Module 3

Software Project Scheduling Principles

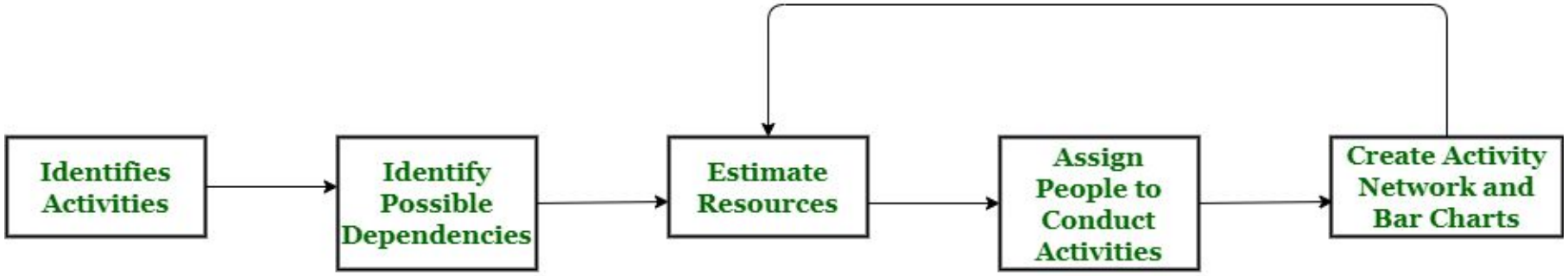
Project Scheduling:

- Software project scheduling is an activity that distributes estimated effort across the planned project duration by allocating the effort to specific software engineering tasks.

- For scheduling a project, it is necessary to -

- Break down the project tasks into smaller, manageable form
- Find out various tasks and correlate them
- Estimate time frame required for each task
- Divide time into work-units
- Assign adequate number of work-units for each task
- Calculate total time required for the project from start to finish

Scheduling Process:

