



It's never too early to start planning your future...

## Knowledge is power!

Become informed to make wiser choices for your future!

### *Career Opportunities: The 5 most prominent jobs waiting for you!*

This cluster provides an overview to the various fields of architecture, interior design, construction science, and construction technology. Achieving proficiency in decision making and problem solving is an essential skill for career planning and lifelong learning. Students use self-knowledge, educational, and career information to set and achieve realistic career and educational goals. Job-specific, skilled training can be provided through the use of training modules to identify career goals in trade and industry areas.

### Explore

### Careers in the field of Architecture and Construction...

<u>Architect</u>	<u>Engineering Technician</u>	<u>Construction Manager</u>	<u>Computer-Aided Design (CAD) Drafter</u>	<u>Welder</u>
Consult with clients to determine functional or spatial requirements of structures  Prepare scale drawings  Plan layout of project	Read blueprints, wiring diagrams, schematic drawings, or engineering instructions for assembling electronic units, applying knowledge of electronic theory and components	Confer with supervisory personnel, owners, contractors, or design professionals to discuss and resolve matters such as work procedures, complaints, or construction problems	Analyze building codes, by-laws, space and size requirements, and other technical documents and reports to determine their effects on architectural designs	Weld components in flat, vertical, or overhead positions  Operate safety equipment and use safe work habits
Prepare information regarding design, structure specifications, materials, color, equipment, estimated costs, or construction time	Perform preventative maintenance or calibration of equipment or systems	Plan, schedule, or coordinate construction project activities to meet deadlines	Coordinate structural, electrical and mechanical designs and determine a method of presentation to graphically represent building plans	Layout, position, align, and secure parts and assemblies prior to assembly, using straightedges, combination squares, calipers, and rulers
Integrate engineering elements into unified architectural designs  Prepare contract documents for building contractors	Maintain system logs or manuals to document testing or operation of equipment	Prepare and submit budget estimates, progress reports, or cost tracking reports	Draw rough and detailed scale plans for foundations, buildings and structures, based on preliminary concepts, sketches, engineering calculations, specification sheets and other data	Examine work pieces for defects and measure work pieces with straightedges or templates to ensure conformance and specifications
Direct activities of workers engaged in preparing drawings and specification documents	Write reports or record data on testing techniques, laboratory equipment, or specifications to assist engineers	Inspect or review projects to monitor compliance with building and safety codes, or other regulations	Layout and plan interior room arrangements for commercial buildings using computer-assisted drafting (CAD) equipment and software	Recognize, set up, and operate hand and power tools common to the welding trade such as shielded metal arc and gas metal arc welding equipment
Conduct periodic on-site observation of work during construction to monitor compliance with plans		Inspect or review projects to monitor compliance with environmental regulations		
Seek new work opportunities through marketing, writing proposals, or giving presentations				
Administer construction contracts				



**Wages and Education - Architecture and Construction**

<u>Architect</u>	<u>Engineering Technician</u>	<u>Construction Manager</u>	<u>Computer-Aided Design (CAD) Drafter</u>	<u>Welder</u>
Entry-Level Wage <b>\$19.31/hr</b>	Entry-Level Wage <b>\$11.40/hr</b>	Entry-Level Wage <b>\$18.96/hr</b>	Entry-Level Wage <b>\$11.26/hr</b>	Entry-Level Wage <b>\$9.82/hr</b>
Average Wage <b>\$34.93/hr</b>	Average Wage <b>\$16.42/hr</b>	Average Wage <b>\$42.35/hr</b>	Average Wage <b>\$16.30/hr</b>	Average Wage <b>\$14.74/hr</b>
Experienced Wage <b>\$39.43/hr</b>	Experienced Wage <b>\$18.42/hr</b>	Experienced Wage <b>\$54.05/hr</b>	Experienced Wage <b>\$18.82/hr</b>	Experienced Wage <b>\$17.21/hr</b>
Education 4 yrs: <b>Bachelors Degree</b>	Education 2 yrs: <b>Associate Degree</b>	Education 2 yrs: <b>Associate Degree</b>	Education 2 yrs: <b>Associate Degree</b>	Education 1 yr: <b>Certificate</b> 2 yrs: <b>Associate Degree</b>
<b>COLLEGES and UNIVERSITIES in Rio Grande Valley</b>				
<p><b>TSC</b> – Associate of Science (AS) in: <b>Architecture</b> <a href="#">AS.ARCH</a></p> <p><b>UTB</b> – N/A</p> <p><b>UTPA</b> – Bachelor of Science – Civil Engineering: <b>Program of study under revision. Contact UTPA Academic Advising</b></p> <p><b>TSTC</b> – Associate of Applied Science (AAS) in: <b>Architectural Design and Engineering Graphics Technology</b> <a href="#">Computer Drafting</a></p> <p><b>STC</b> – Associate of Applied Science (AAS) in: <b>Computer Aided Drafting &amp; Design Technology-Specialization: Architectural Drafting</b> <a href="#">(AAS-CAD-ARCH)</a></p>	<p><b>TSC</b> – N/A</p> <p><b>UTB</b> – N/A</p> <p><b>UTPA</b> – N/A</p> <p><b>TSTC</b> – Associate of Science (AS) in: <b>Engineering</b> <a href="#">AAS.ENGR</a></p> <p><b>STC</b> – Associate in Science (AS) in: <b>Engineering</b> <a href="#">AS.INTE</a></p>	<p><b>TSC</b> – Certificate 1 (CERT1) in: <b>Construction Technology</b> <a href="#">CERT1.CNBT.GB</a></p> <p><b>UTB</b> – N/A</p> <p><b>UTPA</b> – Bachelor of Science – Civil Engineering: <b>Program of study under revision. Contact UTPA Academic Advising</b></p> <p><b>TSTC</b> – Certificate of Completion (CC) in: <b>Building Construction Science</b> <a href="#">CC.BCS</a> Associate of Applied Science (AAS) in: <b>Building Construction Science</b> <a href="#">AAS.BCS</a></p> <p><b>STC</b> – Certificate 1 (CERT1) in: <b>Construction Supervision Assistant</b> <a href="#">CT1.CNBT</a> Associate of Applied Science (AAS) in: <b>Construction Supervision</b> <a href="#">AAS.CNBT</a></p>	<p><b>TSC</b> – Certificate 1 (CERT1) in: <b>Computer-Aided Drafting Technology</b> <a href="#">CERT1.DFTG</a> Associate of Applied Science (AAS) in: <b>Computer-Aided Drafting Technology</b> <a href="#">AAS.DFTG</a></p> <p><b>UTB</b> – N/A</p> <p><b>UTPA</b> – N/A</p> <p><b>TSTC</b> – Associate of Applied Science (AAS) in: <b>Digital Media Design Tech.</b> <a href="#">AAS.DMDT</a></p> <p><b>STC</b> – Certificate 1 (Cert1) in: <b>Computer Aided Design &amp; Drafting</b> <a href="#">CT1-CIVL</a> Associate of Applied Science (AAS) in: <b>Computer Aided Drafting &amp; Design Technology-Specialization: Architectural Drafting</b> <a href="#">(AAS.CAD.ARCH)</a> <b>Civil Drafting</b> <a href="#">(AAS.CAD.CIVL)</a> <b>Design &amp; Technical Graphics</b> <a href="#">AAS.CAD.DIGI</a> <b>Geographic Information Systems</b> <a href="#">AAS.CAD.GISC</a></p>	<p><b>TSC</b> – N/A</p> <p><b>UTB</b> – N/A</p> <p><b>UTPA</b> – N/A</p> <p><b>TSTC</b> – Certificate (CERT.WLT) in: <b>Welding Technology</b> <a href="#">CERT.WLT</a> Associate of Applied Science (AAS) in: <b>Welding Technology</b> <a href="#">AAS.WLT</a></p> <p><b>STC</b> – Certificate 1 (Cert1) in: <b>Structural Welding</b> <a href="#">CT1.STWL</a></p>

