



# Science, Technology, Engineering, and Mathematics (STEM) Occupational Pathways

Youth Apprenticeship

## ENGINEERING DRAFTING

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Engineering Drafting youth apprentices perform prepare engineering drawings using current industry software, integrating concepts of building materials, engineering practices, and mathematics. Apprentices must adhere to industry safety and security standards.

**Length of Apprenticeship:** One year. This pathway is the prerequisite to second year engineering programs.

**\*Bridging**

## MECHANICAL/ELECTRICAL ENGINEERING

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Mechanical/Electrical Engineering youth apprentices use mechanical/electrical drawings to contribute to the construction of prototypes, concepts, and mechanical/electrical engineering projects. Apprentices must adhere to industry safety and security standards.

**Length of Apprenticeship:** One year. Completion of the Engineering Drafting pathway is a prerequisite to this program.

**\*Bridging**

## CIVIL ENGINEERING

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Civil Engineering youth apprentices contribute to the development, assessment, and design of highway, bridge, building, and municipal construction. Apprentices must adhere to industry safety and security standards.

**Length of Apprenticeship:** One year. Completion of the Engineering Drafting pathway is a prerequisite to this program.

**\*Bridging**

## BIOSCIENCE LAB FOUNDATIONS

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Bioscience Lab Foundations youth apprentices use laboratory equipment and tools to perform biological laboratory procedures. Apprentices must adhere to industry safety and security standards.

**Length of Apprenticeship:** One year

**\*Bridging**

## **BIOSCIENCE APPLICATIONS**

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Bioscience Applications youth apprentices perform biological laboratory procedures, including preanalytical, analytical and post-analytical work using common laboratory equipment. Apprentices must adhere to industry safety and security standards.

**Length of Apprenticeship:** One year. This pathway has a prerequisite of completion of the Bioscience Foundations program.

**\*Bridging**

Key: \*Bridging = Where an RA Bridge does not exist, one may be developed.

## STEM EMPLOYMENT OF MINOR CONSIDERATIONS

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Youth apprentices who are 16-17 years old can perform work tasks, *only after appropriate operation/safety training AND only as indicated below*. The **student learner exception** limits the minor to using hazardous equipment on an **incidental basis** (less than 5% of their work time) and only **occasionally** (the work cannot be a regular part of their job). Student Learner status does NOT override the Employment of Minor's Laws.

### Driving

Minors under age 17 cannot drive as part of their job (based on October 1998 U.S. Dept. of Labor revision (98-464)).

A minor, age 17, may operate a motor vehicle as a part of employment if:

1. the vehicle does not exceed 6,000 pounds gross weight;
2. driving is done during daylight hours only;
3. the driving amounts to no more than 20% of the work week or 1/3 of the workday;
4. the student has attended drivers' education training and holds a valid driver's license;
5. the driving takes place within a 30-mile radius of the minor's place of employment;
6. the minor has no record of any moving violations at the time of hire; and
7. the driving does not involve: towing of vehicles, route deliveries or sales, transportation for hire, urgent time-sensitive deliveries, transporting more than 3 passengers who are employees of employer at one time.

Under DWD 270.12(22), the department prohibited minors from being employed in any occupations involved in operating, assisting to operate, setting up, adjusting, repairing, oiling, or cleaning any of the following power-driven paper-products machines: 1. Arm-type wire stitcher or stapler, circular or band saw, corner cutter or mitering machine, corrugating and single-or-double-facing machine, envelope die-cutting press, guillotine paper cutter or shear, horizontal bar scorer, laminating or combing machine, sheeting machine, scrap paper baler, paper box compactor, or vertical slotter. 2. Platen die-cutting press, platen printing press, or punch press that involves hand feeding of the machine.

DWD's rules are largely congruent with rules promulgated by the U.S. Department of Labor. See 27 CFR § 570.63 (using identical language).

- **Minor Employment on Modern Printing Equipment**

DWD allows employment of minors 16 and 17 years of age on printing presses or other printing equipment under certain circumstances. Under DWD 270.12(22)(a)2., the rule prohibits minors working on presses that involve "hand-feeding" of the machine. Any machine that involves automatic feed and ejection is permitted, as is work setting up, adjusting, repairing, oiling or cleaning these machines if these operations are performed electronically so that the youth is not accessing sharp or moveable parts; OR where the equipment is locked out/tagged out with no power.

This interpretation is consistent with state and federal rules, which are intended to keep minors from operating, maintaining, or cleaning machines with moving parts or sharp edges that could cause injury to their extremities. Modern printing equipment compliant with the latest safety certification standard promulgated by the American National Standards Institute, an OSHA recognized Nationally Recognized Laboratory Testing program (NRTL) are generally safe for use by minors 16 and 17 years of age.

However, employers should continue to exercise professional discretion when employing minors to ensure that they don't perform work prohibited by state and federal law, whether on older machinery or on modern machinery to the extent that such machinery requires prohibited work in the operating, maintenance, or cleaning of such machinery.

The state rule under Wis. Admin. Code § DWD 270.12(a)(1) remains in effect. Minors of any age may not operate, assist in operating, repair, maintain, or clean any Arm-type wire stitcher or stapler, circular or band saw, corner cutter or mitering machine, corrugating and single-or-double-facing machine, envelope die-cutting press, guillotine paper cutter or shear, horizontal bar scorer, laminating or combing machine, sheeting machine, scrap paper baler, paper box compactor, or vertical slotter, except under any exceptions to the rule that may apply. See Wis. Admin. Code § DWD 270.12(c) (permitting certain limited operations of ANSI-certified balers and compactors).

DWD is an equal opportunity employer and service provider. If you have a disability and need assistance with this information, please dial 7-1-1 for Wisconsin Relay Service. Please contact the Division of Employment and Training at 888-258-9966 and press 6 to request information in an alternate format, including translated to another language.

