

Career Majors in Construction

Architectural Design/CAD

Carpentry

Construction Electricity

Heating/Ventilation/AC/Plumbing

Welding



Architectural Design/CAD

Curriculum Certified by American Drafting Association



ARCHITECTURAL DESIGN/CAD prepares students for entry-level positions in architectural firms and other related fields or to continue their education in post-secondary institutions. The course develops the basic skills necessary for both architecture and building construction. Methods for developing residential and commercial projects, as well as the proper techniques for the preparation of design presentation and construction drawings, will be taught. Detailed floor plans, foundation plans, building sections and elevations are covered in the coursework. In addition to obtaining the skills needed to understand Architecture and CAD, instruction also includes lessons about architectural history and “green” renewable technologies. Students will utilize computer aided drafting using the AutoCAD software program.

Work Environment

Architects and their associates prepare clear and accurate working plans and detailed drawings from rough sketches. Those associates who specialize in AutoCAD are employed in a variety of firms including architectural, engineering, manufacturing, electronic, aeronautical and landscape companies as well as municipalities and government agencies. They work closely with engineers and other professionals in comfortable, well-lit environments. Travel to job sites may be required to provide accurate measurements for drafting, as well as inspections when construction occurs.

Career Opportunities

Architect
Business Owner (drafting, home improvement, technical consulting)
CAD Operator
Green Technology Consultant
Construction Company Owner
Detailer
Engineer
Estimator
Expeditor
Interior Designer
Landscape Designer
Manufacturer's Representative
Project Manager
Salesperson
Specifications Writer

Advanced Standing Available*

Art Institute of Pittsburgh
Island Drafting & Technical Institute
New England Institute of Technology
Pennsylvania College of Technology
SUNY Delhi

*Advanced Standing may be available to those who successfully complete this Tech course. See Articulation Agreements in Handbook.

Student Supplies:

No student-purchased supplies necessary.

Academic Credits integrated:

Tech Math, Eng 12, Art, CFM, Comp App

CTE Endorsement

Students must successfully meet the academic and attendance criteria for a two-year Wilson Tech Certificate of Completion, be High School diploma eligible, and pass the following national certification exam:
Nat'l Occupational Competency Testing Exam (NOCTI) - Architectural Drafting.

Average Annual Wage

National entry-level to experienced:

\$33,550 - \$59,390

NY entry-level to experienced:

\$34,430 - \$73,320

For more information:

www.careerzone.ny.gov

Course Outline

Careers in Architecture
Equipment & Supplies
Construction Drawings
Presentation Drawings
Residential Design
Commercial Design
Site Planning
Model Making
Computer Aided Drafting
Renewable Green Technology
Building Systems
Revit



Carpentry

Accredited Training & Education Facility - National Center for Construction & Education Research



CARPENTRY develops skills and knowledge of constructing houses and commercial buildings. Students will receive instruction in the proper care and safety of tools and equipment and how to work from plans and specifications. Students will frame and complete the exterior of a structure. They will also complete the interior and construct and install cabinets and counters. They will be exposed to all areas of alterations.

Work Environment

Carpenters work outdoors as well as indoors and should not be afraid of heights. Safety rules must be followed outdoors and in the shop. Hand tools and power tools are used. Advancement will require additional training and education beyond high school and/or experience.

Career Opportunities

Cabinetmaker
Carpenter Foreperson
Estimator
Finish Carpenter
Flooring Installer
Framer
General Carpenter
Roof Installer
Siding Installer (all types)
Stage-set Carpenter
Trimmer (inside)

Advanced Standing Available*

New England Institute of Technology
Pennsylvania College of Technology
SUNY Alfred
SUNY Delhi

*Advanced Standing may be available to those who successfully complete this Tech course. See Articulation Agreements in Handbook.

In agreement with Local 7 Carpenters Union, upon earning a 2 year certificate at Wilson Tech, student will enter union as a 2nd year apprentice earning approximately \$18 an hour.

