

THE
GO BUILD
TRAINING MANUAL

XXXXXXXXXXXX

A GUIDE TO CAREERS IN CONSTRUCTION

Featuring Alabama Success | Architecture & Construction

In partnership with

**ALABAMA DEPARTMENT OF EDUCATION
CAREER TECHNICAL EDUCATION**



Developed with the generous support of

ALABAMA POWER FOUNDATION



Presented by

GO BUILD ALABAMA

A dark red, textured map outline of the state of Alabama is positioned on the left side of the image. The map is filled with a dark, almost black, color and has a faint, lighter red outline that defines its shape. The background of the entire image is a vibrant, textured red with a mottled, grainy appearance.

ALABAMA

SUCCESS

Architecture and Construction

A MESSAGE FROM THE GOVERNOR



The investments we make in our students today will help shape their futures for years to come. Our students are destined to become high-performing professionals in all sectors of the workforce.

Alabama SUCCESS is an initiative designed to help students access valuable information about current careers, postsecondary learning, and financial literacy resources.

Our goal is to give students the opportunities they need to prepare themselves for success. We want our students to be well-equipped for top careers in Alabama's

workforce – which has a growing influence on the global marketplace.

This Alabama SUCCESS guide is a great resource to assist in preparing for a bright and successful future.



A handwritten signature in black ink that reads "Robert Bentley".

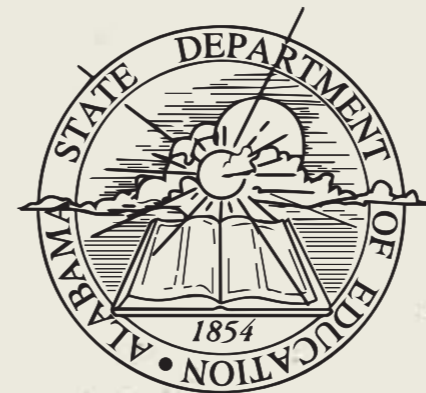
Governor of Alabama

ROBERT BENTLEY

A MESSAGE FROM THE SUPERINTENDENT



Alabama SUCCESS is an invaluable resource designed specifically for students. By learning about actual career fields and the education and experience required for specific jobs, you will be better able to figure out what you want to do after high school and what you need to do to achieve your goals.



Alabama State
Superintendent of Education

DR. THOMAS R. BICE

A MESSAGE FOR

PARENTS & EDUCATORS

When it comes to planning for the future, don't let your student go it alone.

If you're the parent, teacher, or counselor of a student interested in a career in the skilled trades, now is the time to help guide them.

Most students believe that college is the only road to success after graduating high school. And while that is certainly a viable option, there are many other roads that can lead to a meaningful career.

A career in the skilled trades is both accessible and advantageous, and with the right guidance and preparation, you can help your student get there.

We have lots of supplementary materials available to help spark your student's interest in the skilled trades. Just let us know how we can help.



ARCHITECTURE & CONSTRUCTION

Architecture and construction professionals create virtually every structure you see around you, from parks to houses to skyscrapers. Whether you dream of designing a new building or wielding a blowtorch on a construction crew, opportunities are available throughout Alabama for highly skilled, hardworking people in this field.

ALABAMA SUCCESS

Explore 16 different career interest areas in the Career Cluster Education for Students System.

www.altechprep.org

Does the architecture and construction career cluster fit you, your talents, and your dreams? Take this quick quiz to find out.

1

Do you like building things or drawing?

WHY IT MATTERS

In the architecture and construction career cluster, you can either be a designer or a builder.

4

Do you like working with others?

WHY IT MATTERS

Creative work gets judged by audiences, critics, editors, and clients, so dealing with criticism is part of most jobs.

2

Do you enjoy working with tools?

WHY IT MATTERS

Whether you work on the creative design of buildings or the hands-on side, you will need to be skilled at using a multitude of different tools.

5

Do you have a strong attention to detail?

WHY IT MATTERS

The key to working in architecture and construction is accuracy. No matter your job, employers will expect you to manage many details, both large and small.

3

Do you make good grades in math and science?

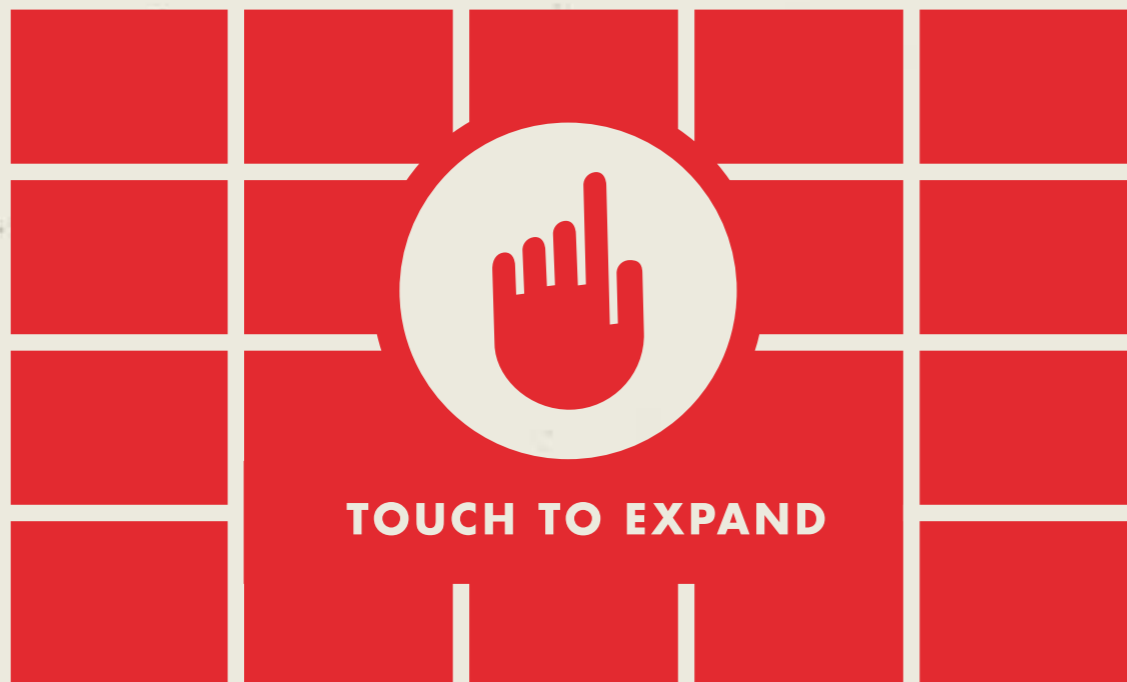
WHY IT MATTERS

Math and science are pivotal to architecture and construction because they serve as the basis for design principles.

