

MME 4015 Application of Materials Processing and Design I

Project Management...



Work Smart Not Hard !!!

What is Project Management?

Project: A group of milestones or phases, activities or tasks that support an effort to accomplish a goal.

“Unique process consisting of a set of coordinated and controlled activities”

Management: is the process of Planning, Organizing, Controlling and Measuring.

Project...

- **A collection of linked activities, carried out in an organized manner, with a clearly defined START POINT and END POINT to achieve some specific results desired to satisfy the needs of the organization at the current time.**
- **A project is an activity that :**
 - are formed to solve a problem or take advantage of an opportunity
 - is temporary having a start and end date
 - is **unique**
 - brings about change
 - has unknown elements, which therefore create risk.

Project Management

- **A dynamic process that utilizes the appropriate resources of the organization in a controlled and structured manner, to achieve some clearly defined objectives identified as needs.**
- **It is always conducted within a defined set of constraints**

The Four Primary Stages of an Engineering Project

Stage 1:

Initiation

- Identify Key Stakeholders
- Develop High-Level Project Objectives & Constraints
- Formally Authorize Project, Project Manager
- Kick-Off Project

Stage 2:

Planning

- Develop & Refine Scope, Quality, Schedule, & Cost
- Plan Procurements, Risk Management, & Comms/Integrations
- Assemble Project Team; Refine Stakeholder Engagement Plans
- Plan Project Leadership

Stage 3:

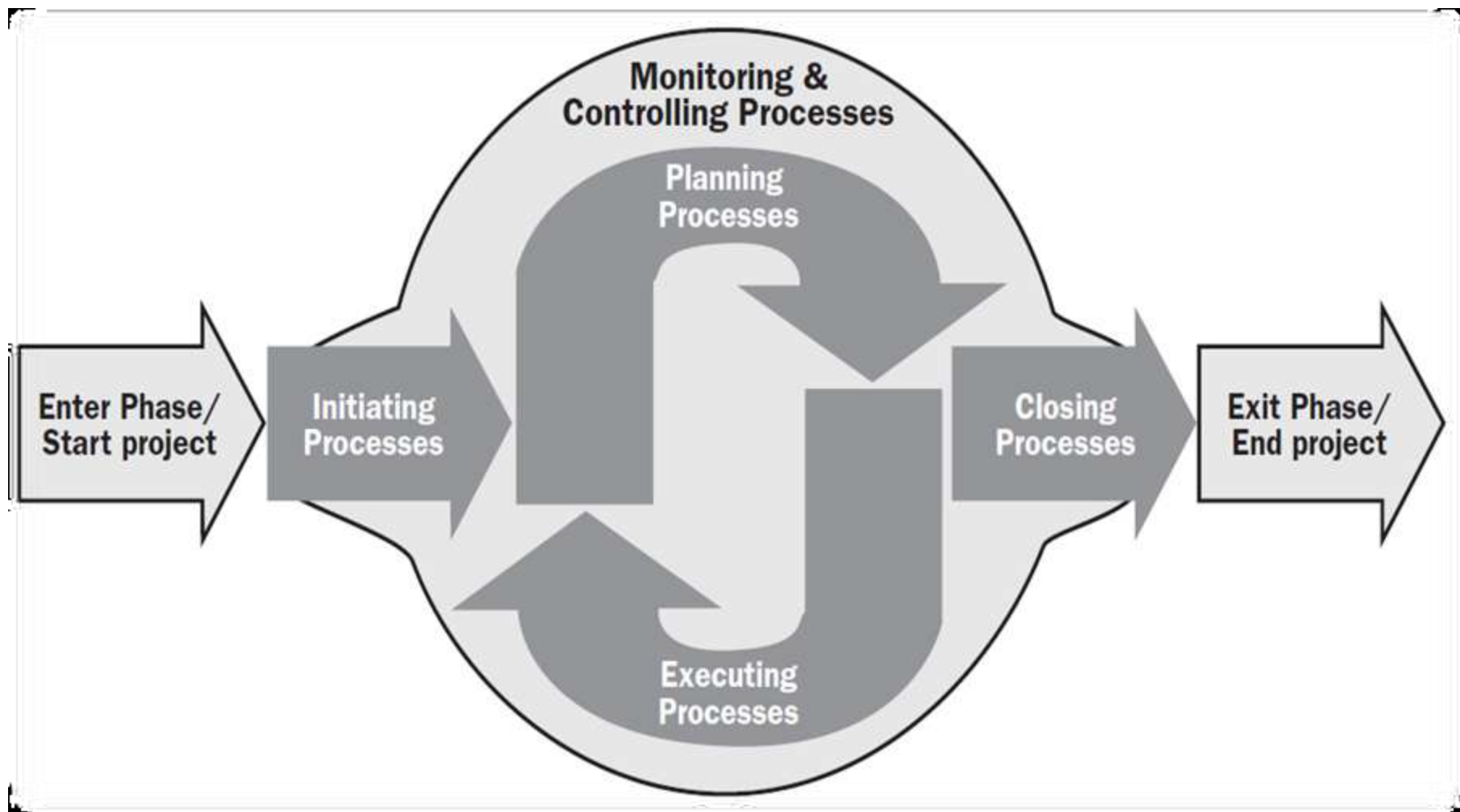
Execution Monitoring & Controlling

- Direct & Manage Project Work, Procurements
- Monitor Progress & Control Changes*
- Manage Risks & Stakeholder Engagement
- Lead Project

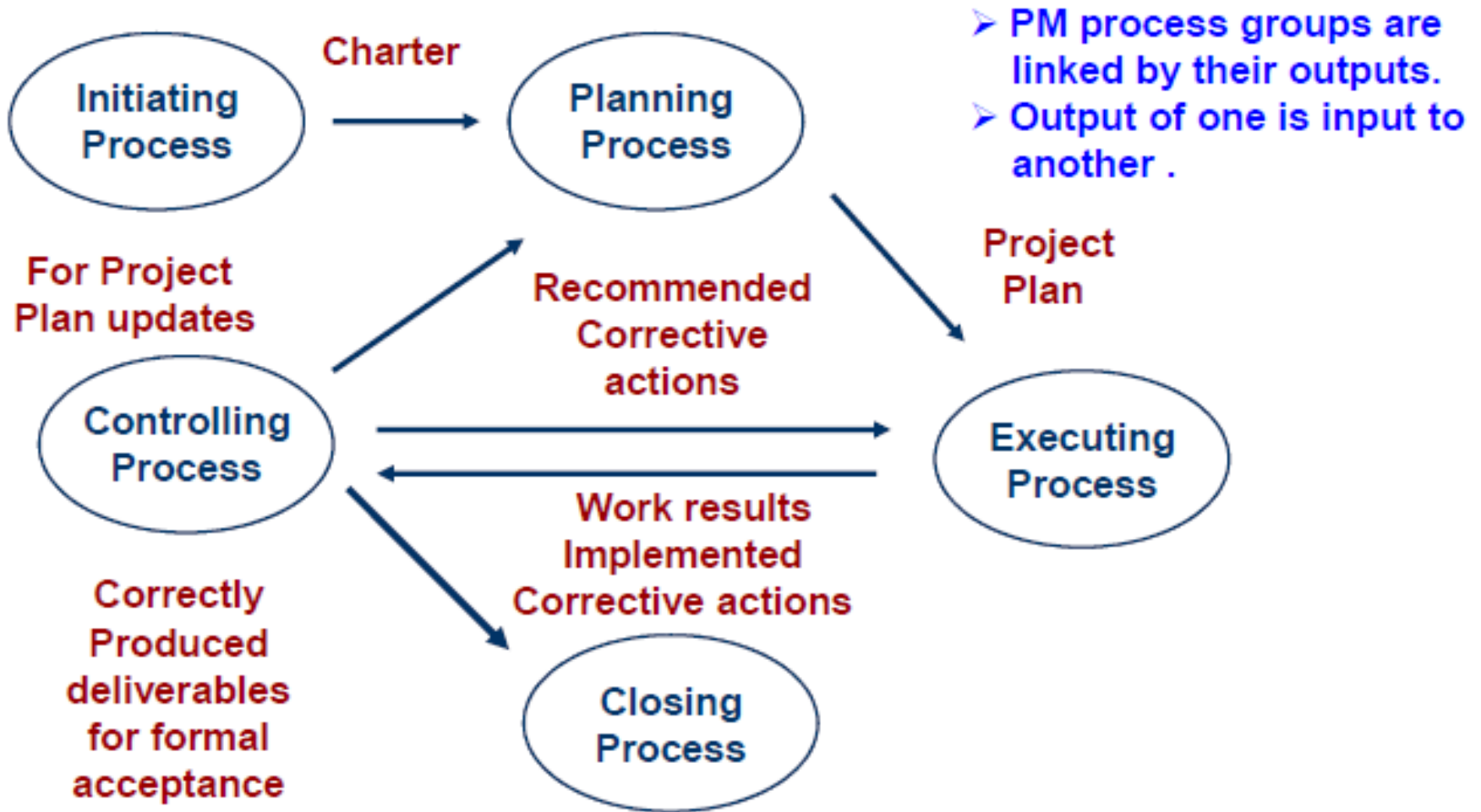
Stage 4:

Closure

- Deliver the Scope
- Document Lessons Learned
- Release Project Team
- Close Project



Project Management Process Groups



1. Initiation Process

This is where all projects begin. The value of the project is determined, as well as its feasibility. Before the project is approved or rejected, these two documents are created to sell the work to stakeholders or sponsors:

Business Case: Here is where you justify the need of the project, which includes analyzing return on investment.

Feasibility Study: You need to evaluate what the project's goals are, the timeline to completion and how much the whole endeavor will cost.

2. Planning

The project plan will include what resources are needed, financing and materials. The plan also gives your team direction and the following:

Scope: There will be a written scope statement that reiterates the need for the project, and what its deliverables and objectives are.

Definition: Here you break down the larger deliverables into smaller ones, which will help with managing them.

Tasks: Identify what tasks are necessary to produce the deliverables, figure out if any tasks are dependent on other tasks.

Schedule: Determine the duration of the tasks and set dates for their completion.

Cost: Estimate the costs involved across the project and formulate a budget.

Organization: Note how the project will be organized, including reporting on progress.

Staff: Determine roles and responsibilities of the project team.

Risk: Determine what risks are likely, how they'll impact the project and then plan how to resolve them.

3. Monitor and Control

To ensure that the project plan is being actualized, all aspects of the project must be monitored and adjusted as needed. To do this, follow these processes:

Reporting: Have a metric to measure project progress and an instrument to deliver this information.

Scope: Monitor scope and control changes.

Quality: Measure the quality of outcomes and make sure that the planned quality is being met. If not, evaluate how to improve the quality.

Schedule: Keep track of delays or blocks that impact the timeline of the project and adjust to stay on track.

Cost: Monitor expenses and control cost changes.

Risk: Note changes in risk throughout the project and respond accordingly.

4. Close

The project isn't over once the project goals and objectives have been met. The last phase of the project is closing it out. This involves another set of processes:

Scope: Make sure the project outcomes have been completed as planned.

Administration: Close out all outstanding contracts and administrative matters, archive the paperwork and distribute to proper parties.

CHARACTERISTICS OF PROJECTS

- ✓ A project contains a well defined **objective**. The project objective is defined in terms of scope (or requirements), schedule, and cost.
- ✓ A project is carried out via a set of interdependent **tasks**.
- ✓ A project uses various **resources** to carry out these tasks.
- ✓ A project has a definite **start date** and an expected **completion date**. The actual completion date may not always be the same as the expected date.
- ✓ A project is a one time or unique endeavor.
- ✓ A project has outcomes and customers.
- ✓ So why do projects fail?

WHY DO PROJECTS FAIL?

- Poor project and program management discipline
- Lack of executive-level support
- Wrong team members
- Poor communication
- No measures for evaluating the success of the project
- No risk management
- Inability to manage change