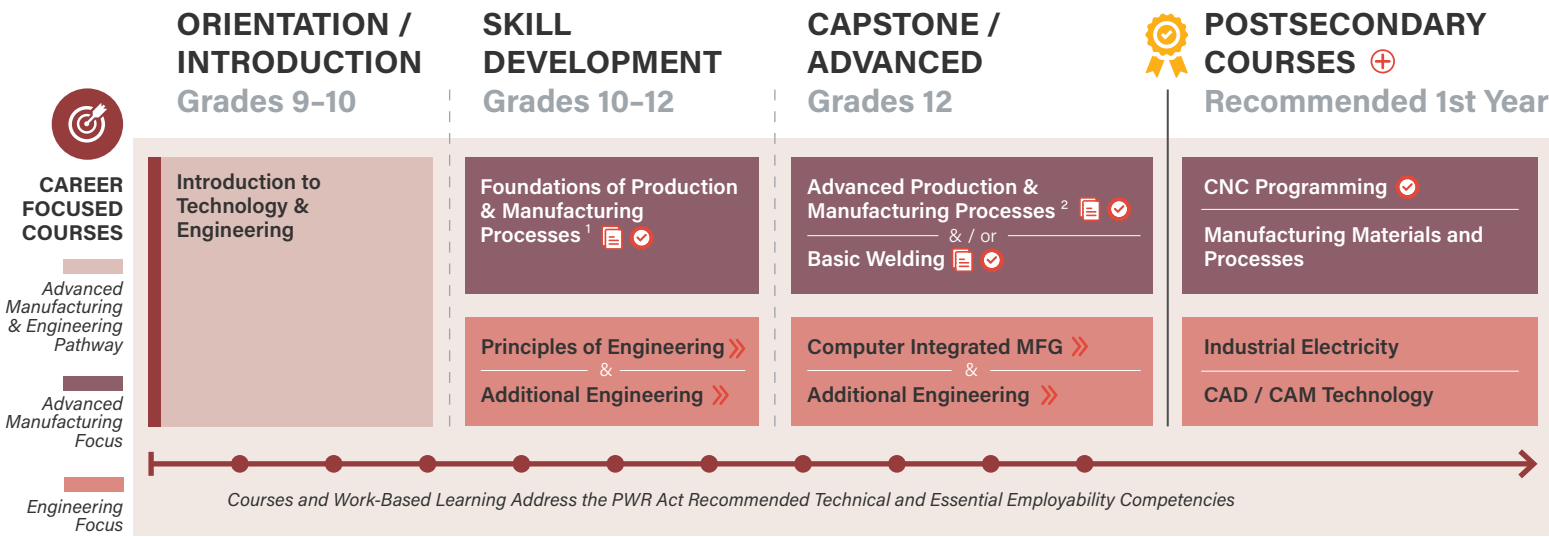


Model Programs of Study Guide: Manufacturing & Engineering

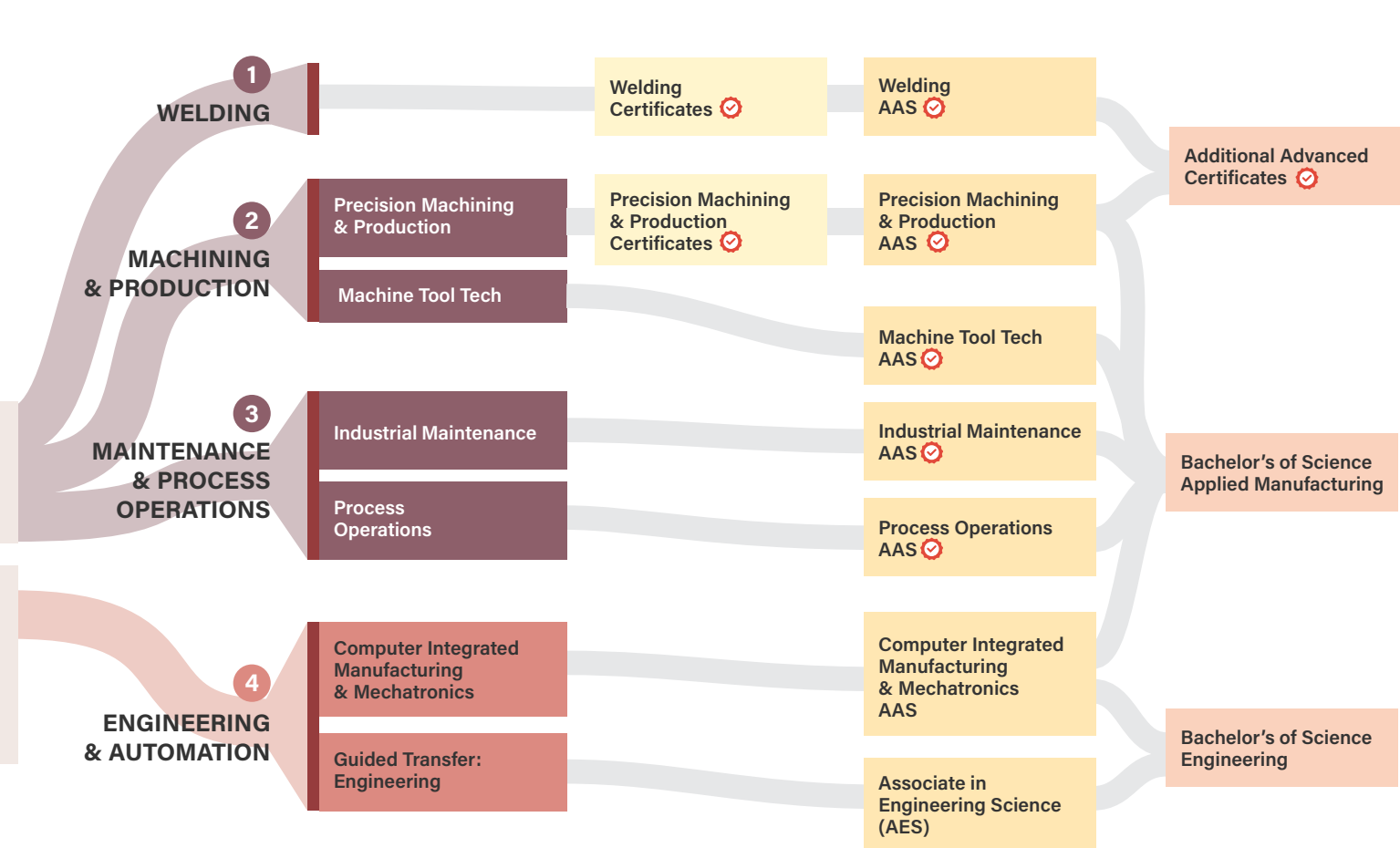
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NORTHERN ILLINOIS UNIVERSITY



