CB 510 Project Management

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What we learned so far

- What is planning
- What do we mean by activities
- Activities predecessors and successors
- Activities relationship, overlap, and lag times

Plan representation

• Activity on Arrow (AOA)

• Activity on Node (AON)

• Bar chart (Gantt chart)

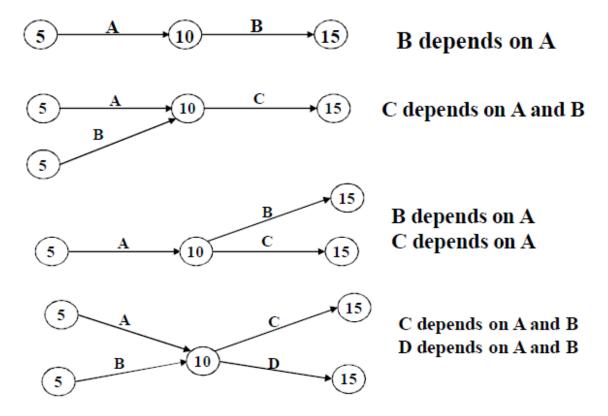
Activity on Arrow

- Each activity is represented by an arrow
- Each arrow is preceded by an event (node), and succeeded by another event
- The event resembles the accomplishment of tasks before starting the following activities

Note: i > j

Activity on Arrow (Cont'd)

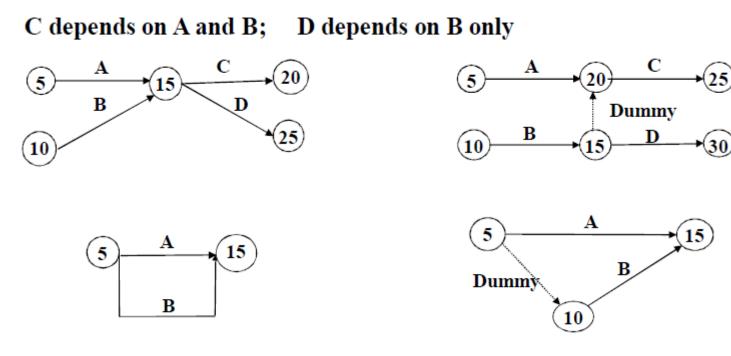
• Example of different activities representations



Credit: Prof. Emad Elbeltagi

Activity on Arrow (Cont'd)

• Dummy activities



Incorrect representation

Correct representation

Credit: Prof. Emad Elbeltagi

Activity on Arrow (Cont'd)

Activity	Predecessor		
А			
В	A		
C	A		
D	B,C		
E	В		
F	D		
G	E,F		
н	G		

Activity on Node

- Activities are represented by nodes
- Arrows connect the activities to represent the relationship between them
- Details of the activities can be shown at the node (more next lecture)

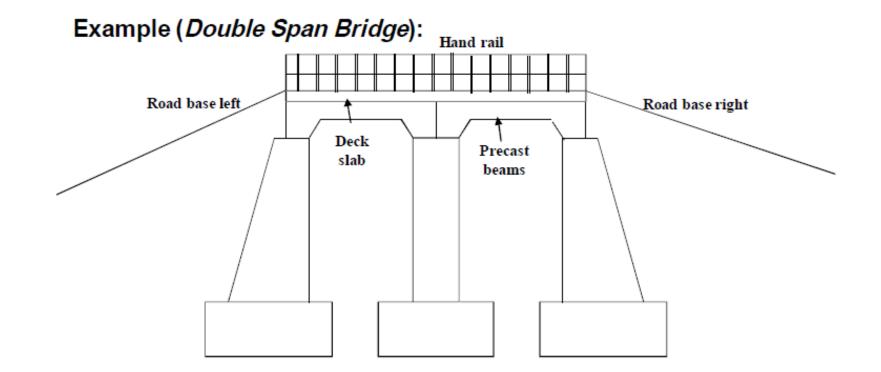


Activity on Node (Cont'd)

Activity	Predecessor		
A			
В	А		
С	А		
D	B,C		
E	В		
F	D		
G	E,F		
Н	G		

Note: Try to create levels when you represent your plan

Last week example



Description	Predecessor	Code	Description	Predecessor
Mobilization and site setup	NA	100	Construct center pier	70
Procure Reinforcement	NA	110	Erect left precast beam	16,80,100
Procure Precast Beams	NA	120	Erect right precast beam	16,90,100
Excavate left abutment	10	130	Fill left embankment	80
Excavate right abutment	10	140	Fill right embankment	90
Excavate Center pier	10	150	Construct deck slab	110,120
Foundation left abutment	14,20	160	Left road base	130
Foundation right abutment	14,30	170	Right road base	140
Foundation center pier	14,40	180	Road surfacing	150,160,170
Construct left abutment	50	190	Bridge railing	150
Construct right abutment	60	200	Clear site	180, 190
	Mobilization and site setup Procure Reinforcement Procure Precast Beams Excavate left abutment Excavate right abutment Excavate Center pier Foundation left abutment Foundation right abutment Foundation center pier Construct left abutment	Mobilization and site setupNAProcure ReinforcementNAProcure Precast BeamsNAExcavate left abutment10Excavate right abutment10Excavate Center pier10Foundation left abutment14,20Foundation right abutment14,30Foundation center pier14,40Construct left abutment50	Mobilization and site setupNA100Procure ReinforcementNA110Procure Precast BeamsNA120Excavate left abutment10130Excavate right abutment10140Excavate Center pier10150Foundation left abutment14,20160Foundation right abutment14,30170Foundation center pier14,40180Construct left abutment50190	Mobilization and site setupNA100Construct center pierProcure ReinforcementNA110Erect left precast beamProcure Precast BeamsNA120Erect right precast beamExcavate left abutment10130Fill left embankmentExcavate right abutment10140Fill right embankmentExcavate Center pier10150Construct deck slabFoundation left abutment14,20160Left road baseFoundation center pier14,40180Road surfacingConstruct left abutment50190Bridge railing