Architecture!

A Guide for Students Considering a Career in Architecture

The American Institute of Architects
St. Louis Chapter

AIA St. Louis

The Climatron at the Missouri Botanical Garden was designed by St. Louis firm Murphy & Mackey and was inspired by R. Buckminster Fuller's geodesic dome design.

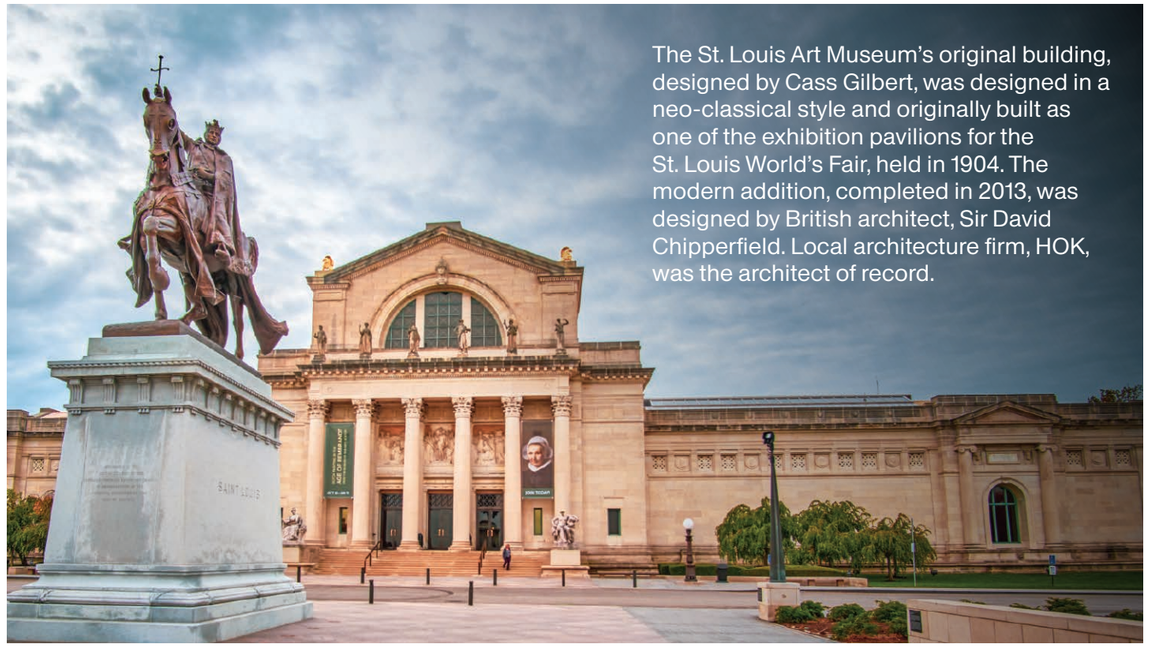
Welcome

Are you ready to explore a career in Architecture? AIA St. Louis is here to help.

AIA St. Louis provides professional growth and development opportunities for over 900 architects and associate members in the eastern third of Missouri. It is the organized voice of architects in St. Louis that provides support to members, advocates on issues affecting the profession and public safety, and comments on policy regarding the built environment.

We have created this guide to help you understand what architects do, including the steps to becoming an architect, a list of schools of architecture in our region, and resources to help you on your journey.

Architects shape what our cities and towns look like, how we experience them, and our daily lives. We design schools, museums, homes, civic buildings, stadiums, and many other buildings and objects. We hope you are excited to learn more!



The St. Louis Art Museum's original building, designed by Cass Gilbert, was designed in a neo-classical style and originally built as one of the exhibition pavilions for the St. Louis World's Fair, held in 1904. The modern addition, completed in 2013, was designed by British architect, Sir David Chipperfield. Local architecture firm, HOK, was the architect of record.

