CPCCBC5003A SUPERVISE THE PLANNING OF ON-SITE MEDIUM RISE BUILDING OR CONSTRUCTION WORK

ASSESSMENT 5

ASSESSMENT INFORMATION

This assessment is graded, worth 20% of the unit, and has a pass mark of 50%.

Submit electronically via the OLS to www.oten.edu.au/ols in PDF (.pdf) or Word (.doc or .docx).

Assignment Overview

This Assignment relates to the following Project:

19735 Project 1 Medium Rise Apartments

Job Address:	2135 The Boulevard, Strathfield, NSW
Job Title:	Proposed Commercial and Residential Development
Client:	AKM Developments
Architect:	Olympic Designs, 55 Olympic Pde, Homebush, NSW

You should obtain the following documents, from the OLS, for the job:

Plans:	Page 1	Site Plan
	Page 2	Basement 1
	Page 3	Basement 2
	Page 4	Basement 1 Setout
	Page 5	Basement 2 Setout
	Page 6	Floor Plan Level 1
	Page 7	Floor Plan Level 2
	Page 8	Floor Plan Level 3
	Page 9	Floor Plan Level 4
	Page 10	Floor Plan Level 5
	Page 11	Setout Level 1 and 2
	Page 12	Setout Level 3 and 4
	Page 13	Setout Level 5
	Page 14	South Elevation
	Page 15	North Elevation
	Page 16	East and West Elevations
Bill of Quantities:	Preliminary Estimate (6 pages)	
Specification of Works	(60 pages)	

Your Task for this assessment

Assume you are the construction manager for a building company contracted to build the Boulevard Strathfield Apartments project.

You should use the Precedence Diagram for the project that you prepared in CPCCBC5002A.

(If you did not complete CPCCBC5002A you will find the information to prepare the diagram at the end of this assessment as an appendix)

Review the overall target schedule for the project carefully, and answer the following questions:

1. Select one task from two different trades and for each selected task (40 marks)
    a. Determine accurate measured material quantities using appropriate units of measurement for the item of work
    b. Determine appropriate productivity constants for the item of work (Productivity constants for main areas of work are available from Rawlinson 'Australian Construction Handbook', Oten notes for unit CPCCBC4004A or your teachers.)
    c. Determine tradesman hours worked
    d. Determine a suitable gang size
    e. Determine time needed to complete the task.
    f. Review the task shown in the project and verify its sequence and the duration allowed. Would you make any changes? If so what would you change, and why?
2. Critique the program provided – find and discuss any inconsistencies that you can find. Would you ask for changes to be made, and why? (10 marks)
3. Overall is the schedule realistic or optimistic? (10 marks)
4. Would you accept the schedule and provide it to your client or architect? (10 marks)
5. Assume that construction activities have fallen behind program. Task compression is required. For the two tasks selected earlier outline:
    a. Time cost and compression impacts of working overtime each day. (10 marks)
    b. Time cost and compression impacts of working 6 days per week. (10 marks)
    c. Outline other ways to compress the project schedule (10 marks)

END OF ASSESSMENT

Appendix for students who have not completed CPOCCBC5002A.

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Bill of Quantities:	Preliminary Estimate (6 pages)
Specification of Works	(60 pages)

Question 1
Use the following information to prepare a Precedence Diagram to establish Early Start/Early Finish, Late Start/Late Finish, and Float and identify the critical path.

You can prepare the diagram manually or using a computer program such as Microsoft Project.
You should use a 5 day calendar to allow for the fact that this is a preliminary estimate. The project will work on a 6 day schedule once construction starts and this will provide a contingency allowance for the project.

The project is scheduled to start on 13th January 2014.

