



# Architecture & Construction Career Cluster

## PLAN OF STUDY

<http://www.nd.gov/cte/services/career-clusters/>

<http://www.careerclusters.org>

Name \_\_\_\_\_

School \_\_\_\_\_

Date \_\_\_\_\_



(7/10/2010 CTE revision)

### SAMPLE OCCUPATIONS RELATING TO THIS CAREER CLUSTER

Pathway	Occupations (Also Trade and Industry Teachers)
DESIGN-PRE-CONSTRUCTION	Estimator • Architectural Draftsman • Architect • Engineer • Safety Professional • Landscape Architect • Civil Engineer • Environmental Engineering Technician
CONSTRUCTION	Carpenter • Drywall Installer • Painter • Equipment Operator • Electrician • Plumber • Heating/Ventilation/Air Conditioning • Roofer • Boilermaker • Lineworker
MAINTENANCE/OPERATIONS	Building Maintenance Technician • Painter • Interior Designer • Estimator • Carpet Installer • Insulation Worker • Mason • Millwright • Pipefitter • Remodeler

### SUGGESTED COURSE OF HIGH SCHOOL STUDY

It is suggested that students consider appropriate units of dual credit, articulation, or advanced placement opportunities for postsecondary credit.

English (*four units required to graduate; including literature, composition, and speech) Choices may include:	Math (*three units required to graduate) Choices may include:	Science (three units required to graduate) *Required units Choices may include:	Social Studies (three units required to graduate) *Required units Choices may include:	Physical Education (one unit required to graduate) *Required units	Career & Technical Education and Other Electives (three units of foreign or Native American language, fine arts, or career and technical education are required to graduate)	Additional Suggested Learning Opportunities
<input type="checkbox"/> English 9 <input type="checkbox"/> English 10 <input type="checkbox"/> English 11 <input type="checkbox"/> English 12 <input type="checkbox"/> Speech or Debate <input type="checkbox"/> Business English <input type="checkbox"/> Grammar <input type="checkbox"/> Dual Credit Classes	<input type="checkbox"/> Pre-Algebra <input type="checkbox"/> Applied Math  <b>College Prep:</b> <input type="checkbox"/> Algebra I & II <input type="checkbox"/> Geometry <input type="checkbox"/> Trigonometry <input type="checkbox"/> Calculus, or AP Calc <input type="checkbox"/> College Algebra <input type="checkbox"/> Dual Credit Classes	<input type="checkbox"/> *Physical Science <input type="checkbox"/> *Biology <input type="checkbox"/> *1 additional unit  <b>Choices may include:</b> <input type="checkbox"/> Principals of Tech. <input type="checkbox"/> Physics <input type="checkbox"/> Chemistry <input type="checkbox"/> Horticulture/Plant Sci I <input type="checkbox"/> Geology <input type="checkbox"/> Dual Credit Classes	<input type="checkbox"/> *U.S. History <input type="checkbox"/> *American Gov 1/2 and <input type="checkbox"/> *Economics ½, or <input type="checkbox"/> *Problems of Democracy <input type="checkbox"/> *1 additional unit  <b>Choices may include:</b> <input type="checkbox"/> Geography <input type="checkbox"/> ND History <input type="checkbox"/> World History <input type="checkbox"/> Dual Credit Classes	<input type="checkbox"/> *Physical Education 1 unit <b>or</b> <input type="checkbox"/> *Physical Ed ½ unit <b>and</b> <input type="checkbox"/> *Health ½ unit	<input type="checkbox"/> Introduction to Construction Technology <input type="checkbox"/> Construction Technology I & II <input type="checkbox"/> Emerging Technologies <input type="checkbox"/> Introduction to Electricity & Electrical Concepts <input type="checkbox"/> Design/Drafting <input type="checkbox"/> Engineering Technology <input type="checkbox"/> Introduction to Communications Technology <input type="checkbox"/> Energy & Transportation <input type="checkbox"/> Ag Mechanics & Fabrication I & II <input type="checkbox"/> Art Classes <input type="checkbox"/> Intro to Agriculture <input type="checkbox"/> Production & Manufacturing Technology <input type="checkbox"/> Skills for Living <input type="checkbox"/> Introduction to Computer Applications <input type="checkbox"/> Foundations of Agriculture <input type="checkbox"/> Foreign Languages	<b>School-Based:</b> <input type="checkbox"/> Skills USA <input type="checkbox"/> TSA <input type="checkbox"/> FFA <input type="checkbox"/> FCCLA <input type="checkbox"/> Career Research <input type="checkbox"/> Cooperative Education <input type="checkbox"/> Internship <input type="checkbox"/> Job Shadowing <input type="checkbox"/> Service Learning Project  <b>Community-Based:</b> <input type="checkbox"/> Mentorship <input type="checkbox"/> Volunteer <input type="checkbox"/> Part-time Employment

