



# **The ACE Mentor Program of Greater Charlotte**

**2020 – 2021 Academic Year**

## **DESIGN COMPETITION PACKAGE**

*“When something is important enough, you do  
it even if the odds are not in your favor.”*

– **Elon Musk**, Electric Car Manufacturer

**A PARTNERSHIP PROJECT WITH THE  
ACE MENTOR PROGRAM OF AMERICA**

**And**

**Chicago Architecture Center**

**2021 CIRT NATIONAL DESIGN & CONSTRUCTION COMPETITION CUSTOMIZED FOR  
ACE CHARLOTTE 2020 - 2021 DESIGN COMPETITION PROGRAM**

## PROGRAM SPECIFICS

- *Program Schedule:* The design annual event is announced in the early fall and officially begins in January, concluding at the ACE Mentor of Charlotte's Spring Banquet, tentatively scheduled for **Early May**. Date will be confirmed closer to the banquet.
- *Design Approach:* The true goal is to judge the ability of the students to make a reasoned, coherent, well thought out, clear presentations on their team's design/construction approaches within the project's objectives and/or constraints, etc.
- *Awards:* ACE Charlotte teams are in friendly competition for the ACE Cup, which is awarded to the school/team selected by the judging panel at the conclusion of the Spring Banquet event. Additional awards may be considered, such as '*judge's choice*', '*best of engineering*', '*best of architecture*' and '*best of construction*', dependent on number of submissions and applicable proposals. ACE Charlotte Awards are independent of ACE National Awards for the 2021 CIRT National Design & Construction Competition
- *National competition:* The challenge below is eligible for the 2021 CIRT National Design & Construction Competition. If you wish to submit for the national competition, please let your Mentor Liaison know and note that final submissions have an earlier deadline of **March 17th, 2021**. Additional requirements as appl. See 2021 CIRT National Design & Construction Competition. See link for details. <https://www.acementor.org/design-competition/>

# 2021 PROJECT RFP

## Design Challenges for 2021

### Homeless Shelter:

Create a functional, modern, welcoming homeless shelter that addresses the various needs of its occupants (health, safety, treatment, nourishment, etc.)

### Manufacturing Center:

Plan, develop, and create a local site/hub to attract manufacturing/supply chain resources to meet the needs of the United States.

### Retrofit a School:

Reimage, retrofit, or otherwise redesign and construct entire or portions of a school to meet the health, safety, and social needs in our current and/or post pandemic communities.

### SPECS for Project Options/Challenges (select one RFP for the competition):

#### **OPTION 1: Manufacturing Center/Zone**

Plan, develop, and create a local site/hub or zone to attract manufacturing, supply chain resources or other like elements to meet the needs of the United States to recapture or reclaim its competitiveness in the global market. As the nation begins the process of recovering from the COVID-19 pandemic and shutdowns, what has become apparent to many is the necessity to bring back “on-shore” the lost capacity and assets to secure vital supply chain elements to our most important products and services. To accomplish this paradigm shift will take the design AND construction of modern, multi-model, accessible, energy sufficient, and worker friendly areas or zones where manufacturing facilities or hubs can rise to meet the challenge. Part of this development will mean connectivity and community through the application of ingenious planning, design, AND construction solutions. This project option calls upon the teams to delve into rethinking how we apply our assets to bring about a renaissance in manufacturing and jobs on U.S. soil. Critical to success teams must demonstrate: (1) the paramount importance of your site selection [before vs. after site development], (2) the critical elements to undertake your plans, (3) how use of materials/construction creates the necessary attraction or value to your site, (4) balance of functionality and design, (5) environmental impacts, security, and construction approaches, and (6) provide a cost estimate (per foot) to address the needs that is realistic and doable for the resources/financial support likely available in the locale. Due to the likely displacement and logistical problems this project will create in a community, the proposal MUST include the precise CONSTRUCTION steps, stages, demolition, and remedies for these problems.

**OPTION 2: Homeless Shelter**

Create a functional modern welcoming homeless shelter that addresses the various needs of its occupants such as: medical/health, safety/security, hygiene, nourishment, drug/alcohol treatment, etc. The challenge is to apply design AND construction techniques or applications that will create an inviting environment that will attract the indigent and homeless to abandon their nomadic or street existence for something more nurturing and secure found in a homeless shelter. The teams are encouraged to think outside the box and propose creative solutions to this vexing problem. The entries must connect or capture in the “built environment” (including structures, landscaping, building materials, techniques, and overall presentation) as the elements of a successful homeless shelter. The proposal must determine the site selected (a critical element and why), the size of the undertaking (both in terms of structures, land use, and access) [Provide before vs. after site development]; as well as provide a CONSTRUCTION timeline and per/sq. foot estimate of the cost of delivering the project. [The cost estimates must be realistic and doable for the resources/financial support likely available]. The entry should strive to be a catalyst or model for use around the country to address the issue of homelessness on our streets. **Project must be located in the vicinity of Uptown Charlotte. Ideally this project would be located near Social Services and Public Transportation.**