PROGRAM ACTIVITY SCHEDULE

ID	Task Name	Duration	Predecessors
1	**Job Duration**	**255 days**	
2	Start	0 days	
3	Preliminaries	Whole of Job	2
4	Groundworks	20 days	3
5	**Concrete**	**155 days**	
6	Concrete Basement 2	17 days	4,36,51
7	Concrete Basement 1	16 days	6,14
8	Concrete Level 1	22 days	7,15
9	Concrete Level 2	15 days	8,24,16
10	Concrete Level 3	13 days	9,25,17
11	Concrete Level 4	14 days	10,26,18
12	Concrete Level 5	15 days	4,11,27,19
13	**Masonry**	**144 days**	
14	Masonry Basement 2	6 days	6
15	Masonry Basement 1	4 days	14,7
16	Masonry Level 1	11 days	15,8

17	Masonry Level 2	8 days	16,9
18	Masonry Level 3	6 days	17,10
19	Masonry Level 4	8 days	18,11
20	Masonry Level 5	6 days	19,12
21	**Metalwork**	**197 days**	
22	Metalwork Basement 2	2 days	6,14SS+1 day
23	Metalwork Basement 1	2 days	22,15SS+1 day
24	Metalwork level 1 Windows and Doors	3 days	23,16SS+1 day
25	Metalwork level 2 Windows and Doors	3 days	24,17SS+1 day
26	Metalwork level 3 Windows and Doors	3 days	25,18SS+1 day
27	Metalwork level 4 Windows and Doors	3 days	26,19SS+1 day
28	Metalwork level 5 Windows and Doors	3 days	27,20SS+1 day
29	Metalwork level 1 Fitout	3 days	93,115
30	Metalwork level 2 Fitout	3 days	29,94,116
31	Metalwork level 3 Fitout	3 days	30,95,117
32	Metalwork level 4 Fitout	3 days	31,96,118
33	Metalwork level 5 Fitout	3 days	32,97,119
34	**Hydraulics**	**224 days**	
35	Hydraulics Rough In Sub basement	7 days	4
36	Hydraulics Rough In Basement 2	7 days	4
37	Hydraulics Rough In Basement 1	7 days	36,6
38	Hydraulics Rough In Level 1	7 days	37,7
39	Hydraulics Rough In Level 2	7 days	38,8
40	Hydraulics Rough In Level 3	7 days	39,9

41	Hydraulics Rough In Level 4	7 days	40,10
42	Hydraulics Rough In Level 5	7 days	41,11
43	Hydraulics Fitoff Basement 2	5 days	115,42
44	Hydraulics Fitoff Basement 1	5 days	43,115
45	Hydraulics Fitoff Level 1	5 days	44,115
46	Hydraulics Fitoff Level 2	5 days	45,116
47	Hydraulics Fitoff Level 3	5 days	46,117
48	Hydraulics Fitoff Level 4	5 days	47,118
49	Hydraulics Fitoff Level 5	5 days	36,7,89,97,48,119
50	**Electrical**	**221 days**	
51	Electrical Rough in Below Basement Level	3 days	4
52	Electrical Rough in Basement 2	2 days	51,14
53	Electrical Rough in Basement 1	2 days	52,15
54	Electrical Rough in Level 1	2 days	53,16
55	Electrical Rough in Level 2	2 days	54,17
56	Electrical Rough in Level 3	2 days	55,18
57	Electrical Rough in Level 4	2 days	56,19
58	Electrical Rough in Level 5	2 days	57,20
59	Electrical Fitoff Basement 2	2 days	52,91,58
60	Electrical Fitoff Basement 1	2 days	59,53,92
61	Electrical Fitoff Level 1	2 days	60,54,115
62	Electrical Fitoff Level 2	2 days	61,55,116
63	Electrical Fitoff Level 3	2 days	62,56,117
64	Electrical Fitoff Level 4	2 days	63,57,118

