MS Project Professional 2021

Tutorial #3 – Utilization of Resources, a walk-through example

CS 587 – Software Project Management
Dr. Atef Bader
Illinois Institute of Technology

An example

Assumptions and Constraints

1. Every review or inspection “meeting” task shall be carried by 5 engineers including ONE of the author(s)
2. Every review or inspection “preparation” task shall be carried by 4 engineers excluding the author(s)
3. Any “Rework” task can be executed by one or all authors of the original task
4. Project Plan shall be reviewed by at least ONE engineer from every technical area.
5. Risk mitigation and contingency plan shall be reviewed by at least ONE engineer from every technical area.
6. System Engineers are responsible for creating Analysis and Design artifacts

Consider the following assumptions…

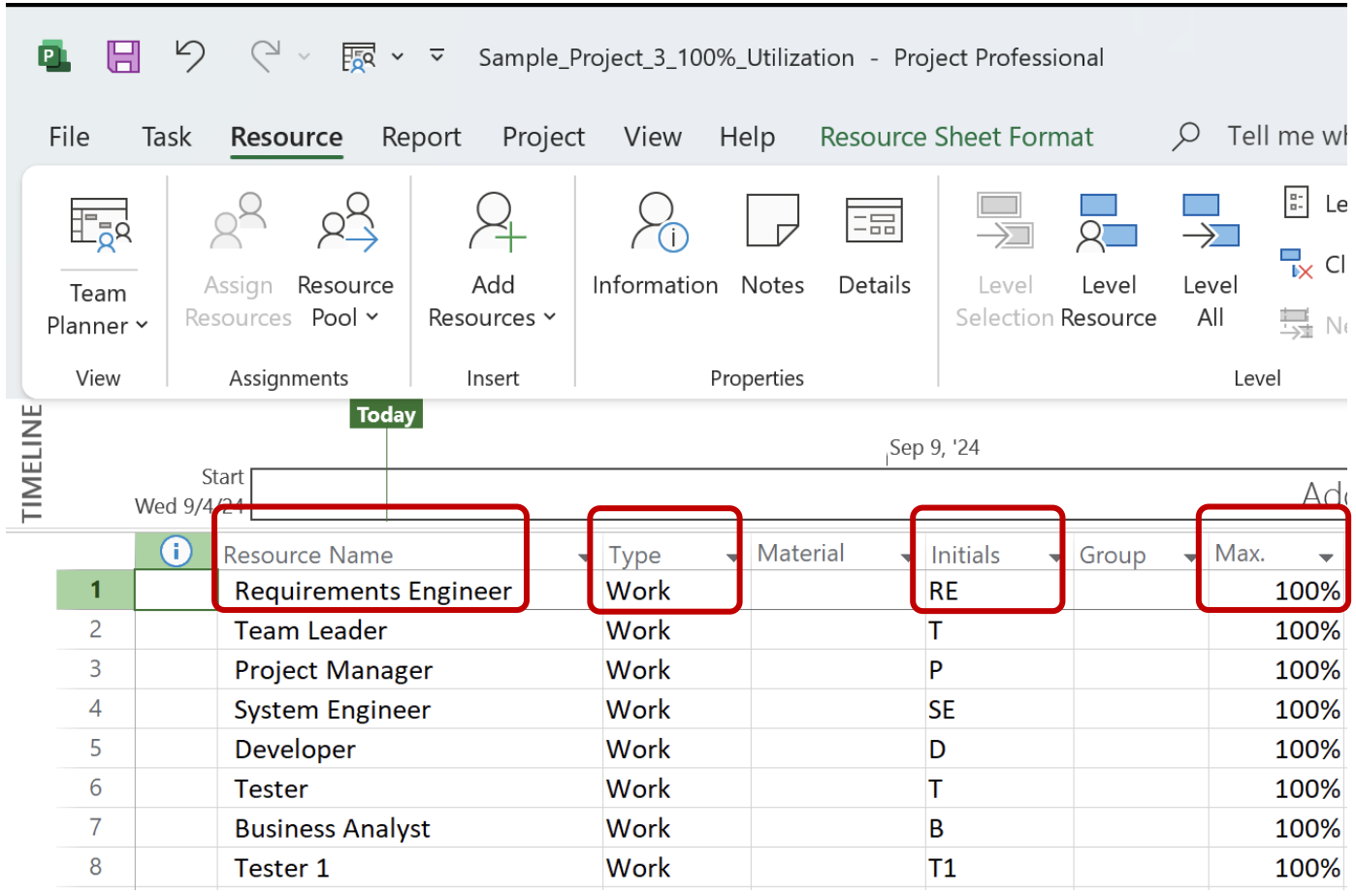
- Allocate resources with 100% utilization
- Allocate resources with 25% utilization

