



**Competition Program for  
The AEI Student Design Competition**

August 26, 2014

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## Introduction

The Architectural Engineering Institute of the American Society of Civil Engineers is pleased to announce the AEI Student Design Competition.

The emphases of the competition are the integration of the engineered systems and construction management plan for a high performance building; collaboration; competition; and peer review, all of which are critical to building design and construction. Students are encouraged to work together in multi-disciplinary teams and consider how the engineered systems enhance the architecture of the building. Through the competition process, it is anticipated that students will demonstrate the knowledge and skills that will make them valuable building industry professionals. The challenging conditions specified for the competition will encourage the participants to think creatively and provide innovative solutions.

The competition is open to both graduate and undergraduate students in accredited architectural engineering programs and programs actively seeking accreditation by EAC/ABET. Students that are not enrolled in an accredited architectural engineering program or programs actively seeking accreditation by EAC/ABET may be members of the team but may not be the team leader. Teams from architectural engineering programs that are not accredited will be allowed to partner with students in an accredited architectural engineering program. Each team shall be supervised and advised by a faculty advisor or team of advisors. Submissions are to be entered in the building systems integration category and additionally one or more of the following four categories: structural systems design; mechanical systems design; electrical systems design; and innovative construction management and construction methods.

## The Challenge

The competition will challenge students to address the design, integration, and construction issues that must be considered for an urban commercial farm housed in a five story building with a basement area consisting of approximately 50,000 total square feet.

The project is more than a vertical urban farm. The Growing Power organization has become a national leader in providing neighborhood-based sustainable agricultural education. The building fills the need for space to support production, classes, meetings, meal preparation, offices, and on-site warehousing while serving as a model of ecological sustainability.

*Growing Power has a vision to inspire communities to build sustainable food systems that are equitable and ecologically sound, creating a just world, one food-secure community at a time.*

The building will include greenhouse spaces for a variety of plants, vegetables and herbs and hydroponic tanks for raising fish. The building will also be used as a training center with educational classrooms, a demonstration kitchen, food processing, and storage freezers. The building will include a retail space and a community kitchen. The concept includes a gathering area able to accommodate over 400 individuals on the second floor.

General information concerning this project can be found on the following websites at:

<http://www.growingpower.org/verticalfarm.html>

<http://www.tkwa.com/growing-power-vertical-farm/>

*“The decline in arable land, ongoing global climate change, water shortages and continued population growth could change our view of traditional farming from soil-based operations to highly efficient greenhouses or urban farms.”*

- ALLEN WASHATKO, TKWA

The submittals should address the following challenges:

1. Construction, design issues and life cycle cost concepts related to a high performance building that addresses the desire of the owner to have a portion of the building that would be able to be sustainable and strives to meet sustainable energy, emissions, water and waste goals. The teams are encouraged to address possible ideas to make the project as sustainable as possible in all disciplines including incorporation of renewable energy concepts, long term durability and future use of the facility.

In the Energy Independence and Security Act of 2007, section 401, a high performance building is defined as follows:

The term 'high-performance building' means a building that integrates and optimizes on a life cycle basis all major high performance attributes, including energy conservation, environment, safety, security, durability, accessibility, cost-benefit, productivity, sustainability, functionality, and operational considerations.

2. Consider the architectural and engineering solutions that would be required to modify the prototype building to be built in an alternate location. The first alternate location that the owner is considering is an urban site in Miami.
3. Teams shall also provide more in depth details demonstrating the integration of the systems required for operation of the vertical farm and greenhouses.

## Project Guidelines

The emphasis of the competition is the development and integration of innovative and original solutions to the design challenge. Teams should concentrate on communicating the design decisions and solutions made by the team and provide the design development calculations and details of these elements to support these decisions.

The project is located at 5500 W. Silver Spring Drive in Milwaukee, Wisconsin on a historic two-acre farm on the edge of the city of Milwaukee. The building is the first of a prototype structure that may be implemented and adapted to other urban areas across the nation.

