

ENGSCI9510 Project Management

Assignment 1 – Xinyu Yun

Q1.

Firstly, in this evaluation, the ‘Must Objectives’ will be considered based on the University’s vision and missions, some of the projects may be not related to the departments in planned missions, but they will not cause adverse effect.

Secondly, the ‘Top 10 MacLeans poll’ objective will be estimated by the 2015 ranking methodology published from MacLean on the aspects of students and class, faculty, resources, student support, library, reputation etc.

(<http://www.macleans.ca/education/unirankings/university-rankings-2015-methodology/>).

Finally referring to the expenditure and ROI, the NRC funds will not be excluded in the calculation of expenditure if the project has any because NRC funds is also one of the weighted elements, meanwhile the ROI will partially based on the result of weighted average.

Here is my evaluation for following 7 projects:

Must Objectives		Must Meet if impacts	1	2	3	4	5	6	7
All projects must meet current legal, safety, and environmental standards		y=yes, n=no, N/A	y	y	y	N/A	y	y	y
All projects must be consistent with in some way adding to the body of knowledge at UWO.		y=yes, n=no, N/A	y	y	y	n	y	y	y
All projects must not have an adverse effect on current or planned operations within UWO.		y=yes, n=no, N/A	y	y	y	y	y	y	y
Want Objectives	Relative Importance 1-100	Single Project Impact Definitions	Weighted Score	Weighted Score	Weighted Score	Weighted Score	Weighted Score	Weighted Score	Weighted Score
Top 10 MacLeans poll	80	0 = no potential Low Potential 2 = High Potential 1 =	possible	possible	2	1	2	1	2
NRC Matching funds	75	0 = no potential Low Potential 2 = High Potential 1 =	2	0	0	2	2	0	0
Commercial activity at Stiller Center	40	0 = no potential Low Potential 2 = High Potential 1 =	0	0	possible	possible	2	0	0
Raises Environmental consciousness	50	0 = no potential Low Potential 2 = High Potential 1 =	1	0	0	2	1	0	2
Does not apply pressure to increase tuition	60	0 = no potential Low Potential 2 = High Potential 1 =	2	2	0	1	2	2	0
Enhances UWO reputation for innovation	55	0 = no potential Low Potential 2 = High Potential 1 =	0	possible	2	2	2	1	1
Provides basis for new faculty at UWO	15	0 = no potential Low Potential 2 = High Potential 1 =	0	1	possible	possible	2	possible	2
Generates 14% ROI	70	0 = no potential Low Potential 2 = High Potential 1 =	2	1	1	0	2	2	1
Is mission critical or less than \$1million capital expenditure	80	0 = no potential Low Potential 2 = High Potential 1 =	2	2	0	0	2	2	2
Total Weighted Score			620	365	340	500	1000	555	575
Priority					Lowest		Highest		

Q2.

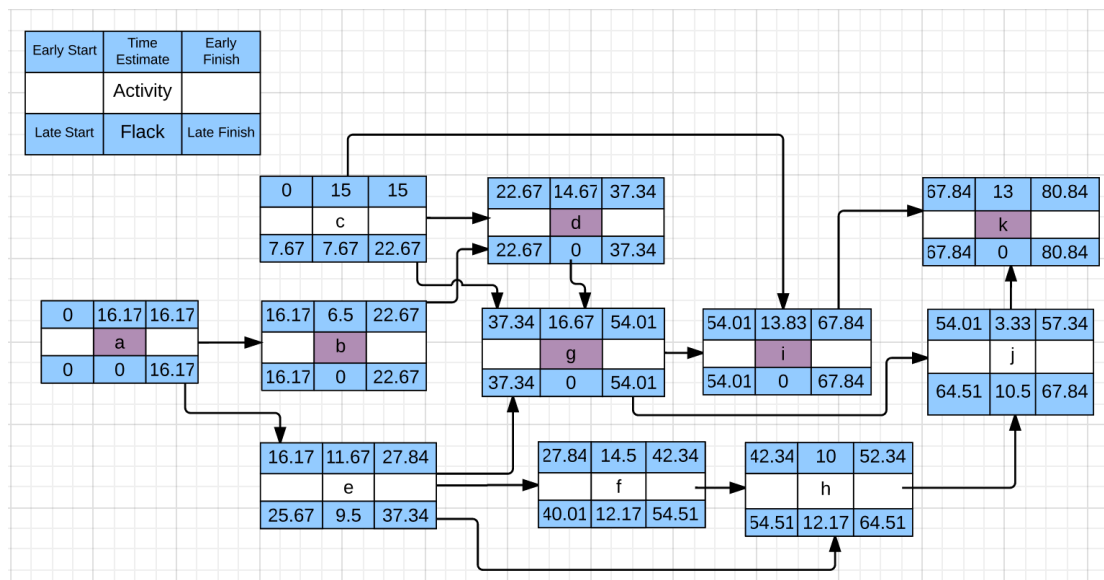
The Time Estimate calculation will be based on the 3-points estimation which applies the Beta Distribution: $tE = (tO + 4tM + tP) / 6$