If you answered "yes" to most of these questions, architecture and construction could be right for you.



SEE EXAMPLE PLAN



THE ALABAMA EDUCATION PLAN

Map out an Alabama Education Plan based on your interests, strengths, and career goals.

Your plan outlines the courses and electives you'll take in high school, plus related clubs and career preparation. Your counselor will work with you to determine the learning experiences needed for you to complete your plan, such as using distance learning or earning college credit from your local community college.

An Articulation Agreement is a fancy term for a simple education agreement that can streamline your road to a successful career.

Statewide articulation agreements link all high schools and two-year colleges in Alabama. They provide credit at

two-year colleges for coursework mastered at the high school level.

Articulation agreements can take you down your career pathway as well. In many cases, students transferring from two-year to four-year colleges and universities can complete four-year

general studies core course requirements before they transfer.

Get a CAREER AND TECH EDUCATION CERTIFICATE

www.alcareertech.org/cte.html

ALABAMA EDUCATION PLAN

This is a sample plan and should not be considered a definitive plan for any student interested in this career cluster.

	9TH GRADE	10TH GRADE	11TH GRADE	12TH GRADE
MATH	Algebra I	Geometry	Algebra II with Trigonometry	Pre-Calculus or Calculus
ENGLISH	English 9	English 10	English 11	English 12
SCIENCE	Physical Science	Biology	Chemistry	Physics
SOCIAL STUDIES	World History 1500—Present	United States History to 1877	United States History to Present	Government and Economics

Name Jordan Smith

School Central High School

Diploma Option Adv. Career and Tech. Endorsement

Cluster Architecture and Construction

Pathway Design/Pre-Construction

Career Goal Landscape Architect

Postsecondary Goal B.S. in Landscape Architecture

Education and Career

Assessments

8th Grade Interest inventory and education plan initiated for all learners

11th Grade College and placement assessment

Career Learning Experiences

Career preparation—paid and unpaid, internships, job shadowing

Co-Curricular Experiences

Future Business Leaders of America (FBLA)

Extracurricular Experiences

Compete in CIRT-ACE National Design Competition

Service Learning Experiences

Volunteer for Habitat for Humanity; or other construction-based volunteer projects

ALABAMA EDUCATION PLAN

COMMUNITY COLLEGE/HIGHER EDUCATION

General Education Requirements

- ▶ English Composition I
- ▶ English Composition II or SPH 106
- ▶ Humanities Elective
- ▶ Intermediate College Math
- ▶ Microcomputer Applications
- ▶ Math or Science Elective
- ▶ History, Social, or Behavioral Science
- ▶ Orientation for Career Students

Required and CTE Courses

- ▶ Construction Basics (*Statewide articulated course*)
- ▶ Plumbing
- ▶ Masonry
- ▶ Drafting
- ▶ Electrical Technology
- ▶ Cabinetmaking
- ▶ Carpentry
- ▶ Interior Design
- ▶ AgriConstruction
- ▶ Landscape Design and Management
- ▶ Business and Marketing Essentials
- ▶ Interactive Multimedia Design
- ▶ History of Landscape Design
- ▶ History of Landscape Architecture
- ▶ Construction
- ▶ Design Communication
- ▶ History of Urban Design
- ▶ Landscape Ecology

ALABAMA EDUCATION PLAN

Other Optional Courses	Sampling of Career and Technical Education Courses in Pathway	
<ul style="list-style-type: none">▶ Physical Education – 1▶ Health – 1/2▶ Fine Arts – 1/2▶ Computer Application – 1/2▶ Foreign Language I *▶ Foreign Language II * <p>* Alabama First Choice diploma requires 2 years of the same foreign language</p>	<ul style="list-style-type: none">▶ Architecture, Construction, Manufacturing▶ Construction Site Preparation and Foundation▶ Construction Framing▶ Construction Finishing and Interior Systems▶ Residential Masonry I & II▶ Composite Masonry Construction▶ Commercial Masonry▶ Masonry in High-Rise Construction▶ Masonry Special Applications and Finishes▶ Basic Wiring▶ Residential Wiring	<ul style="list-style-type: none">▶ Industrial Wiring▶ Commercial Wiring▶ Electromechanical Controls▶ Introduction to Welding▶ Introduction to Drafting Design▶ Intermediate Drafting Design▶ Advanced Drafting Design▶ Introduction to Architectural Design▶ Intermediate Architectural Design▶ Advanced Architectural Design▶ Three-Dimensional Solid Model Design I & II▶ Structural Drafting▶ Electrical Technology▶ Safety and Health Regulations

Electrical Power Line Installer and Repairer

SOC 49-9051

DESCRIPTION

Install, maintain, and repair electrical wiring and fixtures related to power lines.

STARTING HRLY. WAGE

\$15.80

AVG. HRLY. WAGE

\$25.67

EXPERIENCED HRLY. WAGE

\$33.50

EDUCATION LEVEL

On-the-Job Training

Construction Manager

SOC 11-9021

DESCRIPTION

Develop, organize, schedule, and implement construction projects.

STARTING HRLY. WAGE

\$24.50

AVG. HRLY. WAGE

\$35.76

EXPERIENCED HRLY. WAGE

\$64.26

EDUCATION LEVEL

Bachelor's Degree

Interior Designer

SOC 27-1025

DESCRIPTION

Plan, design, and furnish interiors of residential, commercial, or industrial buildings.

STARTING HRLY. WAGE

\$10.26

AVG. HRLY. WAGE

\$20.34

EXPERIENCED HRLY. WAGE

\$22.71

EDUCATION LEVEL

Associate's Degree

Mechanical Drafter

SOC 17-3013

DESCRIPTION

Create detailed drawings of diagrams of machinery and mechanical devices for architecture and construction projects.

STARTING HRLY. WAGE

\$14.33

AVG. HRLY. WAGE

\$23.06

EXPERIENCED HRLY. WAGE

\$37.79

EDUCATION LEVEL

On-the-Job Training

Landscape Architect

SOC 17-1012

DESCRIPTION

Plan and design land areas for public and private commercial, industrial, and residential sites.

STARTING HRLY. WAGE

\$15.29

AVG. HRLY. WAGE

\$17.86

EXPERIENCED HRLY. WAGE

\$46.77

EDUCATION LEVEL

Bachelor's Degree

Electrical and Electronics Repairer

SOC 49-2095

DESCRIPTION

Maintain, test, and inspect electrical equipment in generating stations, substations, and in-service relays.

STARTING HRLY. WAGE

\$21.75

AVG. HRLY. WAGE

\$29.44

EXPERIENCED HRLY. WAGE

\$34.44

EDUCATION LEVEL

Postsecondary Vocational Training

Civil Engineering Technician

SOC 17-3022

DESCRIPTION

Assist civil engineers in planning and designing roads, bridges, water and sewage systems, and a variety of other private and public building projects.

