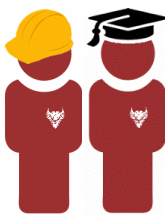


Design, Engineer, Construct! Level 2:

Unit 2 - Developing a sustainable construction



2.1 The candidate will be able to develop feasible proposals from needs analysis.

Unit	Incomplete (U)	Secure (C)	Exceptional (A)	Comments:
2.1.1				
2.1.2				
2.1.3				
2.1.4				

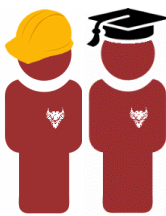
Name:

Date:

Deadline for Submission:

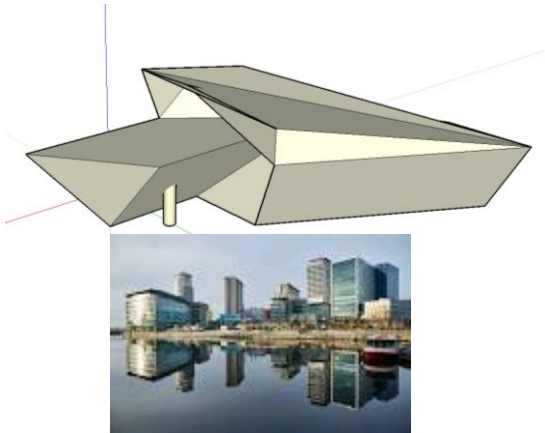


1. The candidate will be able to develop feasible proposals from needs analysis.



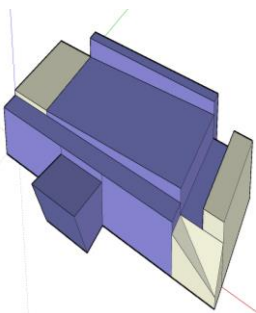
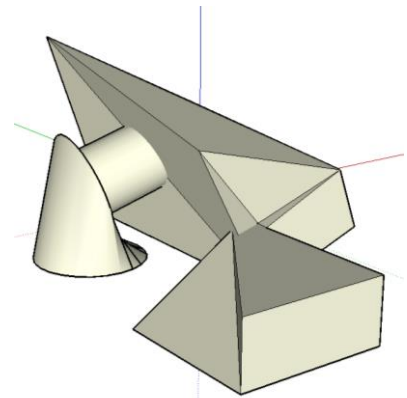
1.1 Prepare concept diagrams to describe and communicate ideas.

1. 3 initial ideas using Google Sketch Up (Link annotations to your Brief/ Vision/ Success Criteria):



I have created this building as it has quite a nice modern look to it and the building reminds me of some of the Salford Keys buildings located in Manchester (located left), it's also an excellent build for rainfall since it would pour off the building therefore causing less rust on the top meaning the building would last longer

The reason I have designed this peculiar building is because there is none other like it that I have seen giving it the special quality of being different. Another reason is that I have a walkway in my building so the round circular walkway shape is an initial design to my building as well.



Now, this design is in fact my building (Not drawn accurately), Google sketch up has allowed me to access more ideas of the pattern and design of my building, in fact in the long run I am defiantly going to be changing the roofing to a more sophisticated shape which will give it a more appealing look.

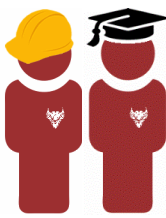
Which is the best initial idea and why:

I believe the first initial idea is the best one since the overall the design is a great quality and the concept around it especially with the surrounding area fitting in with the Manchester theme of Salford Keys.