Steps for specifying the resource utilization

1. Create the resource
2. Assign the resource to the tasks
3. Specify the resource utilization (Max units)

Create the resource

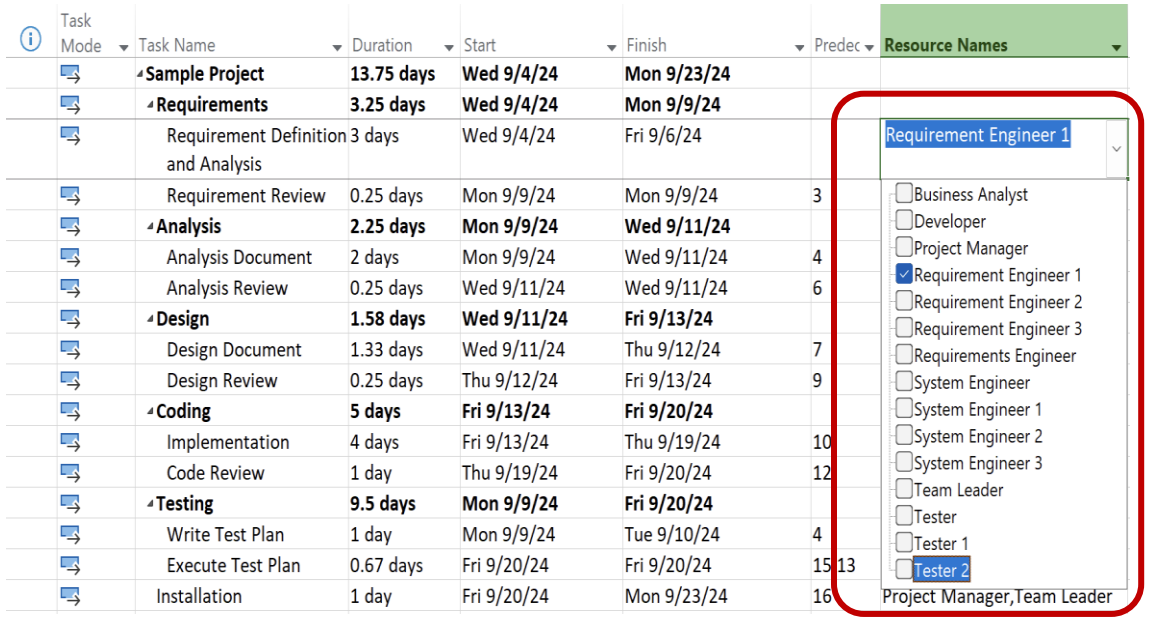
- Go to the “resource sheet”
- Enter the resources
  - Resource Name
  - Type
  - Initials
  - Max units
    - the maximum percentage of units representing the maximum capacity for which a resource is available to accomplish any tasks during the current time period



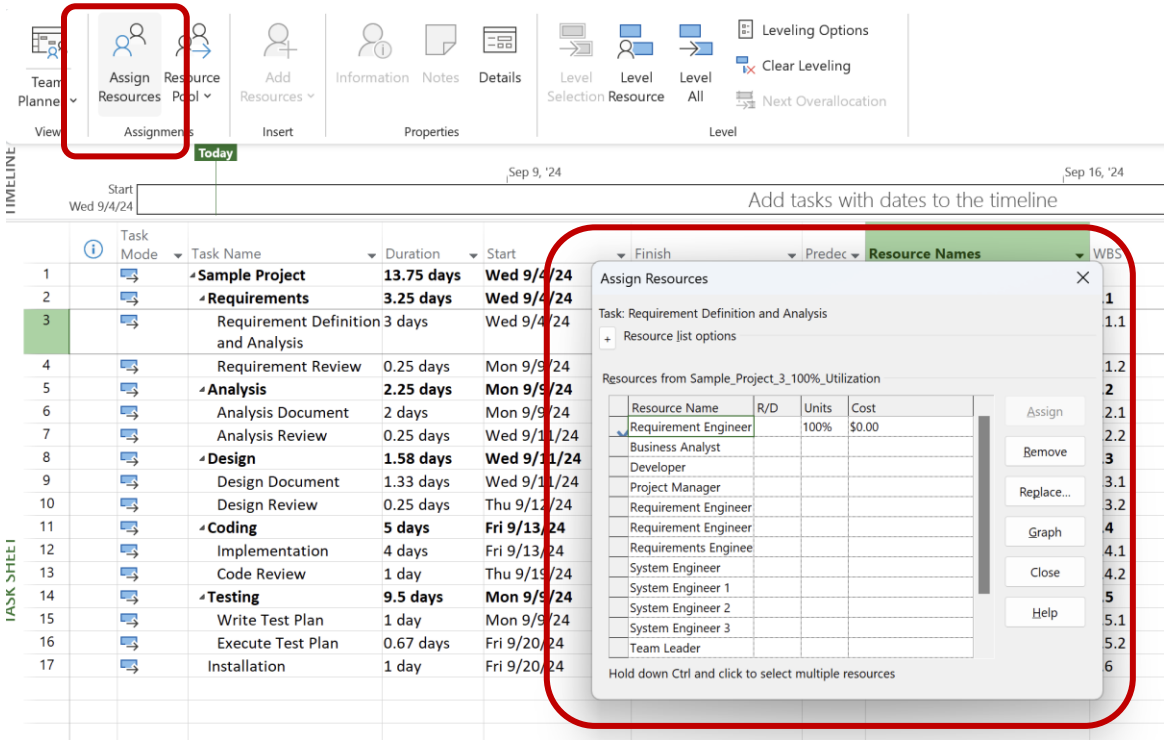
	Resource Name	Type	Material	Initials	Group	Max.
1	Requirements Engineer	Work		RE		100%
2	Team Leader	Work		T		100%
3	Project Manager	Work		P		100%
4	System Engineer	Work		SE		100%
5	Developer	Work		D		100%
6	Tester	Work		T		100%
7	Business Analyst	Work		B		100%
8	Tester 1	Work		T1		100%