STARTING HRLY. WAGE

\$12.30

AVG. HRLY. WAGE

\$17.90

EXPERIENCED HRLY. WAGE

\$29.03

EDUCATION LEVEL

On-the-Job Training

Architect

SOC 17-1011

DESCRIPTION

Plan and design structures, such as private residences, office buildings, theaters, and factories.

STARTING HRLY. WAGE

\$19.13

AVG. HRLY. WAGE

\$33.63

EXPERIENCED HRLY. WAGE

\$59.77

EDUCATION LEVEL

Bachelor's Degree

Sheet Metal Worker

SOC 47-2211

DESCRIPTION

Fabricate, assemble, install, and repair sheet metal products and equipment.

STARTING HRLY. WAGE

\$10.06

AVG. HRLY. WAGE

\$15.84

EXPERIENCED HRLY. WAGE

\$24.57

EDUCATION LEVEL

On-the-Job Training

Pile Driver Operator

SOC 47-2072

DESCRIPTION

Control pile-driving machines that provide foundational support for bridges and buildings.

STARTING HRLY. WAGE

\$18.43

AVG. HRLY. WAGE

\$21.46

EXPERIENCED HRLY. WAGE

\$28.16

EDUCATION LEVEL

On-the-Job Training

Civil Engineer

SOC 17-2051

DESCRIPTION

Plan structures such as buildings, highways, and bridges, ensuring the best and safest materials and methods are used.

STARTING HRLY. WAGE

\$20.03

AVG. HRLY. WAGE

\$33.33

EXPERIENCED HRLY. WAGE

\$54.51

EDUCATION LEVEL

Bachelor's Degree

Construction & Building Inspector

SOC 47-4011

DESCRIPTION

Inspect structures to determine structural soundness and compliance with specifications, building codes, and other regulations.

STARTING HRLY. WAGE

\$14.48

AVG. HRLY. WAGE

\$22.57

EXPERIENCED HRLY. WAGE

\$34.76

EDUCATION LEVEL

On-the-Job Training



GETTING READY

HIGH SCHOOL

9TH GRADE

- ▶ Research your career options based on your interests, talents, and goals.
- ▶ Choose a career cluster.
- ▶ Create an [Alabama Education Plan](#).
- ▶ Course selection and grades really do count when you are applying to colleges and training programs.
- ▶ Keep a folder or portfolio of your activities, awards, accomplishments, and work experience.

10TH GRADE

- ▶ Consider taking the PLAN (pre-ACT) if you plan to apply to a two-year college or university in the future.
- ▶ Consider taking the PSAT (preliminary SAT/ National Merit Scholarship Test).
- ▶ Use the information in your portfolio to create a résumé.
- ▶ Apply for summer jobs, internships, or volunteer activities related to your career cluster.



GETTING READY

HIGH SCHOOL

11TH GRADE

- ▶ Take the PSAT/NMSQT.
- ▶ Research postsecondary education options related to your career goals.
- ▶ Register to take either the ACT or the SAT I and SAT II Subject Tests.
- ▶ Apply for summer jobs, internships, and volunteer activities related to your career goals.
- ▶ Use www.fafsa4caster.ed.gov to determine your financial aid eligibility.

12TH GRADE

- ▶ In the fall, apply to postsecondary programs and retake any standardized college admissions tests if you would like to improve your score.
- ▶ Beginning in November, complete college financial aid forms.
- ▶ In the spring, choose your postsecondary program on the basis of where you have been accepted, costs, etc.
- ▶ Continue doing your best work. Most schools require a final transcript before making your acceptance official.



CHECK OUT THESE PROGRAMS



Most Alabama schools offer these student organizations related to the Architecture & Construction career cluster.

SKILLSUSA

SkillsUSA is a partnership of students, teachers, and industry working to ensure America has a skilled workforce. Programs include student competitions and employer-driven training in all career and technical education areas.

www.skillsusa.org



NATIONAL FFA ORGANIZATION

This federally chartered organization is one of the most critical career and tech student organizations in the field of agriculture. Educational opportunities abound with FFA, particularly for students interested in architecture and construction.

www.ffa.org



TAKING IT TO THE NEXT LEVEL

POSTSECONDARY PROGRAMS

**In Alabama, the learning doesn't stop
with high school graduation.**

Visit the Alabama Commission on Higher Education for a list of public postsecondary (after high school) institutions that may offer programs related to this cluster.

[Alabama Commission on Higher Education »](#)

ALABAMA SUCCESS

Explore 16 different career interest areas in the Career Cluster Education for Students System.

[Alabama Tech Prep Website »](#)



RESOURCES

ACCESS »

ACCESS (Alabama Connecting Classrooms, Educators, and Students Statewide) Distance Learning provides opportunities and options for Alabama public high school students to engage in advanced placement (AP), elective, and other courses to which they may not otherwise have access.

Alabama Career Information Network »

This new web portal increases Alabama students' and families' access to valuable career exploration activities and college financial aid information.

Alabama Commission on Higher Education »

Click on "Colleges & Universities" within this website for a list of four-year institutions in Alabama.

The Alabama Community College System »

Learn all about the public and private two-year colleges in Alabama. Connect directly to each school's website to see the courses, majors, degrees, and scholarships they offer to Alabama students.

Alabama Council of the American Institute of Architects »

The AIA is a large network of licensed architects, interns, and affiliates. Their primary goal is to promote the importance of modern architecture throughout the state.

Alabama Virtual Library »

This site, funded by the Alabama Legislature, provides all students, teachers, and citizens of Alabama with online access to essential library and information resources.

America's Career InfoNet »

Use this site to search for occupational information, industry information, and state-specific labor market information.

O*NET (Occupational Information Network) »

O*NET provides full information on occupations, including state-by-state salary data, employment prospects, and skill matching for students.

U.S. Department of Labor Occupational Outlook Handbook »

A valuable resource for both counselors and students, this federal website offers updated information on careers, job responsibilities and working conditions, salaries, and what jobs will be available in the future.

BUILD
YOUR CAREER





TIME TO GET REAL

XXXXXXXXXXXX

Things change when you graduate high school. All of a sudden, most students are faced with a growing stack of responsibilities. Rent. Bills. Groceries. Car. And to make sure all of those things fit into place, you'll have to start working.

But there's a difference between a job and a career. So if you'd prefer to make a living rather than just get by, it's time to start thinking about the best long-term opportunities for your future.

REALITY CHECK

Don't get overwhelmed by your new financial responsibilities. Check out the widget below to calculate the average cost of living in Alabama and get a head start on balancing your budget.

