

# CENG 6101 Project Management

## **Lab Session**

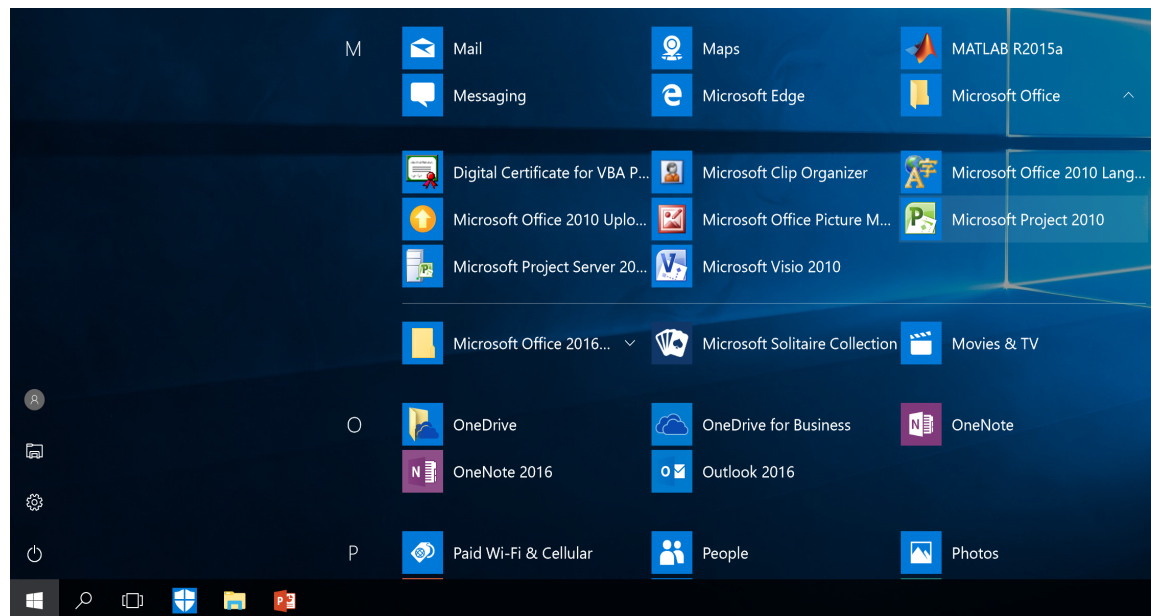
## **MS Project 2010**

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January, 2017

# MS Project 2010: Introduction

- Project management software programs such as Microsoft Project 2010 can be used for:
  - Developing the project schedule and budget
  - Tracking actual versus planned progress
- Launch MS Project 2010:



# MS Project 2010 Project Environment

Quick Access Toolbar

Minimize Ribbon

The screenshot displays the Microsoft Project 2010 interface. At the top, the title bar reads "Project1 - Microsoft Project". Below it is the ribbon, which is currently set to "Gantt Chart Tools" and includes tabs for "File", "Task", "Resource", "Project", "View", and "Format". The ribbon contains various tool groups such as "Clipboard", "Font", "Schedule", "Tasks", "Insert", "Properties", and "Editing". A "Quick Access Toolbar" is visible in the top-left corner, and a "Minimize Ribbon" button is in the top-right corner. The main workspace shows a Gantt chart with a task bar starting on "Tue 1/10/17" and ending on "Tue 1/10/17". Below the Gantt chart is a "Timescale" grid with columns for dates: "Jan 8, '17", "Jan 15, '17", "Jan 22, '17", and "Jan 29, '17". The status bar at the bottom indicates "Ready" and "New Tasks : Manually Scheduled".