Design Thinking

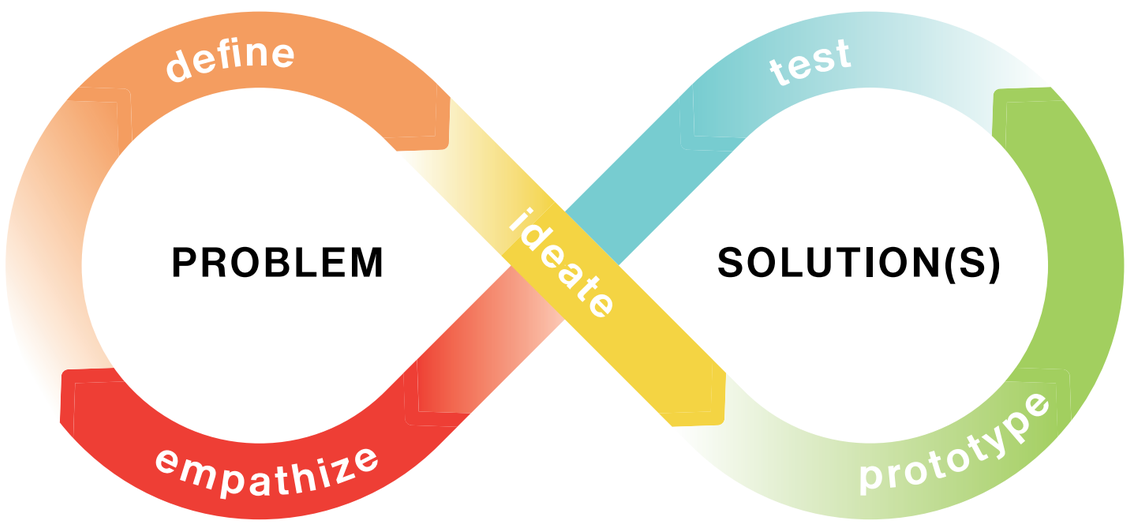
What is Design?

Design is the concept or proposal for a building, object, or process. Architects generally design buildings. Urban Designers design cities and public spaces. Landscape Architects design parks, plazas, and the spaces around buildings. Industrial Designers design objects and things we use, including furniture. Contractors and Subcontractors build the designs of Architects, Urban Designers, and Landscape Architects.

Designers identify the “design problem” and find a solution. Usually, we propose several options and work to identify the best solution through further exploration and iteration.

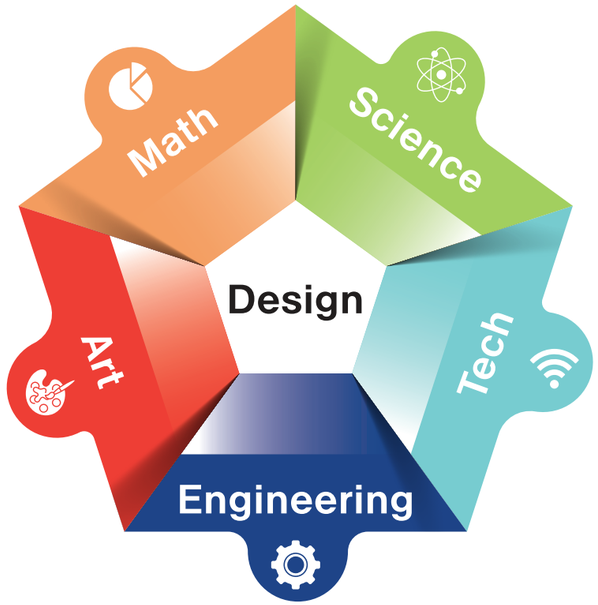
Think about something in your house that functions fine but could be better designed. Is it a desk, a chair, a piece of clothing? How would you improve it?

The diagram below helps explain the design process, which is not linear, but requires working and reworking (iteration) to find the best solution. Creating sketches, models, and diagrams are some of the ways we explore and express ideas.



STEAM

Architects use science, technology, engineering, art, and math every day. Design brings the creative side of STEAM together with the technical side.



Design Thinking requires us to understand the many and varied users of a building, space, or product. It requires us to challenge any preconceived notions or biases we bring, so that we can solve for everyone’s needs and find the best solution. Finding the best solution requires research and exploring a variety of ways to solve the design problem. It requires us to question the solutions in order to find flaws and work with our client and team until we are satisfied that we have the best design possible.

Though the **Design Process** includes the steps listed below, they may occur in parallel, out of order, or may require revisiting:

1. Problem is identified.
2. Designers empathize with the problem, users, and client.
3. Constraints are defined.
4. Designers ideate design solutions.
5. Solutions are prototyped & tested, often through feedback from users and client.
6. Design is refined and tested further.
7. The design solution is found.

What Does an Architect do?

"Architects everywhere must recognize that our profession can harness the power of design to contribute to solutions addressing the most significant needs of our time."

AIA Framework for Design Excellence

Creating Culture

Architecture is a reflection of a society's culture, values, and technology. Architecture is also reflective of time, place, climate, and needs. As an architect, your designs would respond to history, current society, and future anticipated needs.

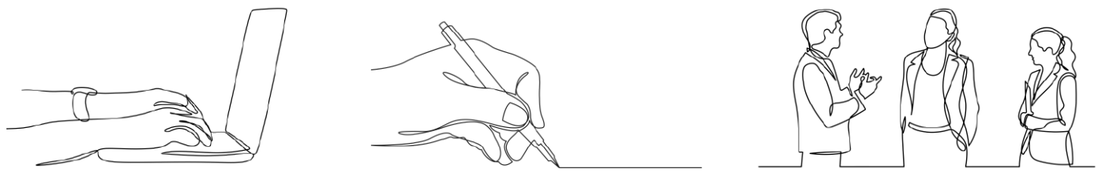
An Architect is specifically trained and licensed to work on the planning and design of buildings and to oversee their construction. Architects ensure that buildings are designed to be safe for their occupants and the community.