AVG. COST OF LIVING IN ALABAMA



AVG. COST OF LIVING IN ALABAMA

Estimated 2009–2010 monthly expenses for a 22-year old living in Birmingham



CAR PAYMENT
+\$350
(used 4 door)



CELL PHONE
\$100
(incl. plan)



CAR INSURANCE
\$50
(6 mo. policy)



RENT/UTILITIES
+\$700
(1 Bedroom)



CABLE/INTERNET
\$90
(digital)



GAS
\$124
(1k mi. \$3.10/gal, 25 mg)



GROCERIES
\$200

MONTHLY TOTAL

\$1,614

YEARLY TOTAL

\$19,368

TAXES, RETIREMENT, INSURANCE

30% of your paycheck will have to go to taxes, retirement, and insurance.



**WHY
CONSTRUCTION**



PRESS PLAY

A photograph of a construction site at night, heavily tinted with a red color. In the foreground, several construction workers are silhouetted against the bright red background. One worker is standing on a structure, possibly a crane or scaffolding, while others are positioned around him. The scene is filled with the industrial elements of a construction site, including rebar and structural beams. The overall mood is one of industry and labor.

THE FUTURE IS IN YOUR HANDS

The job market can be a frightening thing to face. Too many people looking for jobs, not enough people hiring. It's a story we hear every day.

BUT IT'S NOT THE WHOLE STORY.

Because America is currently facing a shortage of skilled construction workers. That means that any young men and women who are willing to work hard—and get their hands dirty—will be facing big opportunities.

THE SITUATION

Alabama's construction workforce is getting older—and smaller.



THE SITUATION

Alabama's construction workforce is getting older—and smaller.



For every four people who leave the trades, only one replacement is supplied by apprenticeship programs.



Only 10.4% of Alabama's construction workforce is female.



The average age of a construction tradesman today is 47 years old.

The average tradesman is 47 years old. With 2,875 construction job openings in Alabama every year and thousands of men and women retiring from the trades, our state is facing a significant labor shortage in the skilled trades.

THE SITUATION

Alabama's construction workforce is getting older—and smaller.



4 RETIRING TRADESMEN // 1 APPRENTICE



2 of 6

Only one apprentice steps up for every four tradesmen that leave the industry. If we want our state to continue to prosper, we have to start from the ground up with capable students like you.

THE SITUATION

Alabama's construction workforce is getting older—and smaller.



185K WORKERS NEEDED ANNUALLY IN THE U.S.



When a large percentage of the workforce leaves the trades every year, it starts to add up. With approximately 185,000 workers needed throughout the country annually, the opportunity is there for the taking.

THE INDUSTRY

America wasn't built in a day—and it didn't build itself.

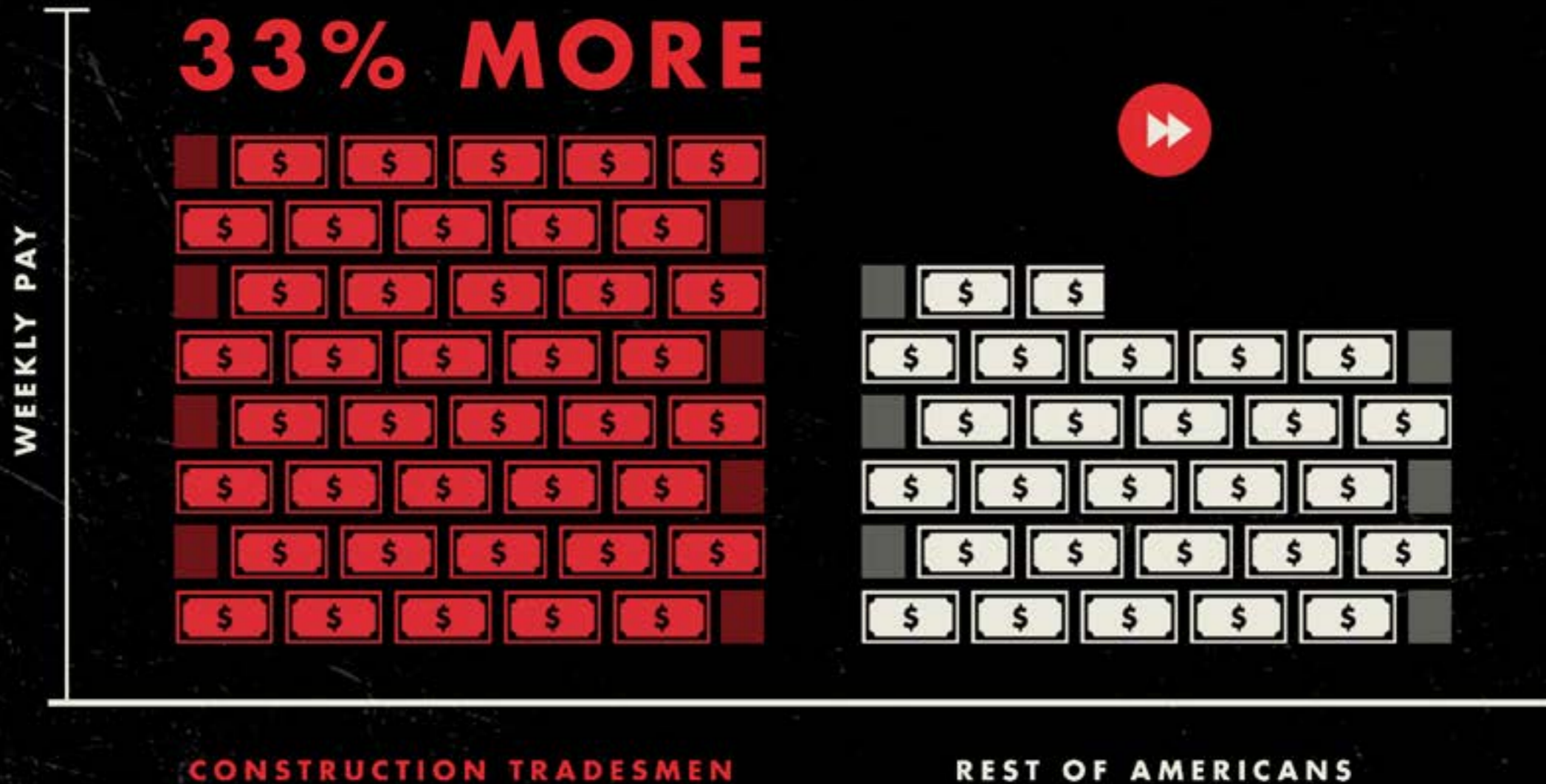


4 of 6

A proud, hard-working corps of men and women has supported the skilled trades for centuries, and with 19% projected growth by 2018 for the construction industry, we have to find new blood to continue to carry our country into the new millennium.