Five stories of south-facing greenhouse areas will allow production of plants, vegetables, and herbs year-round. Expanded educational classrooms, conference spaces, demonstration kitchen, food processing and storage, freezers, and loading docks will further support Growing Power's expanding mission as a local and national resource for learning about sustainable urban food production. Administrative offices, volunteer spaces, and staff support areas will be closely connected to greenhouse and educational areas to allow for active observation and participation.

The Vertical Farm will provide a year-round indoor retail space in addition to an outdoor market for selling produce, meat, worm castings, and compost to the community. In addition, the Vertical Farm will become a community gathering place for work, learning, and social activities.

Water is an important part of daily life at Growing Power. Water fills the hydroponic tanks for raising fish and is essential for growing a myriad variety of plants, vegetables, and herbs. A closed loop of water and nutrients circulates throughout the building; fish wastes are used as food for plants, while plants clean and filter the water for fish.

The building shall be designed to integrate and optimize on a life cycle basis all major high performance attributes, including energy conservation, environment, safety, building

security, structural and material durability, accessibility, cost-benefit, productivity, sustainability, functionality and operational considerations.

Sustainability and energy efficiency are key goals of the project. As such, the building enclosure and greenhouse system are likely to play a major role. This is a team and integration goal which includes a structural support component of designing and detailing appropriate gravity and lateral support components and details for the greenhouse enclosure. All aspects of the enclosure or façade system should be considered from a design and integration perspective, including daylighting analysis and controls, energy considerations and aesthetics. A representative example is acceptable for the submission.

The existing building systems design is to be considered as known information for the competition project. Students should not submit a design that is the same as, or a minor variation of, the existing system without the inclusion of substantial analyses of other possible solutions and written justifications for keeping the original solution.

The width and depth of the building may vary when adapted to other urban locations.

The structural design shall consider integration and support of the greenhouse systems using an economically feasible solution that can be adapted to additional sites across the nation. The integration of the structural system with the mechanical and electrical systems for this building is critical. The teams may explore alternative vertical framing configurations to allow for less columns in the gathering areas.

The mechanical design submittal should address potential solutions for the many different occupancy types of the vertical farm. The systems should address both the needs of the Milwaukee location, but provide flexibility for easy adaptation to other locations. The mechanical systems should work with and compliment the other engineering disciplines and architecture. The mechanical design should provide, for the entire building, a level of detail demonstrating the basic design intent for HVAC (heating, ventilation, and air conditioning) systems, plumbing design (including the storm water design), fire suppression systems, and potential renewable energy sources. The economic impacts of the major mechanical design decisions should be evaluated

throughout the design to stay in line with the design intent and the team's construction budget.

Electrical design shall be developed to a level of detail similar to the other building systems. Electrical design shall be developed enough to show basic building power distribution, lighting design, fire alarm system infrastructure, and data/security infrastructure. Drawings could include, but would not be limited to power, lighting, specialty systems, technology, security, and power/special systems infrastructure diagrams. Electrical power systems and associated infrastructure shall be sized to support the expected tenant and operational needs of the building. Innovation and sustainability shall be taken into account in the electrical design. An economically viable life-cycle cost and other pertinent justification must be given for innovative and sustainable design features included in the electrical system. Like the mechanical system, the electrical system should reflect the different design requirements that would be indicative of the many different occupancy types of the vertical farm. Any design aspects incorporated into the electrical system should be easily adaptable to other locations outside of the Milwaukee location; minimal changes should have to be made to the electrical system if the owner decided to replicate this building in a different geographical location.

Teams must consider and discuss a strategy to address the safety, constructability concerns, site management, and jurisdictional requirements that are specific to construction in this location. Project delivery methods, site logistics planning, project phasing, scheduling, and sequencing are all critical components of this project. Submittals shall demonstrate the life-cycle cost justifications especially as they relate to cost impacts in selecting systems, materials, etc.