Activity	Preceding activity	Best	Likely	Worst	Time est. (TE)
a	-	12	15	25	16.17
b	a	4	6	11	6.50
c	-	12	12	30	15.00
d	b,c	8	15	20	14.67
e	a	7	12	15	11.67
f	e	9	9	42	14.50
g	c,d,e	13	17	19	16.67
h	e,f	5	10	15	10.00
i	c,g	11	13	20	13.83
j	g,h	2	3	6	3.33
k	j,i	8	12	22	13.00

The critical path is the sequence of activities that represents the longest path through a project, which determines the shortest possible project duration.

The longest path is **a-b-d-g-i-k**.

The following diagram shows the full AON details:

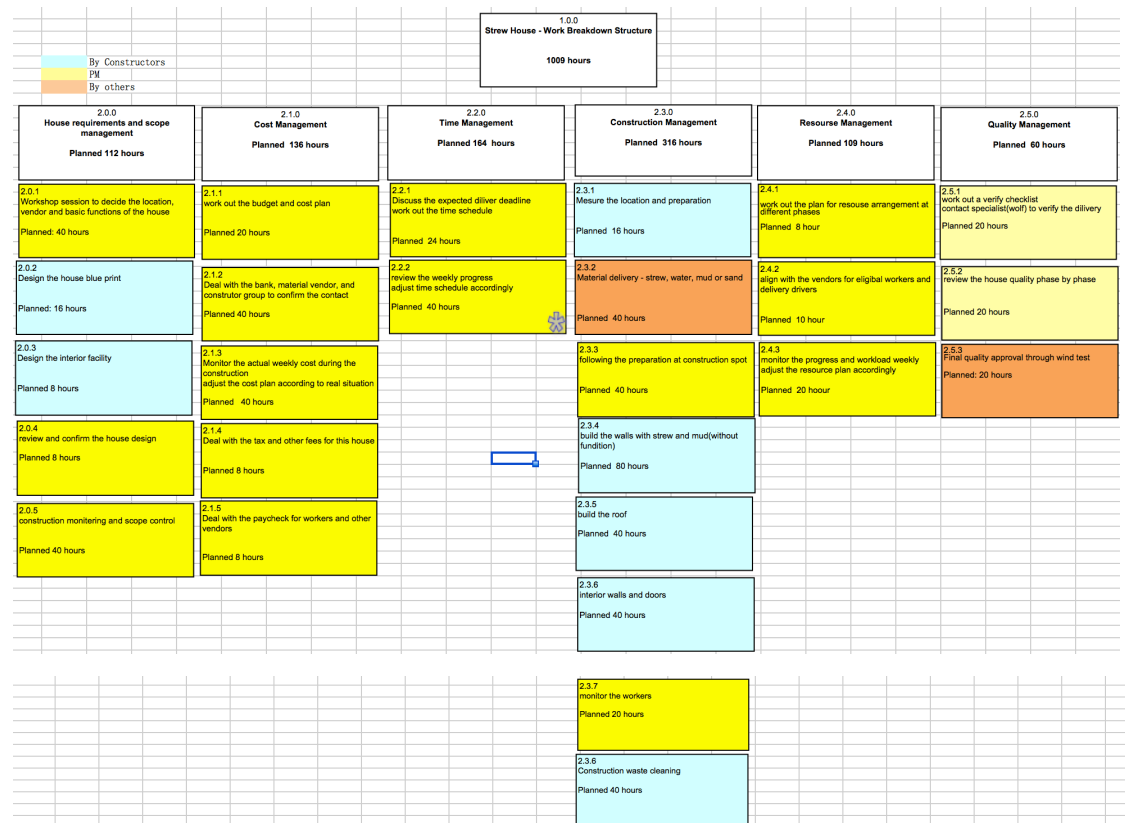


Q3.

