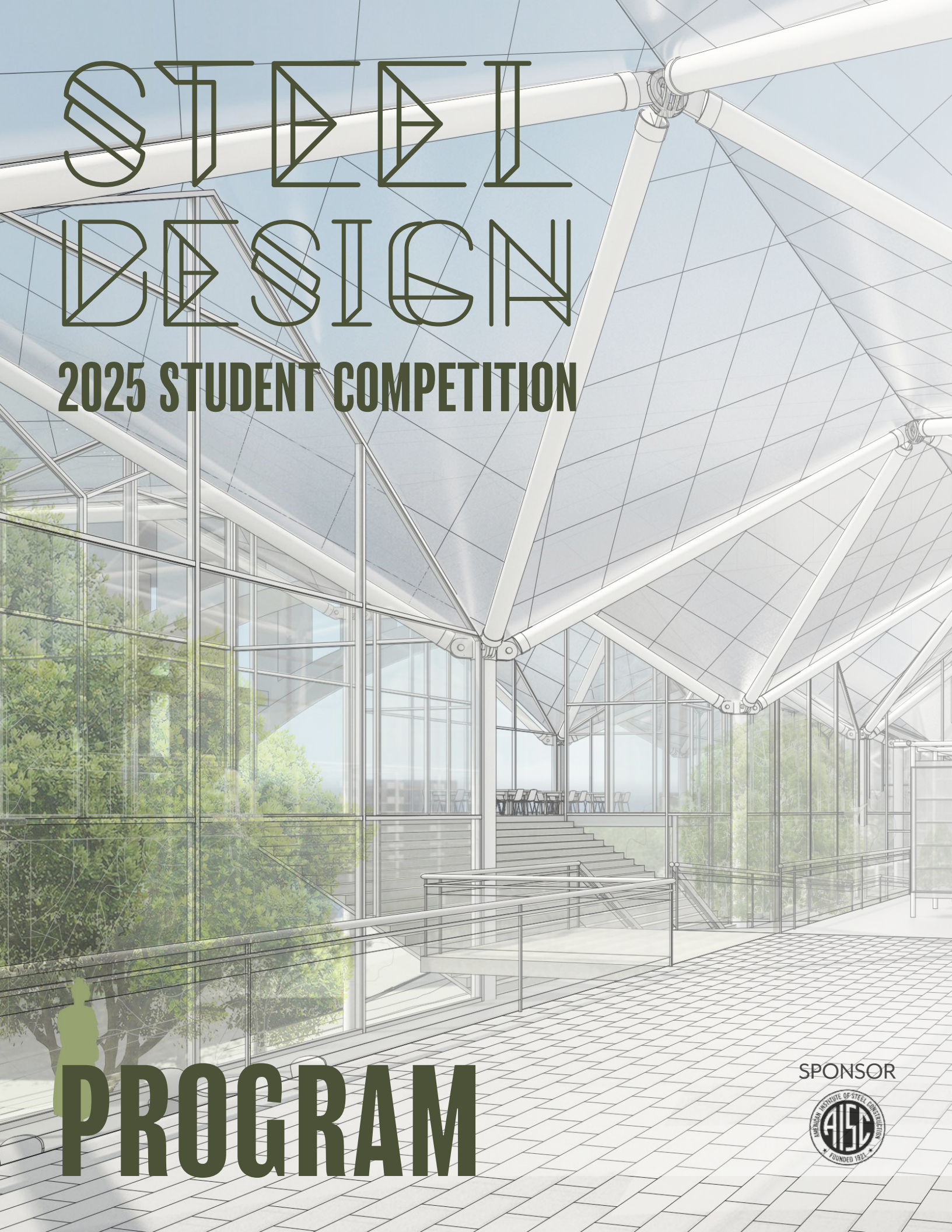
STEEL DESIGN

2025 STUDENT COMPETITION



PROGRAM

SPONSOR

AISC
AMERICAN INSTITUTE OF STEEL CONSTRUCTION
FOUNDED 1921

2025 STEEL DESIGN STUDENT COMPETITION
25th Annual ACSA/AISC Student Competition

Category I
LIBRARY +

Category II
OPEN

The Association of Collegiate Schools of Architecture (ACSA) is pleased to announce the 25th Annual Steel Design Student Competition for the 2024-2025 academic year. Administered by the Association of Collegiate Schools of Architecture (ACSA) and sponsored by the American Institute of Steel Construction (AISC), the program is intended to challenge undergraduate and graduate students, working individually or in teams, to explore a variety of design issues related to the use of steel in design and construction. Steel must be used as the primary structural material and contain at least one space that requires a long-span steel structure, with special emphasis placed on innovation in steel design.