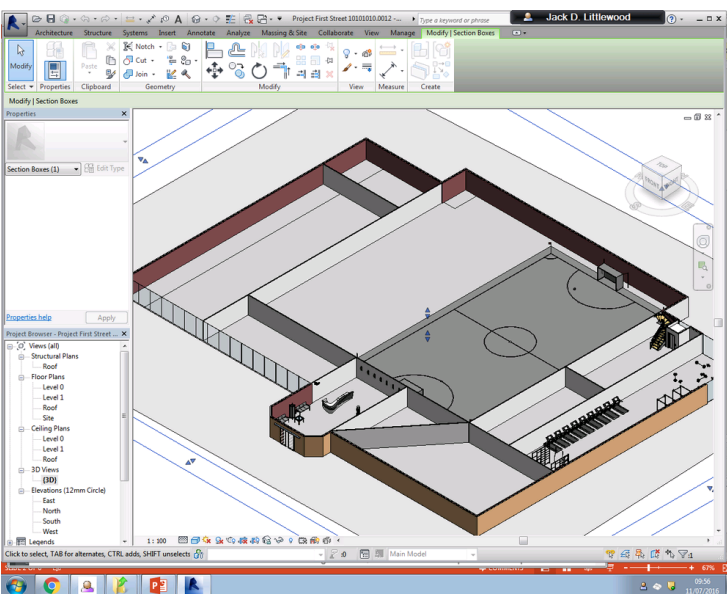
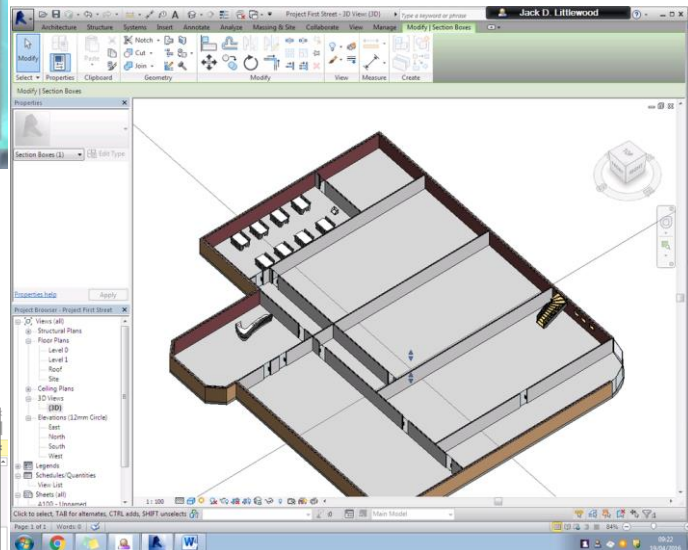
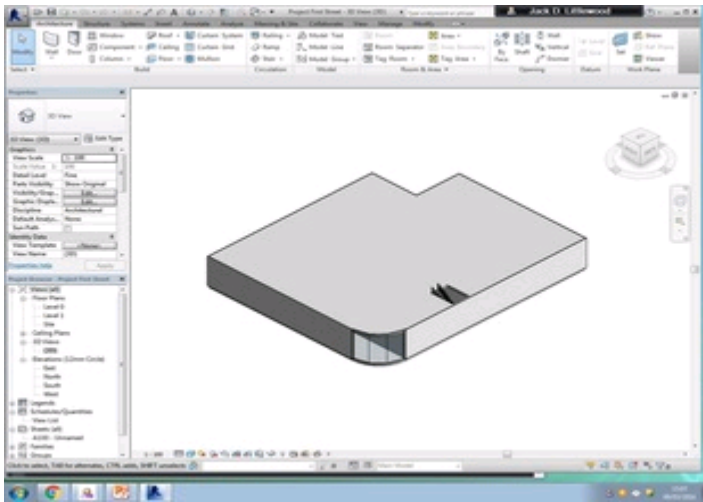
Unit 2 - Developing a sustainable construction

1. The candidate will be able to develop feasible proposals from needs analysis.



1.1 Prepare concept diagrams to describe and communicate ideas.

2. Begin to develop your best idea using sketches or models. Remember to link this to your success criteria:



What is different and interesting about your idea:

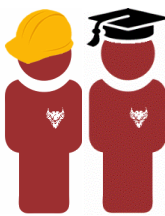
The difference of my building to others around Manchester is that it only has a what I like to call 'First Street design' which is the concept of sticking with the surrounding building themes around my street which makes my building remarkable from the rest, the interesting stuff lies within