Each team is asked to identify key constructability challenges and address how the team would address these challenges in their submittals. Teams shall provide a budget for the owner for the design and construction of the project focusing on both the short term and lifetime cost-benefits of the design solution.

For the purpose of the competition, design teams will be preparing written reports and presenting to a team of professionals who represent the building owner and design



team. These professionals may include representatives from the Growing Power Foundation and the schematic design team in addition to architects, engineers and other individuals who work in the architectural engineering field.

Space programming for the new building is shown on the schematic plans that will be provided to registered teams. The supplied plans, models and program information may be modified based on the concepts of the design submittal. The intent of the architectural programming as shown in the schematic drawings shall not be modified by eliminating spaces. The exact final dimensions of the building shall be determined by the project team. Actual zoning requirements for the site must be followed.

A geotechnical report will be provided to registered design teams for this site. The competition foundation design may differ from the system chosen for the original structure with consideration of the wind and seismic performance and design goals for this project.

The architecture, including the façade configuration, may be modified and the floor plan can be slightly rearranged, but the gross square footage should be maintained. For any room size changes and significant plan changes, teams shall provide appropriate rationale and justification combined with sensitivity to the program and architecture of the provided preliminary design documents.

Teams will be forwarded schematic electronic drawings including site information, and a geotechnical report upon registration. Additional information may be provided to all registered teams during the project.

## Code Information

It is the responsibility of the design teams to research and apply the proper design codes as applicable for the local building department as of August 1, 2014. Information concerning local building codes can be found on the City of Milwaukee Department of Neighborhood Services website ([city.milwaukee.gov/permits](http://city.milwaukee.gov/permits)).

<http://dsps.wi.gov/Default.aspx?Page=80b145e2-4b29-46f9-a7aa-047009b0342f>

For the alternate location of Miami, Florida building codes can be found on the Florida Department of Business and Professional Regulations.

[http://www.floridabuilding.org/bc/bc\\_default.aspx](http://www.floridabuilding.org/bc/bc_default.aspx)

Student teams are asked to submit any additional questions regarding the design or building codes as RFI's and not to contact the building department and officials directly. Student teams are permitted to incorporate industry practice recommendations or industry standards that are not included in the specific building code for this project. Teams shall justify the incorporation of such standards using rational methods and indicate how the standards were specifically applied.

## Eligibility

The competition is open to both graduate and undergraduate students enrolled in the accredited architectural engineering programs and programs actively seeking accreditation by EAC/ABET. Each team shall be supervised and advised by a faculty advisor. Students that are not enrolled in an accredited architectural engineering program or programs actively seeking accreditation by EAC/ABET may be members of the team but may not be the team leader. Teams from architectural engineering programs that are not accredited will be allowed to partner with students in an accredited architectural engineering program.

It is anticipated that teams will consist of 2-3 students per category and teams may include a maximum of ten participants. A team leader shall be designated as the point-of-contact for the purposes of the competition and shall be responsible for all correspondence and submittals. The team leader shall be a graduate or undergraduate student in an ABET-accredited architectural engineering program. The other members of the team may be graduate or undergraduate students in other departments, schools, programs or universities. Participants are limited to competing on only one team and teams are prohibited from using help from students not officially listed on the team. All team members shall have student memberships in AEI. There is no cost for AEI student memberships and applications are available at

<http://www.asce.org/aei/student-membership-enrollment/> .

There is no limit to the number of teams that each program may register and have participating in the competition process. There is no cost to register a team. However, each program is required to limit the number of teams submitting final reports and projects to the competition jury to two teams. If a school has more than two teams registered, the determination of which two teams will submit their final reports and projects to the competition jury is at the discretion of each individual school program and the associated faculty advisors. Each team submitting a project to the competition must be working on their own unique design solution. The team project submittal must include the integration category and one or more additional categories as described in the required submittals section.

In addition, each team leader must be a member of an AEI student chapter in good standing. In order to be in good standing, the AEI student chapter must provide current contact information and submit a chapter report as required by the AEI Student Bylaws.