WORK-BASED LEARNING	SCIENCE	SOCIAL SCIENCE	MATH	ENGLISH
Career Exploration (2) Team-Based Challenge	Science Sequence	Social Science Sequence	Algebra Geometry	English Sequence
Team-Based Challenge Career Development Experience or Youth Apprenticeship	Science Sequence	Social Science Sequence	Geometry Algebra 2 Pre-Calculus	English Sequence
Team-Based Challenge Career Development Experience or Apprenticeship	Physics	Social Science	Transitional Math: Technical Transitional Math: STEM Pre-Calculus College Algebra	Transitional English English Composition
	General Physics General Chemistry	Social Science	Technical Math College Algebra / Trigonometry Calculus	English Composition Oral Communication

- AP or Dual Credit
- Dual Credit Course
- Dual Credit Course Affiliated With IAI Code
- Course or Program Prepares for Industry Credential
- Postsecondary Course Affiliated with IAI Code
- 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 ³	Median Hourly Wage ⁴	Growth in IL: Annual Job Openings ⁴	Growth in IL: % Change Over 10 years ⁴	Stackable?
1 Welding	Welders, Cutters, Welder Fitters	N	\$19.28	1,540	5%	Not Typically Stackable
2 Machine Tool Technology	Tool and Die Makers	Y	\$25.34	450	-5%	Typically Stacks to Related Bachelor's Program at Select IL Universities
	Machinists	N	\$19.44	3,630	4%	Typically Stacks to Further Certificates or an AAS
3 Precision Machining	Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	Y	\$25.65	160	18%	Typically Stacks to Related Bachelor's Program at Select IL Universities
	Industrial Machinery Mechanics	Y	\$26.41	1,240	10%	
4 Industrial Maintenance	Chemical Equipment Operators and Tenders, Biofuels Processing Technician	Y	\$24.95 - \$33.87	200	1% - 3%	Typically Stacks to Related Bachelor's Program at Select IL Universities
	Manufacturing Engineering Technologists, Electromechanical Engineering Technologists, Robotics Technicians	Y	\$30.26 - \$30.48	460	5%	
4 Guided Transfer: Engineering	Engineers in Various Branches: Mechanical, Civil, Electrical, Chemical, Mechatronics, Industrial	Y	\$40.65 - \$44.51	3,760	4% - 12%	Typically Stacks to Related Bachelor's Program at Most IL Universities

1. For machining-focused programs, equivalent to ISBE CTE Courses — Beginning Machining and Machine Shop Technology 1
 2. For machining-focused programs, equivalent to ISBE CTE Course — Machine Shop Technology II
 3. Living wage calculations are based on MIT's Living Calculator (livingwage.mit.edu), where the "Living Wage" for 1 Adult + 1 Child is \$26.27/hour for the state of Illinois. "Near" defined as 85% of the statewide living wage, which is \$22.33/hour
 4. U.S. Department of Labor, CareerOnestop (careeronestop.org/explorecareers)