THE OPPORTUNITIES

The 2025 Steel Design Student Competition will offer architecture students the opportunity to compete in two separate categories:

Category I LIBRARY +
Design a Library in a community of your choice. Students are invited to submit design proposals that address how a library can contribute to the community as a more integral part of the civic fabric.

Category II OPEN
Offers architecture students the opportunity to select a site and building program using steel as the primary material. This competition category permits any building type other than a library.

Students may not enter both categories of the competition.

The competition allows students to explore the many functional and aesthetic uses for steel as a building material and structural system. Steel is an ideal material for multi-story buildings because it offers the greatest strength-to-weight ratio. In addition, steel can be constructed quickly and for all project site types with the use of labor-saving prefabrication methods such as kit-of-parts, panelization, and modular construction. A building built with steel is potentially more flexible and adaptable to allow for a change in program, occupancy, and loading needs over time.

AWARDS

The design jury will meet in Summer 2025 to select winning projects and honorable mentions. Winners and their faculty sponsors will be notified of the competition results directly. A list of winning projects will be posted on the ACSA web site at www.acsa-arch.org and the AISC web site at www.aisc.org.

Winning students and their faculty sponsors will receive cash prizes totaling $20,000 with distribution as follows:

Category I **Library +**		Category II **OPEN**	
First Prize		*First Prize*	
Student	$4,000	Student	$4,000
Faculty Sponsor	$1,500	Faculty Sponsor	$1,500
Second Prize		*Second Prize*	
Student	$2,000	Student	$2,000
Faculty Sponsor	$1,000	Faculty Sponsor	$1,000
Third Prize		*Third Prize*	
Student	$1,000	Student	$1,000
Faculty Sponsor	$500	Faculty Sponsor	$500

A limited number of honorable mentions may also be awarded at the jury's discretion. Prize-winning submissions will be exhibited at the 2026 ACSA Annual Meeting and the 2026 AIA National Convention as well as published in a competition summary publication.

ADVANTAGES OF STEEL

Steel has a natural beauty that can be exposed to emphasize grace, slenderness and strength in space and form, as well as in building envelopes to enhance environmental performance and aesthetic character.

Resiliency

Structural steel offers a number of benefits in building design including the capacity to bear great loads in tension and compression, high resiliency and performance under harsh and difficult conditions such as earthquakes and hurricanes, and the ability to span great distances with minimal material. Steel can be shaped by many processes, ranging from standard rolled sections to custom castings and digitally generated components. It can be prefabricated and delivered for site assembly, and it can be erected quickly under almost any weather condition to meet tight construction schedules.

Efficiency

Steel offers the greatest strength-to-weight ratio of structural materials. In addition, steel can be constructed quickly and for all project site types with the use of labor-saving prefabrication methods such as kit-of-parts, panelization, and modular construction. A building built with steel is potentially more flexible and adaptable to allow for a change in program, occupancy, and loading needs over time. Steel, if desired by the architect, can be graceful, nimble, and minimal in its bulk both in plan and section, and it integrates easily with other systems and materials.

Sustainability

Using steel is a highly sustainable option. The production of raw US structural steel involves in upwards of 93% recycled content, keeping our old cars and appliances out of landfills. At the end of a building’s life, 98% of all structural steel is recycled into new steel products, with no loss of its physical properties. As such, structural steel isn’t just

recycled but “multi-cycled,” as it can be recycled over and over and over again. It is truly a cradle-to-cradle material, and few materials can claim that. Steel Sustainability

Expression
Exposed and curved steel is an art, providing endless possibilities for architectural expression. Curved steel enhances the visibility of any building project – from the largest monumental project to that building down your street. Curved steel is one way to increase the design creativity of your next building project. And most importantly, curved steel is readily available nationally from a number of qualified AISC Associate Member Bender-Rollers. AISC information on curved steel: aisc.org/curvedsteel.

