

2024 Design Competition Frequently Asked Questions

1. Q: Are teams allowed to register in more than one category of the competition?
A: Yes

2. Q: How many students can participate in a team?
A: There is no max for Setty Family Foundation Net Zero Energy Design teams but there is a max of six students per team for the other categories. Project groups should consist of at least two members from an undergraduate engineering or architecture curriculum for the HVAC Design Calculations or HVAC System Selection and at least three members (architecture or construction, mechanical & electrical) for the Setty Family Foundation Net Zero Energy Design competition. Team members can be from multiple colleges. All team members must be enrolled during the semester/term in which they contribute to the design. The Applied Engineering Challenge is for a team of 1 to 6 engineering students.

3. Q: Are graduate students allowed to participate in the competition?
A: Projects can be submitted by graduate students in the Setty Family Foundation Net Zero Energy Design category only. For the other categories, entries should originate from an undergraduate engineering or architecture curriculum and all team members must be enrolled in an undergraduate program during the semester/term they contribute to the design.

4. Q: Is a university permitted to register more than one team into the competition as a whole? For example, if I were to be a member of a registered team for one of the three team categories, but I'm also interested in the Applied Engineering Challenge while my other teams members aren't, can I partake in both?
A: Yes

5. Q: Do the page limits include appendices?
A: No.

6. Q: Can we change the orientation of the building to see how it would affect our load calculations?
A: For the Design Calculation the building is set in its orientation and will not be judged if the building is rotated. However for your own benefit the team can rotate the building to see how Solar effects the building.

7. Q: Is it possible to get the actual location of the building? We would like to explore the use of nearby waste heat opportunities to supplement our HVAC system.
A: The building location is São Paulo, Brazil and the ground information can be obtained through research.

8. Q: Are we allowed to add features to the building?
A: For the Design Calculation the building is set in its features and will not be judged if the building has additional features. However for your own benefit the team can add those feature to the building to see how they effects the building loads.

9. Q: Where can we get the dimensions of the building?
A: Teams can get the full dimensions of the building from the provided CAD drawings.

10. Q: In the drawings included with the competition information there is no site plan or information about the terrain. Would it be possible to know any information regarding the building site?
A: No site plans will be provided for this competition. For the design calculation part of the competition, the only information they need about the site is the direction the building is facing.
11. Q: Can we change the layout, i mean the interior layout of design at Setty Family Foundation Net Zero Energy Design?
A: Yes
12. Q: Do we get the weather data of São Paulo, Brazil.?
A: Yes ASHRAE provides weather data files for São Paulo, Brazil on the Design Competition website. You can also utilize the ASHRAE Climate Data Center and ASHRAE Fundamentals.
13. Q: Do we get the baseline model to compare our design?
A: The base line is the building you see in the drawings plus ASHRAE 90.1
14. Q: I would like to use revit for the design calculations competition, however only AutoCAD drawings are posted. Are there revit drawings I can use?
A: No
15. Q: What if I change the layout of interior that affects the exterior form so the building area will slightly different from given data because of interior layout change? is that permitted? For example, Let say I move the position one of the room that located in building perimeter to another position so the floor and wall will expanding or shrinking to adapt with the new layout.
A: Your team can change the interior layout of the building in the design at Setty Family Foundation Net Zero Energy Design category. Please remember to justify any changes made in your final report.
16. Q: There are no mechanical spaces mentioned in the plans of the building so, is there an available area next to the building or somewhere inside the building preferred to place the mechanical equipment such Cooling towers, Chillers and AHUs?
A: Teams can determine locations of equipment on rooftops, on grade outside building, or in unidentified spaces in building. Teams should justify their decisions in their submission. Please review the drawings and confer with your advisor.
17. Q: Can I assume required shafts to use for ductworks between floors or Should I use the only shafts already been in the building?
A: Teams should utilize shown shafts and unidentified spaces for vertical distribution. Any additional spaces should be justified as to why it was needed and why that location was chosen.
18. Q: I was wondering if we could get more details of the curtain wall? There is one material that is marked with dots but it is not in the materials symbol list. I am having trouble figuring out the material to find the R-value. It almost seems like that material could be steel because some section views say that material is steel but it just does not make sense because it is extremely thick.
A: Utilize provided drawings and details. Make assumptions as necessary and justify decisions. No additional details will be provided.