Constructing and maintaining buildings uses large amounts of energy and materials. Architects ensure that the materials used in a building's construction and the size, shape, and orientation of the building use the fewest resources in the best way possible.

Communication is Key

The day-to-day role of an architect is varied and involves meeting with clients and the community; researching building types, codes, and similar projects; sketching and creative thinking; creating the drawings and models contractors use to construct buildings; coordinating the work of engineers and consultants; visiting construction sites; and meeting with contractors and tradespeople like plumbers, drywallers, iron workers, and electricians. The work of an Architect also involves running a business, marketing to prospective clients, and dealing with contracts, finances, and payroll. This may sound intimidating, but it ensures that you are always doing something new & different!

Many of the tasks listed above involve communication. You will be communicating with coworkers and employees, clients, contractors, engineers, city governments, and community members in presentations, in writing, and through your drawings and models. Helping them understand your vision is key to leading successful building projects.



The Wainwright Building was designed by Louis Sullivan of the Chicago firm Adler Sullivan. It was one of the first skyscrapers in the world and "a highly influential prototype of the modern office building," as described by the National Register of Historic Spaces. Built in 1892, it had a major renovation and addition in 1981 by Mitchell Giurgola with Hastings & Chivetta (now Grace Design Studio).

Beneficial Skills

- Design Thinking
- STEAM Education
- Sketching
- Drawing
- Organization
- Time Management
- Versatility
- Tenacity
- Active Listening
- Empathy

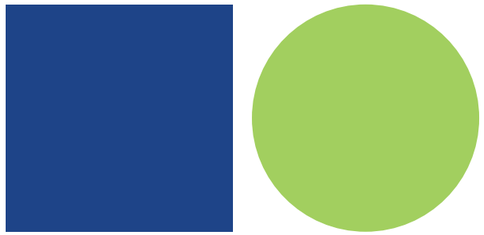
The Gateway Arch, designed by Finnish-American architect, Eero Saarinen, was completed in 1965. It is the world's tallest arch and "the gateway to the West."

Stages of Project Design & Construction

A building begins with an idea or a problem that the architect is asked to solve. A design project begins with an idea (or many ideas) that are refined through iteration, detailed in construction documents, and built by contractors, tradespeople, and laborers.

What follows is a summary of the many steps involved in the building, design, and construction processes.

Cost Estimates are typically prepared at the end of each phase to ensure the project is on track to meet the target construction cost.

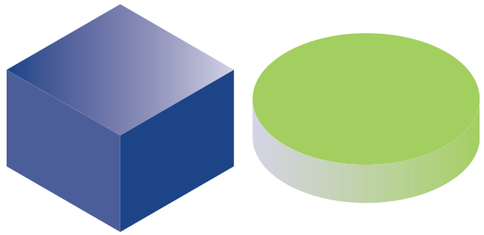


Programming

Research, Gather Information, Summarize

Concept & Ideas

The programming and pre-design phase is about problem-seeking. During this phase the scope of the project is defined.



Schematic Design

Form, Function, Choices

Spatial Planning

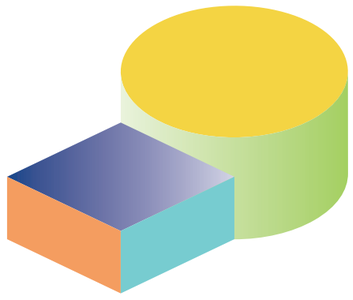
During the schematic design phase, the basic form of the building and adjacencies take shape.

Lambert-St. Louis International Airport Terminal 1, which opened in 1956, was designed by Minoru Yamasaki. It's structure of thin-shelled concrete arches creates a large column-free interior. The terminal has been expanded and modernized by Gyo Obata and HOK and remains a crown jewel of aviation architecture.

"For the most part, things never get built the way they were drawn."

Maya Lin, American Architect

Cost Estimates are typically prepared at the end of each phase to ensure the project is on track to meet the target construction cost.

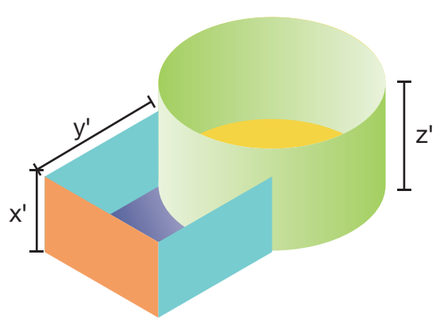


Design Development

Develop, Revise, Expand

Deciding on the Details

The design development phase builds upon the ideas outlined in the schematic phase and begins to refine and enhance the project. Materials and finishes are also selected in this phase.