THE OPPORTUNITY

You don't need a four-year degree to make a living.

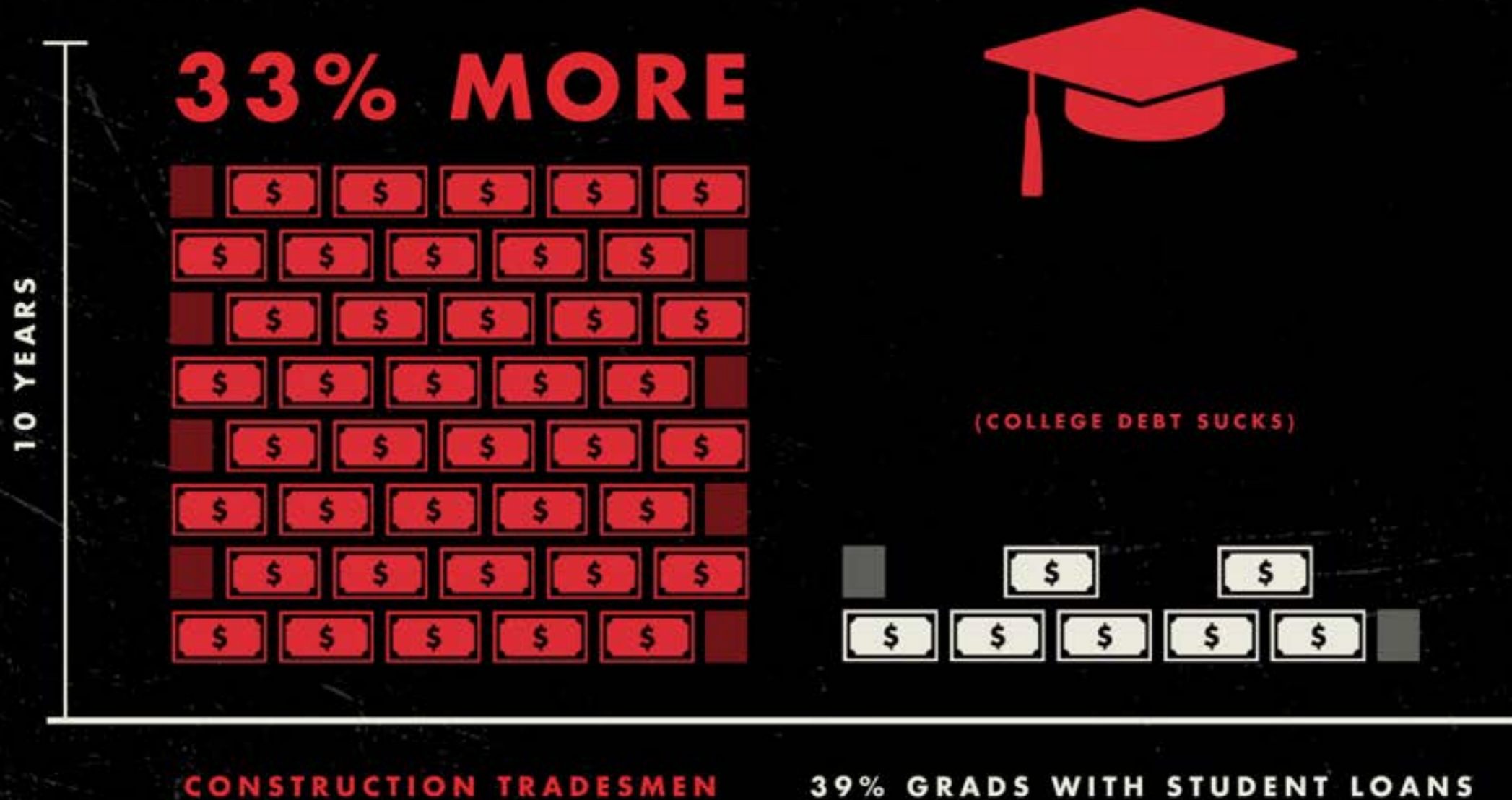


5 of 6

With training programs throughout the state, you can start earning a competitive salary with increasing benefits right away. In fact, commercial construction tradesmen are paid on average 33% more per week than the rest of Americans.