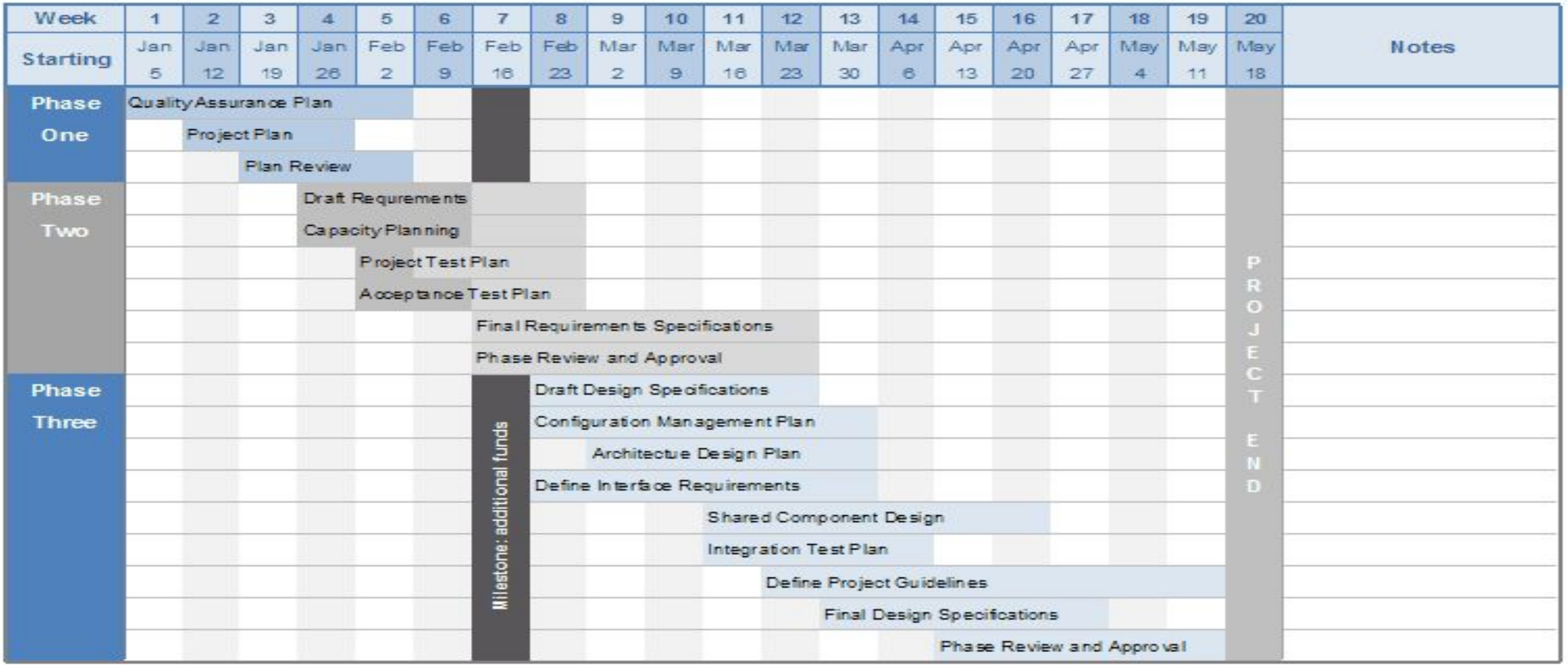


Project Scheduling Process

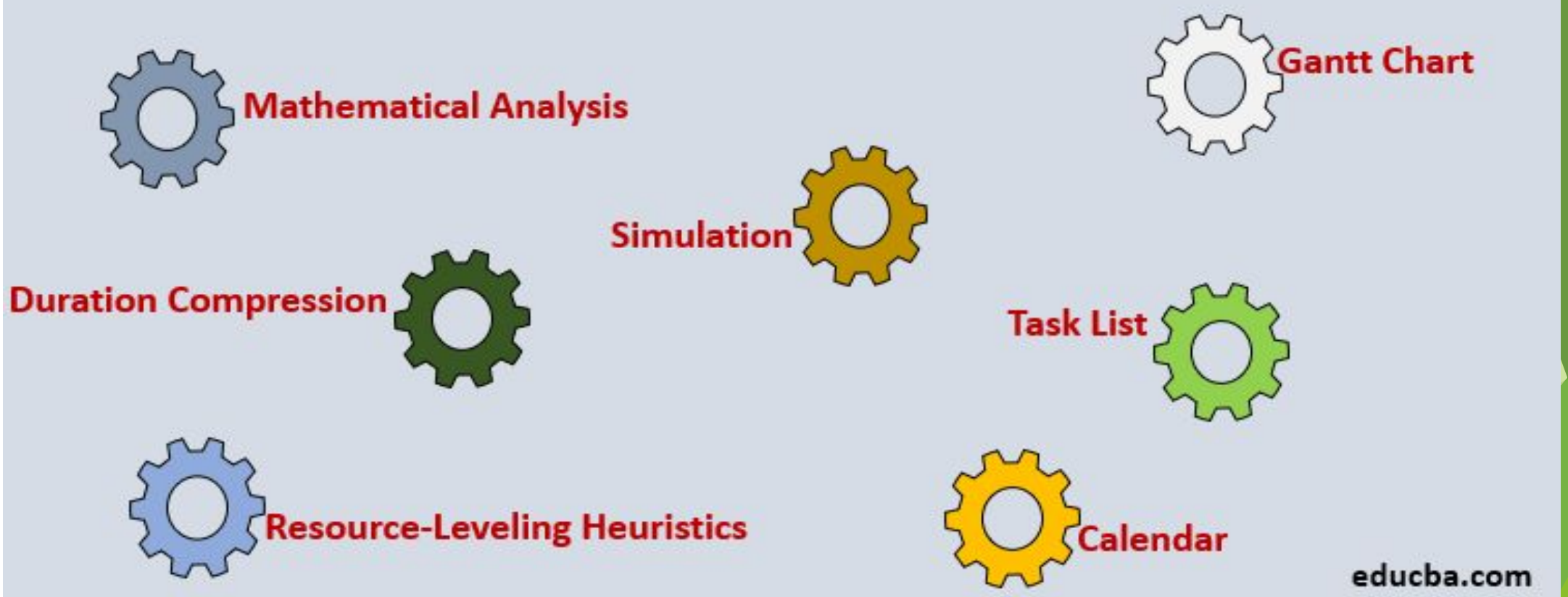
Project Title

Project Schedule

Start Week	Jan 5, 2014



Project Scheduling Techniques



Compartmentalization.

- The project must be compartmentalized into a number of manageable activities and tasks.
- To accomplish compartmentalization, both the product and the process are decomposed.

Interdependency.

- The interdependency of each compartmentalized activity or task must be determined.
- Some tasks must occur in sequence while others can occur in parallel.
- Some activities cannot commence until the work product produced by another is available.
- Other activities can occur independently.

Time allocation.

- Each task to be scheduled must be allocated some number of work units (e.g., person-days of effort).
- In addition, each task must be assigned a start date and a completion date that are a function of the interdependencies and
- whether work will be conducted on a full-time or part-time basis.

Effort validation.

- Every project has a defined number of staff members.
- As time allocation occurs, the project manager must ensure that no more than the allocated number of people have been scheduled at any given time.
- For example, consider a project that has three assigned staff members (e.g., 3 person-days are available per day of assigned effort). On a given day, seven concurrent tasks must be accomplished. Each task requires 0.50 person days of effort. More effort has been allocated than there are people to do the work.

Defined responsibilities.

- Every task that is scheduled should be assigned to a specific team member.

Defined outcomes.

- Every task that is scheduled should have a defined outcome.
- For software projects, the outcome is normally a work product (e.g., the design of a module) or a part of a work product.
- Work products are often combined in deliverables.