For more information, see the 2025 Studio Guide*.*

ELIGIBILITY
Because the support of AISC is largely derived from steel companies whose markets are mainly in the U.S., the ACSA/AISC Steel Design Student Competition is open to students and/or student teams from ACSA Full and Candidate Member Schools, as well as ACSA Affiliate Members Schools from the U.S., Canada, and Mexico.

All student entrants are required to work under the direction of a faculty sponsor. Entries will be accepted for individuals as well as teams. Teams must be limited to a maximum of five students. Submissions should be principally the product of work in a design studio or related class.

CRITERIA FOR JUDGING
Criteria for the judging of submissions will include the following:

- Creative use of structural steel in the design solution
- Successful response of the design to its surrounding context
- Successful response to basic architectural concepts such as human activity needs, structural integrity, and coherence of architectural vocabulary.

Submissions must clearly represent the selected program. In addressing the specific issues of the design challenge, submissions must clearly demonstrate the design solution’s response to the following requirements:

- An elegant expressive understanding of the material–structural steel–deployed with maximum innovative potential with a minimum of one long span space
- A strong conceptual strategy translated into a coherent integrated design proposal
- An articulate mastery of formal concepts and aesthetic values
- A compelling response to the physical and cultural context of the scheme
- A mature awareness of and an innovative approach to sustainability as a convergence of social, economic, and environmental issues
- A thorough appreciation of human needs and social responsibilities

PROGRAM: Category I LIBRARY +

The community library stands as a pillar for independent information where ideas of all can be freely exchanged and explored. While integrating new technology, expanding services, and adding space for the community to interact, libraries continue to evolve. You are invited to site your library in an area of your choice, and then supply the information to finish the brief's title of "Library **+**"? As libraries have the opportunity within a specific environment to respond to unique needs, what else could a library contribute to the community to become an even more integral part of the civic fabric? The project will include a general program for a library, and each entry will include an added space for the community defined by you that cannot exceed 50% of the library area.

SITE

The site for the competition is the choice of the student and/or faculty sponsor. However, the site should be accessible by multiple modes of transportation such as public transportation, biking, or walking. Submissions will be required to explain the site selection, strategy, and access graphically or otherwise.

PROGRAM

The total area of the program, the library and the "+" spaces may range depending on the community's needs. The Library + program area total should be a minimum of 30,000 square feet and should be compatible size with the needs of the population served. Your building square feet can grow in size, without limitation, to fit the chosen community.

Libraries continue to adapt to better serve their communities and protect the free exchange of information. The community library should include typical library services as well as public gathering and learning spaces. The "+" space is determined by you and should serve the needs of the community.

The circulation systems of the library should be designed to accommodate the differing needs of staff, patrons and the general public. Library staff should be able to circulate between offices and the workroom in private. Open access to collections for library users must be balanced with the need for monitoring and security measures. Facilities for the general public must be able to operate both when the library is open as well as independently outside library hours.

Programmatic Spaces

The following spaces are general guides; students and faculty can adjust and expand on the program spaces to fit the library and community needs.

Entry Area	
Lobby/Seating Area	**1,000 sq. ft.**
Collections and Periodicals	
Reference and Periodicals Space	2,000 sq. ft.
Information/Checking-Out Desk	500 sq. ft.
Collections (Music, Film, Media, Printed Materials)	4,000 sq. ft.
	6,500 sq. ft.
Reading Areas	
Acoustically closed private study spaces	500 sq. ft.
Reading spaces	2,000 sq. ft.
	2,500 sq. ft.

Digital and Internet Area	**3,500 sq. ft.**
Library Staff	
Staff Offices	1,000 sq. ft.
Circulation Workroom	1,000 sq. ft.
Staff Restrooms, Lockers, and Lounge	600 sq. ft.
	2,600 sq. ft.
General Public Facilities	
Café	1,500 sq. ft.
Multipurpose Space(s) for meetings, talks, and performances	2,000 sq. ft.
Classrooms (acoustically isolated)	1,200 sq. ft.
Small Conference room	300 sq. ft.
Large Conference room	500 sq. ft.
Bathrooms for the public	600 sq. ft.
	6,100 sq. ft.
Building Support	
Public/Staff Parking (appropriate for the context/community)	
Loading Dock (library materials, building supplies and trash)	1000 sq. ft.
Storage	500 sq. ft.
Support Staff Offices	500 sq. ft.
Support Staff Restrooms	500 sq. ft.
	2,800 sq. ft.
Programmatic Space Subtotal	25,000 sq. ft.
Services at 20% (corridors, mechanical, and other service)	5,000 sq. ft.
	30,000 sq. ft.