Unit 2 - Developing a sustainable construction

1. The candidate will be able to develop feasible proposals from needs analysis.

1.2 Present the quality of the proposal to a client



1. Feasibility Study:

Criteria No	Criteria	Rating	Criteria Type
1	Design should be sustainable	Green	Design
2	Should have a suitable amount of rooms	Green	Design
3	Waste Management	Yellow	Efficiency
4	Should be long lasting	Green	Durability
5	Suitable amount of parking	Yellow	Design
6	Warm colouring on building	Green	Design
7	Dark colouring on building	Green	Design
8	Football/Basketball court	Green	User/Design
9	Accessible for the disabled	Green	Design
10	Suits other benefactors	Green	Design/User
11	Sustainable waste management	Green	Efficiency
12	Sustainable materials	Green	Efficiency/Design
13	Solar panels/turbines	Yellow	Efficiency/Design
14	Building maintain itself	Yellow	Durability
15	Gym	Green	Design/User
16	Restaurant/Café	Green	Design/User
17	Space should be appropriate	Red	Design

Assess your Idea on the following and present this to the client:

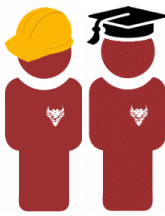
I think the end users will be pleased with the outcome of my building since it offers a variety of new jobs and also allows a new Gym, Café and indoor sports activities. I have designed my building in a square styled outlet as the basketball court and football pitch have to be square so I kept with the square theme, however there is other varieties such as the Gym which has a circular arc. I've designed it like this to get as much space as possible out of each one which has gone quite effectively



Unit 2 - Developing a sustainable construction

1. The candidate will be able to develop feasible proposals from needs analysis.

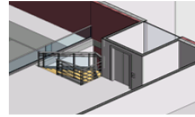
1.2 Present the quality of the proposal to a client



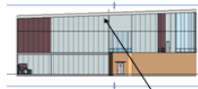
1. Evidence of Presentation (PP Slides/ Photographs/ Video):



Indoor Pitches - The building is designed so that it can fit two pitches (one football, one basketball) and can be used by the people who offer to pay a fee to enter, this is only one part of my fitness area.



Design - The building is suitable for all types of people which include the disabled, elderly and small children as I have lifts and ramps for their use. There's also a lot of windows in the building for maximum light opacity.



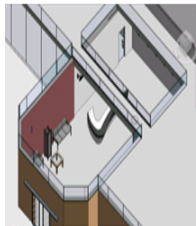
Elegance - From the image above we can identify the roof is slanted which helps provide a one way system for the rainfall, cleverly I have included a system which takes in all the rainfall and converts it to energy which helps the sustainability of my building.



My building located at First Street, Manchester.



In this image we can see that I have not just done a square design but have gone for a more complex round corner for the gym area as this will be my main focus for the building, it also provides a 270 degree view, and will also provide most of the light for the gym area.



Reception - In the image provided to the left we notice a reception area where the customers first come, so from experience it's best to make a great first impression which I have managed to pull off as the design is very elegant, it also suitable for all people with the automatic doors and the lighting will be very visible as there are large windows surrounding the room along with lights at the rear side of the reception, I also offer a variety of chairs and refreshments when they first arrive in the building.



Interior - Not only have I considered the exterior design of my building but I have also made modifications to give a little extra to my interior, as we can see in the image I have added a walkway through the reception which I consider to be a very modern and artistic design, I've also given the courts extra room since they require it, the top part will be surrounded by nets where the ball cannot be kicked onto the 2nd floor.



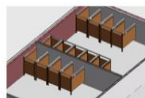
Room plan of my first level.



Elevators - In the image provided to the left we can notice an elevator which suggests that my building is accessible to all kinds of people whether it's wheelchair users or the elderly, they're able to both grab an elevator from the far side of the building and the reception (when I add it in at a later date).



Gym - As we can see I have added a Gym to the sports centre as it's quite a nice addition to the building, my building is located in central Manchester near enough meaning that this Gym (and building) can be easily findable therefore the Gym could provide a large amount of customers, after all it is a sport centre so a Gym is required in order to complete my building. It's located at the rear side and has a large glass pane allowing most light to enlighten the room, it also provides a view which increases the beauty rating of the building.



