

CEE4408 Construction Project Management, Assignment # 3: Apr. 9, 2013

Instructions: Answer All Questions (100 marks)

1. You are the project manager for a small bridge project described in the following conditions:

Project description:

- 6 activities are involved – Name[Duration]: A[3 days(72 hours)], B[5 days(120 hours)], C[8 days(192 hours)], D[3 days(72 hours)], E[4 days(96 hours)], and F[2 days(48 hours)].
- The contractor wants to finish the project as quickly as possible.
- There is no holiday or weekend; there are **24** working hours per day

Logical relationships:

- Activity B must begin at least 2 days after the finish of activity A.
- Activities C must begin after the start of activity A.
- Activities D and F must begin after the finish of activities B and C.
- Activities E must begin after the finish of activity B.
- Activity E must be finished at least 4 days after the finish of activity C.

Imposed contract dates:

- Activity A must start after date 2 (not earlier than date 3).
- Activity B must be finished at date 13 (not later and not earlier than date 13).
- Activity C must be finished by date 12 (not later than date 12).

Based on the above project conditions, answer the followings:

- Develop the project network. – *15 marks*
- What is the total project duration? – *15 marks*
- What is the critical path? – *15 marks*
- How do the “not later and not earlier than” date and the “not later than” date affect the total float of activities B and C, respectively? – *15 marks*

2. You are the project manager for a small rehabilitation project described in the following conditions:

Project description:

- 4 activities are involved – Name[Duration]: A[24 **hours**], B[24 **hours**], C[40 **hours**], and D[16 **hours**].
- The contractor wants to finish the project as quickly as possible.
- Date 5 is a **holiday** (nonwork day).
- There are **8** working hours per day; project start date is 1.

Logical relationships:

- Activity B must begin after the finish of activity A.
- Activities C must begin after the start of activity A.
- Activities D must begin after the finish of activities B and C.

The project started as planned, but you now want to update the original project schedule to reflect the following developments:

- Data date: 6
- Completed activities: Activity A (actual start date: 1, actual finish date: 3)
- In-progress activities: Activity B (actual start date: 4, remaining duration: 3 days)
Activity C (actual start date: 2, remaining duration: 2 days)

- Develop the original project network and the updated project network. – *15 marks*
- How do the new project conditions affect the original project completion date (from what date to what date)? – *15 marks*
- What is the critical path of the remaining part of the project based on the updated project network? – *10 marks*

Assignment Policies

- Students are free to discuss the questions with one another; but the assignment should be produced individually in the form of electronic word processing file.
- The assignment should be submitted to hyoungkwan@yonsei.ac.kr by April 16, 2013.
- The submitted filename should be “YourName_3” like “김형관_3.doc,” or “김형관_3.hwp.”