

East Tennessee State University

# ENTC 4060

Project Scheduling

## Work Breakdown Structures & Scheduling

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### Work Breakdown Structures

- **Bill of Materials (BOM) format**



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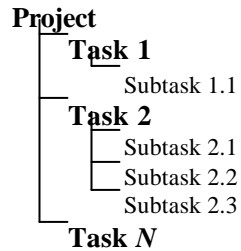
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### Work Breakdown Structures

- **Indented BOM format**



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## **WBS Level Names**

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- 1. Program**
- 2. Project**
- 3. Task**
- 4. Sub Task**
- 5. Work Package**
- 6. Effort or Activity**

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## **WBS Level Names**

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- **Common names & terms facilitate:**
  - Communication
  - Understanding
- **All parties should use a common level naming convention**

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## **When Developing a WBS**

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- **Identify necessary tasks**
- **Don't worry about the particular order—*yet***
- **Don't worry about particular details —*yet***

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# *Scheduling*

develops the  
sequence; not the  
WBS development

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## **WBS Development Process**

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- ***First:*** Identify all work that needs to be done
- ***Then:*** Identify who, how long, when, and how much (\$ and resources)

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## **Estimating Work**

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- **Estimate WBS to level of required accuracy**
  - Granularity
- **“Exact estimates” are oxymoronic (e.g., jumbo shrimp)**

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## Scheduling

- **The goal of scheduling is to maximize parallel activities to minimize time**
- **Minimal time yields**
  - the most aggressive schedule
  - an ideal (unrealistic) target

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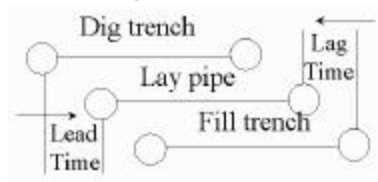
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## Scheduling

- **Overlap work when possible (lead vs. lag)**



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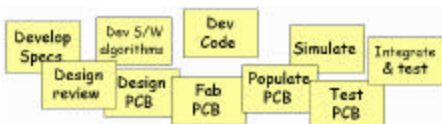
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## Scheduling Methods

- **Manual (PERT) *quickest!!!!***
  - Post-It® notes on white board



- **Computer-based (Gantt)**
  - MS Project, Primavera

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## ***Gotchas!!***

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- **Watch for “dangles”**
  - Unattached tasks with no predecessors &/or successors
- **Remember resource constraints**

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## **Adding personnel isn't always the best answer**

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- ***The Mythical Man-Month***  
**by Fredrick Brooks**
- Brooks was the System 36 Project Manager for IBM
- Collection of summary evaluation essays to Tom Watson (CEO)

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## **Change Control**

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**The world will not  
stand still while a  
plan is being  
executed.**

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