Toilets - The toilets are both together (Men's and women's) at the east side of my complex, these are the customer toilets, it'll also be adding staff toilets upstairs and maybe a small set of toilets on the second floor so both floors are covered.



An image of my building (side)



Café/kitchen - In the image provided I have inserted a small café area in the building so that visitors can relax after using the variety of facilities, it's also open to people who don't use other facilities and offers a wide range of food (small breakfast snacks etc) and drinks.

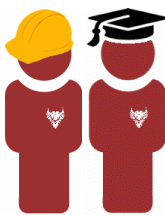
Feedback from Client:

Evening Jack, we are very pleased with the information you provided and we are offering you a place with the company, your presentation has impressed many staff members and we are happy to take along your building with our team, the small qualities which add up to make the building a huge success, we're really interested in investing, thank you for your time and dedication into the slide.



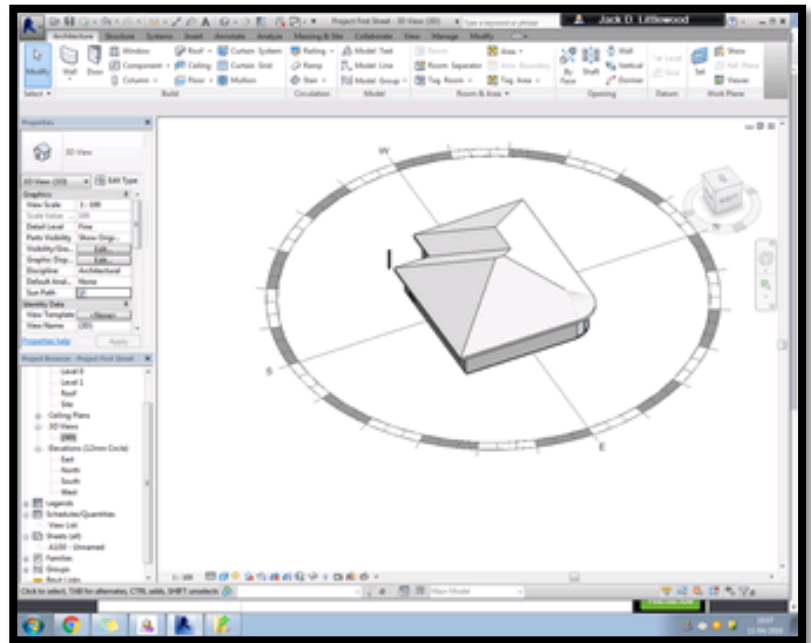
1. The candidate will be able to develop feasible proposals from needs analysis.

1.3 communicate the concept design to the project team.



1. Development of Model: Week 1

In this image we can see that I have just created the building which just includes the wall and roof.



Weekly Report:

What problems did I encounter? I encountered problems with managing Revit as I did not know the program that well.

How and when did I find them? I found them while constructing the building.

How did I ensure any problems were communicated? I did a trial and error session to get use to the software.

What actions did I take? Trial and error.

Who did I communicate this to? (Specialist roles) I communicated this to myself.

What discussions did I have? Was the discussion useful? Did I take any advice?

It was useful as I am now quite okay with Revit. I discussed it in my head and some to Sir which was addressed over.

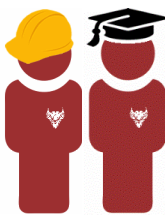
What impact will my actions have on my project being delivered to the brief, on time and within budget?

There was a slight time issue but in the end I think I managed it well.