Ribbon

Timescale

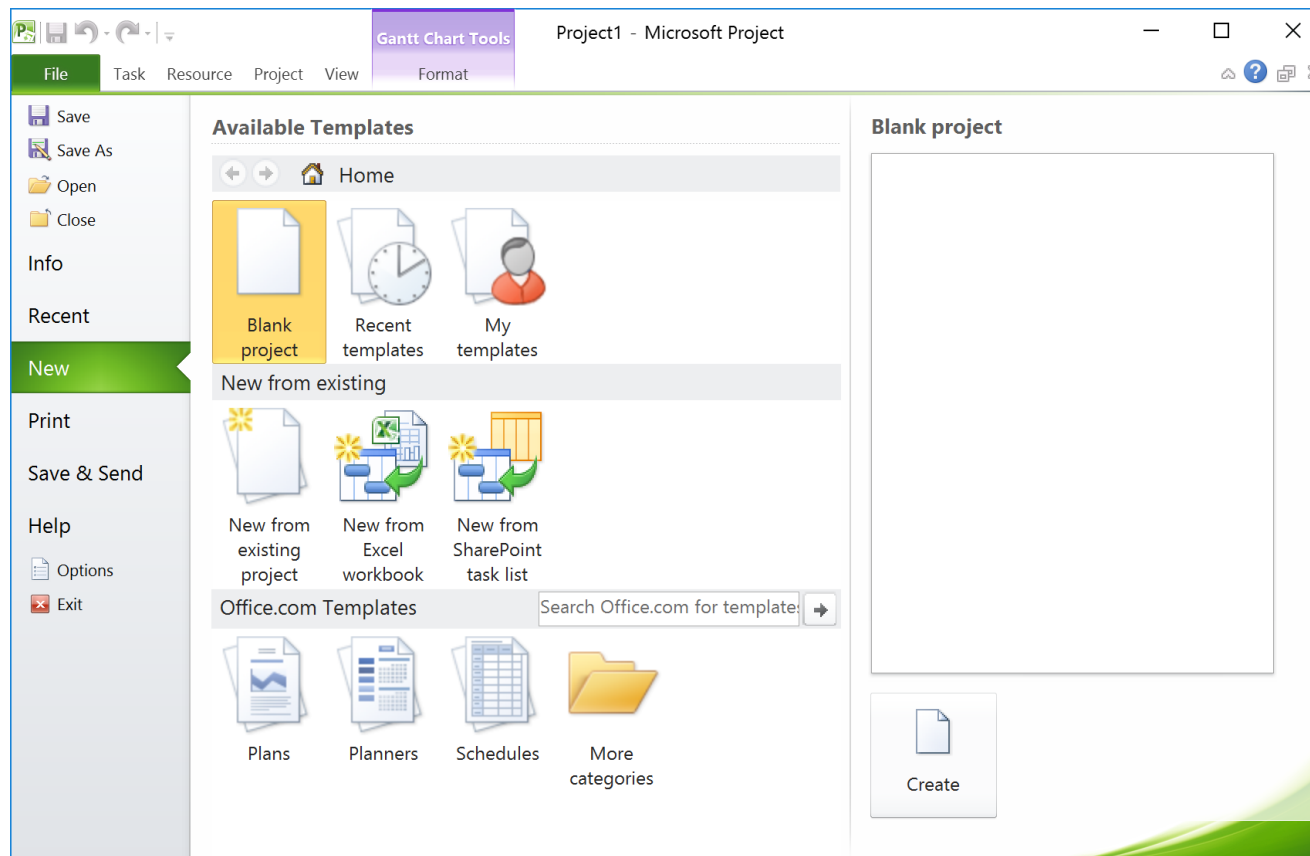
Default View: Gantt Chart

View Buttons

# MS Project 2010: Creating a Project

## I. Creating a Project

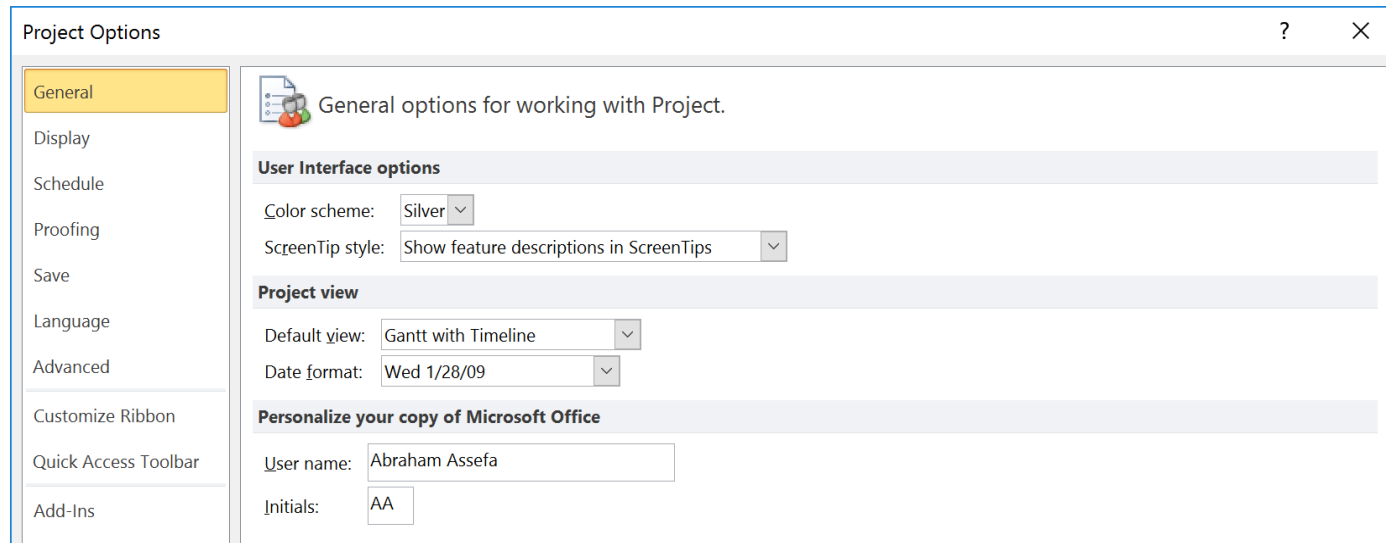
- From: Blank project, Template, Existing project, Excel
- Select “Blank project” and click “Create”





# MS Project 2010: Creating a Project

- Select File, Options



- Click on “General” tab
  - For Default view:
    - Select “Gantt with Timeline”
- Click on “Display” tab
  - For Currency option for this project:
    - Select “ETB”

# MS Project 2010: Creating a Project

- Click on “Schedule” tab
  - For Calendar options for this project:
    - Select “Project 1”
  - For Scheduling options for this project:
    - Select “Project 1”
  - For New Tasks Created:
    - Select “Manually Scheduled”
  - For Duration is entered in:
    - Select “Days”
- For default task type:
  - Select “fixed duration”
- Make sure New tasks are effort driven is NOT checked
- Click OK when finished

# MS Project 2010: Creating a Project

Project Options

Change options related to scheduling, calendars, and calculations.

Calendar options for this project: Project1

Week starts on: Sunday

Fiscal year starts in: January

Use starting year for FY numbering

Default start time: 8:00 AM

Default end time: 5:00 PM

Hours per day: 8

Hours per week: 40

Days per month: 20

These times are assigned to tasks when you enter a start or finish date without specifying a time. If you change this setting, consider matching the project calendar using the Change Working Time command on the Project tab in the ribbon.

**Schedule**

Show scheduling messages

Show assignment units as a: Percentage

Scheduling options for this project: Project1

New tasks created: Manually Scheduled

Auto scheduled tasks scheduled on: Project Start Date

Duration is entered in: Days

Work is entered in: Hours

Default task type: Fixed Duration

New tasks are effort driven

Autolink inserted or moved tasks

Split in-progress tasks

Update Manually Scheduled tasks when editing links

Tasks will always honor their constraint dates

Show that scheduled tasks have estimated durations

New scheduled tasks have estimated durations

Keep task on nearest working day when changing to Automatically Scheduled mode

OK Cancel

# MS Project 2010: Creating a Project

- Click on Project, Project Information, select Wed 1/11/17 as the Start date, click OK

Project Information for 'Project1' [X]

Start date: Wed 1/11/17 [v]      Current date: Tue 1/10/17 [v]

Finish date: Wed 1/11/17 [v]      Status date: NA [v]

Schedule from: Project Start Date [v]      Calendar: Standard [v]

All tasks begin as soon as possible.      Priority: 500 [up/down]

Enterprise Custom Fields

Department: [v]

Custom Field Name	Value
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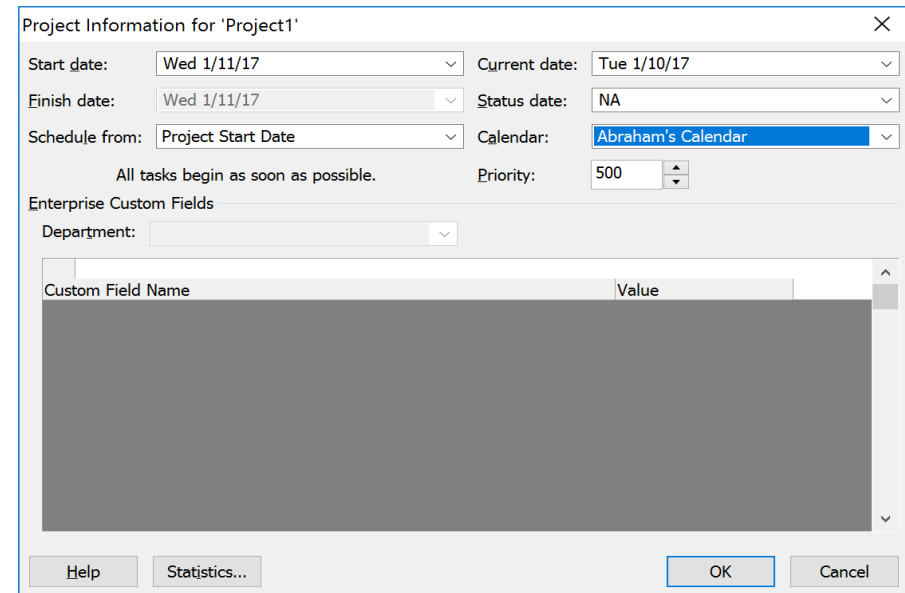
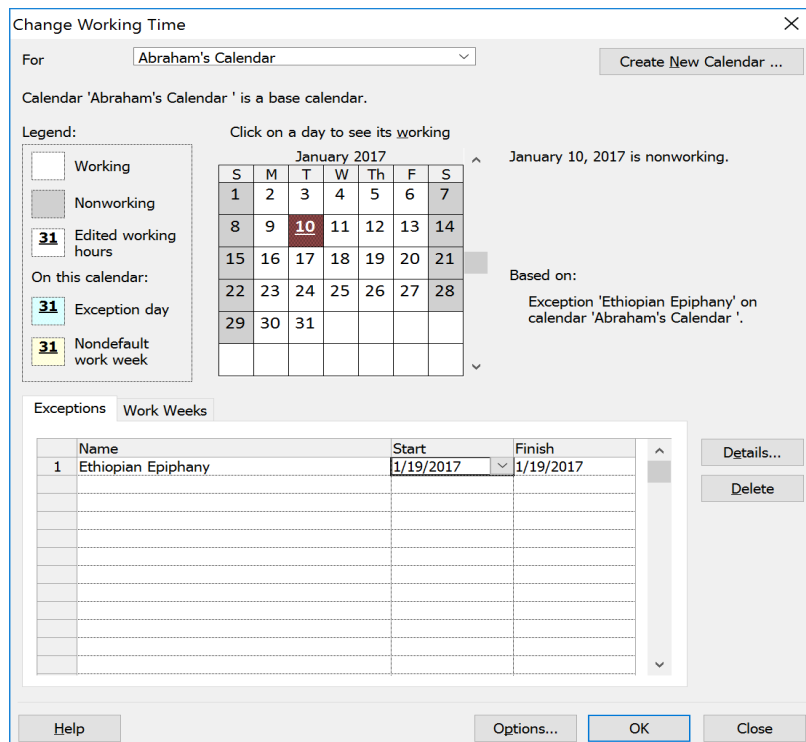
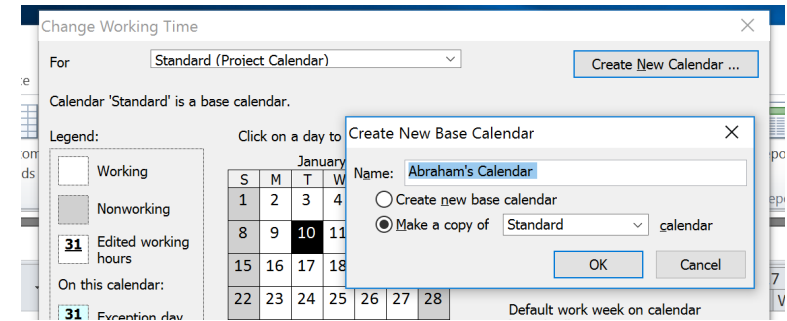
- Click on File, Save as, type in project name such as Project1, click OK
- Your project is saved as Project1.mpp



