



## TOOLBOX



# Gantt Charts: Planning and Scheduling Projects

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Gantt Charts are useful tools for analysing and planning complex projects. They:

- Help you to plan out the tasks that need to be completed
- Give you a basis for scheduling when these tasks will be carried out
- Allow you to plan the allocation of resources needed to complete the project, and
- Help you to work out the critical path for a project where you must complete it by a particular date.

When a project is under way, Gantt Charts help you to monitor whether the project is on schedule. If it is not it allows you to pinpoint the remedial action necessary to put it back to schedule.

## Sequential and Parallel Activities

An essential concept behind project planning is that some activities are dependent on other activities being completed first. For example, it is not a good idea to start building a bridge before you have designed it!

These dependent activities need to be completed in a sequence, with each stage being more-or-less completed before the next activity can begin. We call dependent activities sequential or linear.

Other activities are not dependent on completion of any other tasks. These may be done at any time before or after a particular stage is reached. These are non-dependent or parallel tasks.

## How to Use the Tool

### List all activities in the plan

For each task, show:

- The earliest start date,
- Estimated length of time it will take, and
- Whether it is parallel or sequential; if tasks are sequential, show which stage they depend on.

You will end up with a task list like the one below:

### Gantt Chart Example: planning the production of a video film

Task	Possible start	Length	Type	Dependent on
1. Film concept/idea	Week 1	2 weeks	Sequential	
2. Write the script	Week 3	2 weeks	Sequential	1
3. Draw storyboards	Week 5	1 week	Sequential	2
4. Find cast and crew	Week 6	3 weeks	Sequential	3
5. Look for locations	Week 6	3 weeks	Parallel	3
6. Prepare a shooting script	Week 6	3 week	Parallel	3
7. Organize a schedule	Week 9	1 week	Sequential	6
8. Prepare a budget	Week 9	1 week	Parallel	6
9. Write and distribute call sheets	Week 9	1 week	Parallel	6
10. Look for funds	Week 10	6 weeks	Sequential	7
11. Book equipment for filming	Week 16	1 week	Sequential	8
12. Shooting	Week 17	4 weeks	Sequential	11
13. Editing	Week 21	3 weeks	Sequential	12

#### 1. Head up graph paper with the days or weeks through the to task completion

#### 2. Plot the task onto the graph paper

Next draw up a rough draft of the Gantt Chart. Plot each task on the graph paper, showing it starting on the earliest possible date. Draw it as a bar, with the length of the bar being the length of the task. Above the task bars, mark the time taken to complete them. Do not worry about task scheduling yet. All you are doing is setting up the first draft of the analysis.

#### 3. Schedule Activities

Now, take the draft Gantt Chart and use it to schedule actions. Schedule them in such a way that sequential actions are carried out in a required sequence. Ensure that dependent activities do not start until the activities they depend on have been completed.

Where possible, schedule parallel tasks so that they do not interfere with sequential actions on the critical path. While scheduling, ensure that you make best use of the resources you have available, and do not over-commit. Also allow some slack time in the schedule for hold-ups, overruns, quality rejections, failure in delivery, etc.

#### 4. Presenting the Analysis

Now you can prepare the final version of the Gantt Chart. It combines the draft analysis with your scheduling and analysis of resources. The chart will show you when you anticipate that jobs should start and finish. See the example of Gantt Chart below:

Gantt Chart example: Making a video film

