

Today's Kids
Tomorrow's Future

MEET YOUR SPEAKER



“ I THINK WORKING WITH TOMORROW'S LEADERS, WHETHER ON THE K-12 OR COLLEGE LEVEL, IS INSPIRING. CREATING ENVIRONMENTS WHERE THESE EDUCATORS AND STUDENTS CAN WORK, LEARN AND LIVE IS INCREDIBLY SPECIAL TO ME. ”

Fred Schmidt, FAIA, LEED AP
FSB Education Design Studio Principal

As an AIA Fellow and Principal of FSB's Education Design Studio, Fred has worked with multiple school districts to develop Pre K-12 curriculum based on multi-discipline and multi-subject creative problem solving. Creating learning environments that impact both design and education is something that Fred is dedicated to incorporating into his projects.

TOURING FSB PROJECTS

Forensic Science Center
**Oklahoma State Buerau of
Investiagtion (OSBI)**



TOURING FSB PROJECTS

Forensic Science Institute
University of Central Oklahoma

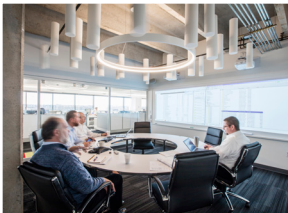


TOURING FSB PROJECTS

Reservoir Technology Center Chesapeake Energy



ABOUT FSB



150+
employees



135
design awards

14
disciplines



7
market sectors



projects in
300+
cities



71
years of
collaboration

MY JOURNEY HERE



LICENSED
ARCHITECT
1976

BLOGGER

LIFETIME
ACHIEVEMENT
2014

MIDWEST
CITY
H.S. ALUM

AIA COLLEGE
OF FELLOWS
1993

FSB PRINCIPAL
EDUCATION MARKET

MILITARY
DEPENDENT

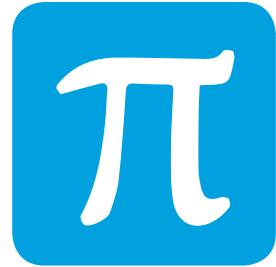
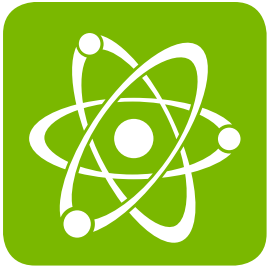
OU B. ARCH

TWEETER

STUDY ABROAD;
FRANCE, SPAIN

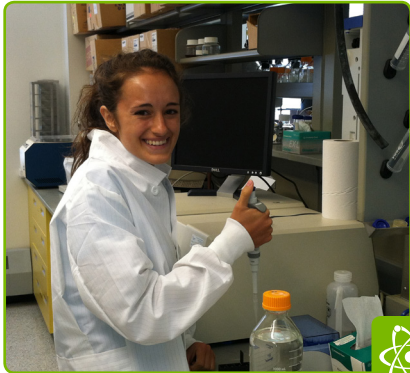
WHAT IS STEM?

science • technology • engineering • math



HOW DO YOU DEFINE SCIENCE?

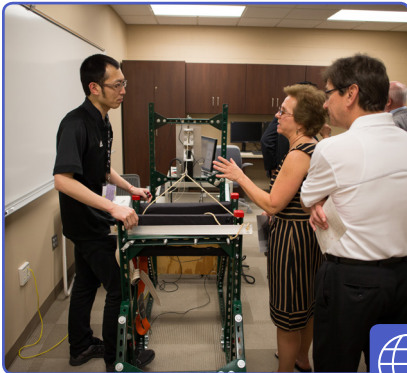
science • technology • engineering • math



- Air, Earth, Fire, Water
- Biology
- Chemistry
- Physics
- Rocket Scientist (Astro-Physicist)
- Natural
- Behavioral
- Social

HOW DO YOU DEFINE TECHNOLOGY?

science • **technology** • engineering • math



- Computers
- Programming
- Information Technology/ Systems
- Smart Devices
- Advances in construction materials and techniques
- Advances in machines and manufacturing
- Advances in weaponry
- Advances in science and medicine

HOW DO YOU DEFINE ENGINEERING?

science • technology • **engineering** • math



- Civil
- Structural
- Mechanical
- Electrical
- Fire Protection
- Chemical
- Aerospace
- Computer
- Petroleum

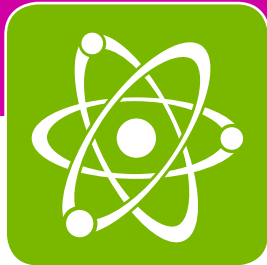
HOW DO YOU DEFINE MATH?

science • technology • engineering • **math**



- Numbers
- Addition
- Subtraction
- Multiplication
- Geometry
- Algebra
- Calculus
- Pure and Applied Mathematics
- The Science of Quantity - Aristotle

HOW DO EDUCATORS DEFINE STEM?