The official list of team participants shall be submitted at the time of registration and confirmed at the time of the competition final submittal. Any changes to the team composition, at any point in the competition, must be justified, submitted in advance in writing and approved by the AEI competition committee.

## Faculty/Professional Responsibility

The entries are expected to be the students' own work under faculty supervision and advisement. Faculty and/or professional consultants shall not directly participate in the design work. The extent of faculty and/or professional consultant involvement shall be limited to answering questions, providing references, general guidance, and providing general feedback, as would be expected for a capstone design project. Individual schools and/or programs may offer course credit for participation in the competition.

It is anticipated that the teams will have meetings on a regular basis with their faculty advisor starting as soon as August 2014. Teams should have several key submittals to their faculty advisors and peers throughout the project. It is anticipated that the student teams will work on preliminary designs in the fall semester and present their preliminary designs for peer review to their faculty and fellow students in January or before. The teams will work on the design development submittals for electronic submission by February 11, 2015 to the competition committee for review by the judges. Finalist teams will be selected based on these electronic submissions, and teams will be notified by February 27, 2015. All finalist teams may continue to work on their projects after the electronic submission in anticipation of possible selection as a finalist team and in preparation for the finalist presentations. It is recommended that finalist teams present their projects to their faculty advisors and peers prior to the finalist presentations to the judges.

## Required Submittals

A single combined and integrated report including all categories entered with additional supporting submittal documentation for each category is required as outlined below.

1. A building integration design development submittal of the interactions among the key aspects of the architecture, the engineered systems, and the construction. This submittal should address the rationales for the trade-offs and choices made to arrive at the proposed design/construction solutions and reflect the team integration organization and process in addition to the final results.

The submittal report must also include a section for each discipline area that the team enters in the competition in one or more of the following categories.

2. A design development submittal for the structural systems (foundation, walls, lateral, floor, and roof framing systems).
3. A design development submittal for the mechanical systems (HVAC, plumbing, and fire protection systems).
4. A design development submittal for the electrical systems (power, lighting, and related systems).
5. A construction development submittal that focuses on innovative construction engineering, construction management and construction methods focused on integrated design/construction teams, including delivery method, preliminary project planning, budget and schedule.

It is recognized that the level of detail and information that is included in design development submittals can vary greatly. It is also not the intent of the competition to provide a prescriptive list of items to be submitted for each area. Therefore, submittals should be developed to the level that communicates the design intent while demonstrating that the solutions have been thoughtfully developed to the point of at least proof of concept, are innovative, of high quality, are code compliant and are realistic and functional within the scope outlined in the competition requirements. Consultation with faculty advisors and outside industry professionals is encouraged to develop an understanding of the requirements and purpose of the design development submittal.

Please note that information does not need to be repeated in multiple sections and that teams are allowed to cross reference between their various sections of the report and with the supporting documentation and drawings.

The entries are expected to be submitted in electronic format (.pdf files). All entries shall include a cover page, table of contents, executive summary, and summary narratives for each category in one document. Supporting documentation and drawings may be submitted for each category in separate documents. The size of submittal files should be limited to approximately 30 MB. Submittal documents may be divided into separate files for the purpose of submittal. Students are encouraged to use readily available graphic and image compression techniques to manage large size drawings, graphics and renderings contained in the electronic submissions.

**Each team is required to include the integration category in their submittal.** The submittal report shall include the following items.

1. Cover page identifying AEI assigned project team number and submission categories entered
2. Table of contents
3. Executive Summary for the entire project and a statement concerning the project goals and requirements. (**1 page maximum**)
4. A Summary Narrative for each category (**15 pages maximum for each category – 8.5" x 11" format**) Students entering all categories would have a maximum of 75 pages of narrative; 15 pages for each of the integration, construction, electrical, mechanical and structural sections. Narratives should include:
  - a. Statement of goals
  - b. Narrative description of systems/solutions
  - c. Rationale for system selections and solutions

Narratives may include some graphics such as charts, graphs, renderings, models and partial plans or details. However, it is recommended that large or full scale plans are not included in the narrative section of the report submittal

Additionally, the following may be submitted as supplemental or supportive documents in each category.

