East Tennessee State University

ENTC 4060

Project Scheduling

Work Breakdown Structures & Scheduling

WBS Level Names

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

Work Breakdown Structures

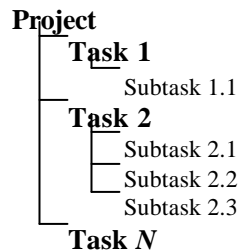- **Bill of Materials (BOM) format**

WBS Level Names

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

Work Breakdown Structures

- **Indented BOM format**

Project
　Task 1
　　Subtask 1.1
　Task 2
　　Subtask 2.1
　　Subtask 2.2
　　Subtask 2.3
　Task N

When Developing a WBS

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

Scheduling
develops the sequence; not the WBS development
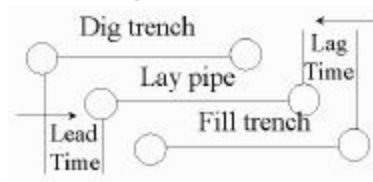

Scheduling

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

WBS Development Process

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

Scheduling

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

Estimating Work

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

Scheduling Methods

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

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

Gotchas!!

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

Adding personnel isn't always the best answer

- *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)

Change Control

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