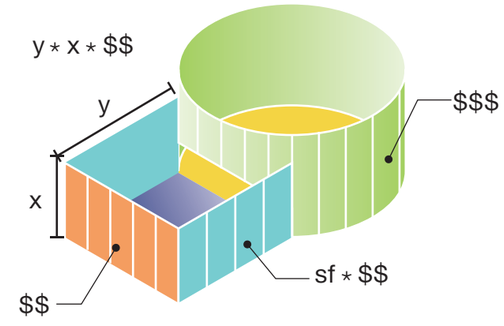


Construction Documents

Detail, Refine, Collaborate

Instructions to Build

In this phase detailed drawings are prepared and coordinated with multiple team members, including engineers. These drawings will be used by contractors to bid and build the project.



Bidding

Cost, Qualifications, Timeline

Paying for it

This phase breaks the project into pieces that can be bid by subcontractors, and a total construction cost is applied to the project. Contractors compete on price, qualifications, and availability.

Construction Administration

Review, Observe, Build

Observing Construction

This is where the project goes from drawings to a building. The architect ensures the built project matches the design documents.

Becoming an Architect

Steps to Becoming an Architect

01

Education

Licensed Architects must hold a professional degree in architecture (Bachelor or Master of Architecture) from an institution accredited by the National Architecture Accrediting Board (NAAB). There are currently over 100 accredited schools in the U.S. and its territories.

02

Experience

All states require that you work under a supervising architect to gain valuable work experience and credit in the Architectural Experience Program (AXP) through the National Council of Architectural Registration Board (NCARB).

The AXP identifies 96 tasks that must be completed in six practice areas, totaling 3,740 hours (approximately 2 years minimum).

1. Practice Management (160 hours)
2. Project Management (360 hours)
3. Programming & Analysis (260 hours)
4. Project Planning & Design (1,080 hours)
5. Project Development & Documentation (1,520 hours)
6. Construction & Evaluation (360 hours)

Credits can be earned while performing paid academic internships under certain criteria. Unpaid internships do not qualify.

Credits can also be earned concurrently with taking exams.

Degree Programs

Bachelor of Architecture (BArch) | **Master of Architecture (MArch)** | **Master of Architecture (MArch)**

Additional degree(s) are required beyond Associates and Bachelor of Science degrees in order to become a licensed architect.

The James S. McDonnell Planetarium was designed by architect Gyo Obata with HOK.

03

Examination

Passing the Architecture Registration Exam (ARE) is the final step to becoming a licensed architect. The multi-division exam covers six practice areas that correspond to the practice areas in AXP to assess your knowledge and skill regarding the practice of architecture.

04

Continuing Education

Once you are a licensed architect, you must complete required continuing education in order to maintain your license. The AIA provides many interesting and engaging continuing education opportunities each year.

The beginning salary of an Architecture Graduate in the St. Louis region averages $52,000*

*** based on 2023 Compensation & Benefits Report from the AIA**

"Good ideas come from everywhere. It's more important to recognize a good idea than to author it."

Jeanne Gang, American Architect

Education

High School

High school courses that will help you prepare for architecture school include:

Honors and AP courses of any type will help prepare you for rigorous college coursework.

Studio art classes will help you learn sketching and drawings skills. Mechanical drawing and computer aided design (CAD) classes are not required, but could prove beneficial.

Physical sciences, including physics, will help you prepare for required college-level physics courses.

English and humanities classes will develop your writing abilities.

Speech or debate classes will help you present your design studio projects and be at ease with public speaking.

Math, including trigonometry. Calculus is also recommended, but not required.

College

Architecture programs at different universities will offer different experiences. Some will be more technical, while others will be more theoretical. You will complete general coursework before or while completing architecture-specific studies. Classes you can anticipate taking as part of the architectural coursework include:

- Design Studio*
- Design Thinking
- Architecture History
- Structures
- Materials and Assemblies
- Environmental Technology
- Theory
- Building Systems
- Professional Practice

Additional Opportunities
- Study Abroad
- Competition Teams
- Student Organizations - including American Institute of Architecture Students (AIAS)

* Design Studio is a core part of the architecture curriculum where you will be encouraged to think creatively, test ideas through trial and error, collaborate, and build a strong work ethic. You will talk with instructors and peers about your design ideas and receive constructive feedback to help improve your design skills. Your studio mates will become some of your closest friends.

The Jewel Box in Forest Park is a greenhouse designed by architect William C.E. Becker with a solid roof and stepped glass facade rather than a glass roof to prevent breakage during our frequent hail storms. The Jewel Box was restored by Christner Architects in 2002.