## High School Courses



## To obtain a career in this career cluster...

### \*Courses Required for all High School Students:

(9 <sup>th</sup> ) Freshmen	(10 <sup>th</sup> ) Sophomores	(11 <sup>th</sup> ) Juniors	(12 <sup>th</sup> ) Seniors
English I	English II	English III	English IV <b>or</b> 4 <sup>th</sup> ELA course
Algebra I <b>or</b> Geometry	Geometry <b>or</b> Algebra II	Algebra II <b>or</b> Pre-Calculus	Pre-Calculus <b>or</b> 4 <sup>th</sup> Math
Biology	Chemistry	Physics	4 <sup>th</sup> Science
W. Geography <b>or</b> W. History	US History	Govt./ Economics	Health (BISD Req.)
Any 2 Levels of Foreign Language (Spanish/ French/German) <b>or</b> Computer Programming Languages		Elective	Elective
1 Credit of Physical Education		Half Credit of Speech	Elective
1 Credit of Fine Arts	Elective	Elective	Elective

*Coursework is based on the Distinguished Level Graduation Program (26 Credits), requirements differ depending on Graduation Plan chosen. Incoming 2014-2015 freshman are required to select a graduation endorsement.*

*\*Local District policy may require additional graduation requirements.*

### Career Electives for Architectural Design or Construction Technology:

Principles of Architecture and Construction	Architectural Design <b>or</b> Construction Technology  <i>(Course taken will depend on selected program of study)</i>	Advanced Architectural Design <b>or</b> Advanced Construction Technology  <i>(Course taken will depend on selected program of study)</i>	Practicum in Architectural Design <b>or</b> Construction Technology  <i>(Course taken will depend on selected program of study)</i>
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Students are encouraged to attend summer institutes, camps, programs, and volunteer to experience more hands-on experiences.

## Learn More About...



## Careers in the field of Architecture and Construction...

Architect	Engineering Technician	Construction Manager	Computer-Aided Design Drafter	Welder
<a href="#">Career Video 1</a>	<a href="#">Career Video 1</a>	<a href="#">Career Video 1</a>	<a href="#">Career Video 1</a>	<a href="#">Career Video 1</a>
<a href="#">Career Video 2</a>	<a href="#">Career Video 2</a>	<a href="#">Lesson 1</a>	<a href="#">Career Video 2</a>	<a href="#">Career Video 2</a>
<a href="#">Career Video 3</a>	<a href="#">Career Video 3</a>		<a href="#">Lesson 1</a>	<a href="#">Lesson 1</a>
<a href="#">Lesson 1</a>	<a href="#">Lesson 1</a>		<a href="#">Lesson 2</a>	<a href="#">Lesson 2</a>
				<a href="#">Lesson 3</a>
				<a href="#">Lesson 4</a> <a href="#">Lesson 5</a>

### Additional Resources for Post-Secondary Education

<a href="#">Take the College Major Quiz</a>
<a href="#">Every Chance Every Texan</a>
<a href="#">College Board.org (SAT)</a> <a href="#">(PSAT)</a> <a href="#">Act.org (ACT)</a>
<a href="#">AchieveTexas.org</a>