+ Space

These additional spaces in the library should respond to the needs of the community and need to be above and beyond the required spaces above. These spaces could be indoor or outdoor. What does the community need? What type of space and use would most benefit the community, neighborhood or city this library is located? The area should be half of that of the library.

Construction Type and Program

Consider the relationship between the spaces and structural steel – can the structure help to define the relationship of the spaces with the community, or are there spaces where you can celebrate structural steel? The project must be conceived in structural steel construction and must contain at least one space/element that requires long-span steel structure, with special emphasis placed on innovation in steel design. The most compelling proposals will inevitably integrate the use of steel into the design of the project at multiple levels, from primary structure to building envelope and tectonic details.

PROGRAM: Category II OPEN

The ACSA/AISC 2025 Steel Design Student Competition also offers architecture students the opportunity to participate in an open competition with limited restrictions. With the approval of a sponsoring faculty member, students may select a site and building program.

- The Category II program should be of equal complexity as the Category I program.
- Students entering Category II must submit a written building program, including a brief description of the building type, gross square footage, and project location, as part of the online submission in the Program Edits (copy/paste text box).

Restrictions

To enter the open competition students may select any building occupancy other than a community library.

Students may not enter both categories of the competition.

Construction Type

Consider the relationship between the building design and structural steel – are there spaces where you can celebrate structural steel? The design project must be conceived in structural steel construction and must contain at least one space/element that requires long-span steel structure, with special emphasis placed on innovation in steel design. The most compelling proposals will inevitably integrate the use of steel into the design of the project at multiple levels, from primary structure to building envelope and tectonic details.

REGISTRATION & RULES (Category I & Category II)

SCHEDULE

April 9, 2025	Registration Deadline (free registration)
June 4, 2025	Submission Deadline
Summer 2025	Winners Announced
Fall 2025	Publication of Summary Book

USE OF STEEL

Steel must be used as the primary structural material. Design proposals must contain at least one space/element that requires long-span steel structure, with special emphasis placed on innovation in steel design. The most compelling proposals will inevitably integrate the use of steel into the design of the project at multiple levels, from primary structure to building envelope and tectonic details.

BUILDING CODE

Refer to the International Building Code and the local zoning ordinance for information on parking requirements, height restrictions, setbacks, easements, flood, egress and fire containment. All proposals must be designed to meet requirements for accessibility; for guidelines, refer to the Americans with Disabilities Act and the principles of Universal Design.

REGISTRATION

One Registration for Each Entry

A faculty sponsor is required to enroll students online (available at www.acsa-arch.org) by April 9, 2025. Registration can be done for your entire studio or for each individual student or team of students participating. Students or teams wishing to enter the competition on their own must have a faculty sponsor, who should complete the registration. There is no entry or submission fee to participate in the competition. Each registered student and faculty sponsor will receive a confirmation email that will include information on how the student(s) will upload final submissions online. Please add the email address competitions@acsa-arch.org to your address book to ensure that you receive all emails regarding your submission.

During registration the faculty will have the ability to add students, add teams, assign students to teams, and add additional faculty sponsors. Registration is required by April 9, 2025, but can be changed, edited, and added to until a student starts a final submission; then the registration is no longer editable.

REGISTRATION STEPS

1. Faculty log into the ACSA website,
2. Click the “Register your Students NOW” button,
3. Select the 2025 Steel Competition (Category I or II) from the submission type dropdown menu & Click “Enter”,
4. Select “Individual Registration” to add individual student. Click “Save and Continue”. You will need to know each student’s first & last names, email, & institution, which are all required fields for each student,
5. Select “Team Registration” if this is a team registration, you may add additional students by clicking “Add Student” to the same submission to this team, teams must be limited to a maximum of five students,
6. Once the individual student or team is complete, Click “Submit”,
7. Repeat steps 3 – 6 for each individual or team.

FACULTY RESPONSIBILITY
The administration of the competition at each institution is left to the discretion of the faculty within the guidelines set forth in this document. Work on the competition should be structured over the course of one semester during the 2024-2025 academic year.

