Gantt charts allow project managers to:

1. Assess how long a project should take
2. Lay out the order in which tasks need to be carried out
3. Help manage the dependencies between tasks
4. Determine the resources needed
5. Monitor progress

The Gantt chart provides a graphical illustration of a schedule that helps to keep track of progress on specific tasks in a project. Simple versions of Gantt charts may be created on graph paper and more complex versions may be created using project management applications such as Microsoft Project or Excel.

	Time			
	Week 1	Week 2	Week 3	Week 4
Engineering Journal				
Research				
Pseudocode Creation				
First Presentation				
Programming				
Testbed Construction				
Testbed Presentation				
Functional Prototype				
F. P. Presentation				

On Friday of Week 1, students will write in their Engineering Journal. They will conduct Research on every day of Week 1. They will also work on Pseudocode Creation on Wednesday, Thursday, and Friday of Week 1.

A Gantt chart is constructed with a horizontal axis representing the total time span of the project. The horizontal access is broken down into increments (for example: days, weeks, months, or years). The vertical axis lists the tasks that make up the project.

	Time				
	Monday	Tuesday	Wednesday	Thursday	Friday
Computer Lab	X		?	X	
Robot Lab		X	X	?	
Library		X			?
Study Hall	X				X
Legend					
In Use	X				
Available					
Need to Check	?				

Gantt charts are also used by supervisors and team leaders to schedule and track the use of resources. The chart about can help the project manager to determine how to schedule tasks that require the use of the labs, library, and study hall.

Time Period:					
Activity					

Time Period:					

Legend

PERT charts

Some project managers prefer a PERT chart because it represents events and milestones of a project in an easy to follow flowchart. The PERT chart shows which parts of the project need to be completed in a sequence of steps, and which parts can be worked on simultaneously. The PERT chart is often preferred over the Gantt chart because it clearly illustrates task dependencies. However, project managers generally use both techniques.

Development of a PERT chart

The first thing that the team must do is divide their overall project into smaller tasks. Each task should be assigned to a leader. Then the team must sequence the order of completion. Some tasks may be able to be completed independently of others. Those tasks can then be worked on simultaneously. However, some tasks may need to be completed before others can start. Those tasks must be worked on sequentially. The team must review the tasks and try to set deadlines based on prior experience. They should break tasks into the smallest parts possible in order to calculate time accurately.

1. Discuss the overall problem
2. Break the problem into its smallest tasks
3. Sequence how tasks must be completed
4. Schedule the tasks
5. Assign responsibility for tasks to teams and individuals
6. Meet regularly to check progress of overall project
7. Help teammates to complete tasks in a timely manner

Sample PERT Chart.
Arrows illustrate places where one task depends on another.

This task does not depend heavily on other tasks, and so it can be done simultaneously

This task has many dependencies and cannot be done until those tasks are all finished