

Model Programs of Study Guide: Architecture, Construction, & Energy



ORIENTATION / INTRODUCTION Grades 9-10

SKILL DEVELOPMENT Grades 10-12

CAPSTONE / ADVANCED Grades 12

POSTSECONDARY COURSES + Recommended 1st Year

- CAREER FOCUSED COURSES**
- Construction Trades & Energy Technicians
 - HVACR & Weatherization
 - Architecture & Surveying
 - Construction & Energy Management
 - Engineering: Refer to the Manufacturing & Engineering Model Programs of Study

Computer Applications for Business & Intro to Technology, Trades, and Engineering or Intro to Engineering Design	Construction Trades I (w/ Geometry in Construction) & Introductory CAD	Construction Trades II &/or Electrical Trades I / II HVACR I / II or Beginning Welding Civil Engineering and Architecture Intro to Management or Financial Accounting	Apprenticeship Training or Certificate Course Sequence Apprenticeship Training or Certificate Course Sequence AAS: AAS Course Sequence or AA/AES: GECC AAS Course Sequence
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Courses and Work-Based Learning Address the PWR Act Recommended Essential Employability Competencies

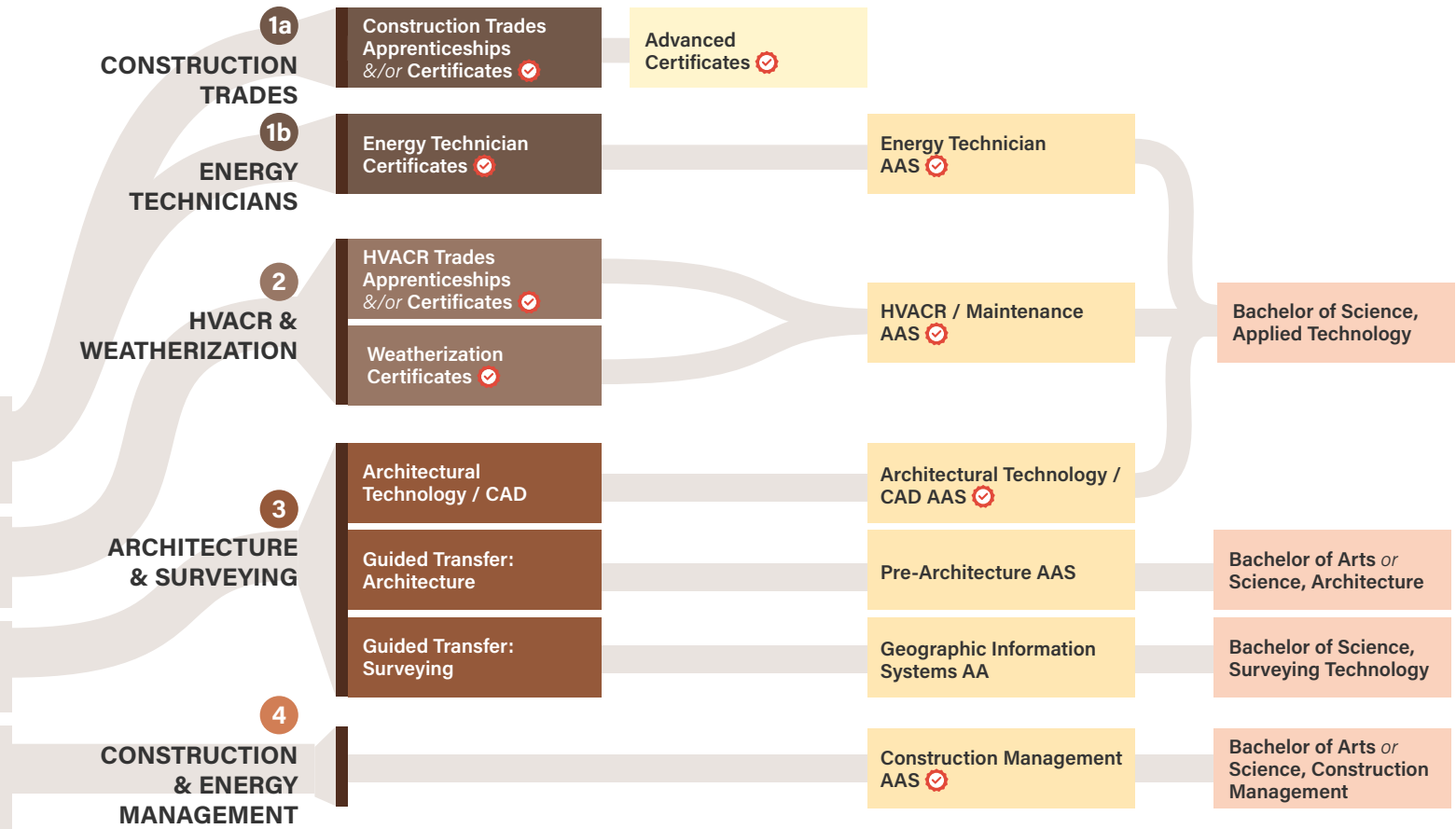
WORK-BASED LEARNING	Career Exploration (2) * Team-Based Challenge *	Team-Based Challenge * Career Development Experience or Youth Apprenticeship	Team-Based Challenge Career Development Experience or Apprenticeship
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* May be offered through Career and Technical Student Organizations (CTSOs) including SkillsUSA Illinois and Technology Student Association (TSA)