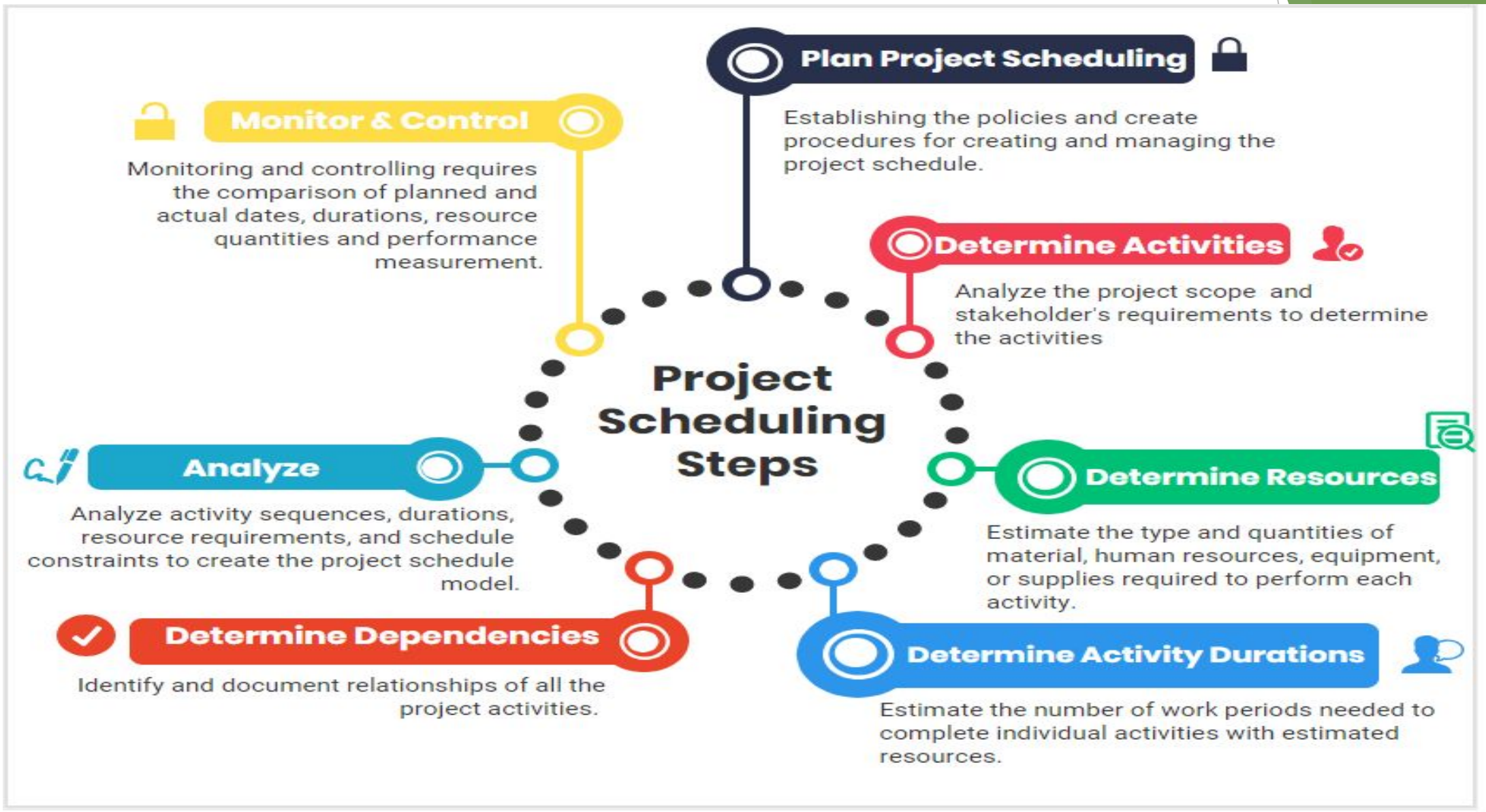
Defined milestones.

- Every task or group of tasks should be associated with a project milestone.
- A milestone is accomplished when one or more work products has been reviewed for quality and has been approved.

Advantages of Project Scheduling :

- There are several advantages provided by project schedule in our project management:

- It simply ensures that everyone remains on same page as far as tasks get completed, dependencies, and deadlines.
- It helps in identifying issues early and concerns such as lack or unavailability of resources.
- It also helps to identify relationships and to monitor process.
- It provides effective budget management and risk mitigation.


Plan Project Scheduling
Establishing the policies and create procedures for creating and managing the project schedule.
Determine Activities
Analyze the project scope and stakeholder's requirements to determine the activities
Determine Resources
Estimate the type and quantities of material, human resources, equipment, or supplies required to perform each activity.
Determine Activity Durations
Estimate the number of work periods needed to complete individual activities with estimated resources.
Determine Dependencies
Identify and document relationships of all the project activities.
Analyze
Analyze activity sequences, durations, resource requirements, and schedule constraints to create the project schedule model.
Monitor & Control
Monitoring and controlling requires the comparison of planned and actual dates, durations, resource quantities and performance measurement.
Project Scheduling Steps

- https://www.youtube.com/watch?v=Xyugfvgg0Gc
- https://www.youtube.com/watch?v=Xyugfvgg0Gc
- https://thedigitalprojectmanager.com/tools/project-scheduling-software/