65	Electrical Fitoff Level 5	2 days	64,58,119
66	**Mechanical**	**138 days**	
67	Mechanincal Rough in Lift	5 days	7
68	Mechanincal Fitoff Lift	3 days	67,97
69	Mechanincal Rough in AC to Basement 2	2 days	7
70	Mechanincal Rough in AC to Basement 1	2 days	69,8
71	Mechanincal Rough in AC to Level 1	2 days	70,9
72	Mechanincal Rough in AC to Level 2	2 days	71,10
73	Mechanincal Rough in AC to Level 3	2 days	72,11
74	Mechanincal Rough in AC to Level 4	2 days	73,12
75	Mechanincal Rough in AC to Level 5	2 days	74,13
76	Mechanincal Fitoff to Basement 2	2 days	91,75
77	Mechanincal Fitoff to Basement 1	2 days	76,92
78	Mechanincal Fitoff to Level 1	2 days	77,93
79	Mechanincal Fitoff to Level 2	2 days	78,94
80	Mechanincal Fitoff to Level 3	2 days	79,95
81	Mechanincal Fitoff to Level 4	2 days	80,96
82	Mechanincal Fitoff to Level 5	2 days	81,97
83	**Waterproofing**	**87 days**	
84	Waterproofing to Level 1	2 days	93FS+5 days
85	Waterproofing to Level 2	2 days	84,94FS+5 days
86	Waterproofing to Level 3	2 days	85,95FS+5 days
87	Waterproofing to Level 4	2 days	86,96FS+5 days
88	Waterproofing to Level 5	2 days	87,97FS+5 days

89	Roofer	7 days	12,20
90	**Plasterer**	**143 days**	
91	Plasterer to Basement 2	3 days	14,52
92	Plasterer to Basement 1	3 days	91,53
93	Plasterer to Level 1	5 days	92,54
94	Plasterer to Level 2	5 days	93,55
95	Plasterer to Level 3	5 days	94,56
96	Plasterer to Level 4	5 days	95,57
97	Plasterer to Level 5	5 days	96,58
98	**Carpenter Fitout**	**19 days**	
99	Carpenter Fitout to Basement 2	2 days	76
100	Carpenter Fitout to Basement 1	2 days	99,77
101	Carpenter Fitout to Level 1	3 days	100,78
102	Carpenter Fitout to Level 2	3 days	101,79
103	Carpenter Fitout to Level 3	3 days	102,80
104	Carpenter Fitout to Level 4	3 days	103,81
105	Carpenter Fitout to Level 5	3 days	104,82
106	**Painter**	**53 days**	
107	Painter to Basement 2	3 days	59
108	Painter to Basement 1	3 days	107,60
109	Painter to Level 1	4 days	108,61
110	Painter to Level 2	4 days	109,62
111	Painter to Level 3	4 days	110,63
112	Painter to Level 4	4 days	111,64

113	Painter to Level 5	4 days	112,65
114	**Ceramic Tiler**	**40 days**	
115	Ceramic Tiler to Level 1	8 days	101,84FS+5 days
116	Ceramic Tiler to Level 2	8 days	115,102,85FS+5 days
117	Ceramic Tiler to Level 3	8 days	116,103,86FS+5 days
118	Ceramic Tiler to Level 4	8 days	117,104,87FS+5 days
119	Ceramic Tiler to Level 5	8 days	118,105,88FS+5 days
120	**Carpet**	**40 days**	
121	Carpet to Level 1	8 days	109
122	Carpet to Level 2	8 days	121,110
123	Carpet to Level 3	8 days	122,111
124	Carpet to Level 4	8 days	123,112
125	Carpet to Level 5	8 days	124,113
126	**Cleaner**	**33 days**	
127	Cleaner to Basement 2	1 day	109,121
128	Cleaner to Basement 1	1 day	109,121
129	Cleaner to Level 1	1 day	109,121
130	Cleaner to Level 2	1 day	129,110,122
131	Cleaner to Level 3	1 day	130,111,123
132	Cleaner to Level 4	1 day	131,112,124
133	Cleaner to Level 5	1 day	132,113,125
134	External Works	21 days	97
135	Finish	0 days	133,134