**OPTION 3: Retrofit School**

Reimage, retrofit, or otherwise redesign and re-construct areas or portions of (and possibly entire) schools to meet the health, safety, and social needs in the current AND post pandemic environment. With the rise of concerns and debate around reconvening in-person school attendance (at the elementary, secondary, and college levels); a heightened awareness and need to reimage or rethink indoor educational spaces has become paramount. In this spirit, the entry must use construction materials and approaches that will provide spaces that will balance, comfort, and/or calm fears or concerns regarding reasonable health concerns; so that proven in-person educational instruction, as well as the other ancillary valuable social exchanges critical for mental health and wellbeing can transpire and be achieved. The team entries must demonstrate: (1) the precise aspects or areas of your applied solution (i.e., what portions of the school and why you chose them), (2) how use of materials and construction solutions address the challenge, (3) balance of functionality and design to achieve the project goals, and (4) provide a cost estimate (per foot) to accomplish the needs in a realistic and doable way consistent with the resources/financial support likely available in the locale. [The proposal MUST also include the precise CONSTRUCTION steps, stages, and remedies for this challenge, with any demolition or other pre-retrofit work described and detailed]. **Any school with the Charlotte Mecklenburg school system can be utilized. The project also be a temporary, prefabricated solution that can be located adjacent to or on the campus of any school, or be adaptable to be used at any school.**

## DESIGN PROCESS

The following questions are representative of the type of information that would be expected along with the design concepts, renderings, etc. The narrative summary provided with the design solution should address the questions below. (**Please note:** Jurors will carefully consider your replies to these questions when evaluating your overall project as they work through your design solutions.)

*Question A:* Define and/or describe the problems/challenges you faced when deciding on the design project you chose to do for the competition.

*Question B:* Thoroughly describe your process, in writing and through visuals (e.g., sketches, renderings, stepped process, before and after, budgets, timelines, workflow, etc.) that specifically and realistically meets the PRECISE or exact nature of the challenge and/or the client goals/needs.

*Question C:* Explain how your approach is an appropriate, innovative solution that *realistically* responds to the precise design competition problem. Explain how your design is different from other approaches or processes, if such is the case; and/or meets budgetary constraints, timeline issues or other challenges. (For example, is any part of your project going to be constructed with prefabricated elements?)

*Question D:* Describe any social/ecological or otherwise beneficial qualities of your design solution. (For example, is it a universal design? How? Is it environmentally friendly? Does it use cost-effective or recyclable materials?)

*Question E:* Describe what you learned from this design competition.

## BANQUET PRESENTATION - REQUIRED DELIVERABLE

**1. Teams to provide a 5-minute max promotional video – *Convince the judges, family members, and peers to visit your project!!!***

**Team Video should include the following:**

- A. Introduction (Schools, team name (if applicable), presenters names)
- B. Which project did you select, and why?
- C. Which site did you choose and why?
- D. Project Narrative (See Narrative section below)
- E. Design Process (See questions A – E in Design Process section above)
- F. The response to the RFP should include solutions to include architectural, engineering and construction solutions.
- G. Include Imagery/ hand sketches/ renderings (if pictures are not yours, provide references)
- H. Provide construction cost/budget as well as estimated construction timeline
- I. ACE Charlotte encourages presentation to include pictures of your teammates working on ACE activities throughout the year. This could be pictures provide by students as they work from home or screenshots of virtual meetings.

## 2. Presentation Boards (PDFs)– 22" x 34"

- A. Maximum of two (2) presentation boards are allowed per school/team.
- B. Boards can be used in 5-min video presentation.
- C. Submit boards to Mellissa Oliver by **April/May**. Exact date TBD
- D. The ACE National deadline for boards is **March 17, 2021** if participating. See link for details.  
<https://www.acementor.org/design-competition/>

The *presentation boards* must be clear, concise, complete, and well thought out with sufficient and compelling information to stand independently from any written narrative or report. **[The judges are looking for clarity, understandability, constructability, completeness, flow of ideas and how the proposed solution realistically and fully meets the challenge].**

A brief written explanation describing something about the context and thinking behind the scheme should be included on the board(s). Photographs (of the site, 3D model, etc) may be mounted or scanned on to the displays. No specific drawings or scales are prescribed, but the presentation must convey the ideas underlying the design, its overall forms and spaces, its character and atmosphere.

## 3. Narrative

The narrative should address the project and site specific design concept, proposed solution and constructability means and methods.

- A. Limit narrative size to half a page and a single paragraph (approximately 4-6 sentences).
- B. Include a Project Title/Team name along with the narrative. Can be a catchy phrase or sentence.
- C. Submit boards to Mellissa Oliver by **April/May**. Exact date TBD
- D. The ACE National deadline for boards is **March 17, 2021** if participating. See link for details.  
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## 4. Model (Optional)

- A. The architectural model should communicate the design ideas of the students. The model is not required to be physical, but needs to clearly communicate the design + construction aspects of the student's project.
- B. A school / team may produce both a digital and physical model if they desire. If a physical model is created, photos should be included in the video presentation.
- C. Example software includes SketchUp (free), homestyler (free), Autodesk Revit and others as students wish to explore.

### **ACE Charlotte Submission Requirements:**

1. **Submission Date – TBD. Targeted for April / May**
2. Teams will receive a link to upload their 5-min video, presentation boards, and narrative prior to Banquet.
3. Teams are free to use any method they would like to for video recording. It can even be a PowerPoint presentation with a voice over.
4. If the video is over 5 minutes, it will not be reviewed, and you will be disqualified from the competition.
5. Any students presenting in the video, or who are in any submitted photos are required to have a parent consent form to be on file on ACE Database.

### **ACE National Submission Requirements:**

1. This ACE Charlotte Design Competition Program has been modified from the original 2021 CIRT National Design & Construction Competition Program but provides the same design requirements to submit for ACE Nationals.
2. ACE National Submission Date is March 17.
3. Teams have the option to submit for the 2021 CIRT National Design & Construction Competition and will have full support from the ACE Board.
4. Review the additional submittal dates and other requirements on the ACE Website <https://www.acementor.org/design-competition/>
5. Inform your Mentor Liaison (Mellissa Oliver) if your team plans to submit for the 2021 CIRT National Design & Construction Competition.