Each faculty sponsor is expected to develop a system to evaluate the students' work using the criteria set forth in this program. The evaluation process should be an integral part of the design process, encouraging students to scrutinize their work in a manner similar to that of the jury.

DIGITAL SUBMISSION FORMAT
Submissions must be presented on four 20" x 20" digital boards. All boards are required to be uploaded through the ACSA website as Portable Document Format (PDF) or image (JPEG) files. The names of student participants, their schools, or faculty sponsors, must NOT appear on the boards, or in the project title or project title file name(s).

DESIGN ESSAY or ABSTRACT
A brief essay, 300 words maximum, is required as part of the submission describing the most important concepts of the design project. Keep in mind that the presentation should graphically convey the design solution and context, and not rely on the design essay to convey a basic understanding of the project. The names of student participants, their schools, or faculty sponsors, must NOT appear in the design essay. This abstract is included in the final online submission, completed by the student(s) in a simple copy/paste text box.

PERFORMANCE EVALUATION *(For Category I only. Not required for Category II.)*
Each student will answer a few multiple-choice questions upon submission about a performance analysis topic determined by the faculty or student(s). If possible, please show your performance evaluations on your submission boards and images. For the list of questions and an expanded explanation of this, please refer to the Supplemental Studio Guide and these questions:

1. What category of performance did you measure or assess in your design?
2. What standard or benchmark did you measure against?
3. How did your final design performance compare with your standard or benchmark?
4. If you measured and your design performance was below the standard or benchmark, did you redesign and measure or assess again?

PROGRAM SUMMARY
A program summary diagram/text of spaces and areas is required as part of the submission, 250 words maximum. All interior and exterior spaces are to be included; total net and gross areas are required.

REQUIRED SUBMISSION DOCUMENTS
Submissions must include (but are not limited to) the following required drawings:

- Three-dimensional representations - in the form of axonometrics, perspectives showing the proposal in its context, montages and/or physical model photographs – to illustrate the character of the project;
- Site plan showing proposal in its context of surrounding buildings and topography, together with details of access/circulation;
- Building/site sections sufficient to show site context and major spatial and program elements;
- Floor plans to show program elements, spatial adjacencies and navigation strategies;

- Large scale drawing(s), either orthographic or three dimensional, illustrating:
    - the use and detailing of steel for building structure and/or envelope
    - integrated design

Incomplete or undocumented entries will be disqualified. All drawings should be presented at a scale appropriate to the design solution and include a graphic scale. The site plan should include a north arrow.

ONLINE PROJECT SUBMISSION

The student is required to submit the final entries that must be uploaded through the ACSA Competition website at www.acsa-arch.org by 11:59 pm, Pacific Time, on June 4, 2025. If the submission is from a team of students, all student team members will have the ability to upload the digital files. Once the final submit button is pressed no additional edits, uploads, or changes can be made. You may "save" your submission and return to complete. Please note: The submission is not complete until the "complete this submission" button has been pressed. For team projects, each member of team projects may submit the final project, but each project should be submitted only once. Once the final submission is uploaded and submitted, each student will receive a confirmation email notification.

The final submission upload must contain the following:

- Completed online registration including all team members and faculty sponsors,
- Each of the four 20"x20" boards uploaded individually as a high resolution Portable Document Format (PDF) or image (JPEG) file,
- A design essay or abstract (300 words maximum),
- A program summary diagram/text of spaces and areas (250 words maximum),
- Option Video Link

The names of student participants, their schools and faculty sponsors must NOT appear on the boards, abstract, program summary, or in the file name.

Winning projects will be required to submit high-resolution original files/images for use in competition publications and exhibit materials. By uploading your files, you agree that the Association of Collegiate Schools of Architecture (ACSA) has the rights to use your winning submission, images and materials in a summary publication, online and in promotional and exhibition resources. ACSA will attribute authorship of the winning design to you, your team, faculty and affiliation. Additionally, you hereby warrant that the submission is original and that you are the author(s) of the submission.

RESOURCES

An intention of all ACSA competitions is to make students aware that research is a fundamental element of any design solution. Students are encouraged to research material properties and methods of steel construction, as well as precedent projects that demonstrate innovative use of structural steel.