5. Supporting Documentation (***20 page maximum for each category***)
  - a. Applicable codes and standards
  - b. Design criteria, methodology, and assumptions
  - c. Calculations and supporting documentation
  - d. References and Resources
6. Drawings (***10 page maximum for each category up to a 30x42.pdf format***)
  - a. Plans, sections, and elevations
  - b. Typical details and/or details to highlight design elements
  - c. Rendered views of project and/or design elements and systems
  - d. Related large format schedules and/or tables

Judges will focus on, but not be limited to, the executive summary and summary narrative portions of the submittal during review for determination of the presentation teams. It should not be expected that the judges will do an exhaustive review of the supporting documentation.

Each entry shall include the team registration number on all submittal items and pages. **Please DO NOT include team member names or school identification marks on submittals.** However, the team member names must be verified with AEI staff and the competition committee at the time of the submittal.

The teams that are asked to present at the finals for the competition shall prepare an electronic presentation as a minimum. Electronic format information and limitations will be provided at the time of finalist notification. Teams are encouraged to provide any other supporting materials to the judges that will help demonstrate how the challenge was addressed.

Prior to the beginning of the first team presentation, all teams shall submit a USB disk drive with a final copy of their electronic presentations, the written submittal document and supporting documentation and drawings. The electronic copies provided shall be the same version used during the actual presentations. Teams will not be allowed to edit their presentations after the USB drive is submitted. Additionally teams are asked to



provide, three PowerPoint slides representative of their final work for **each** submittal category for display and other purposes during the conference.

Team member names and school identification marks may be used during the final presentations and on the Power Point slides. It is not required that all members of the team participate in the presentation to the judges. However, any or all team members may be present to assist with answering questions from the judges. The teams that are asked to participate at the finals will present their entire projects at one time. Each team asked to present at the finals will be allotted time to present their project. The judges will be allotted time for questions at the end of each presentation.

All entries shall be the sole property of AEI and submitted materials will not be returned. AEI reserves the right to use or publish some or the entire materials in publications. By entering, the entrant grants a royalty-free license to AEI to use any copyrighted material related to the awards program only. Such right includes publication of photographs and names of recipients without compensation to entrants. Entrant must obtain and submit any rights to publish photographs or figures used in their material obtained from third parties or other publications.

## Evaluation Criteria

Judges will base their evaluation of each submission on the following criteria in priority order:

- **Originality and innovative character of the design:**

The design submission shall be original and include innovations in building design and construction that improve quality, efficiency, and value.
- **Integration and Collaboration**

The design submission should show how the individual systems integrate with the other engineered systems and the architecture of the building. Additionally, the teams shall demonstrate the collaboration between team members and disciplines.
- **Sustainability, energy efficiency and economics of the design**

The design submission should demonstrate sustainable design and shall include design considerations that improve building performance such as; energy efficiency, water efficiency, emissions reduction, improved environmental quality, and efficient selection and use of resources to minimize environmental impact. The submission may also demonstrate how construction materials and equipment will be utilized in unique ways, minimizing waste and promoting sustainability.
- **The design submission should demonstrate the costs and benefits of the solution; including estimated life span; and life cycle analysis/consideration.**
- **Meeting the project requirements, codes & standards:**

The design submission should demonstrate how the specified design challenges will be addressed as well as how all applicable codes and standards are met at a design development level of detail for the complete building. The design submission should keep the health, safety and welfare of the building occupants in mind. The design will also be evaluated on the feasibility of the design.

- Project management

The design submission should demonstrate how the design will meet scheduling, site and budget constraints within the definition of the project criteria listed for this competition. Evidence of teamwork and an integrated team process should be demonstrated. The design submission should demonstrate clear, detailed, yet concise reporting. In addressing the specific issues of the Competition Program, submissions must clearly demonstrate the design solution's response.