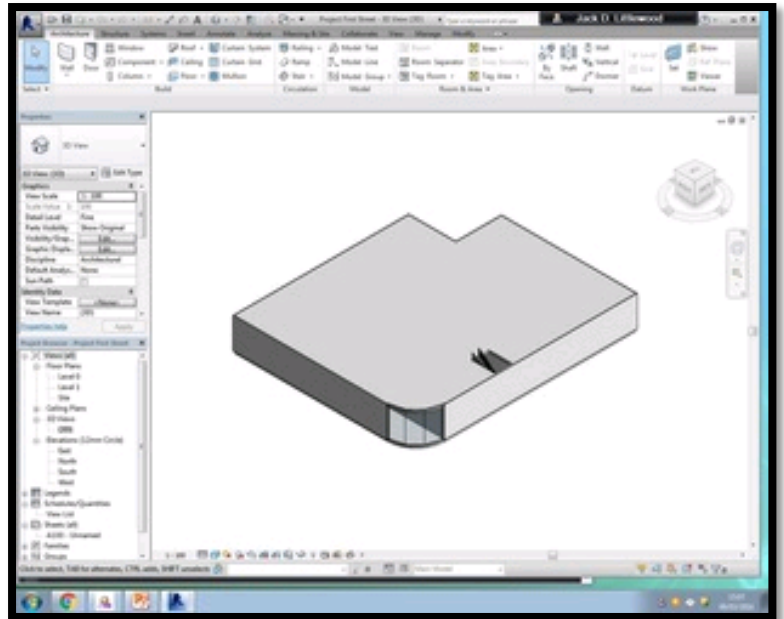
1. The candidate will be able to develop feasible proposals from needs analysis.

1.3 communicate the concept design to the project team.



1. Development of Model: Week 2

In this image we can see that I have added stairs to my project and also a second floor level.



Weekly Report:

What problems did I encounter? I encountered a wall problem and also a Revit crash issue which slowed down my build time.

How and when did I find them? I found them in lesson during the building stage.

How did I ensure any problems were communicated? I moved to a new computer.

What actions did I take? Moved places.

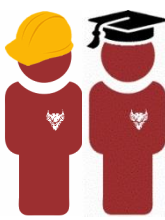
Who did I communicate this to? (Specialist roles) I communicated it to the teacher.

What discussions did I have? Was the discussion useful? Did I take any advice? I had a discussion with sir which was useful as it helped me progress.

What impact will my actions have on my project being delivered to the brief, on time and within budget? There was not much impact.



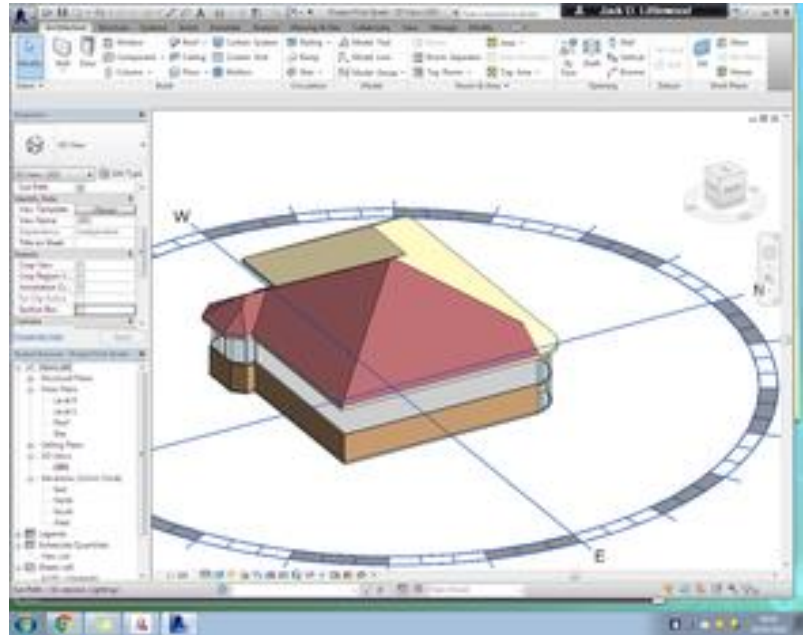
1. The candidate will be able to develop feasible proposals from needs analysis.



1.3 communicate the concept design to the project team.

1. Development of Model: Week 3

In this image we see that the roof has been added along with a Reception.



Weekly Report:

What problems did I encounter? I encountered a homework problem since my computer was very slow and couldn't load anything which set me back in work.

How and when did I find them? I found them when I was at home.

