaknesses** of the chosen themes.

6. Improvement Proposals (around 2 pages)

In this section you should describe your **improvement proposals**. You should clearly define the priority actions and relate them with the strategic goals of the company, clients and logistic chain. The establishment of priorities should take into account the potential impact of the recommended actions, the time and the necessary resources for them to be implemented.

- **Appendixes**

Examples: process diagram, tables with your calculations, company documents (forms, copies of norms, etc)

VERY IMPORTANT: All groups **must hand one** copy of the final report by **May 16**.