# MS Project 2010: Project Calendar

## ● Assigning a Project Calendar

- Select “Create New Calendar”
- Enter a name for the calendar
- Add details
- Assign calendar to Project 1



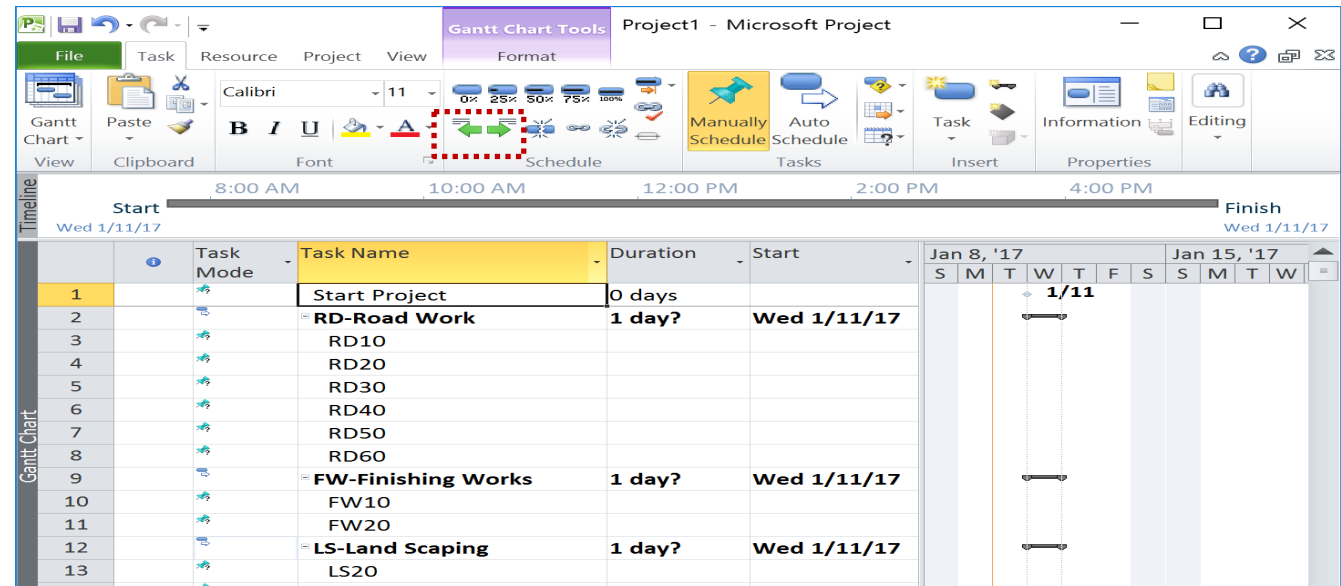
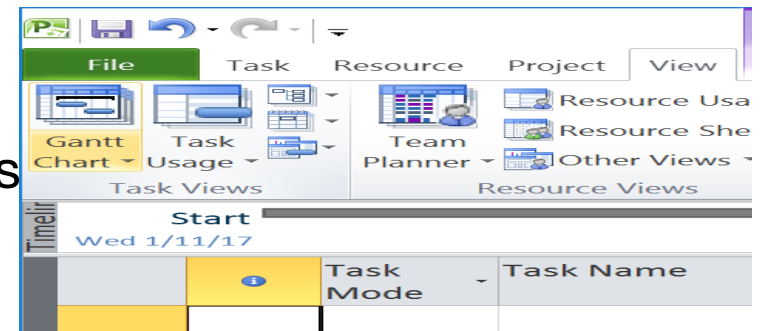
# Example Project

Activity ID	Activity Name	Duration	Predecessor			Resources
			Activity ID	Relationship	Lead/Lag	
<b>RD-Road Work</b>						
RD10	Bulk excavation	7				Dozer, Foreman
RD20	Sub Base for Road	4	RD10	FS	0	Dozer, Gravel, Foreman
RD30	Base-course for Road	4	RD20	SS	2	Grader, Lime, Foreman
RD40	Prime Coat for Road	1	RD30	FS	0	Spreader, Bitumen, Foreman
RD50	50 mm Asphalt for Road Layer I	2	RD40	FS	0	Paver, AC, Foreman
RD60	50 mm Asphalt for Road Layer II	2	RD50	FS	0	Paver, AC, Foreman
<b>FW-Finishing Works</b>						
FW10	Install Signs	1	RD60	SS	0	Excavator, Signs Foreman
FW20	Pavement Marking	1	RD60	SS	1	Marker-machine, Paint, Foreman
			FW10	FF	0	
<b>LS-Land Scaping</b>						
LS20	Seeding	2	RD60	FS	0	Seeder, Seeds, Foreman
LS10	Sidewalks	4	RD60	FS	0	Concrete-paver, Concrete, Foreman
			LS20	FF	0	
			FW20	FF	0	

# MS Project 2010: Task and WBS

## III. Creating a Task List and WBS

- 1. Adding Tasks:
  - In “View” tab, click on “Gantt Chart”
  - Add Project “Start” and “Finish” milestones
  - Type each task (Summary and subtask)
- 2. Organizing Tasks:
  - Once all tasks are added, use the “Indent” or “Outdent” buttons to organize tasks





# MS Project 2010: Task and WBS

## III. Creating a Task List and WBS

- 3. Work Breakdown Structure:
- To view WBS, under the “Format” tab, check the “Outline Number” box