SCIENCE

The study of the natural world



TECHNOLOGY

Any product made by humans to meet a want or need



ENGINEERING

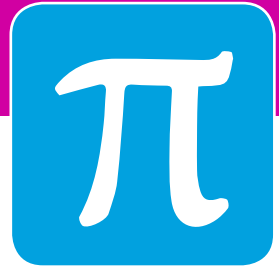
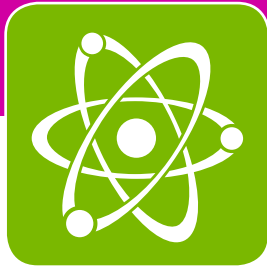
The design process used to solve problems



MATH

The language of numbers, shapes and quantities

WHAT IS STEM EDUCATION?



A focus on the real world applications of **problem solving**

An **interdisciplinary** and applied approach to teaching the 4 STEM disciplines

Get kids excited and pique their interest in wanting to pursue STEM courses

STEM CAREER PATHS?

Engineering

Scientific
Fields

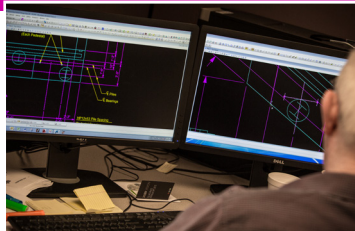
Computer
Science /
Information
Technology

Finance

Architecture



When you drill down, the
list seems endless



Not all STEM Jobs
require higher education
or college degree



However, a **4 year degree**
is incredibly helpful with
salary

BEST STEM JOBS?

(According to US News & World Report)

Based on Number of Jobs Available / Salary

- Web Developer
- Accountant
- Biomedical Engineer
- IT manager
- Financial Advisor
- Information Security Analyst
- Mathematician
- Industrial Psychologist
- Mechanical Engineer
- Environmental Engineer
- Database Administrator
- Actuary
- Computer Support Specialist
- Financial Manager
- Civil Engineer
- Computer Systems Administrator
- Epidemiologist/Medical Scientist
- Biochemist
- Logistician
- Financial Analyst
- Cost Estimator
- Computer Programmer

WHAT WE ARE SEEKING...



EMPLOYEERS

- Workers with 21st century skills
- Workers ready to jump into team environments
- Problem Solvers



EDUCATORS

- Prepare students with Real-World tools and skills
- Prepare students for the workforce
- Prepare students for the future



STUDENTS

- Is there a place for me?
- How can I do what I love?
- How do I get there?

HOW DO STUDENTS PICK CAREERS?

"They actually pay me to do this...?"

- Money
- Job Availability
- Tradition in the Family
- Something you love doing
- Something you're passionate about
- A rewarding career / love going to work

WHAT IS ARCHITECTURE?

ar·chi·tec·ture

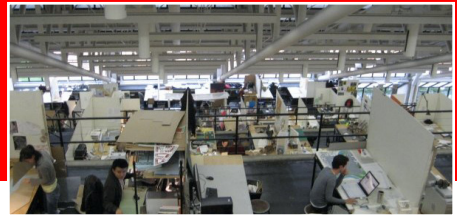
ärktek(t)SHr/

noun

1. the art or practice of designing and constructing buildings.
synonyms: building design, building style, planning, building, construction; formalarchitectonics
2. the complex or carefully designed structure of something.



WHAT IS THE ARCHITECTURE CURRICULUM?



- Science
- Mathematics
- Engineering
- Creative Design Laboratories
- Computer Technology
- Study Abroad (Out of Culture Experience)
- Mentorship (Real World Experience)

ARCHITECTURE DEGREES

Bachelor of
Architecture
(5yrs)

Master of
Architecture
(6yrs)

Doctorate of
Architecture



WHAT DO ARCHITECTS DO?