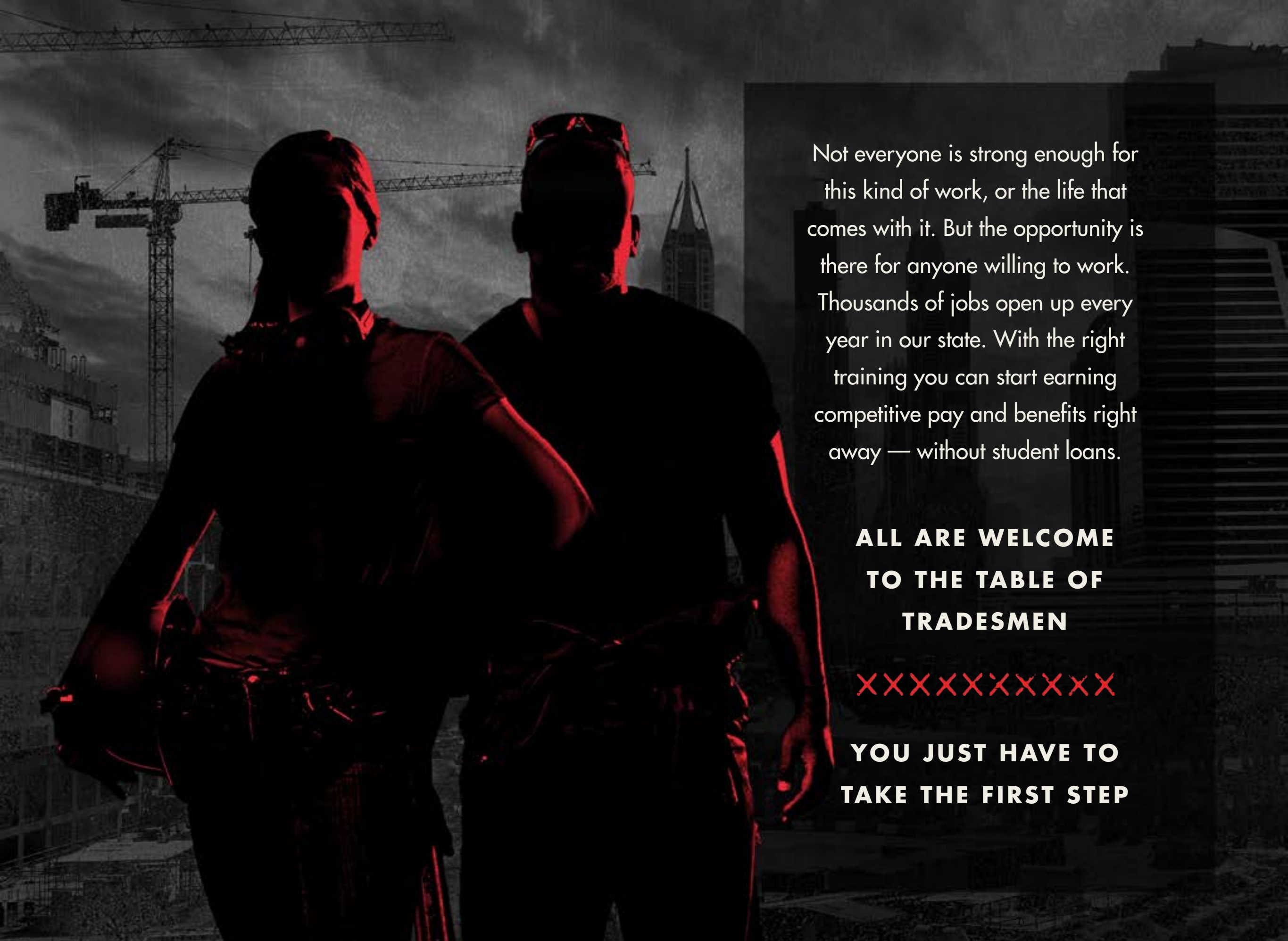
THE OPPORTUNITY

You don't need a four-year degree to make a living.



6 of 6

Not only will you be making more than the average American, you won't have to worry about student loan debt—an amount that takes 39% of college students 10+ years to pay off.



Not everyone is strong enough for this kind of work, or the life that comes with it. But the opportunity is there for anyone willing to work. Thousands of jobs open up every year in our state. With the right training you can start earning competitive pay and benefits right away — without student loans.

**ALL ARE WELCOME
TO THE TABLE OF
TRADESMEN**

XXXXXXXXXXXX

**YOU JUST HAVE TO
TAKE THE FIRST STEP**



MASTER A
TRADE

8.10 | 12

THE FUTURE IS FOR

BOILERMAKERS



PRESS PLAY

SKILLS NEEDED



MED. HOURLY WAGES

\$26.97

EDUCATION REQUIRED

High School Diploma



TRAIN

The name "boilermaker" originates from the craft of making, installing and repairing boilers, but that's not all that these tradesmen do. Boilermakers produce steel fabrications from plates and sections, which means they may also install and repair closed vats and other large vessels that hold and process oil, chemicals, beer and hundreds of other products. In addition, boilermakers may work to install, repair and maintain air pollution equipment, blast furnaces, water treatment plants, smoke stacks, storage and process tanks, fireboxes or hydroelectric power generation turbines.

THE FUTURE IS FOR CARPENTERS

SKILLS NEEDED



MED. HOURLY WAGES

\$21.08

EDUCATION REQUIRED

High School Diploma



TRAIN



PRESS PLAY

Carpenters work with wood and other materials to construct and maintain buildings, tunnels, bridges and other structures. Their duties can range from erecting scaffolding and constructing tunnel bracing to building concrete forms for tunnels, bridges and other projects.



THE FUTURE IS FOR ELECTRICIANS

SKILLS NEEDED



MED. HOURLY WAGES

\$22.32

EDUCATION REQUIRED

Vocational School, On-the-Job, Assoc. Deg.