The initial submittals, due on February 11, 2015, will be used by the judges to determine the teams whom will be asked to present in the finals at the AEI National Student Conference scheduled for March 25 to 27, 2015 being hosted by the Milwaukee School of Engineering in Milwaukee, Wisconsin.

### Competition Timeline

Registration will begin on	September 1, 2014
Registration Deadline	January 30, 2015 by 4:00 p.m. (EST)
Electronic Submission Deadline	February 11, 2015 by 4:00 p.m. (EST)
Finalists Notification	February 27, 2015
Finalist Presentations	March 25 to 27, 2015

The competition committee plans to host a project introduction seminar in late September or early October. The seminar will be provided by the Competition Committee in webinar format and viewing this seminar is not a submission requirement for the student teams. Teams registering after this date will be able to view this background seminar in electronic format.

The architectural engineering programs are encouraged to have the competing students present their projects to their peers and faculty. It is also encouraged that they receive comments and suggestions from these individuals at multiple instances throughout the preliminary design and design development stages of the project.

The Judges will review the electronic submittals received on February 11, 2015 and will select the finalist teams who will present in the competition finals by February 27, 2015.

Final presentations will occur at the AEI Conference scheduled for March 25 to 27, 2014 in Milwaukee, Wisconsin hosted by the Milwaukee School of Engineering. The Judges will select the winners and first two runners-up in each category after the presentations. The event will be broadcast by video to all the architectural engineering programs and the winning entries will be published on the web.

## Awards

A winning team and the first two runner-ups will be formally recognized in each category. The winning team(s) will be awarded \$1000 per team, and the runners-up will be awarded \$400 per team in each category.

In addition, a single award of \$700 for the most innovative submittal (or submittal component) will be awarded to one project. The Innovation Award is at the judges' discretion and not tied to any particular category described in the submittal requirements.

Teams who are asked to present their submittal at the competition will be recognized. Honorable mention awards can be awarded at the judges' discretion. To qualify as a winner or runner-up, the team must be represented in person at the finalist presentations.

Finalist teams that are asked to present their submittal at the competition will be reimbursed for a portion of their travel, conference registration, meals and hotel expenses. The reimbursements are intended to ease the financial obligations of the presenting team members and one faculty advisor. The expected average reimbursement for a presenting team should be budgeted at no more than \$800. The actual amount awarded to a particular team is dependent on the required travel distance and mode of transportation, and is awarded at the discretion of the competition committee. Teams will be required to submit required receipts and an expense form for any reimbursement.

Team members, and faculty advisors, will be responsible for registering for the conference on their own (please note that early bird registration rates will often expire prior to notification that a team has been invited to present their submittal at the conference or forum). It should not be expected that full reimbursements for registration and expenses will be provided for an entire team.

## Registration and Online Submissions

Teams should register online at:

<http://content.asce.org/studentcompetition/team-registration-app.html>.

Registered teams will be assigned a team number to be used on all correspondence and submittals. AEI membership is required for all team members and will be verified by the AEI/ASCE staff. There is no cost for AEI student memberships and applications are available at

<http://www.asce.org/aei/student-membership-enrollment/> .

During registration, the following information will be required:

Names of team members (including AEI membership numbers, mailing addresses, e-mail addresses, and telephone numbers), name of team leader, and name (or names) of faculty advisor(s).

After the registration process is completed, teams will receive additional project information - including schematic electronic format drawings and the geotechnical report for the project, if available.

## **FAQ's**

Students may submit on the competition website requests for information (RFI's) to obtain clarifications or resolve any ambiguities. RFI's and the answers from the competition Task Force will be posted on the competition website.

