AE 482 Questions Questions Questions . . . .

The original version of this document was prepared by Dr. Riley. It has been modified over several years by including some additional tips from Professor Holland, MKP and other faculty.

The Q and A session will *make or break* a presentation. Good presentations can fall apart, and poor presentations can be salvaged. Some typical questions and issues:

Other systems that were "impacted" or disturbed by the student's primary work. Faculty want to know if student checked and resolved if necessary any negative or potentially negative impacts.

> Adding cooling tower to roof. Did you check to see if roof can hold new load? What are the architectural aspects of such a change? Is a screen wall necessary or appropriate?
>
> Change glazing: Impact on heating/cooling load? Will the glazing impact the aesthetics or architectural appearance of the building? Will it become a different color or a mirror?
>
> Changing from steel to concrete. Did you determine impacts on the foundations, if any?
> Value Engineering, Did you really evaluate the performance or engineering basis of the substitution or was your change just a way to cut the cost? Does your performance evaluation include schedule, the aesthetic impact, and other architectural considerations?

New systems saved a bunch of energy

> Mechanical students are often asked about electrical/energy issues)
> Did you determine if that reduction in energy (or equipment) would permit a corresponding reduction in the electrical load on the building?
> Is there space in the building (equipment room, interstitial space etc.) for the new systems? If you added or converted space, what is the cost of that space?

You made physical changes . . .

> Did you check impact on architecture of building? Did you add/remove usable space?
> If you made a façade change or façade material substitution, did you prepare an elevation drawing or 3D model to show the impact on the architecture?

My system saves money. . .

> Does that apply to first cost only or life cycle costs?
> What interest rate, inflation rate etc. did you use in life cycle cost analysis etc.
> Did the savings sacrifice any quality or performance issues?

Your system is more expensive than the existing?

> If so, what did you get in return? Higher quality? More comfort? Durability? What is the payback period?

Option Questions_____

Construction:
How did you get your costs for comparison? (More than one source is preferred such as using means and then checking with a contractor and/or supplier.)
How does your analysis compare to the owner's cost/time/quality goals for the project?
Did your value engineering provide equal or better value in terms of the component or system or just a lower price? Was there a positive or negative impact on the schedule. What was the impact on the architecture or design aspects of the change? How did you determine equivalent value or performance?

Electrical/Lighting:
First cost impacts vs. life-cycle cost impacts of your changes? Aesthetics / architectural impacts?
Controls? Auto shut-off considerations?
Did you consider the occupancy schedule of the facility? (Savings from day lighting may be diminished if your facility operates all night long and needs the conventional fixtures anyway.)

Mechanicals:
How is your system controlled?
Can it be constructed? Is it complicated to maintain and operate?
Did your cost estimate consider maintenance and replacement costs?
Is dependability a requirement at any cost, and if so, what did you do to provide backup?

Structures:
Did you check deflection, vibration, and performance issues includinig acoustics where appropriate?
Where did you get your values for allowable deflection and drift? Where did they get those same values?
What assumptions did you make in the distribution of lateral forces?
Did you consider performance and serviceability issues in addition to strength?

Hints

You control the presentation within the time limits. Select carefully what you want to put in and what you want to leave out. Customize the content to your goals for the presentation. (Overall awards tend to go to those who demonstrate reasonable to good breadth work in addition to excellence in their depth area.)

If you don't understand a question, ask for it to be repeated or rephrased.

Answer Questions direct and to the point.

The jury hates it when someone talks on and on and doesn't really answer the question. They also don't like it when you use one question to lead into an unrelated area just to find time to get extra presentation time. Sometimes it may be a legitimate lead in, but look before you make that leap. If you don't know the answer, say so. Don't try to bluff. Don't panic if confronted with difficult questions or questioner.

Be sure you have a good general knowledge of the existing building, materials, systems, construction etc.

You have worked on the building for an entire academic year and the jury expects that you know it inside and out. Review all your existing conditions. They are fair game in the questioning.

Open doors for questions you want to be asked about

You can help determine what questions you are asked by covering something only briefly! But make sure this doesn't come across looking like something that you just barely worked on.

Leave other doors unopened

Don't say that acoustics was an issue in this auditorium design and then not talk about it. You may be questioned on why you didn't explore an item that you obviously recognized as an issue.

Be prepared for general questions about the experience

What was the most crucial part of your analysis? What was the most valuable thing you have learned from this experience? If you encounter the same conditions or problems next year with your employer, are you better prepared to respond or make recommendations?

Has the thesis made you think about ethical considerations? What if you found a significant error in a design when you start your first job after graduation (say your boss's design)? How would you address that?

Balance confidence with modesty

Be sure of yourself, but also in touch with your limits.

Be careful with humor

Can you be credible and still be entertaining?

Watch all live demonstrations and interfaced programs.

No matter how many times you practice, these things have a way of not working just when you need them. Be prepared with a backup or another way of presenting any really critical part of your work that relies on audio / video / computer technology.