Assign the resource

Using the pull-down list

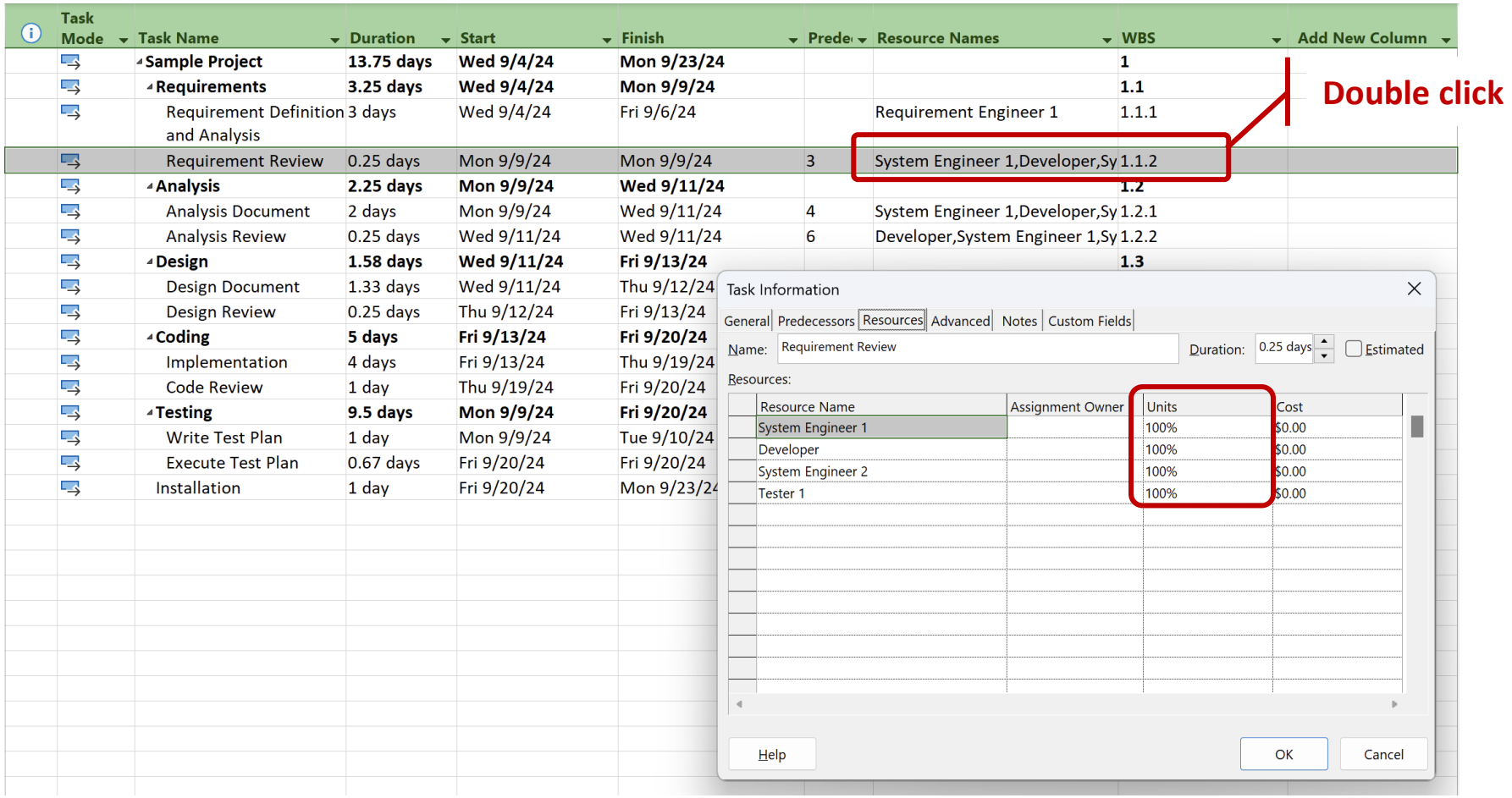


Using assign resources window



Specify the utilization

- Specify the max units in task sheet



Specify the utilization

- Specify the max units in resource sheet

	Resource Name	Type	Material	Initials	Group	Max.	Std. Rate	Ovt. Rate
	Requirements Engineer	Work		RE		100%	$0.00/hr	$0.00/hr
	Team Leader	Work		T		100%	$0.00/hr	$0.00/hr
	Project Manager	Work		P		100%	$0.00/hr	$0.00/hr
	System Engineer	Work		SE		100%	$0.00/hr	$0.00/hr
	Developer	Work		D		100%	$0.00/hr	$0.00/hr
	Tester	Work		T		100%	$0.00/hr	$0.00/hr

Example

- Max units = 100%

Task Mode	Task Name	Duration	Start	Finish	Predec	Resource Names
	Sample Project	**13.75 days**	**Wed 9/4/24**	**Mon 9/23/24**		
	Requirements	**3.25 days**	**Wed 9/4/24**	**Mon 9/9/24**		
	Requirement Definition and Analysis	3 days	Wed 9/4/24	Fri 9/6/24		Requirement Engineer 1
	Requirement Review	0.25 days	Mon 9/9/24	Mon 9/9/24	3	System Engineer 1,Developer,Sy
	Analysis	**2.25 days**	**Mon 9/9/24**	**Wed 9/11/24**		
	Analysis Document	2 days	Mon 9/9/24	Wed 9/11/24	4	System Engineer 1,Developer,Sy
	Analysis Review	0.25 days	Wed 9/11/24	Wed 9/11/24	6	Developer,System Engineer 1,Sy
	Design	**1.58 days**	**Wed 9/11/24**	**Fri 9/13/24**		

- Max units = 25%

Task	Task Name	Predecessors	WBS	Duration	Start	Finish	Resource Names
	Sample_Project		**1**	**266 days**	**Wed 9/4/24**	**Wed 9/10/25**	
	Project Plan		**1.1**	**52 days**	**Wed 9/4/24**	**Thu 11/14/24**	
	Write Plan		1.1.1	20 days	Wed 9/4/24	Tue 10/1/24	PM1[25%]
	Review Plan	**3**	**1.1.2**	**20 days**	**Wed 10/2/24**	**Tue 10/29/24**	
	Preparation for review	3	1.1.2.1	12 days	Wed 10/2/24	Thu 10/17/24	DE1[25%],PE1[25%],RE1[25%],SE1[25%],TE1[25%]