Student Supplies

1. Work shirt, jeans/carpenter's pants (no shorts)
2. Hard-soled work boots
3. 3 pencils, 3 carpenter pencils, loose leaf paper
4. Tape measure (25' min., 1" wide)
5. Carpenter's tool belt
6. Safety goggles or glasses

Academic Credits integrated:

Tech Math, Tech Phys Sci, Eng 12, Art, CFM, Comp App

CTE Endorsement

Students must successfully meet the academic and attendance criteria for a two-year Wilson Tech Certificate of Completion, be High School diploma eligible, and pass the following national certification exam: National Center for Construction and Education Research (NCCER) Carpentry Exam.

Average Annual Wage

National entry-level to experienced:

\$31,290 - \$54,800

NY entry-level to experienced:

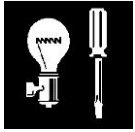
\$31,290 - \$66,790

For more information:

www.careerzone.ny.gov

Course Outline

Shop and Field Safety Procedure
Basic Hand Tools: Care and Maintenance
Power Tools: Care and Maintenance
Interpretation of Blueprints and Drawings
Green Technology
Skills in Accurate Workmanship
House Framing
Roofing
Sheetrock/Spackle
Siding
Stairs
Railing
Flooring
Cabinet Assembly & Installation
Moldings
Door Installation
Suspended Ceilings
Metal framing
Interior Finish



Construction Electricity

Accredited Training & Education Facility - National Center for Construction & Education Research



CONSTRUCTION ELECTRICITY develops skills and knowledge necessary to pursue a career in the electrical construction industry or to continue on to post-secondary education. Instruction includes commercial and residential wiring methods, with a focus on implementing green technology. Solar and wind energy sources are explored. Students install solar panels for residential use, conduit systems which supply power and lighting for use in commercial settings and communication systems.

Work Environment

The electrician may work indoors or outdoors. The construction electrician requires a working knowledge of the construction field, often working closely with other trades such as carpenters and plumbers. Skills in reading plans and schematics are essential. Work involves residential, business, and industrial applications, as well as installation and repair of various electrical devices, systems, and controls.

Career Opportunities

Building Maintenance
Business Owner–
Electrical Contractor
Designer
Electrician
Electrician Helper
Engineer
Estimator

Advanced Standing Available*

Electrical Training Center of L.I.
Lincoln Technical Institute
New England Institute of
Technology
Pennsylvania College of
Technology
SUNY Alfred
SUNY Delhi

*Advanced Standing may be available to those who successfully complete this Tech course. See Articulation Agreements in Handbook.

Student Supplies

1. Heavy-duty hard soled safety shoes
2. Work shirt and work pants/jeans

Academic Credits integrated:

Tech Math, Tech Phys, Sci, English 12, CFM, Comp App

CTE Endorsement

Students must successfully meet the academic and attendance criteria for a two-year Wilson Tech Certificate of Completion, be High School diploma eligible, and pass the following national certification exam: National Center for Construction and Education Research (NCCER) Electrical Exam.

Helpful Preparatory Courses

Drafting
Industrial Arts
Ninth and Tenth Grade Math

Average Annual Wage

National entry-level to experienced:
\$22,560 - \$33,810
NY entry-level to experienced:
\$25,440 - 42,060
For more information:
www.careerzone.ny.gov

Course Outline

Basic Electrical Theory
Residential Wiring
Commercial Wiring
Industrial Wiring
Installation of Wiring Systems
Drawings and Schematics
Control Equipment
Test Equipment
Electric Codes
Motor Installation
Troubleshooting
OSHA Standards



Heating/Ventilation/AC/Plumbing

Accredited Training & Education Facility - National Center for Construction & Education Research



HVAC develops skills and knowledge of servicing and repairing refrigeration, air-conditioning, heating and ventilation systems for home, business and industry. In addition, students will be provided with a review of plumbing basics including piping for kitchens and bathrooms.