Architects are trained to be ***PROBLEM SOLVERS***

Architecture is a ***TEAM SPORT***

Architects ***MANAGE AND COORDINATE*** the process

WHAT DO ARCHITECTS DO?

We define the problem.

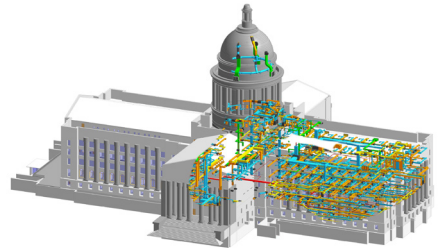
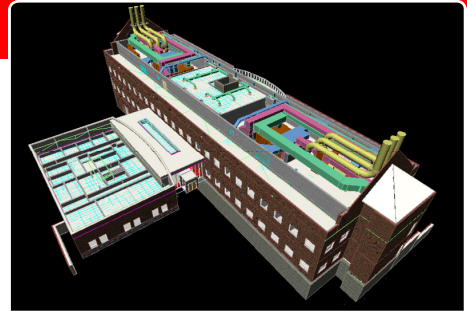
- What are the clients needs, goals and objectives
- What is the future direction of their business
- How do they go about doing their job
 - Where does their work originate*
 - Dissemination of the work / Work Flow*
 - People and material flow*
- Define space requirements
- Work adjacencies
- Collect and analyze data



WHAT DO ARCHITECTS DO?

Innovative design approach

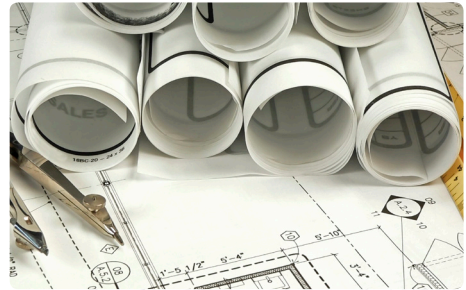
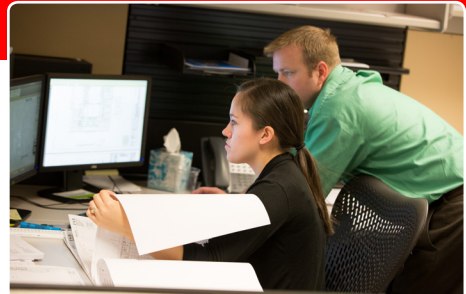
- Interdisciplinary brainstorming
- Materials and systems selections
- Integration of multidisciplinary systems
- Create multiple 3D solutions
- Test options
- Refine the solution



WHAT DO ARCHITECTS DO?

Develop Construction Documents

- Creative design process is continuous
- Integration of systems into one cohesive solution
- Integration of life safety regulations
- Integration of sustainable concepts
- Develop details that marry dissimilar materials/products with each other
- Create documents to communicate the design and construction requirements to the builder



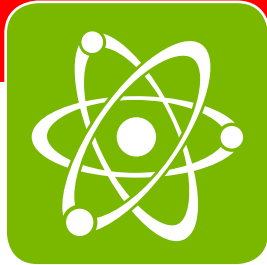
WHAT DO ARCHITECTS DO?

Become the Owner's Agent during Construction

- Observe the construction regularly to make sure that the building is meeting the design intent and quality
- Review submissions and questions from the construction
- Review applications for payment of the work
- Assist the builder in solving problems in the field
- Provide impartial interpretations



WHAT DO ARCHITECTS DO?



SCIENCE

We integrate principles of nature into our solutions



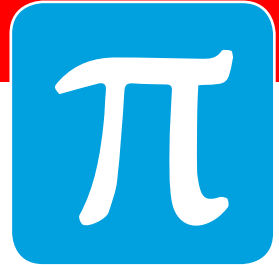
TECHNOLOGY

We design products made by humans



ENGINEERING

We use a disciplined process to solve problems through interdisciplinary collaboration



MATH

We use the language of numbers, shapes and quantities to define our designs

CURRENT FSB PROJECTS

Heartland Middle School
City of Edmond



CURRENT FSB PROJECTS

CEAT Undergraduate Laboratory Oklahoma State University





Thank You!