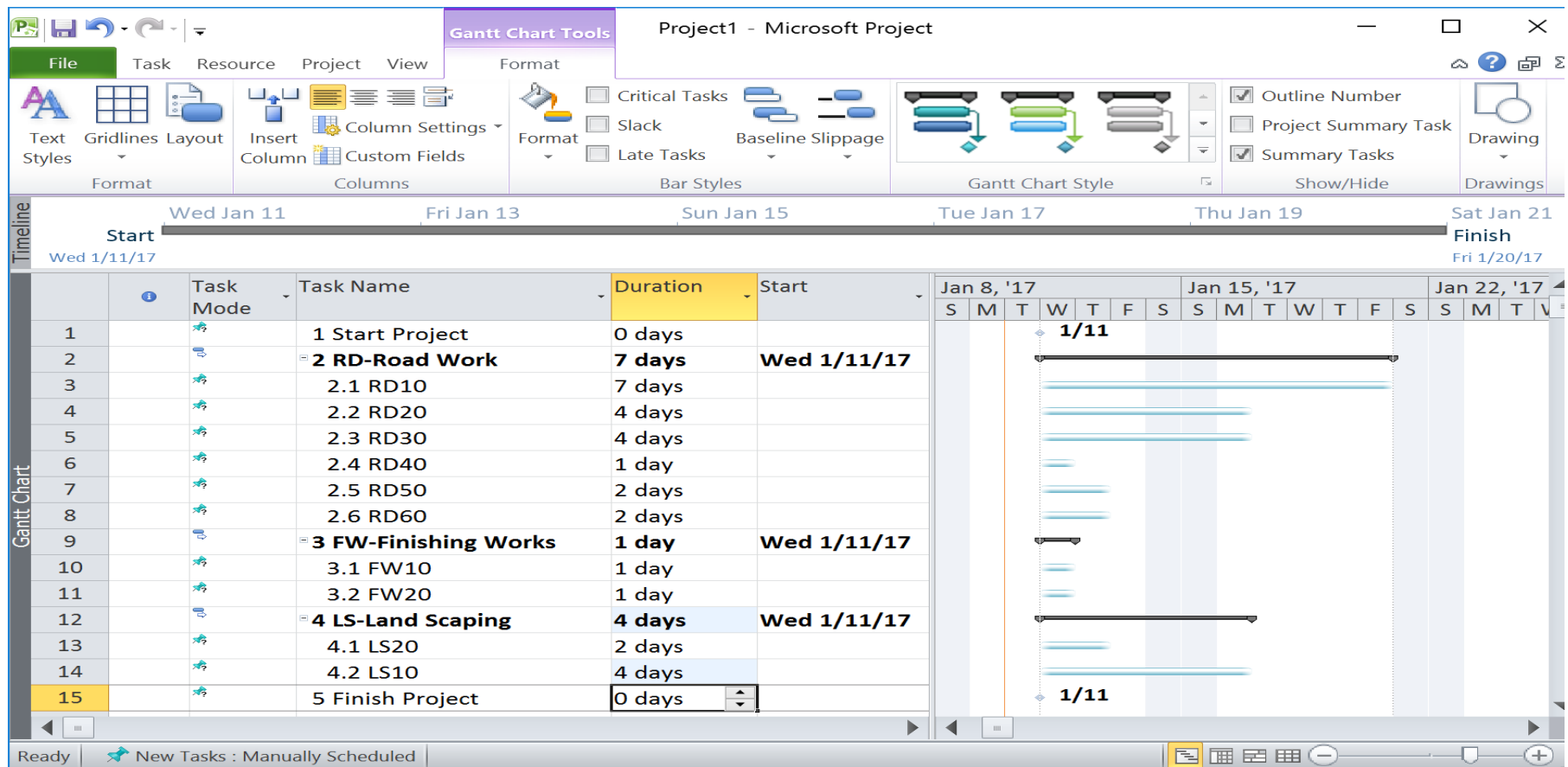
The screenshot displays the Microsoft Project 2010 interface. The 'Gantt Chart Tools' ribbon is active, showing the 'Format' tab. A red dashed box highlights the 'Outline Number' checkbox, which is checked. Other options in the 'Show/Hide' group include 'Project Summary Task' (unchecked) and 'Summary Tasks' (checked). The main workspace shows a Gantt chart and a task list. The task list is as follows:

Task ID	Task Name	Duration	Start
1	1 Start Project	0 days	
2	2 RD-Road Work	1 day?	Wed 1/11/17
3	2.1 RD10		
4	2.2 RD20		
5	2.3 RD30		
6	2.4 RD40		
7	2.5 RD50		
8	2.6 RD60		
9	3 FW-Finishing Works	1 day?	Wed 1/11/17
10	3.1 FW10		
11	3.2 FW20		
12	4 LS-Land Scaping	1 day?	Wed 1/11/17
13	4.1 LS20		
14	4.2 LS10		

# MS Project 2010: Task and WBS

## III. Creating a Task List and WBS

- 4. Enter Durations:
- Enter the duration of each subtask (activity)



# MS Project 2010: Task and WBS

## IV. Creating Dependencies

- Option 1: Using Link tasks icon
- Select the two activities (RD10 and RD 20) to be linked and click the “Link Tasks” icon under the “Task” tab.

The screenshot displays the Microsoft Project 2010 interface. The ribbon is set to 'Gantt Chart Tools' with the 'Task' tab selected. The 'Link Tasks' icon, represented by two overlapping arrows, is highlighted with a red dashed box. The task list below shows the following tasks:

Task ID	Task Name	Duration	Start	Finish	Predecessors
1	1 Start Project	0 days			
2	2 RD-Road Work	11 days	Wed 1/11/17	Thu 1/26/17	
3	2.1 RD10	7 days	Wed 1/11/17	Fri 1/20/17	
4	2.2 RD20	4 days	Mon 1/23/17	Thu 1/26/17	3
5	2.3 RD30	4 days			
6	2.4 RD40	1 day			
7	2.5 RD50	2 days			

The Gantt chart on the right shows task 4 as a teal bar starting on Monday, January 23, 2017, and ending on Thursday, January 26, 2017. A dependency line connects task 4 to task 3, indicating that task 4 cannot start until task 3 is complete.



# IV. Creating Dependencies

Project1 - Microsoft Project

File Task Resource Project View Format

Clipboard: Cut, Copy, Paste, Format Painter  
 Font: Calibri, 11, Bold, Italic, Underline, Color, Background Color  
 Schedule: Mark on Track, Respect Links, Inactivate  
 Tasks: Manually Schedule, Auto Schedule, Move, Mode  
 Insert: Task, Milestone, Deliverable  
 Properties: Information, Notes, Details, Add to Timeline  
 Editing: Find, Clear, Fill, Scroll to Task

Timeline: Start Wed 1/11/17, Finish Mon 2/13/17

Task Mode	Task Name	Duration	Start	Finish	Predecessors
1	1 Start Project	0 days	Wed 1/11/17	Wed 1/11/17	
2	2 RD-Road Work	18 days	Wed 1/11/17	Mon 2/6/17	
3	2.1 RD10	7 days	Wed 1/11/17	Fri 1/20/17	1
4	2.2 RD20	4 days	Mon 1/23/17	Thu 1/26/17	3
5	2.3 RD30	4 days	Wed 1/25/17	Mon 1/30/17	4SS+2 days
6	2.4 RD40	1 day	Tue 1/31/17	Tue 1/31/17	5
7	2.5 RD50	2 days	Wed 2/1/17	Thu 2/2/17	6
8	2.6 RD60	2 days	Fri 2/3/17	Mon 2/6/17	7
9	3 FW-Finishing Works	2 days	Fri 2/3/17	Mon 2/6/17	
10	3.1 FW10	1 day	Fri 2/3/17	Fri 2/3/17	8SS
11	3.2 FW20	1 day	Mon 2/6/17	Mon 2/6/17	8SS+1 day,10FF
12	4 LS-Land Scaping	4 days	Tue 2/7/17	Fri 2/10/17	
13	4.1 LS20	2 days	Tue 2/7/17	Wed 2/8/17	8
14	4.2 LS10	4 days	Tue 2/7/17	Fri 2/10/17	8,13FF,11FF
15	5 Finish Project	0 days	Mon 2/13/17	Mon 2/13/17	14

Gantt Chart: Visual representation of the project schedule showing task bars and dependencies. The chart shows a waterfall-like structure of tasks starting from 1/11 and ending at 2/13.