## Resources

Whole Building Design Guide

<http://www.wbdg.org>

U.S. Green Building Council

<http://www.usgbc.org/>

Green Globes

<http://www.greenglobes.com/>

Sustainability Committee of the Structural Engineering Institute of the American Society of Civil Engineers

<http://www.seisustainability.org/resources/publications>

Structural Engineers and LEED

<http://content.asce.org/files/pdf/SEICongressStructuralengineersandLEED07Apr29.pdf>

Resources listed are for background information and education of the teams on the design and construction issues involved in the competition. Content of these resources are not specifically endorsed or required to be incorporated into the submissions. Each team should evaluate the information and incorporate those items they feel are appropriate to their project and conceptual ideas for the competition building.



## **Judges**

The judges will consist of volunteer building industry practitioners, representatives of AEI and the competition sponsors. These professionals may include representatives from the Growing Power Foundation.

## APPENDIX A

### Sponsors

The committee would like to thank the Charles Pankow Foundation for the generous financial support that made this competition a success during the first five years of the competition.

Learn more about the legacy and vision of the foundation at:

[www.pankowfoundation.org](http://www.pankowfoundation.org)



The following companies have provided the financial support for this year's competition.

<http://www.som.com/>

The logo for SOM, consisting of the letters "SOM" in a bold, red, sans-serif font.

<http://www.wallacesc.com/>



<http://www.wje.com/>



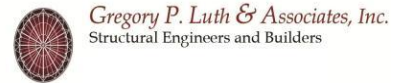
<http://www.bentley.com/en-US/>



<http://www.langan.com/web/>



<http://www.gregorypluth.com/>



<http://www.nyase.com/>



<http://www.wai.com/>



<http://www.sgh.com/>



<http://www.johnsoncontrols.com/>



<https://www.wspgroup.com/>



## Architectural Engineering Institute of ASCE

AEI was created by ASCE in 1998 to be the professional home of architectural engineers and to address the needs of the architectural engineering profession. The mission of AEI is “to serve the building community by promoting an integrated, multi-disciplinary approach to planning, design, construction, and operation of buildings and by encouraging excellence in practice, education, and research of architectural engineering.” AEI is the home for all professionals in the building industry. AEI provides a multi-disciplinary national forum for members of, but not limited to, the architectural engineering, structural, mechanical, electrical, and architectural communities. AEI now has over 8,000 members, including 3,359 students (~42%). Since students are expected to be the next generation of members, supporting student activities is of strategic importance for the future of AEI. AEI has supported existing student chapters and encouraged the creation of new ones at Institutions offering Architectural Engineering programs. Student chapters now exist at most of the 21 EAC/ABET-accredited programs. They have a faculty adviser and a few of them have their own website and/or newsletter. Since student membership is free, the AEI student membership represents the majority of the student population of the architectural engineering programs.

[www.asce.org/aei](http://www.asce.org/aei)

## EAC/ABET- Accredited Architectural Engineering Programs

### **California Polytechnic State University - San Luis Obispo**

Architectural Engineering Department

School of Architecture  
San Luis Obispo, CA 93407  
Voice: (805) 756-1314  
Fax: (805) 756-5740

### **Drexel University**

Civil and Architectural Engineering  
Department

32nd & Chestnut Street  
Building 4, Room 270  
Philadelphia, PA 19104  
Voice: (215) 895-2341  
Fax: (215) 895-1363

### **Kansas State University**

Department of Architectural Engineering  
and Construction Science

240 Seaton Hall  
Manhattan, KS 66506  
Voice: (785) 532-5964  
Fax: (785) 532-6944

### **Tennessee State University**

College of Engineering, Technology and  
Computer Science

Department of Architectural Engineering  
3500 John A. Merritt Blvd.  
Nashville, TN 37203  
Voice: (615) 320-3560  
Fax: (615) 320-3554

### **University of Colorado at Boulder**

Department of Civil, Environmental and  
Architectural Engineering

Engineering Center ECOT 441, UCB 428  
Boulder, CO  
Voice: (303)492-6382

### **University of Kansas**

Architectural Engineering Program

CEAE Department  
1530 W. 15th Street  
2150 Learned Hall  
Lawrence, KS 66046-7609  
Voice: (785) 864-3766  
Fax: (785) 864-5631  
E-mail: [cjsloan@ku.edu](mailto:cjsloan@ku.edu)