The St. Louis Chapter of the National Organization of Minority Architects (STLNOMA) offers a free design camp each summer.

https://www.stlnoma.com/project-pipeline

The University of Arkansas offers in-person and virtual summer camps to explore architecture while you are still in middle and high school.

https://fayjones.uark.edu/news-and-events/design-camp.php

The iconic St. Louis skyline

Regional Architecture Schools

Missouri

Washington University
Sam Fox School of Design and Visual Arts
College of Architecture
https://samfoxschool.washu.edu/academics/college-of-architecture

- Master of Architecture* (2-3 years, post-bachelor)
- Bachelor of Science in Architecture (4 years)
- Bachelor of Arts in Architecture (4 years)
- Master of Science in Architectural Studies (1 year)

University of Missouri
Department of Architectural Studies
https://arch.missouri.edu/

- Bachelor of Science in Architectural Studies (4 years)
- Master of Architecture (1 year, post-bachelor) (as of 2025 seeking NAAB accreditation)

University of Missouri - Kansas City
School of Science and Engineering
https://architecture.sse.umkc.edu/

- Bachelor of Architecture (5 years)

Drury University
Hammons School of Architecture
https://www.drury.edu/architecture/

- Master of Architecture* (5 years)
- Bachelor of Science in Architectural Studies (4 years)

Ranken Technical College
https://ranken.edu/programs/architecture/

- Associate of Science in Architectural Technology (2 years)
- Bachelor of Science in Architectural Technology (4 years)

Illinois

Southern Illinois University
School of Architecture
https://arch.siu.edu/

- Master of Architecture* (1-3 years, post-bachelor)
- Bachelor of Science in Architectural Studies (4 years)

University of Illinois - Chicago
School of Architecture
https://arch.uic.edu/

- Master of Architecture* (3 years, post-bachelor)
- Master of Science in Architecture (1 year, post-bachelor)
- Bachelor of Science in Architecture (4 years)
- Bachelor of Arts in Architectural Studies (2 years)

University of Illinois - Urbana Champaign
School of Architecture
https://arch.illinois.edu/

- Master of Architecture* (2-3 years, post-bachelor)
- Master of Science in Architectural Studies (1-2 years)
- Bachelor of Science in Architectural Studies (4 years)

Illinois Institute of Technology
College of Architecture
https://arch.iit.edu/

- Master of Architecture* (2-3 years, post-bachelor)
- Bachelor of Architecture* (5 years)
- Master of Science in Architecture (1.5 years, post-bachelor)
- Master of Tall Buildings and Vertical Urbanism (1 year, post-bachelor)
- Master of High Performance Buildings (1 year, post-bachelor)
- Doctor of Philosophy in Architecture (4 years, post-masters)

Arkansas

University of Arkansas
Fay Jones School of Architecture and Design
https://fayjones.uark.edu/

- Bachelor of Architecture* (5 years)
- Bachelor of Science in Architectural Studies (4 years)

Iowa

Iowa State University
College of Design
https://www.design.iastate.edu/academics/departments/department-of-architecture/

- Master of Architecture* (2-3 years, post-bachelor)
- Master of Science in Architecture (1-2 years, post-bachelor)
- Bachelor of Architecture* (5 years)

*indicates NAAB accredited program

Kansas

Kansas State University
College of Architecture, Planning, and Design
https://apdesign.k-state.edu/

- Master of Architecture* (5 years)
- Master of Architecture* (2-3 years, post-bachelor)
- Master of Science in Architecture (2 years, post-bachelor)

University of Kansas
School of Architecture & Design
https://arcd.ku.edu/

- Master of Architecture* (5 years)
- Master of Architecture* (2-3 years, post-bachelor)
- Master of Arts in Architecture (2 years, post-bachelor)
- Doctor of Philosophy in Architecture (3+ years, post-bachelor)

Kentucky

University of Kentucky
College of Design
https://design.uky.edu/academics/school-architecture

- Master of Architecture* (2-3 years, post-bachelor)
- Bachelor of Arts in Architecture (4 years)

Nebraska

University of Nebraska – Lincoln
College of Architecture
https://architecture.unl.edu/

- Master of Architecture* (2 years, post-bachelor)
- Bachelor of Science in Design: Architecture (4 years)

Oklahoma

Oklahoma State University
College of Engineering, Architecture and Technology
https://ceat.okstate.edu/arch/

- Bachelor of Architecture* (5 years)
- Bachelor of Architecture in Architectural Design Studies (4 years)

> "Architecture itself can not make a more equitable world... but we can contribute with specific actions."
>
> Mariam Kamara, Nigerien Architect