Work Environment

People in this trade work both indoors and outdoors, independently and in groups. Initiative and independence are required to install, maintain and repair plumbing and environmental control equipment.

Career Opportunities

Assembler of Components
EPA Certification
Factory Representative
Oil burner Repairperson
Parts Salesperson
Refrigeration, A/C and Heating Unit Repairperson
Research and Development
Sheet Metal Worker
Systems Design/Layout

Advanced Standing Available*

Electrical Training Center of L.I.
Lincoln Technical Institute
New England Institute of Technology
Pennsylvania College of Technology
SUNY Alfred
SUNY Canton
SUNY Delhi

*Advanced Standing may be available to those who successfully complete this Tech course. See Articulation Agreements in Handbook

Student Supplies

1. Long sleeved coverall or work shirt and pants/ jeans
2. Heavy, sturdy leather safety shoes
3. 6' tape measure

Academic Credits integrated:

Tech Math, Tech Phys Sci, Eng 12, CFM, Comp App

CTE Endorsement

Students must successfully meet the academic and attendance criteria for a two-year Wilson Tech Certificate of Completion, be High School diploma eligible, and pass the following national certification exam: National Center for Construction and Education Research (NCCER) - HVAC Exam.

Average Annual Wage

National entry-level to experienced:
\$34,120 - \$56,300

NY entry-level to experienced:
\$33,800 - \$63,790

For more information:
www.careerzone.ny.gov

Course Outline

Basic Electrical Theory
Heating and Ventilation
Refrigeration and Air-Conditioning
Sheet Metal
OSHA
Troubleshooting/Diagnosis
System and Unit Repair
Clean Air Requirements
Plumbing



Welding

Educational member of American Welding Society (AWS)



WELDING develops skills and knowledge in the fusing of different types of metals. Students will work from blueprints to layout, develop, fabricate, and form metals utilizing the Oxyacetylene Flame Cutting, Gas Welding, Electric Arc Welding, Aircomatic (MIG), Heliarc (TIG), and Plasma Arc Welding Processes.

Work Environment

The welder may work indoors or outdoors depending on the type of job being performed. Extreme heat is used in the welding process and protective goggles, masks, gloves, shoes and coveralls must be worn. Very strict safety rules must be followed.

Career Opportunities

Arc Welder
Business Owner
Certified Welder
Flame Cutter
Gas Welder
Heliarc Welder
Welding Engineer
Welding Inspector
Welder (Combo) Mechanic
Welding Supervisor

Advanced Standing Available*

Lincoln Technical Institute
Ohio Technical College
Pennsylvania College of
Technology
SUNY Delhi

*Advanced Standing may be available to those who successfully complete this Tech course. See Articulation Agreements in Handbook.

Student Supplies

1. High top boots, long pants, long sleeved shirts, welding hat or baseball cap, welding gloves
2. Welding Equipment: welding hood, hammers (chipping, ball peen), wire brush, striker
3. Tools: Screwdrivers, tool box, tape ruler, adjustable square, pliers, wrench, scribe, vise grip

Academic Credits integrated:

Tech Math, Tech Phys Sci, Eng 12, Art, CFM, Comp App

CTE Endorsement

Students must successfully meet the academic and attendance criteria for a two-year Wilson Tech Certificate of Completion, be High School diploma eligible, and pass the following national certification exam: National Occupational Competency Testing Exam (NOCTI) - Welding Exam.

Average Annual Wage

National entry-level to experienced:
\$29,730 - \$44,970

NY entry-level to experienced:
\$25,480 - \$46,470

For more information:
www.careerzone.ny.gov

Course Outline

Shop and Field Safety Procedures
Basic Electricity/Fundamentals of
Blueprint Reading
Thermodynamics/Layout and
Development
Properties, Identification, and Use
of Metals
Welding Processes and Techniques
including Production and
Maintenance Welding
Inspection and Testing of
Weldments
Basic Metallurgy
Special Welding Techniques
Preparation for Welder's
Certification Exam in 3G, 4G and
6G Pipe