Steel Construction References

1. AISC website: aisc.org/archeducation: This website is a collection of architecture-focused AISC programs and resources, including steel and architecture videos, teaching aids, and steel cheat sheets.
2. Modern Steel Construction: This authoritative monthly magazine is made available online free of charge. This magazine covers the use of fabricated structural steel in the variety of structural types. It presents information on the newest and most advanced applications of structural steel in a wide range of structures. Issues of Modern Steel Construction (1996 - Present) are available online. Visit Modern Steel Construction to view them.
3. Terri Meyer Boake. Understanding Steel Design: An Architectural Design Manual. (Birkhäuser 2013)
4. John Fernandez. Material Architecture. (Spon Press, 2006)
5. Victoria Bell and Patrick Rand. Materials for Design 2. (Princeton Architectural Press, 2014)
6. Shulitz, Habermann, Sobek. Steel Construction Manual. (Birkhäuser Basel 2000)
7. Annette LeCuyer. Steel and Beyond. (Birkhäuser Basel 2003)
8. Sutherland Lyall. Remarkable Structure: Engineering today's Innovative Buildings. (Princeton Architectural Press, 2002)

Library References

1. Danish Royal Library (by Schmidt Hammer Lassen in Copenhagen, Denmark)
2. Seattle Central Library (by Rem Koolhaas in Seattle, WA)
3. Salt Lake City Public Library (by Moshe Safdie in Salt Lake City, UT)
4. Bibliotheca Alexandrina (by Snøhetta in Alexandria, Egypt)
5. Biblioteca Vasconcelos (by Vasconcelos Library / Alberto Kalach in Mexico City, MX)
6. Arabian Public Library (by Richärd Kennedy Architects in Scottsdale, AZ)
7. South Mountain Community + Academic Library (by Richärd Kennedy Architects in Phoenix, AZ)
8. Anacostia Library (by Freelon Group Architects in Washington DC)
9. Tenley / Friendship Neighborhood Library (by Freelon Group Architects in Washington DC)
10. Wolston County Library (by Ignite Architects in Christ Church, New Zealand)

Steel Presentation

Faculty can request a Steel Presentation that covers the basics of steel structure and discusses how steel structure can enhance architectural design, form, and space from Jeanne Homer, AIA, an architecture educator for over 20 years focusing on integrative design. Examples will include several different building typologies. Questions about the competition can be addressed and will be posted to the website. The presentation, depending on schedule, can be virtual or in-person and is designed for 50-minutes.

COMPETITION ORGANIZERS

Administrative Organization
Association of Collegiate Schools of Architecture (ACSA)
Leading Architectural Education and Research
ACSA is a nonprofit, membership association founded in 1912 to advance the quality of architectural education. The school membership in ACSA has grown from 10 charter members to over 250 schools in several membership categories. These include full membership for all accredited programs in the United States and government-sanctioned schools in Canada, candidate membership for schools seeking accreditation, and affiliate membership for schools for two-year and international programs. Through these schools, over 5,000 architecture faculty members are represented. In addition, over 500 supporting members composed of architecture firms, product associations and individuals add to the breadth of interest and support of ACSA goals. ACSA provides a major forum for ideas on the leading edge of architectural thought. Issues that will affect the architectural profession in the future are being examined today in ACSA member schools.

Sponsor
The **American Institute of Steel Construction** (AISC), headquartered in Chicago, is a non-partisan, not-for-profit technical institute and trade association established in 1921 to serve the structural steel design community and construction industry in the United States. AISC's mission is to make structural steel the material of choice by being the leader in structural-steel-related technical and market-building activities, including: specification and code development, research, education, technical assistance, quality certification, standardization, market development, and advocacy. AISC has a long tradition of service to the steel construction industry providing timely and reliable information.

Membership to AISC is free to university faculty and full-time students, and AISC membership provides valuable benefits. Information can be found at www.aisc.org/universityprograms.

FOR MORE INFORMATION
Program updates, including information on jury members as they are confirmed, may be found on the ACSA web site at www.acsa-arch.org/competitions.
Additional questions on the competition program and submissions should be addressed to:

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Competition Program written and developed by: Daniel Brown, Savannah College of Art and Design, along with ACSA & AISC.

Image Credit (background): 2015 Steel Design Student Competition, Honorable Mention, Category I
Project Title: The Cormac McCarthy Library
Students: Kristin Bowman & Emanuel Huber-Feely
Faculty Sponsor: Kevin Stevens
Institution: University of Tennessee-Knoxville