**Spreadsheet Rubric**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Category | 4 | 3 | 2 | 1 |
| All Rooms Accounted For | Every room on the blueprint is represented on the spreadsheet (all floors)  Every room’s distinct shape is represented or closely approximated.  Very clear labeling of rooms makes spreadsheet and blueprint readable. | Every room on the blueprint is represented on the spreadsheet (all floors)  Every room’s distinct shape is represented or closely approximated. | Most rooms are represented on the spreadsheet (possibly missing a significant amount of rooms from the spreadsheet) | Few rooms are represented, unclear which rooms are being represented. |
| Formulas Inputted Correctly | Formulas correctly calculate the area of the shape using appropriate cell references.  Total area for each floor is clearly calculated.  Total area for building is calculated.  Cover sheet is designed to present area, cost of design. | Formulas correctly calculate the area of the shape using appropriate cell references.  Total area for each floor is clearly calculated.  Total area for building is calculated. | Most formulas correctly calculate the area of the shape – a few errors are present. | Areas are calculated incorrectly. |
| Overall Neatness/Formatting | Spreadsheet is clearly presented and interpretable.  Each floor is clearly represented or has its own sheet.  Work can be clearly printed (one page per floor) with clear outlines of cells, highlighting of titles. Font is appropriately sized – clearly indicating titles, important information. | Spreadsheet is clearly presented and interpretable.  Each floor is clearly represented or has its own sheet.  Work can be clearly printed (one page per floor) with clear outlines of cells, highlighting of titles. Font is appropriately sized. | Spreadsheet is mostly well presented and interpretable.  Each floor is clearly represented or has its own sheet.  Work can be mostly be printed (one page per floor) with clear outlines of cells, highlighting of titles. Font is appropriately sized. | Spreadsheet is not clearly presented, interpretable.  Work cannot be printed on one page in a clear manner. |
| Peer Audited | Two or more peers has completed an audit of area calculations, filled out an online peer editing review.  Peer has audited the 15% reducing costs challenge. | Two peers have completed an audit of area calculations, filled out the appropriate online audit form. | One peer has completed an audit of area calculations, filled out the appropriate online audit form. | No peer audit has been completed. |
| Reduction Challenge – Reducing Costs (Required to Get a 4) | Calculated 20% reduction in area.  Spreadsheet indicates changes in room dimensions to meet this reduction, and successfully meets reduction requirement without jeopardizing the integrity of the building.  One paragraph description of the changes that were made to meet the reduced area requirement, how these changes affected the overall plan of the building. | Calculated 15% reduction in area.  Spreadsheet indicates changes in room dimensions to meet this reduction, and successfully meets reduction requirement without jeopardizing the integrity of the building.  One paragraph description of the changes that were made to meet the reduced area requirement, how these changes affected the overall plan of the building. | Calculated 15% reduction in area.  Spreadsheet indicates changes in room dimensions to meet this reduction, with some mistakes and/or changes that jeopardize the integrity of the building.  One paragraph description of the changes that were made to meet the reduced area requirement, how these changes affected the overall plan of the building. | Mistakes in calculating the 15% reduction in area, spreadsheet contains significant errors. |
| Overall Grade – Spreadsheets | | | | |

Instructions for making spreadsheet

1. Download “Spreadsheet Template” from class webpage.
2. Save file as “Name.AreaCalculations” onto your desktop.
3. Choose the floor to calculate the area
4. Choose a classroom to start with – list the class name, the shape of the room, and the key lengths/widths/heights of the shape.
5. Program the area of the room using cell references – not typing inputs.

Ex: Good Example “=C3\*D3\*.5” where C3 and D3 represent the base and height of the triangle

Bad Ex: “=5\*4\*.5”

1. Repeat steps 4-5 for all rooms on your floor.
2. Find the sum of the areas of your floor.
3. Repeat steps 3-7 for each floor of your building.
4. Calculate the total area of your school building by summing the areas of the floors.
5. \*\*\*4\*\*\* Create a cover sheet (in excel) indicating the total area of the building, each floor.
6. Open up the Peer Editing Form – Have a peer look through your blueprint and answer the peer editing questions. Make the changes they have indicated.

**Reduction Costs – Complete this section to get a 4. This is not required to earn a 3.**

1. Calculate what a 15% or 20% reduction of area for your total building would be
2. Copy the sheet of each of your floors and rename “1st Floor Cost Reduction”.
3. Make changes to your room lengths/widths such that area decreases, but the integrity of the building does not change

“Integrity of the building” – Classrooms can’t be reduced from 8 by 8 to 4 x 4 – no one would fit!

-Basketball courts can’t be less than regulation

-A first floor room can’t be reduced unless the second floor room above it is reduced – otherwise what would it stand on?

14. Create a cost reduction cover page (similar to the original cover page) and put in total area calculations for each floor and the building, as well as the total reduced area goal. Write a one paragraph description of what changes were made to your building, how they changed the cost, and why they do not disrupt the integrity of the building.

Final Turn In Preparation Tips

1. Adjust fonts – choose the font you think looks most professional
2. Bold titles, key areas
3. Insert borders on cells
4. Print Preview – Make sure your spreadsheet fits on one page, is presentable to be printed and submitted to an architectural committee. Make all formatting adjustments to make this presentable.