Ready | New Tasks : Manually Scheduled

# MS Project 2010: Resource Loading

## V. Resources

- Resources are categorized into four types: Work (people or equipment), Material (concrete, paint, etc.), Cost (airfare, camp cost), and Budget (Project-level work, material, and cost resources).
- From “View” tab, choose “Resource Sheet”

The screenshot displays the Microsoft Project 2010 interface. The ribbon is set to 'Resource Sheet Tools' with the 'View' tab selected. The 'Resource Sheet' option is highlighted in the 'Resource Views' group. The main area shows a timeline from Wednesday, 1/11/17 to Monday, 2/13/17. Below the timeline is a table with columns for Resource Name, Type, Material Label, Initials, Group, Max. Units, Std. Rate, Ovt. Rate, Cost/Use, Accrue At, Base Calendar, and Code.

Resource Name	Type	Material Label	Initials	Group	Max. Units	Std. Rate	Ovt. Rate	Cost/Use	Accrue At	Base Calendar	Code

- Enter each resources for each activity.

# MS Project 2010: Resource Loading

## V. Resources

Project1 - Microsoft Project

Resource Sheet Tools | Format

Timeline: Start Wed 1/11/17, Finish Mon 2/13/17

Resource ID	Resource Name	Type	Material Label	Initials	Group	Max. Units	Std. Rate	Ovt. Rate	Cost/Use	Accrue At	Base Calendar
1	Foreman	Work		F		100%	Br120.00/hr	Br0.00/hr	Br0.00	Prorated	Abraham's Calen
2	Dozer	Work		D		100%	Br1,500.00/hr	Br0.00/hr	Br0.00	Prorated	Abraham's Calen
3	Grader	Work		G		100%	Br1,200.00/hr	Br0.00/hr	Br0.00	Prorated	Abraham's Calen
4	Spreader	Work		S		100%	Br800.00/hr	Br0.00/hr	Br0.00	Prorated	Abraham's Calen
5	Paver	Work		P		100%	Br2,000.00/hr	Br0.00/hr	Br0.00	Prorated	Abraham's Calen
6	Excavator	Work		E		100%	Br800.00/hr	Br0.00/hr	Br0.00	Prorated	Abraham's Calen
7	Marker-machine	Work		M		100%	Br400.00/hr	Br0.00/hr	Br0.00	Prorated	Abraham's Calen
8	Seeder	Work		S		100%	Br250.00/hr	Br0.00/hr	Br0.00	Prorated	Abraham's Calen
9	Concrete-paver	Work		C		100%	Br500.00/hr	Br0.00/hr	Br0.00	Prorated	Abraham's Calen
10	Gravel	Material					Br1,200.00		Br0.00	Prorated	
11	Lime	Material					Br500.00		Br0.00	Prorated	
12	Bitumen	Material					Br600.00		Br0.00	Prorated	
13	Asphalt-Concrete	Material					Br2,000.00		Br0.00	Prorated	
14	Signs	Material					Br200.00		Br0.00	Prorated	
15	Paint	Material					Br50.00		Br0.00	Prorated	
16	Seeds	Material					Br25.00		Br0.00	Prorated	
17	Concrete	Material					Br3,500.00		Br0.00	Prorated	

Ready | New Tasks : Manually Scheduled

# MS Project 2010: Resource Loading

## V. Resources

- Assign Resources to Tasks: In the “Gantt Chart” view, under the “Resource Name” column, select the appropriate resource(s) for each task

The screenshot displays the Microsoft Project 2010 interface in Gantt Chart view. The main window shows a project schedule with tasks and their dependencies. A resource list is open, showing various resources like Dozer, Foreman, Gravel, etc. The Gantt chart shows the project timeline from January 11, 2017, to February 13, 2017. The resource list is currently showing 'Dozer,Foreman,Gravel[1]' assigned to task 3.

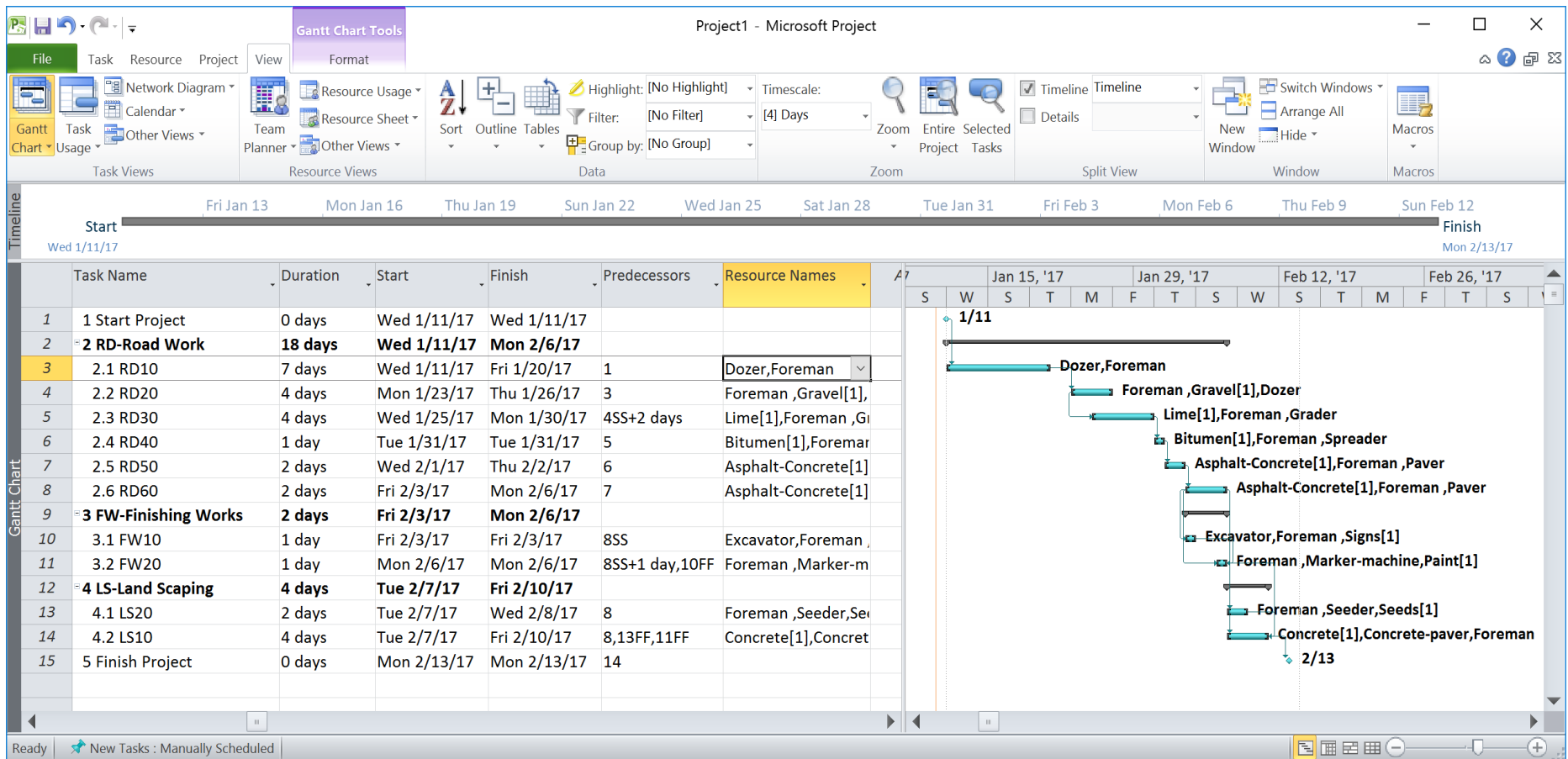
Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	1 Start Project	0 days	Wed 1/11/17	Wed 1/11/17		
2	2 RD-Road Work	18 days	Wed 1/11/17	Mon 2/6/17		
3	2.1 RD10	7 days	Wed 1/11/17	Fri 1/20/17	1	Dozer,Foreman,Gravel[1]
4	2.2 RD20	4 days	Mon 1/23/17	Thu 1/26/17	3	
5	2.3 RD30	4 days	Wed 1/25/17	Mon 1/30/17	4SS+2 days	
6	2.4 RD40	1 day	Tue 1/31/17	Tue 1/31/17	5	
7	2.5 RD50	2 days	Wed 2/1/17	Thu 2/2/17	6	
8	2.6 RD60	2 days	Fri 2/3/17	Mon 2/6/17	7	
9	3 FW-Finishing Works	2 days	Fri 2/3/17	Mon 2/6/17		
10	3.1 FW10	1 day	Fri 2/3/17	Fri 2/3/17	8SS	
11	3.2 FW20	1 day	Mon 2/6/17	Mon 2/6/17	8SS+1 day,10FF	
12	4 LS-Land Scaping	4 days	Tue 2/7/17	Fri 2/10/17		
13	4.1 LS20	2 days	Tue 2/7/17	Wed 2/8/17	8	
14	4.2 LS10	4 days	Tue 2/7/17	Fri 2/10/17	8,13FF,11FF	
15	5 Finish Project	0 days	Mon 2/13/17	Mon 2/13/17	14	