TRAIN

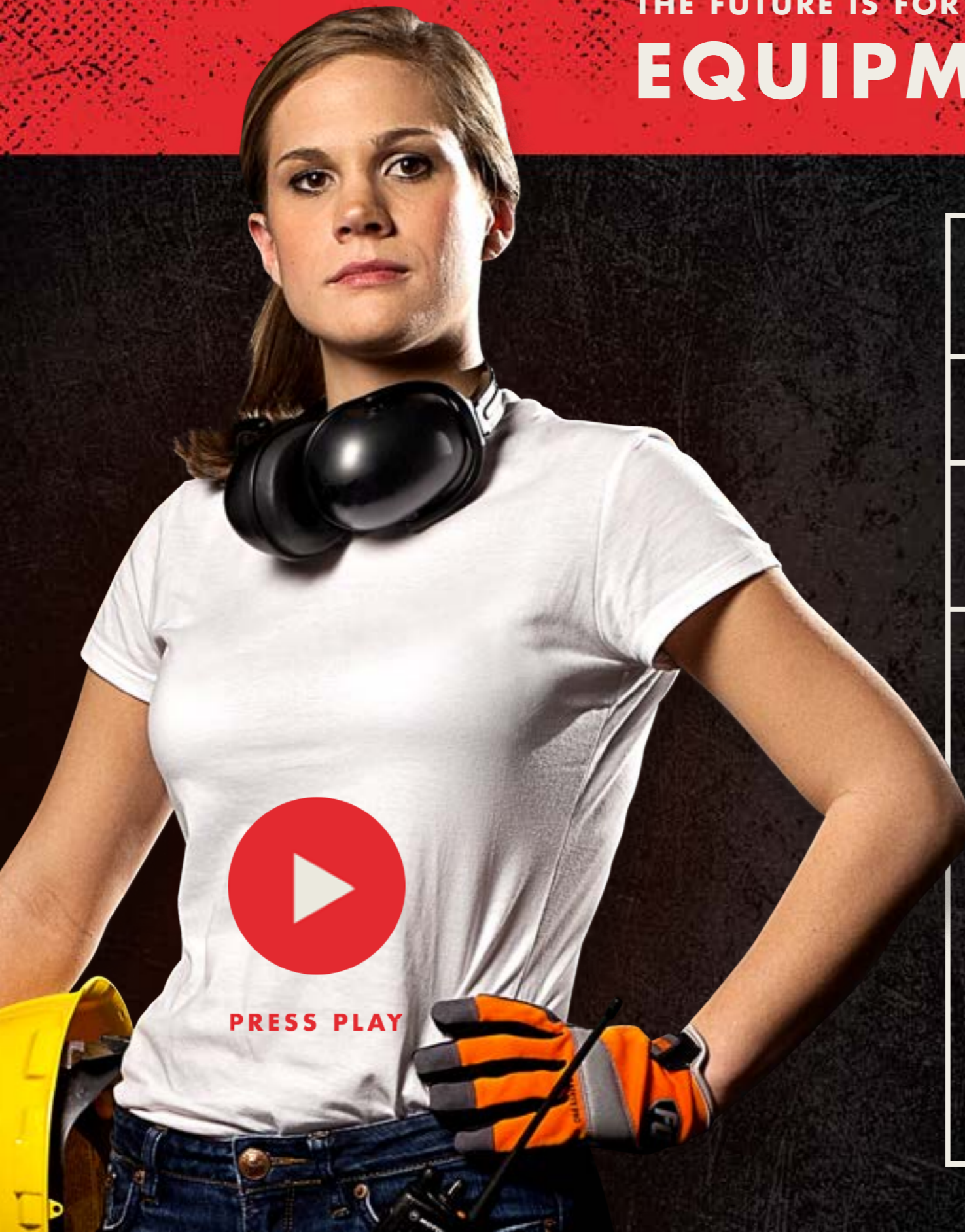


PRESS PLAY

Electricians install and maintain the electrical systems and wiring that power the nation's businesses, factories and homes. These tradesmen use blueprints to determine the locations of circuits, outlets, load centers and panel boards and adhere to local, state and national building codes. When installing, electricians use hand tools such as screwdrivers, conduit benders, pliers and wire strippers. Later, they use ohmmeters, ammeters, voltmeters and other equipment to test connections and ensure that components are compatible and safe.

THE FUTURE IS FOR

EQUIPMENT OPERATORS



PRESS PLAY

SKILLS NEEDED



MED. HOURLY WAGES

\$21.45

EDUCATION REQUIRED

High School Diploma



TRAIN

Equipment operators are responsible for operating machinery at construction sites to help move heavy materials, clear and grade land, build and maintain roads, dig trenches, spread asphalt or any number of important duties. With many recent advancements in technology, contractors must know how to inspect, maintain and adjust their equipment.

THE FUTURE IS FOR

INSULATION WORKERS



SKILLS NEEDED



MED. HOURLY WAGES

\$15.34

EDUCATION REQUIRED

High School Diploma



TRAIN

Insulation workers install the materials used to control and maintain the temperature of buildings and mechanical equipment. Some types of insulation are fastened with adhesive, staples or tape, while others, particularly in attics or exterior walls, are blown in using a machine.

THE FUTURE IS FOR LINEMEN



SKILLS NEEDED



MED. HOURLY WAGES

\$30.10

EDUCATION REQUIRED

Vocational School, On-the-Job, Assoc. Deg.



TRAIN



PRESS PLAY

Linemen are responsible for the construction and maintenance of our country's electrical power systems, including the installation and repair of power lines, transformers, capacitor banks, insulators, fuses and more. A lineman maintains the entire power infrastructure between the point of origin and the point of delivery, working on both live and de-energized lines. A lineman's work often requires working high in the air, occasionally up to 300 feet off the ground, and sometimes requires working in underground vaults or trenches.

THE FUTURE IS FOR MASON



SKILLS NEEDED



MED. HOURLY WAGES

\$21.94

EDUCATION REQUIRED

High School Diploma



TRAIN

Whether you're a brick & blockmason or a cement mason, you'll be working with bricks, cinder blocks, structural tile, mortar and concrete to make your living. You'll be constructing and repairing all types of structures, from floors, walls and fireplaces to columns and foundations.



THE FUTURE IS FOR PAINTERS

SKILLS NEEDED



MED. HOURLY WAGES

\$16.72

EDUCATION REQUIRED

High School Diploma



TRAIN

Painters apply paint, stain, varnish and other finishes to equipment, buildings, bridges and other structures using rollers, brushes and spray guns. To ensure the paint or finish adheres properly, painters often begin a project by removing the old coat of paint. They then prepare the surface by filling cracks, sanding rough spots and washing it to remove dirt and grime. When painting new surfaces, painters apply a primer or sealer to prepare the surface for the top coat. Painters are also responsible for mixing and matching colors and selecting the best, most durable paint for the project.

THE FUTURE IS FOR PIPEFITTERS AND PLUMBERS



PRESS PLAY

SKILLS NEEDED



MED. HOURLY WAGES

\$21.94

EDUCATION REQUIRED

Vocational School, On-the-Job, Assoc. Deg.



Pipefitters and plumbers are responsible for keeping our pipe systems in working order through installation, maintenance and repairs according to specifications and codes. Pipefitters work with the high-pressure and low-pressure pipe systems used in manufacturing, the generation of electricity, and the heating and cooling of buildings, while plumbers install and repair water, waste disposal, drainage and gas systems in buildings of all sizes.



THE FUTURE IS FOR **ROAD BUILDERS**

SKILLS NEEDED



MED. HOURLY WAGES

\$21.45

EDUCATION REQUIRED

High School Diploma



TRAIN

Road builders operate all kinds of equipment used for applying concrete, asphalt or other materials to road beds, parking lots, airport runways and taxiways and other surfaces. These machine operators are also called on for tamping gravel, dirt or other materials. Positions include concrete and asphalt paving machine operators, form tampers, tamping machine operators and stone spreader operators.

THE FUTURE IS FOR

SHEET METAL WORKERS



PRESS PLAY

SKILLS NEEDED



MED. HOURLY WAGES

\$19.37

EDUCATION REQUIRED

High School Diploma



TRAIN

Sheet metal workers fabricate, install and maintain heating and air-conditioning systems, do architectural sheet metal work, construct appliances, heaters and boilers, and perform a variety of other jobs involving sheet metal.

THE FUTURE IS FOR WELDERS

SKILLS NEEDED



MED. HOURLY WAGES

\$22.45

EDUCATION REQUIRED

Vocational School, Prior Exper., Assoc. Deg.



TRAIN



PRESS PLAY

Welding, the process of fastening two pieces of metal together by softening with heat and applying pressure, is a versatile trade that equips welders to work in a variety of industries. Several other construction trades, such as pipefitters, boilermakers and sheet metal workers, incorporate welding skills. Welding is also used to join beams during the construction of buildings, bridges and other structures. These tradesmen often work from blueprints, using their knowledge and training to determine the best way to join the parts.

A woman with blonde hair, wearing a blue patterned bandana and a dark, long-sleeved shirt, stands in a dimly lit construction site. She has a serious expression and is looking directly at the camera. The background is dark and textured, suggesting a building under construction.

BUILDING A NEW PATH

WOMEN IN CONSTRUCTION



PRESS PLAY

GET TO WORK



CHOOSE A CAREER PATH



TOUCH TO START

.01

.02

.03

.04

.05



APPRENTICESHIP

Work while you learn (and get paid while you do it).

If you'd rather bypass the college classroom and go straight into the construction industry, **start your career with an apprenticeship**. You'll learn straight from master craftsmen of the skilled trades—and make some money along the way.

1

JOURNEYMAN

Doing what you love, and getting paid for it.