SCIENCE	Science Sequence	Science Sequence AP Physics >>	Science Sequence Survey of Renewable Energy	Science Sequence
SOCIAL SCIENCE	Social Science Sequence	Social Science Sequence	Social Science	Social Science
MATH	Algebra/Geometry (Geometry in Construction)	Geometry (Geometry in Construction)/Algebra 2	Technical Math Transitional Math: STEM	Technical Math College Algebra
Trades, Technicians, HVACR Other Pathways	Algebra/Geometry (Geometry in Construction)	Algebra 2/Pre-Calculus	College Algebra AP Calculus >> AP Stats >>	College Algebra/Trig Calculus
ENGLISH	English Sequence	English Sequence	AP Language & Composition >> English Composition I & II	English Composition I & II

- >> AP or Dual Credit
- 📖 Dual Enrollment
- 🏆 Course or Program Prepares for Industry Credential
- 🎓 College and Career Pathway Endorsement Earned
- ⊕ If courses in this column were accomplished through early college credit, students should take the next required course in the sequence or, if none, additional AAS or Major Courses

POSTSECONDARY OPTIONS



SELECTED OCCUPATIONS, WAGES, & JOB GROWTH

Program	Typical Job	Near or Above Living Wage Threshold for 1 Adult + 1 Child ¹	Median Hourly Wage ²	Growth in TN: Annual Job Openings ²	Growth in TN: % Change Over 10 years ²	Stackable?
1a Construction Trades	Construction Carpenters	Y	\$22.31	1240	12%	Not Typically Stackable
	Electricians	Y	\$25.55	1770	17%	
	Pipefitters & Steamfitters	Y	\$24.35	850	11%	
1b Energy Technicians	Electrical Power Line Installers & Repairers	Y	\$36.97	230	12%	Typically Stacks to Related Bachelor's Programs at Select TN Universities
	Wind Turbine Service Technicians	Y	\$	#	%	
	Solar Photovoltaic Installers	N	\$	#	%	
2 HVACR & Weatherization	Heating & Air Conditioning Mechanics & Installers	Y	\$22.85	1030	12%	
	First-Line Supervisors of Mechanics, Installers, & Repairers	Y	\$30.52	1020	14%	
	Weatherization Installers & Technicians	Y	\$18.58	220	17%	
3 Architecture, CAD, and Surveying	Architectural & Civil Drafters	Y	\$28.89	130	13%	Typically Stacks to Related Bachelor's Programs at Most TN Universities
	Architects	Y	\$37.68	170	18%	
	Surveyors	Y	\$29.03	120	15%	
4 Construction & Energy Management	Construction Managers	Y	\$38.76	970	19%	Typically Stacks to Related Bachelor's Programs at Most TN Universities
	Cost Estimators	Y	\$31.24	260	6%	
	Energy Auditors	Y	\$	#	%	

- Living wage calculations are based on: Glasmeier, Amy K. Living Wage Calculator. 2020. Massachusetts Institute of Technology. livingwage.mit.edu. As of January 2021 for the state of Tennessee, the "Living Wage" for 1 Adult + 1 Child equaled \$7/hour and "near," defined as 85% of that statewide living wage, was \$27/hour. In March of 2021, the Living Wage calculator updated its calculations for Tennessee, but information presented in this guide reflects the wage levels as of January 2021, when the project team conducted its analysis.
- U.S. Department of Labor, CareerOnestop (careeronestop.org/explorecareers).
- Estimate derived from available data on CareerOnestop
- Estimate derived from data published in [National Solar Jobs Census 2019](http://NationalSolarJobsCensus2019)