University of Oklahoma
Christopher C. Gibbs College of Architecture
https://architecture.ou.edu/architecture/

- Bachelor of Science in Architectural Studies (4 years)
- Bachelor of Architecture* (5 years)
- Master of Architecture* (1-3 years, post-bachelor)
- Master of Science in Planning, Design, and Construction (2 years, post-bachelor)
- Doctor of Philosophy in Planning, Design, and Construction (3+ years, post-bachelor)

Tennessee

University of Tennessee, Knoxville
College of Architecture + Design
https://archdesign.utk.edu/academics/school-of-architecture/

- Bachelor of Architecture* (5 years)
- Master of Architecture* (2-3.5 years, post-bachelor)

University of Memphis
Department of Architecture
https://www.memphis.edu/architecture/

- Master of Architecture* (1.5-2 years, post-bachelor)
- Bachelor of Fine Arts in Architecture (4 years)
- Bachelor of Fine Arts in Architecture and Interior Architecture dual major (4 years)

Above: The Gateway Arch grounds and museum reopened in 2018 after a 4-year, $380 million renovation and expansion. The museum design team included James Carpenter, Cooper Robertson, Trivers Associates, and exhibition designer Haley Sharpe. Landscape architect Michael Van Valkenburgh reimagined the grounds and reconnected them to the city.

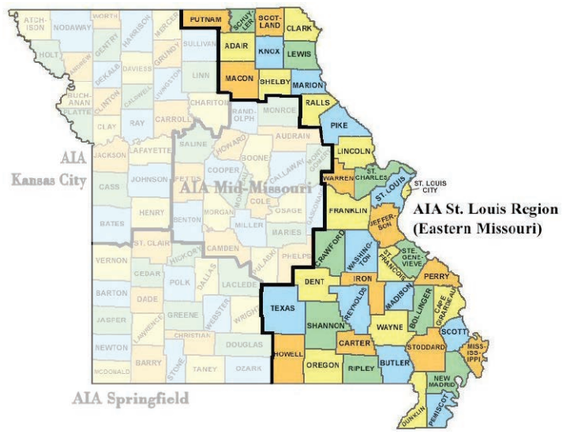
AIA St. Louis Scholarship Fund

Founded in 1965, the AIA St. Louis Chapter Scholarship Fund is one of the largest architectural scholarship programs in the country and provides financial assistance to students completing their studies in architecture.

Scholarships are provided to students entering their third year and beyond for degrees in architecture at schools accredited by the National Architecture Accrediting Board (NAAB).

Students eligible for scholarship must be born or raised in the greater St. Louis Region including the counties in the AIA St. Louis membership area (see map). Additional eligibility includes those who have lived in the St. Louis area for a minimum of two years, are local registered voters, and/or working and paying local income tax.

https://www.aia-stlouis.org/general/custom.asp?page=AIASTLScholarshipFund



Fun Experiences

Architecture Word Search

j h g a b l e o k y k b o d g w o d n i w c n
g c x x e b i k d r c a h z e x b v z p x o o
d d j a q u o i n s x l f f l k c m e q r l n
c e c d t t f c r s h o i e p g h h r a e u w
w n t n f t s l r e d g h q e b i o f r m m q
x o e u t r l t e l d r c b e o m m a c r n k
k t p t v e t n v c z e r g t y n l n a o r v
c s a o k s f e e x m p o i s s e i l d d k g
o y r r k s r m l h x k p y o t y n i e o a e
u e a u z n i i i w d o m e o o a t g x m o l
c k p l v w e d t x z a r c h o v e h q q c b
d x c l t k z e n c o r b e l p v l t p w u a
e o i i c g e p a c v c h t l d m z n i c l g
v q w s m u a n c n q q m u f f a c a d e u m
n y k c o r n i c e z y n o c l a b n c c s x
w c s z l g b b h f g a r g o y l e z i j b x

arcade
arch
balcony
buttress
cantilever
chimney
column
corbel
cornice
dome
dormer
facade
fanlight
frieze
gable
gargoyle
keystone
lintel
oculus
parapet
pediment
pergola
porch
quoins
rotunda
sill
steeple
stoop
window