# MS Project 2010: Resource Loading

## V. Resources

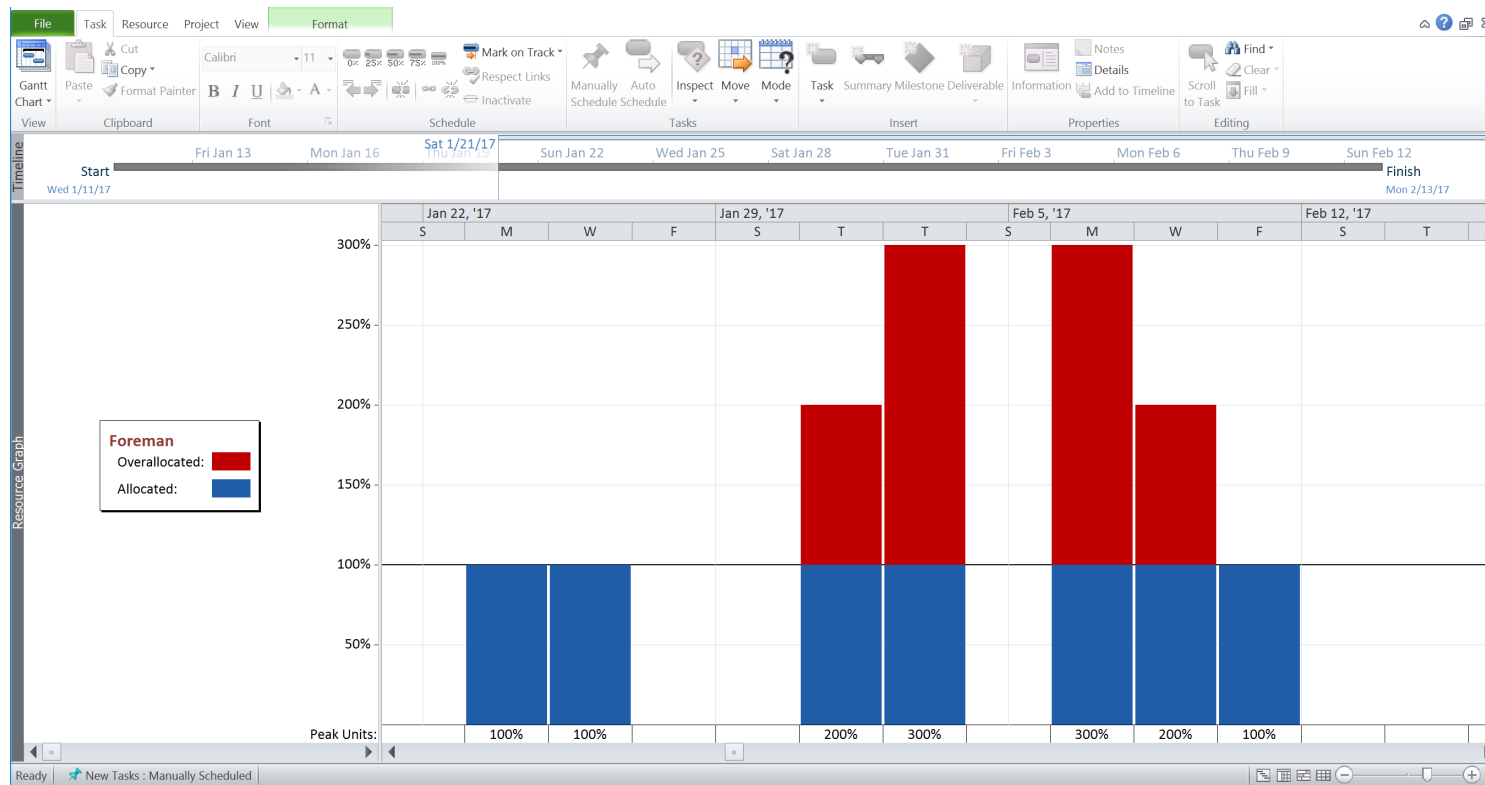
- Assigned resources:



# MS Project 2010: Resource Allocation

## V. Resources

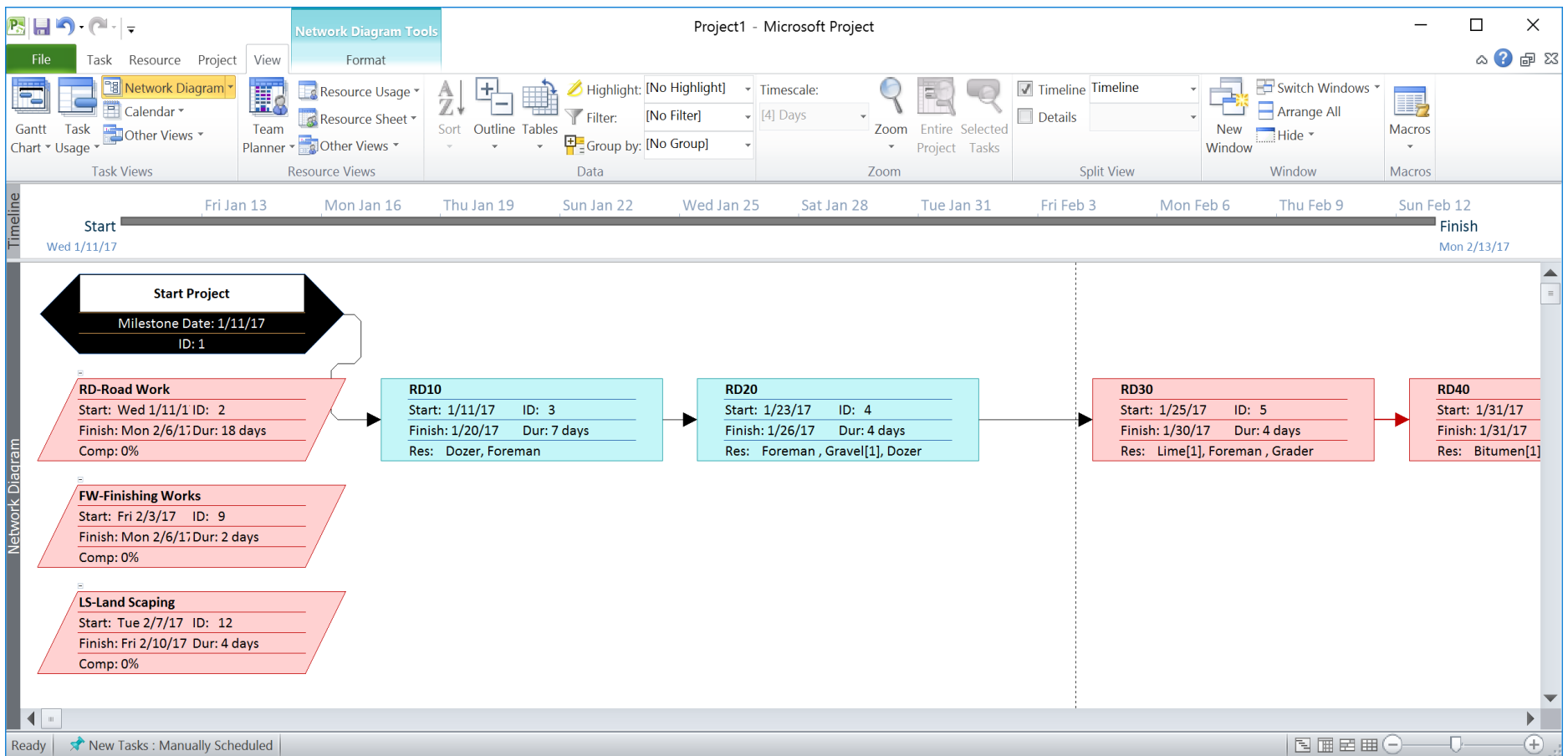
- Review Resource Allocations: E.g. Foreman
- Under “Task” tab, select the “View” dropdown menu, and choose “Resource Graph”. Using the Tab on the left window, select the different resources and review their allocation.



# MS Project 2010: CPM Results

## VI. CPM Analysis Results

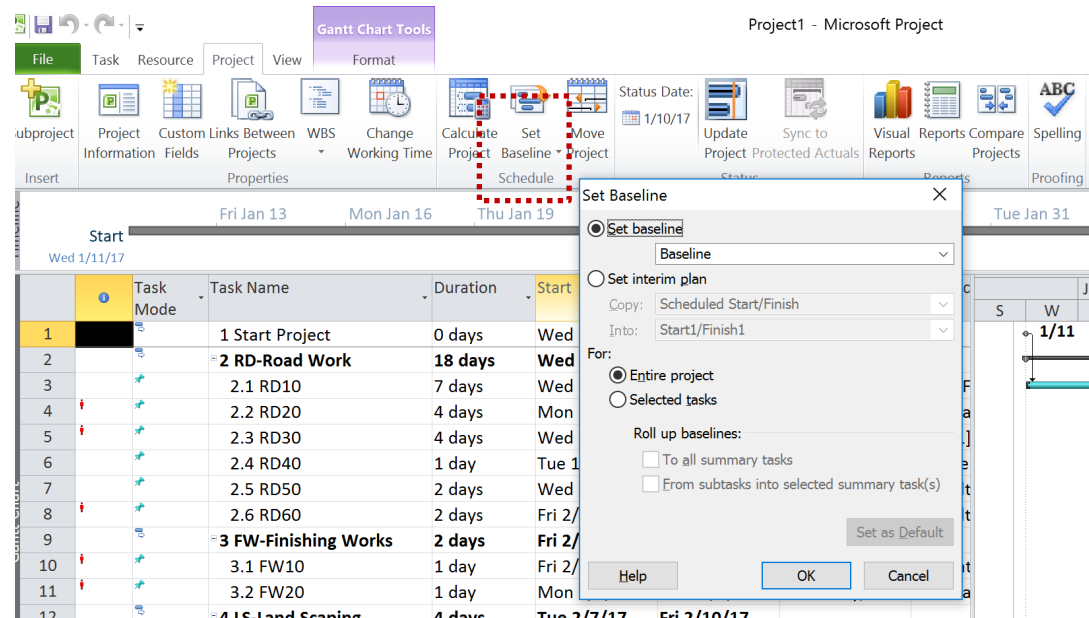
- MS Project will run a CPM analysis.
- View AON diagram by selecting “Network Diagram” in “View” tab.



# MS Project 2010: Schedule Control

## VII. Tracking Progress

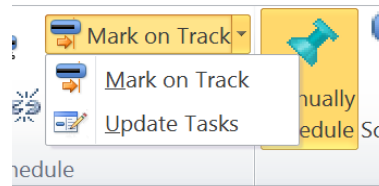
- 1. Set a Baseline
- MS Projects uses Baselines Schedules to evaluate project progress.
- Baseline schedules copy the project plan before anything is done.
- Under “Project” tab, click “Set Baseline”



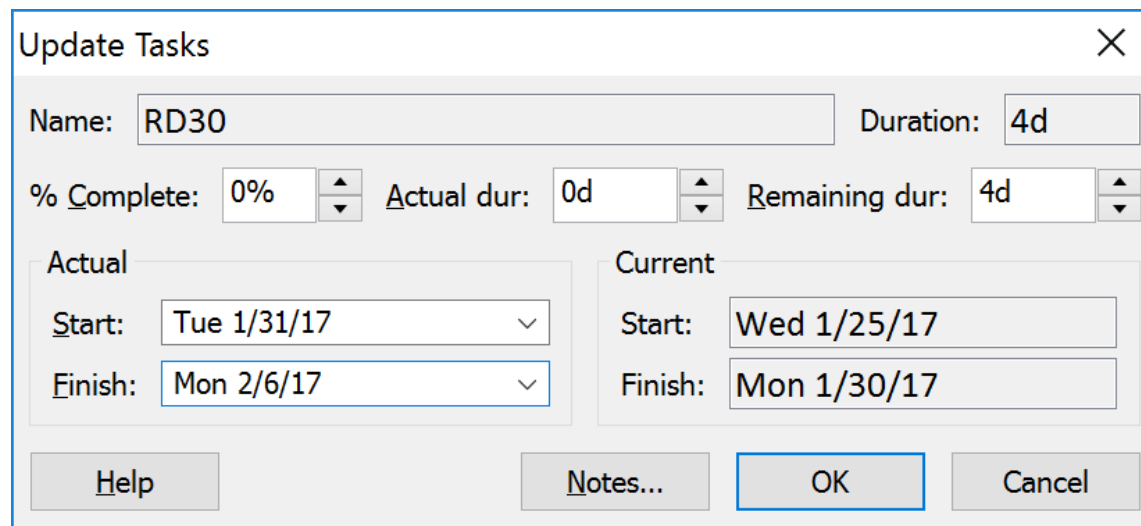
# MS Project 2010: Schedule Control

## VII. Tracking Progress

- 2. Update tasks
- Under “Task” tab, click to highlight the task to be undated, and “Mark on Track” in “Schedule Box”, and then click “Update Tasks”