**Milwaukee School of Engineering**

Architectural Engineering Department

1025 N. Broadway  
Milwaukee, WI 53202-3109  
Voice: (414) 277-7301  
Fax: (414) 277-7479, Attn: AE Dept.

**University of Miami**Department of Civil and Architectural  
Engineering

P.O. Box 248294  
Coral Gables, FL 33124-0630  
Voice: (305) 284-3391  
Fax: (305) 284-3492

**Missouri University of Science and  
Technology**

Civil, Architectural & Environmental  
Engineering Department  
1870 Miner Circle — Butler Carlton Hall  
Rolla, MO 65409-1050  
Voice: (573) 341-6618

**University of Texas at Austin**Department of Civil, Architectural and  
Environmental Engineering

ECJ 5.200  
Austin, TX 78712-1076  
Voice: (512) 471-1732  
Fax: (512) 471-3191

**North Carolina A&T State University**

Architectural Engineering Department  
School of Engineering  
Greensboro, NC 27411-1046  
Voice: (910) 334-7575  
Fax: (910) 334-7126

**University of Wyoming**Department of Civil and Architectural  
Engineering

P.O. Box 3295, University Station  
Laramie, WY 82071  
Voice: (307) 766-4224  
Fax: (307) 766-4444

**Oklahoma State University**

Architectural Engineering Program  
101 Architectural Building  
Stillwater, OK 74078  
Voice: (405) 744-6043  
Fax: (405) 744-6491

**Illinois Institute of Technology**Civil, Architectural, and Environmental  
Engineering Department

Alumni Memorial Hall  
3201 South Dearborn Street,  
Room 228 Chicago, IL 60616  
Voice: (312)567-3540  
Fax: (312)567-3519

**Pennsylvania State University**

Architectural Engineering Department  
104 Engineering "A" Building  
University Park, PA 16802  
Voice: (814) 865-6394  
Fax: (814) 863-4789

**University of Nebraska, Lincoln**Architectural Engineering Department  
University of Nebraska;

Room 102B, PKI Building;  
1110 S. 67th St.;  
Omaha, NE 68182-0681  
Voice: (402)554-3859  
Fax: (402)554-2309

**University of Oklahoma**

School of Civil Engineering and  
Environmental Science

University of Oklahoma  
202 W. Boyd St., Room 334  
Norman, OK 73019-1024

**Texas A&M University-Kingsville**

Department of Civil and Architectural  
Engineering  
MSC 194

700 University Blvd.  
Kingsville, TX 78363-8202  
Voice : (361)593-2266

**United Arab Emirates University**

Department of Architectural Engineering  
College of Engineering  
Al-Ain, United Arab Emirates P.O.BOX  
17555

**King Fahd University of Petroleum and  
Minerals**

Dhahran 31261, Saudi Arabia  
Tel: +966 3 860-3279  
Fax: +966 3 860-3785

**Sultan Qaboos University**

Department of Civil & Architectural  
Engineering  
College of Engineering  
P.O. Box 33, Al-Khodh, P.C. 123, Muscat,  
Sultanate of Oman  
Tel : +968 2414 1332  
Fax : +968 2414 1331

In addition to these 21 accredited programs, several new programs are starting and are expected to be accredited once they graduate their first group of students:

**Lawrence Tech University**

Department of Architectural Engineering  
<http://www.ltu.edu/engineering/arch.asp>

**University of Cincinnati**

School of Advanced Structures  
[http://sas.ceas.uc.edu/undergraduate/architectural\\_engineering.html](http://sas.ceas.uc.edu/undergraduate/architectural_engineering.html)

**Worcester Polytechnic Institute**

Department of Civil & Environmental Engineering  
<http://m.wpi.edu/academics/cee/major-architectural.html>