arcade


arch


balcony


buttress


cantilever


chimney

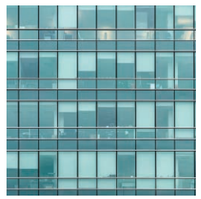

column


corbel


cornice


dome


dormer


facade


fanlight


frieze


gable


gargoyle


keystone

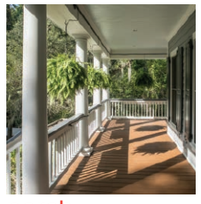

lintel

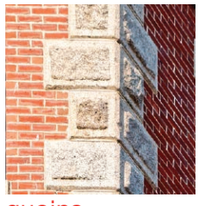

oculus

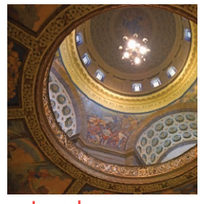

parapet


pediment

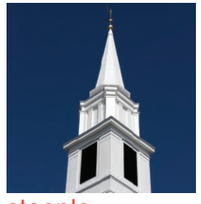

pergola

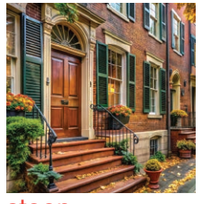

porch


quoins


rotunda


sill


steeple


stoop

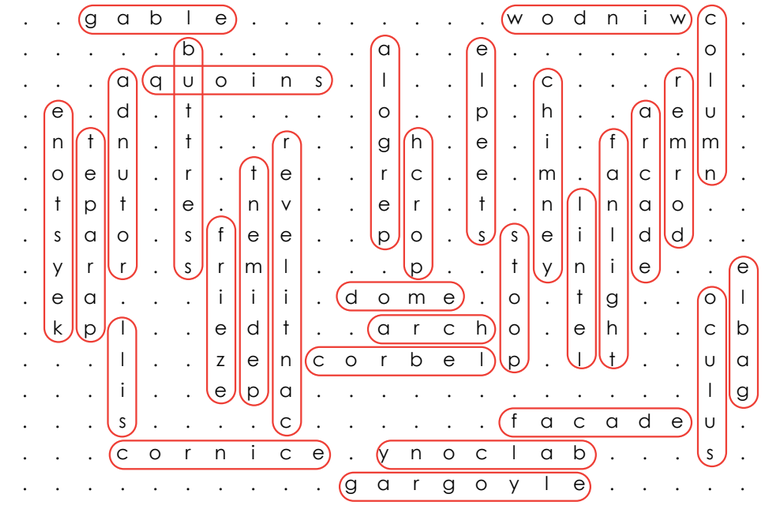

window

St. Louis Architecture Bingo

Go out and engage with our city.
How many St. Louis landmarks can you check off?
Can you get a BINGO?

Solutions

Word Search Answer Key



Bingo Location Key

Gateway Arch	Missouri History Museum	St. Louis City Hall	Cathedral Basilica of St. Louis	St. Louis Lambert International Airport Terminal
Brookings Hall at WashU	Busch Stadium	Stifel Theatre	Old Courthouse	St. Louis Public Library Central Library
Grand-Leader Building	James S. McDonnell Planetarium		Jewel Box at Forest Park	Nathan Frank Memorial Bandstand at Forest Park
Saint Louis Art Museum	Powell Hall	Civic Courts Building	The Fabulous Fox Theatre	Wainwright Building
St. Louis Union Station	Eads Bridge	Climatron at Missouri Botanical Garden	Ted Drewes	World's Fair Pavilion at Forest Park

Resources

> "Recognizing the need is the primary condition for design."
>
> Charles Eames, American Architect

Organizations

AIA St. Louis
The St. Louis Chapter of the American Institute of Architects
https://www.aia-stlouis.org/

American Institute of Architects
https://www.aia.org/resource-center/aia-k-12-pathway-initiatives

American Institute of Architecture Students (AIAS)
https://www.aias.org/

13 Things Aspiring Architects Need to Know
https://www.thoughtco.com/how-to-become-an-architect-175935

Steedman Architectural Collection at St. Louis Public Library
https://steedman.slpl.org/

Architecture Career Guide
https://www.archcareersguide.com/

Association of Collegiate Schools of Architecture (ACSA)
https://www.acsa-arch.org/

National Council of Architectural Registration Boards (NCARB)
https://www.ncarb.org/

St. Louis Chapter of the National Organization of Minority Architects (STLNOMA)
https://www.stlnoma.com/

National Organization of Minority Architects (NOMA)
https://noma.org/

National Organization of Minority Architecture Students (NOMAS)
https://www.noma.net/nomas-chapters-alphabetical-list/

Center for Understanding the Built Environment
https://cube-education.org/

Center for Architecture and Design
https://www.cfadkc.org/

After School, Summer, and Online Programs

Aim High
https://aimhighstl.org/

Alberti Program
https://samfoxschool.washu.edu/collaborations/socially-engaged-practice/alberti-program

Building Futures
https://buildingfuturesstl.org/

Project Pipeline
https://www.stlnoma.com/project-pipeline

Washington University Sam Fox School Pre-College Programs
https://samfoxschool.washu.edu/academics/pre-college-programs

Ranken Technical College Adventure Academy
https://ranken.edu/adventureacademy/

University of Arkansas Fay Jones School of Architecture and Design - Design Camp
https://fayjones.uark.edu/news-and-events/design-camp.php

AIA Cleveland Home Architecture Camp
https://www.aiacleveland.com/home-architecture-camp

Scholarships

AIA St. Louis Scholarship Fund
https://www.aia-stlouis.org/general/custom.asp?page=AIASTLScholarshipFund

AIAS
https://www.aias.org/career/scholarships/

Architects Foundation
https://architectsfoundation.org/scholarships/

Online Architecture Publications

Arch Daily
https://www.archdaily.com/

Dezeen
https://www.dezeen.com/

Closing

THANK YOU for your interest in the profession we love.