How did I ensure any problems were communicated? Well, I'm going to use a different computer at home which will work so then I complete my work in my own time and get the school work done at school.

What actions did I take? I will use a different computer to get my work done.

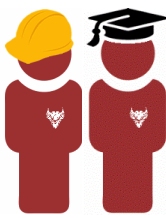
Who did I communicate this to? (Specialist roles), I communicated it to the teacher and I will complete work after school.

What discussions did I have? Was the discussion useful? Did I take any advice? I have had discussions with the teacher to complete work after school and I didn't get any advice but I know what I am doing.

What impact will my actions have on my project being delivered to the brief, on time within budget? It will slightly set me back but nothing too damaging to my work time.



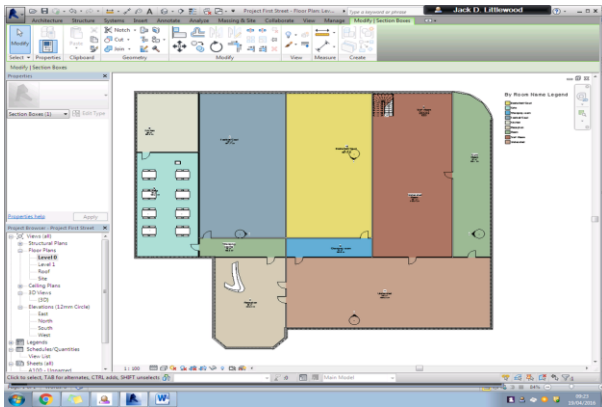
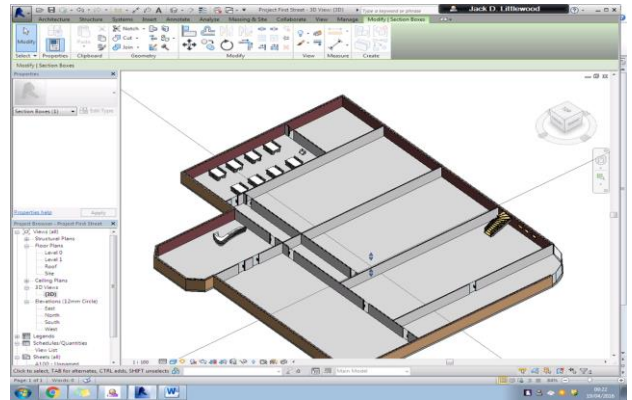
1. The candidate will be able to develop feasible proposals from needs analysis.



1.3 communicate the concept design to the project team.

1. Development of Model: Week 4

In these two photographs we can clearly see that stairs and literally one lesson later the elevator would be fitted in, we also see the development of furniture.



Weekly Report:

Today I have almost completed my stairs and elevators, I just need to get some tips online to insert and place my elevator, other than that my stairs are complete.

What problems did I encounter? I am having issues with the elevator.

How and when did I find them? I found them this week during lesson

How did I ensure any problems were communicated? I am going online for tips to fix them.

What actions did I take? The internet.

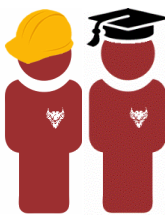
Who did I communicate this to? (Specialist roles), Myself.

What discussions did I have? Was the discussion useful? Did I take any advice? I have had no discussions but seen some online regarding them

What impact will my actions have on my project being delivered to the brief, on time within budget? It will bring a short time reduction but nothing.



1. The candidate will be able to develop feasible proposals from needs analysis.



1.3 communicate the concept design to the project team.

1. Development of Model: Week 5

No image found so just inserted the text.

04/05/2016 I have been expanding the building since I realised the measurements are incorrect so I have been adjusting the size, I have also added more furniture to the building allowing for more view of the finalised project, I will be moving the furniture around as I progress, windows have also been added and a ceiling plan is in place which will allow me to add lighting to the rooms, the ceilings will not apply to the sports rooms since they need large amounts of space. I will also be adding multiple elevators to the building..

Weekly Report:

This week I have been working on the car park, furniture and interior.