- Update the “Actual Start” and “Finish Dates”

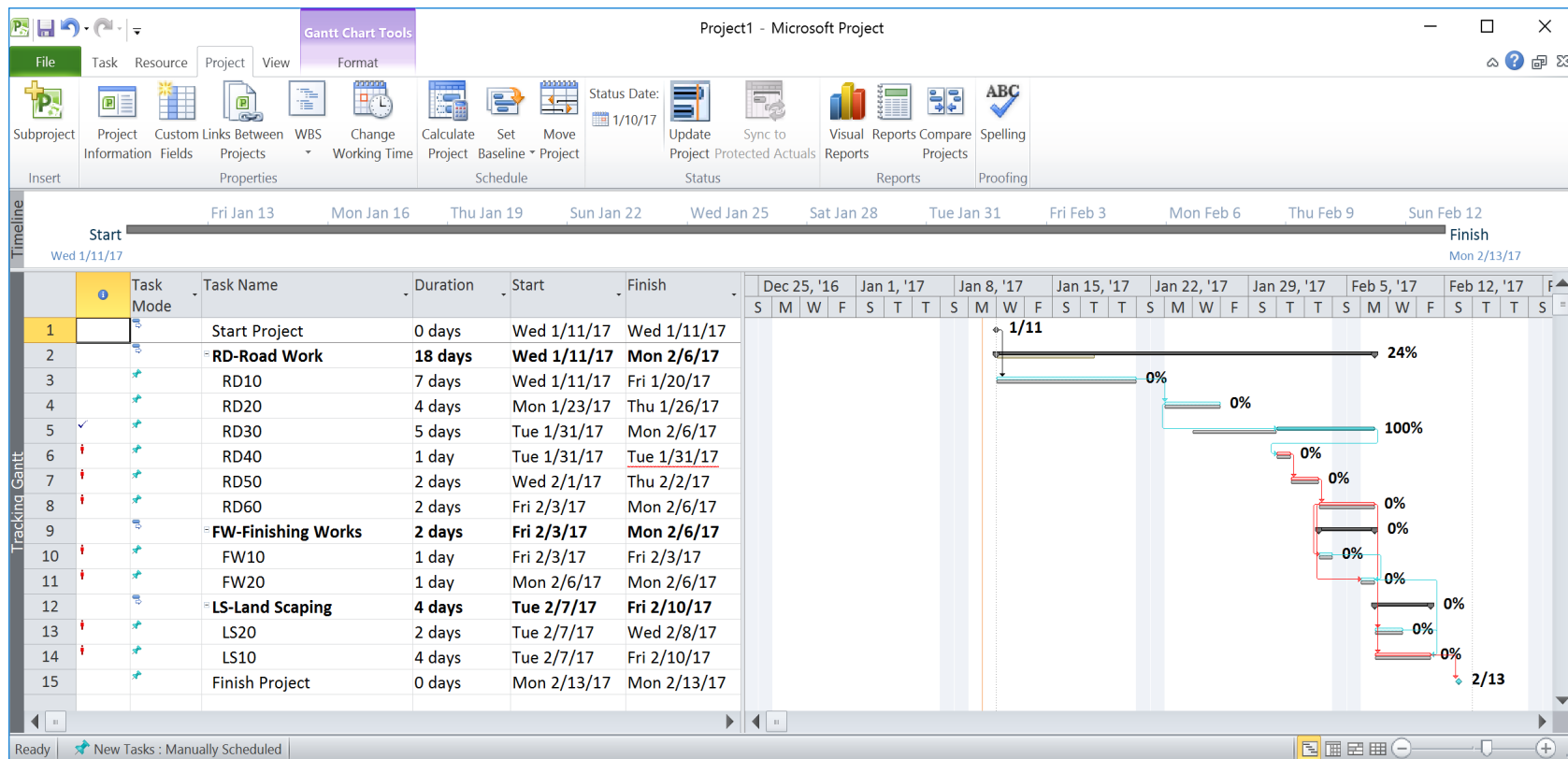
A screenshot of the 'Update Tasks' dialog box in Microsoft Project 2010. The dialog box has a title bar with 'Update Tasks' and a close button (X). It contains the following fields and controls:

- Name: RD30
- Duration: 4d
- % Complete: 0% (with up/down arrows)
- Actual dur: 0d (with up/down arrows)
- Remaining dur: 4d (with up/down arrows)
- Actual Start: Tue 1/31/17 (dropdown menu)
- Actual Finish: Mon 2/6/17 (dropdown menu)
- Current Start: Wed 1/25/17 (text field)
- Current Finish: Mon 1/30/17 (text field)
- Buttons: Help, Notes..., OK, Cancel

# MS Project 2010: Schedule Control

## VII. Tracking Progress

- 2. Monitoring Task Progress
- To view the progress, under the “Task” tab, click the “View” dropdown menu and select “Tracking Gantt”.



# MS Project 2010: Submissions

## VIII. Printing Reports

- MS Project provides a number of built-in reports.
- From the “Project” tab, in the “Reports” category, select “Reports”

The screenshot displays the Microsoft Project 2010 interface. The 'Project' tab is active, and the 'Reports' group in the ribbon is selected. The 'Reports' dialog box is open, showing various report options. The 'Overview Reports' dialog box is also open, showing a grid of report thumbnails.

Task Mode	Task Name	Duration	Start	Finish
	Start Project	0 days	Wed 1/11/17	Wed 1/11/17
	RD-Road Work	18 days	Wed 1/11/17	Mon 2/6/17
	RD10	7 days	Wed 1/11/17	Fri 1/20/17
	RD20	4 days	Mon 1/23/17	Thu 1/26/17
	RD30	5 days	Tue 1/31/17	Mon 2/6/17
	RD40	1 day	Tue 1/31/17	Tue 1/31/17
	RD50	2 days	Wed 2/1/17	Thu 2/2/17
	RD60	2 days	Fri 2/3/17	Mon 2/6/17
	FW-Finishing Works	2 days	Fri 2/3/17	Mon 2/6/17
	FW10	1 day	Fri 2/3/17	Fri 2/3/17
	FW20	1 day	Mon 2/6/17	Mon 2/6/17
	LS-Land Scaping	4 days	Tue 2/7/17	Fri 2/10/17
	LS20	2 days	Tue 2/7/17	Wed 2/8/17
	LS10	4 days	Tue 2/7/17	Fri 2/10/17
	Finish Project	0 days	Mon 2/13/17	Mon 2/13/17

# Assignment 3

- Assignment 3: MS Project Lab Session
- Complete the lab exercise and provide answers for the questions given the lab session handout.
- Due date: Wednesday, January 18, 2017 before 5 p.m.