Are you interested in learning more, shadowing an architect, or having one of us speak at your school?

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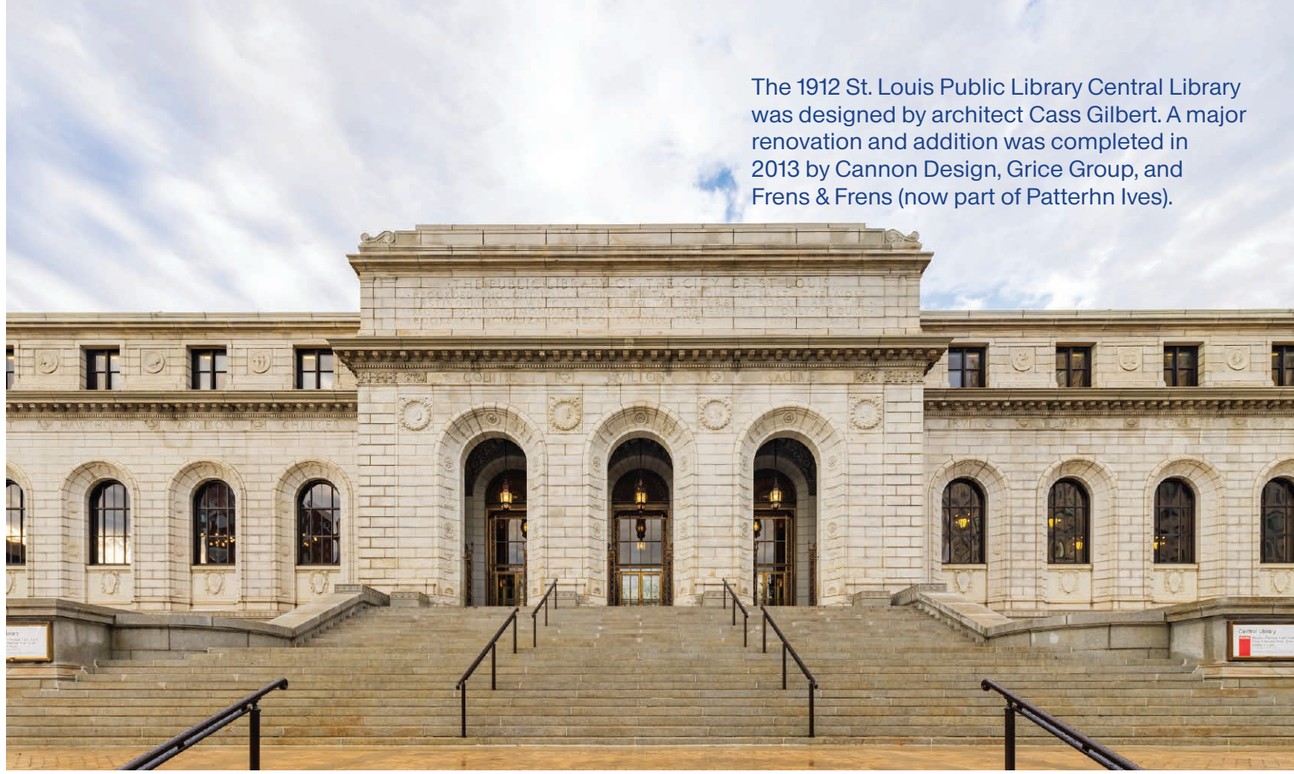

The 1912 St. Louis Public Library Central Library was designed by architect Cass Gilbert. A major renovation and addition was completed in 2013 by Cannon Design, Grice Group, and Frens & Frens (now part of Patterhn Ives).

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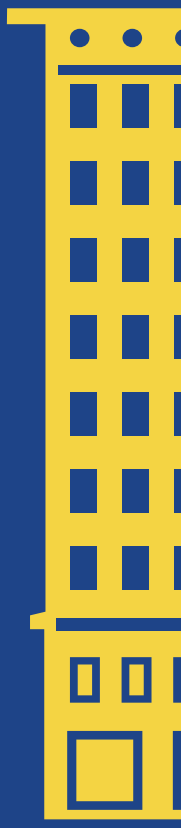

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