### EXAMPLES OF NORTH DAKOTA APPRENTICESHIP OPPORTUNITIES AND POSTSECONDARY PROGRAMS RELATED TO THIS CAREER CLUSTER

Pathway	Apprenticeship Opportunities	Associate Degree or Less	Bachelors Degree	Masters Degree or More
DESIGN-PRE-CONSTRUCTION		<input type="checkbox"/> Architectural Drafting & Estimating Technology (NDSCS) <input type="checkbox"/> Civil Engineering & Surveying Technology (NDSCS) <input type="checkbox"/> +Engineering Technician (BSC)	<input type="checkbox"/> +Engineering (NDSU, UND) <input type="checkbox"/> Safety Professional (UND) <input type="checkbox"/> +Landscape Architecture (NDSU) <input type="checkbox"/> +Civil Engineering (NDSU, UND)	<input type="checkbox"/> +Architect (NDSU) <input type="checkbox"/> +Structural Engineer (NDSU, UND) <input type="checkbox"/> +Civil Engineering (NDSU, UND)
CONSTRUCTION	<input type="checkbox"/> Bricklayer (Construction) <input type="checkbox"/> Cabinetmaker <input type="checkbox"/> Carpenter <input type="checkbox"/> Electrician <input type="checkbox"/> Gas-Main Fitter <input type="checkbox"/> Insulation Worker <input type="checkbox"/> Ornamental Iron Worker <input type="checkbox"/> Plumber & Pipe Fitter <input type="checkbox"/> Sheet Metal Worker <input type="checkbox"/> Welder	<input type="checkbox"/> +Building Construction Technology (BJCC, FBCC, NDSCS, SBC, TMCC, UTTC) <input type="checkbox"/> +Carpentry (BJCC, BSC, CCCC) <input type="checkbox"/> +Construction Management Technology (NDSCS) <input type="checkbox"/> +Electrical Technology (BSC, NDSCS) <input type="checkbox"/> +Plumbing (BJCC, FBCC, NDSCS) <input type="checkbox"/> Heating Ventilation & Air Conditioning (BSC, NDSCS) <input type="checkbox"/> Architectural Drafting & Estimating (NDSCS) <input type="checkbox"/> +Mechanical Systems (NDSCS) <input type="checkbox"/> +Welder (BSC, FBCC, LRSC, NDSCS, TMCC)	<input type="checkbox"/> +Construction Management (NDSU) <input type="checkbox"/> Safety Director (UND)	
MAINTENANCE/OPERATIONS	For more about Apprenticeships: <a href="http://bat.doleta.gov/bat.cfm">http://bat.doleta.gov/bat.cfm</a>	<input type="checkbox"/> +Building Maintenance Technician (BJCC)	<input type="checkbox"/> Interior Design (NDSU)	

+These major fields may also be found in related clusters including: Ag, Food & Natural Resources, STEM, & Manufacturing.

BJCC – Burdick Job Corps Center, BSC – Bismarck State College, CCCC – Cankdeska Cikana Community College, FBCC – Fort Berthold Community College, LRSC – Lake Region State College, NDSCS – North Dakota State College of Science, NDSU – North Dakota State University, SBC – Sitting Bull College, TMCC – Turtle Mountain Community College, UND – University of North Dakota, UTTC – United Tribes Technical College.

(7/10/2010 CTE revision)