As a journeyman, you've earned the title of **skilled tradesperson**. And you're earning a living by doing what you love. But no matter what trade you've learned, there's always room for advancement.

2

FOREMAN

You've been a part of the crew. Now be in charge of one.

Every construction crew needs **a skilled leader in charge**. And if you excel at your skilled trade, you'll find opportunities to advance your career by guiding others as the foreman of your own team.

3

SUPERINTENDENT

Directing the day-to-day operations on-site.

When it comes to large construction projects, the superintendent provides **scheduling, supervision, and quality control**. If it happens at a construction site, the superintendent is there to make sure it goes according to plan.

4

SENIOR MANAGER, CEO/COO, COMPANY OWNER

Being your own boss is the ultimate goal.

Once you've learned everything there is to know about the construction industry, you're ready to **run your own business**. And with new jobs arriving every day, there's no limit to your building—and earning—potential.



COMMUNITY COLLEGE

College isn't for everyone, but it can be a great place to start.

A community college degree goes far beyond your standard high school courses to focus on the ins and outs of your desired trade in a traditional classroom environment. If you've got big career ambitions, a degree is always handy.

1

ON-THE-JOB EXPERIENCE

The best way to learn to do anything is to simply do it.

In the construction industry, **learning by doing** is the best way to learn. With degree in hand, your next step is to begin sharpening your skills at any number of training programs throughout the state.

2

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THINGS YOU SHOULD KNOW

BEFORE YOU GO BUILD

- 1. Do the Math**

No matter which area of expertise you choose, math skills matter. Study hard now, because the math you learn in high school and beyond is essential for building a successful career in the trades.
- 2. Stay Clean**

The finely honed skills used by construction tradesmen require complete concentration, which you simply won't have if you're doing drugs. Bottom line? Drug free really is the way to be, whether you're building a career in construction or not.
- 3. Get the Skills**

There's a big difference between skilled tradesmen and general laborers. Not only do skilled tradesmen have technical skills that are specific to their trade, but they also make more money and have better opportunities for advancement.
- 4. Safety First**

When you begin your first construction apprenticeship or degree program, pay careful attention to the information about safety. Not only will the lessons you learn help you succeed, but they just might save your life.

THINGS YOU SHOULD KNOW

BEFORE YOU GO BUILD

5. **Be Your Own Boss**

The career of a skilled tradesman is anything but dead end. The commercial construction industry offers all kinds of opportunities for tradesmen who would like to own their own business someday.

6. **The Sky's the Limit**

No matter where you want to go, a career in the trades has the potential to take you there. Tradesmen with highly specialized skill sets often have opportunities to travel the nation, and even the world.

7. **Build Cities, Not Houses**

If you think you're ready to go build, you need to start thinking big. The best opportunities are often in commercial construction (large-scale building projects such as bridges, hospitals and universities), rather than residential construction (which mainly focuses on single-family dwellings).

8. **What Are You Waiting For?**

Jumpstart your career by enrolling in your high school's career tech classes, applying for the pre-apprenticeships offered by some community colleges, and getting involved with SkillsUSA.



SCHOLARSHIPS

If you're committed to preparing yourself for a career in the trades, there are opportunities to get some help along the way. Check out the scholarship and financial aid opportunities available to see if you qualify:

[**Career Tech Community College Scholarships »**](#)

STUDENT OF THE MONTH

We want to recognize and reward some of the brightest young minds in Alabama's career preparation courses. Think you deserve to be our next Student of the Month? Your teacher or counselor can nominate you for this excellent opportunity on gobuildalabama.com.

[**More on Student of the Month »**](#)

CAREER TECH SCHOLARSHIPS

ANDALUSIA

Lurleen B. Wallace Community College

Presidential Tech Scholarships in Air Conditioning/Refrigeration, Diesel and Heavy Equipment Mechanics, and Welding

334.222.659

BIRMINGHAM

Lawson State Community College

- Educational Trust Fund of the Greater Birmingham Assoc. of Home Builders
- Alabama Homebuilders Scholarship
- AWS Foundation District Scholarship
- D. Fred and Marian L. Bovie Technical Scholarship (Welding)
- AWS Foundation Programs
- Air Conditioning/Refrigeration Scholarship

205.925.2515

BOAZ

Snead State Community College

- B.A.P. Service, Inc. Welding Scholarship
- Harold Jones Endowed Technical Scholarship
- Ntl. Assoc. of Women in Construction
- American Welding Society Scholarship Foundation

- Hall-Taylor Construction Company Scholarship Fund

256.593.5120

BREWTON

Jefferson Davis Community College

Career Tech Scholarships in Air Conditioning/Refrigeration, Design and Drafting, Masonry, and Welding

251.867.4832

DECATUR

Calhoun Community College

AWS Foundation Scholarship (Welding)

256.306.2500, 256.890.4700

EVERGREEN

Reid State Technical College

High School Scholarships

252.578.1313

GADSDEN

Gadsden State Community College

Career Tech Dual Enrollment Scholarship

334.549.8605

HUNTSVILLE

JF Drake St. Community & Tech College

- Grainger Scholarship Fund

- Scholarships for Heating and Air Conditioning Technology

256.539.8161

JASPER

Bevill State Community College

Bevill State Community College Scholarship

205.387.0511x 5725

MONTGOMERY

Trenholm State Technical College

Career Tech Scholarships

334.420.4300

PHENIX CITY

Chattahoochee Valley Community College

Career Tech Scholarship

334.291.4900

RAINSVILLE

Northeast Alabama Community College

- Technical Division Scholarship
- Career/Technical (AAS) Degree Programs or Programs

205.638.4418

THE FUTURE IS IN
YOUR HANDS



BEND IT TO
YOUR WILL

**AMERICA WASN'T
BUILT FROM
BEHIND A DESK**

XXXXXXXXXXXX

Not just anyone can walk up to a construction site and know what they're doing. It takes patience, skill, and attention to detail. But most of all, it takes guts.

Think you've got what it takes to join the Future Skilled Workers of America? See if you measure up to our core values.

JOIN FSWA TODAY »



HELP BUILD AMERICA'S

LEGACY

XXXXXXXXXX

The Go Build Training Manual is meant to educate, to engage, and to encourage. But, we think the best inspiration is the active kind. The kind that makes you want to get up from your seat and get involved in the cause.

No matter what they tell you, America wasn't built by a team of suits drinking coffee and pushing papers all day. America was built by red-blooded, hard-working tradesmen with dirty hands, high spirits, and a strong will to succeed.

Our great state needs people like that now more than ever. All you have to do is answer the call.

XXXXXXXXXXXX

**SO GET UP. GET OUT THERE.
GO BUILD, ALABAMA.**



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XXXXXXXXXXXX



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- Embedded interactive widgets
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