	Review Meeting	5	1.1.2.2	8 days	Fri 10/18/24	Tue 10/29/24	DE1[25%],PE1[25%],RE1[25%],SE1[25%],TE1[25%],PM1[25%]
	Rework	6	1.1.3	12 days	Wed 10/30/24	Thu 11/14/24	PM1[25%]

Example

- Max units = 100%

	Resource Name	Type	Material	Initials	Group	Max.	Std. Rate	Ovt. Rate	Cost/Use	Accrue	Base
1	Requirements Engineer	Work		RE		100%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard
2	Team Leader	Work		T		100%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard
3	Project Manager	Work		P		100%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard
4	System Engineer	Work		SE		100%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard
5	Developer	Work		D		100%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard
6	Tester	Work		T		100%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard
7	Business Analyst	Work		B		100%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard
8	Tester 1	Work		T1		100%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard

- Max units = 25%

	Resource Name	Type	Material	Initials	Group	Max.	Std. Rate	Ovt. Rate	Cost/Use	Accrue	Base Calendar	Coc
1	Requirement Engineer1	Work		RE1		25%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard	
2	Requirement Engineer2	Work		RE2		25%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard	
3	Programmer 23	Work		P23		25%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard	
4	Programmer 24	Work		P24		25%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard	
5	Programmer 25	Work		P25		25%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard	
6	Programmer45	Work		P45		25%	$0.00/hr	$0.00/hr	$0.00	Prorated	Standard	

Questions ?