

Appendix C

RECOMMENDATIONS FOR RELATED TECHNICAL CLASSROOM INSTRUCTION FOR ARCHITECTURE AND CONSTRUCTION YA

These recommendations are intended to be used by the Local YA Consortium when determining appropriate related technical instruction for Architecture and Construction YA. It is not all inclusive but should be used to assist the partnership with identification and/or development of course work that supports the work-based competencies as identified in the Skill Standards Checklist. As with all YA programs the consortium must ensure that the related instruction meets with the approval of their administration and school board.

OPERATIONAL NOTES

- Related Technical Classroom Instruction maybe offered by the employer, within the school district, at another school district, at a Wisconsin Technical College, and/or at a Community College or University by instructors qualified according to the Youth Apprenticeship Program Operations Manual. School districts also have the option to utilize the Trade Specialist Permit under *Wisconsin State Statute 118.19(7)*, which allows skilled apprentices with 3 years of practical experience beyond the apprenticeship in the trade area that matches the course(s) being taught; or has four years of institutional training in the subject area that matches the course(s) being taught to deliver instruction to students.
- Learning Objectives are the foundation of related technical classroom instruction. Consortiums may teach using locally developed coursework; however, it is recommended that agreements with the local technical college be pursued to obtain post-secondary credit for YA worksite and classroom experiences.
- A minimum of 180 hours (2 semesters) of related technical instruction is required for each one year YA program with 250 of the **work** hours coinciding with the instruction. The student must also receive high school credit towards graduation for this instruction, no matter the provider.
- It is suggested that the following courses or learning experiences be provided as a pre-requisite OR concurrently for students interested in this youth apprenticeship:
 - a. Introduction to Architecture and Construction Careers
 - b. Basic drafting, namely in 3D Modeling Software such as Revit or CAD
 - c. Construction/Building Trades/Woodworking
 - d. Computer File Management
 - e. Technical Math and Measuring, Geometry/Trigonometry
 - f. Physics
 - g. Additionally, students should complete a job shadow prior to enrollment in the Architecture and Construction YA program.
- Commercial programs or employer provided classroom certification programs are also appropriate provided that the student receives high school credit towards graduation for the class work. A variety of commercial courses are available. Programs that support Architecture and/or Civil Engineering learning based on the Project Lead the Way curriculum units (<http://www.pltw.org/>) or STEM Academy curriculum units (<http://www.stem101.com/index.asp>) are appropriate for this YA program.

- Courses chosen should coincide as much as possible to occupational program requirements if the student intends to continue in the Wisconsin Technical College System or University of Wisconsin system.
- Recommendations for this Appendix were obtained from Employers, Wisconsin Technical College Faculty, Wisconsin secondary Career and Technical Education teachers, and YA Consortium/School District Coordinators during Business and Industry Advisory meetings held in January, February and March 2014 for the Construction pathway. Recommendations for the Architecture and Construction YA program occurred in August 2010, and through the States' Career Clusters recommendations at <http://www.careertech.org/>, funded in part by the U.S. Department of Education.

Architecture & Construction Youth Apprenticeship (YA) Plan of Study

NAME: _____ **DATE:** _____

The **Architecture & Construction Youth Apprenticeship Pathway Units** and **Related Technical Instruction course selection and delivery** are entirely within local consortium control. The recommendations listed below are only a suggested path of YA Architecture & Construction career planning and should be individualized to meet each learner's educational and career goals. All plans should meet high school graduation requirements, as well as, college entrance requirements if applicable.

HIGHLY Recommended for Architecture & Construction YA students

Education I Level	Grade	English/ Language Arts 4 required	Social Studies Social Sciences 3 Required	Math 2 Required	Science 2 Required	Career Pathway Courses (Electives)	Recommended Enhancement Electives or Activities
Secondary	9	Oral Communications (Speech) Business Communications		Technical Math & Measuring Algebra		Basic Drafting (CAD) Digital Electronics (AC/DC) Construction/Building Trades Computers- File Management Introduction to Construction Cabinet Making	Skills USA District House Builds Entrepreneurship Accounting
	10			Geometry		3D Modeling Drafting Entrepreneurship Intro to Business	Skills USA Job-Shadowing
	11		Personal Financial Management	Trigonometry	Physics	Employability Skills Customer Service (Marketing) Principles of Business Management 3D Architectural Modeling with Revit (Design Pathway) Project Lead the Way Courses: IED or CIM STEM Academy Courses also applicable	
	12		Economics		Environmental Science		

Post-Secondary Occupational Opportunities

The chart below shows examples of career ladders organized by pathway.

For additional career cluster information, visit www.careertech.org

For additional career information on a specific occupation, visit <http://wiscareers.wisc.edu/> or <http://worknet.wisconsin.gov/worknet/default.aspx>

		High School Diploma, On-the-Job Training	Certificate, Licensing, and/or Associate's Degree (1-2 years college)	Bachelor's/Master's Degree (4 year college)
		Architecture & Construction Pathways	Design/ Pre-Construction	Drafting Helper
		Construction	Construction Management Technician Electrician Field Supervisor General Contractor HVAC (Heating, Ventilation, Air Conditioning) Technician Welder	Construction Manager Project Inspector Project Manager Site Safety Supervisor Superintendent

	Maintenance/ Operations	Same as in Construction Pathway Groundskeeper Meter Reader Scheduler Security and Fire Alarm System Installer	Estimator Field Supervisor General Maintenance Contractor HVAC Mechanic Remodeler Service Contractor Utility Monitoring and Regulation Technician Wastewater Maintenance Technician	Construction Inspector Environmental Engineer Equipment and Material Manager Facilities Engineer Operations Manager Safety Director Sales and Marketing Manager
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SOURCES: The States' Career Clusters Initiative (2010) www.careertech.org; Worknet (2014) <http://worknet.wisconsin.gov/worknet/default.aspx>; and Fox Valley Technical College Dean of Manufacturing and Construction, Mike Cattalino; Northeast Wisconsin Technical College, Dean, Trades and Engineering Technologies, Mark Weber; Northeast Wisconsin Technical College, Apprenticeship Manager, Todd Kiel; and CESA 6 CTE Coordinator, Tania Kilpatrick.