19. Q: From the drawings it is not clear the outer walls and the inner walls for the materials they are made of, so that we can calculate the U factor. Are we getting what is defined as the maximum for by ASHRAE standard 189.1?
A: Refer to elevations for wall constructions.
20. Q: In the architectural drawings provided, does the scale on the key plan show 1/4" = 1' - 0" ?
A: Refer to sheet scales and measurements shown on drawings for the individual drawings. Not all drawings are the same scale. For reference stand doors are 3'-0" wide.
21. Q: Is there a specific mechanical room designated for main HVAC equipment like AHUs, MUA, HRVs, EF (Exhaust fan), boiler, and chiller? While we noticed a mechanical room and penthouse listed in the specifications, they don't appear labeled on the drawings.
A: It is up to the design team to make educated assumptions of which spaces are to be utilized as mechanical spaces necessary and justify decisions.
22. Q: Can you clarify the ceiling height for each floor? The architectural drawing indicates a ceiling height of 9' - 9" on the second level. We're trying to determine the available height before a potential drop ceiling. Additionally, will the ceiling be left exposed or will there be a drop ceiling or ceiling tiles? The absence of an RCP (Reflected Ceiling Plan) leaves us unsure about the ceiling type.
A: Reflected ceiling plans are not available. Design team to make assumptions on ceiling height from the elevations and justify decisions.
23. Q: Is there a specific shaft allocated for AHUs or MUA? Should we incorporate a shaft for the SA/RA duct?
A: It is up to the design team to make educated assumptions of where to run ductwork and justify decisions.
24. Q: Do we have to perform monetary calculations on the mechanical budget, life cycle costs, utilities, hours of operations, and energy consumption?
A: A low level of detail life cycle cost is only required for System Selection and not Design Calculations.
25. Q: Question: I hope this email finds you well, I am writing to seek clarification regarding the spaces mentioned in the plans for the upcoming competition. Specifically, I have a question regarding the "Communication Closets" and "Community Spaces" listed within the spaces type and temperature schedule. I noticed that in the expected hours of operation, there is a room labeled "Community Spaces." However, I also came across a separate mention of "Communication Closets" in the spaces type section. I would like to confirm whether these two terms refer to the same area or if they represent distinct spaces within the plans.
A: A communication closet is a small room for internet and phone lines and their associated equipment. Would fall under IT Closets. Community spaces are open shared spaces.
26. Q: If the "Communication Closets" and "Community Spaces" are indeed different areas, I kindly request you to provide me with the corresponding codes or designations for each category. Having a clear understanding of these spaces is crucial for me to accurately interpret and work with the plans.
A: A communication closet is a small room for internet and phone lines and their associated equipment. Would fall under IT Closets. Community spaces are open shared spaces.

27. Q: Do we have a specific composition of the Limestone rain screen cladding & carrier board because there are many different u values from different manufacturers, or do we choose one from a manufacturer and write the assumption down in the report?

A: It is up to the design team to make educated assumptions about materials and justify decisions.

28. Q: I have a question about 2024 design competition building (library in Brazil) After studying the project and making some logical assumptions we've reached to a relatively accurate calculations especially for the electrical load calculations, so can we take any elec. room and use it as mechanical room for HVAC equipment after we have found that the electrical load of the building could be distributed to a fewer elec. rooms than appeared in the drawing?

A: Make assumptions as necessary and justify decisions. No additional details will be provided.

29. Q: I would like to know what is the purpose of the space left in blank (shown in gray) around ASRS1, STOR-018 and TELECOM-019?

A: This is the bottom of the elevator shaft.

30. Q: There is a wall (shown in black) right next to the space previously mentioned in the last question and beside ASRS1, what is the purpose or function of that specific area?

A: This is a mechanical chase.