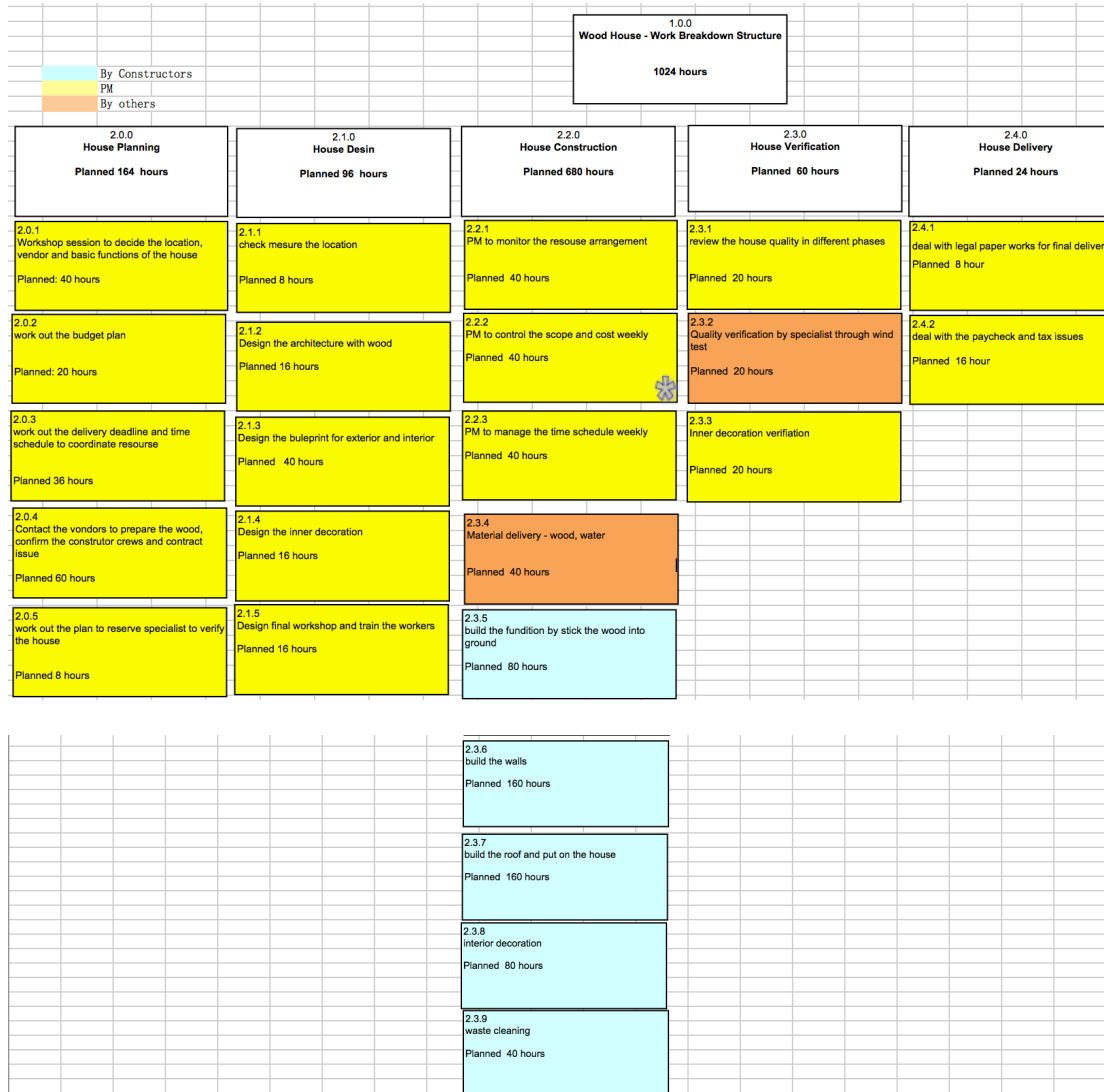
The WBS is a hierarchical decomposition of the total scope of work to be carried out by the project team to accomplish the project objectives and create the required deliverables.

The WBS organizes and defines the total scope of the project, and represents the work specified in the current approved project scope statement.

The first pig's stew house, I would like to decompose the project by work packages: requirement & scope management, cost management, time management, resource management, and quality management etc.



Secondly for the wood house, I would like to breakdown the work phase by phase including the planning, design, implementation, verification, and delivery.



Finally the brick house will use the WBS by deliveries: Land, Materials, House architecture, decoration and interior facility.