What problems did I encounter? I encountered a Revit city problem.

How and when did I find them? I found them when trying to add a model to Revit

How did I ensure any problems were communicated? I managed to correct mistakes and sort the problem.

What actions did I take? I spent time trying to fix it and researching it on the internet.

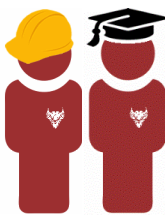
Who did I communicate this to? (Specialist roles), Myself.

What discussions did I have? Was the discussion useful? Did I take any advice? I didn't have any discussions.

What impact will my actions have on my project being delivered to the brief, on time within budget? Yes.



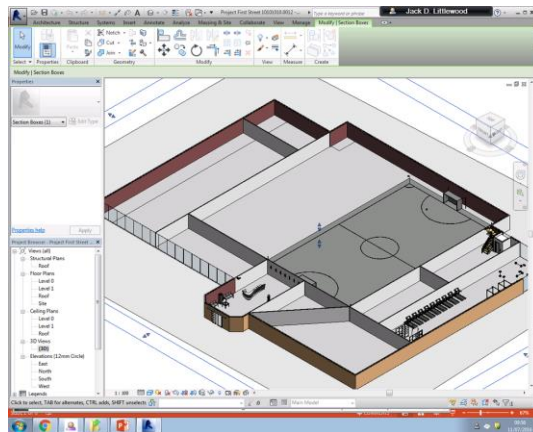
1. The candidate will be able to develop feasible proposals from needs analysis.



1.3 communicate the concept design to the project team.

1. Development of Model: Week 6

15/05/2016 I have been working more on the interior of the building which is the sports area and the gym, I have also been making my last adjustments to the expansion which will now be settled. My walkway is also completed on the reception and a column has been added there to support it. Some more furniture has been added to the ground floor, the furniture in the reception is now complete I will begin on the other areas in the following weeks.



Weekly Report:

This week I have been working on my building again extending it and adding a walkway in the building which I think will be a cool aspect for my building. I have also been working on the site plan which I have completed, I am pleased with the site plan that I have produced.

What problems did I encounter? I didn't really have any problems this week.

How and when did I find them? None.

How did I ensure any problems were communicated? None.

What actions did I take? None.

Who did I communicate this to? (Specialist roles), No-one.

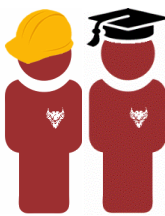
What discussions did I have? Was the discussion useful? Did I take any advice? I didn't have any discussions.

What impact will my actions have on my project being delivered to the brief, on time within budget? Yes.



1. The candidate will be able to develop feasible proposals from needs analysis.

1.3 communicate the concept design to the project team.



1. Development of Model: Week 7

01/06/2016 This week I have added the indoor football pitch and the basketball court and have made some adjustments to the building itself, I have increased the building slightly and hopefully it will keep inside the build able zone. Some more furniture has also been added to give me a visual view on where it should be placed within the building facility. I have also completed a diagram of where all my electrical, water and heat will go in my building, you will find this to the right.

Weekly Report:

This week I have been working on more of my Revit model trying to figure out the lengths and measurements of the furniture of my establishment

What problems did I encounter? I didn't really have any problems this week.

How and when did I find them? None.

How did I ensure any problems were communicated? None.

What actions did I take? None.

Who did I communicate this to? (Specialist roles), No-one.

What discussions did I have? Was the discussion useful? Did I take any advice? I didn't have any discussions.

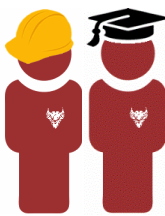
What impact will my actions have on my project being delivered to the brief, on time within budget? Yes.



