**IENG490 Microsoft Project Sessions**

A company want to start a project as building a residential construction, on the base of Engineering Department and PMO office the following table is the related task, resources and predecessors. They want to start the project in 20/05/2024 and want to know when it will be finish. In addition, the project site uses the standard calendar but they work additionally on Saturdays from 8:30 to 13:30. Project will be close on 07-jun-2024 and from 02nd to 13th of Aug 2024 as the yearly holidays.

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| **W.B.S code** | **Task Name** | **Duration** | **Predicesors** | **Resources** |
| 1 | **Residential Construction** |  |  |  |
| 1.1 | **General Conditions** |  |  |  |
| 1.1.1 | Finalize plans and develop estimate with owner, architect | 5 days |  | Owner, Engineer |
| 1.1.2 | Sign contract and notice to proceed | 10 days | 3 | Owner, Lawyer |
| 1.1.3 | **Apply for Permits** |  |  |  |
| 1.1.3.1 | Secure foundation permit | 1 day | 4 | Owner |
| 1.1.3.2 | Secure framing permit | 0 days | 4 | Owner |
| 1.1.3.3 | Secure electrical permit | 0 days | 4 | Owner |
| 1.1.3.4 | Secure plumbing permit | 0 days | 4 | Owner |
| 1.1.3.5 | Secure HVAC permit | 0 days | 4 | Owner |
| 1.1.3.6 | Secure miscellaneous permits | 2 days | 4 | Owner |
| 1.2 | **Site Work** | 30 days | 6,7,8,9,10,11 | Engineer, worker01, worker02 |
| 1.3 | **Foundation** | 45 days | 12Fs+5 days | Civil Eng., Worker03, worker04 |
| 1.4 | **Framing** |  |  |  |
| 1.4.1 | 1st floor | 20 days | 13 | Civil Eng., Worker01, Worker02 |
| 1.4.2 | 2nd floor | 16 days | 15ss+9days | Civil Eng., Worker01, Worker02,worker03 |
| 1.4.3 | Roof | 8 days | 15,16 | Civil Eng., Worker01, Worker02,worker04 |
| 1.4.4 | Inspection | 3 days | 17 | Civil Eng. |
| 1.5 | **Dry In** | 12 days | 18FF | Civil Eng., |
| 1.6 | **Exterior Finishes** |  |  |  |
| 1.6.1 | Complete exterior brick | 34 days | 19 | Worker01,worker04 |
| 1.6.2 | Complete exterior siding | 5 days | 21 | Worker02, Worker03 |
| 1.7 | **Utility Rough-B97Ins and Complete Concrete** | 43 days | 20SS+4 days | Mechanical Eng., Worker 01, worker02 |
| 1.8 | **Interior Finishes** |  |  |  |
| 1.8.1 | **Insulation** | 18 days | 23,22 | Mechanical Eng., worker03, worker04 |
| 1.8.2 | **Drywall** | 5 days | 25 |  |
| 1.8.3 | **Paint and Wallpaper** | 23 days | 26 | Worker05, worker06 |
| 1.8.4 | **Cabinets** | 8 days | 27SS | worker02,worker03 |
| 1.8.6 | **Finish Plumbing** | 27 days | 28,27 | mechanical eng., worker03,worker06 |
| 1.8.7 | **Finish Electrical** | 19 days | 28,27SS | Electrical Eng, Worker01,worker02 |
| 1.8.8 | **Finish HVAC** | 34 days | 30 | Mechanical Eng., Electrical Eng, worker03, worker04 |
| 1.8.9 | **Carpet, Tile and Appliances** | 16 days | 31,29 | Civil Eng., Worker05, worker06 |
| 1.8.10 | **Landscaping and Grounds Work** | 34 days | 32 | Civil Eng., Worker05, worker06 |
| 1.9 | **Final Acceptance** |  |  |  |
| 1.9.1 | Complete final inspection for certificate of occupancy | 9 days | 33,23,11,12 | Civil eng, Mechanical eng., Electrical Eng., |
| 1.9.2 | Cleanup for occupancy | 12 days | 35 | Worker 01,02,03,04,05,06 |
| 1.9.3 | Perform final walk-through inspection | 8 days | 36 | Civil eng, Mechanical eng., Electrical Eng., |
| 1.9.4 | Complete punch list items | 15 days | 37SS+1 day | Civil eng, Mechanical eng., Electrical Eng., |

The resources cost information is as follow:

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| --- | --- | --- | --- |
| Resource Name | $/Hour | $/Hour overtime | Per use |
| Civil Engineer and Engineer | $ 45.00 | $ 67.50 | $ - |
| Mechanical Engineer | $ 40.00 | $ 65.00 | $ - |
| Electrical Engineer | $ 50.00 | $ 80.00 | $ - |
| Workers | $ 30.00 | $ 45.00 | $ - |
| Lawyer | $ 150.00 | $ 220.00 | $ - |

Worker 02 is not avaiable on tuesdays. Worker 03 is not available on 29th September 2024