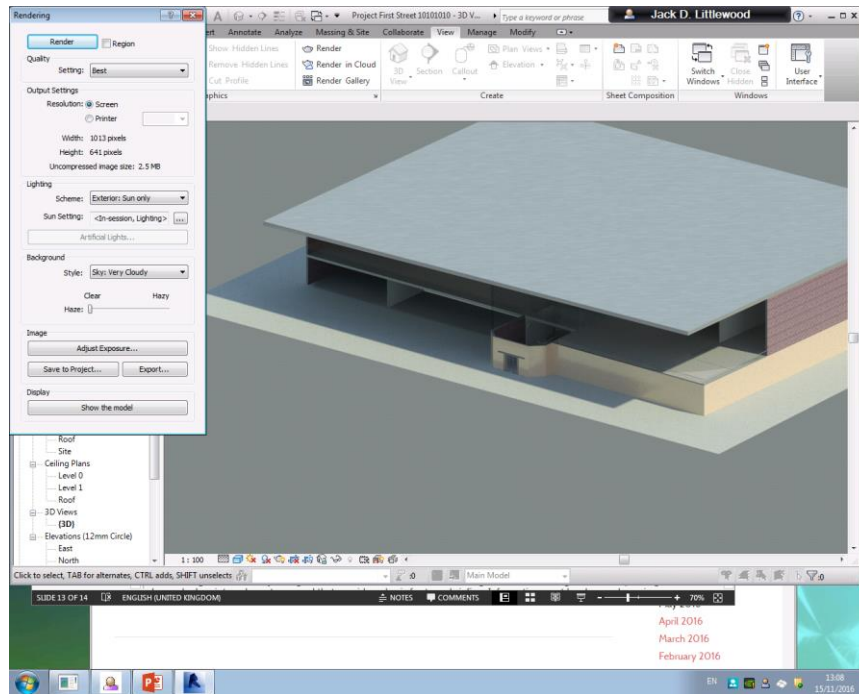
Unit 2 - Developing a sustainable construction

1. The candidate will be able to develop feasible proposals from needs analysis.

1.3 communicate the concept design to the project team.



1. Development of Model: Week 8



Weekly Report:

What problems did I encounter? I encountered a roof problem which then had to be changed to a slanted roof.

How and when did I find them? I found them this week during my Revit model build,

How did I ensure any problems were communicated? I deleted the previous roof then added another.

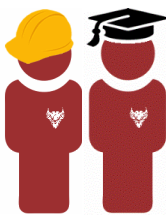
What actions did I take? Deleted the above and tried restoring earlier version which didn't work.

Who did I communicate this to? (Specialist roles) Myself and partly Sir so he could identify the issue which couldn't be resolved until he made a new one.

What discussions did I have? Was the discussion useful? Did I take any advice? We didn't really have a discussion.

What impact will my actions have on my project being delivered to the brief, on time and within budget? It was completed under 10mins which meant that no time had been lost.





1. The candidate will be able to develop feasible proposals from needs analysis.

1.4 Identify procurement options related to key elements of the project.

1. In the table below list any targets relating to the key areas including where your products and materials will come from for your building. Remember to think sustainably.

<p>Key Areas</p>	<p>Targets could relate to: What should you consider relating to the procurement of Materials? What should you consider relating to the procurement of Utilities (water/ gas/electricity)? What should you consider relating to the procurement of Services (waste/ food/ internet etc)?</p>
<p>Consumption and Production</p>	<p>I'll have a neutral consumption rate as I'll be using a lot of task lighting but also a neutral amount of natural lighting which means I will not overhaul on expenses for energy costs, I'll also be producing energy through solar panels and water systems.</p>
<p>Climate and Energy</p>	<p>Manchester is located in quite a cold climate, even at some parts of summer, that is why I'll have a big focus on the amount of rain water which flows from the building which produces energy.</p>
<p>Protecting Natural Resources (tree's, rivers, green areas, wildlife etc)</p>	<p>In my area of land there are several buildings which are no longer in use, there's no habitats which are being destroyed so from my point of view it's all good protecting natural resources.</p>
<p>Improving the community (Jobs, opportunities, facilities etc)</p>	<p>To increase the work standards of my employees in the building, for example we need natural light so it releases a chemical in the brain allowing a positive mood.</p>

2. What is Procurement?

The action of obtaining or procuring something.

3. Why is it so important to consider the social, economic and environmental consequences?

All these three consequences help determine the successfulness of the building.

