

INDUSTRIAL MECHANIC (MILLWRIGHT) APPRENTICESHIP COURSE SUMMARIES

COURSE MWA3400: RIGGING

Students develop knowledge of the correct and safe procedures that are necessary to move and accommodate equipment, components and machines using a mobile crane, shop overhead crane, a come-along or chain hoist, forklift, block and tackle, ropes, turfers or a floor gantry with a chain hoist attached in the industrial mechanic (millwright) shop.

Prerequisite: MWA3900: Apprenticeship Safety

COURSE MWA3405: MEASUREMENT

Students understand the terminology associated with limits and fits and apply this knowledge to the assembly of components through the use of measuring tools. Knowing how to use precision and non-precision measuring tools reliably is essential to correct layout and fabrication in the industrial mechanic (millwright) trade.

Prerequisite: MWA3900: Apprenticeship Safety

COURSE MWA3410: LAYOUT

Students develop a strong knowledge of iron pipe and fittings. Students also learn to choose and use the correct pipe, fittings and hangers in order to do the job quickly, accurately and safely.

Prerequisite: MWA3900: Apprenticeship Safety

COURSE MWA3415: PORTABLE TOOLS

Students develop an understanding of versatile and essential pieces of portable equipment in all industrial mechanic (millwright) shops, including how to safely operate and maintain.

Prerequisite: MWA3900: Apprenticeship Safety

COURSE MWA3420: FASTENERS

Students learn the standard of performance and recommended methods of installation and removal of many different fasteners and locking devices used in the industrial mechanic (millwright) trade.

Prerequisite: MWA3900: Apprenticeship Safety

COURSE MWA3425: DRILLING & MILLING

Students develop an understanding of versatile and essential pieces of equipment in all industrial mechanic (millwright) shops, including how to safely operate and care for drills and milling machines.

Prerequisite: MWA3900: Apprenticeship Safety

COURSE MWA3430: LATHE INTRODUCTION

Students will learn how to use a lathe and lathe accessories to help make better choices when approaching a job.

Prerequisite: MWA3900: Apprenticeship Safety

COURSE MWA3435: LATHE OPERATION

Students learn to effectively machine workpieces in a lathe. They learn the various operations and proper speeds and feeds and discover that following these practices will greatly improve efficiency and safety.

Prerequisite: MWA3900: Apprenticeship Safety

COURSE MWA3440: MACHINE INSTALLATION

Students learn how to install industrial mechanic (millwright) equipment to be grouted, levelled and aligned correctly to design specifications in order to prevent premature equipment failure.

Prerequisite: MWA3900: Apprenticeship Safety

COURSE MWA3445: NUMBERS

Students demonstrate fundamental mathematical concepts commonly used in the industrial mechanic (millwright) trade, including whole numbers, integers, calculations, fractions and algebra.

Prerequisite: MWA3900: Apprenticeship Safety

COURSE MWA3450: MATHEMATICS

Students demonstrate fundamental mathematical problem-solving abilities commonly used in the industrial mechanic (millwright) trade, including measurement and conversions, ratio and proportion, graphs, tables, triangles and trigonometry.

Prerequisite: MWA3900: Apprenticeship Safety; MWA3445: Numbers

COURSE MWA3455: PRINT READING

Students understand and interpret a variety of drawing techniques to illustrate parts that are difficult to visualize and to show the interior portions of complex machine parts. They learn to read and understand the instructions on working drawings regarding the proper sizing, work and fit of machine parts.

Prerequisite: MWA3900: Apprenticeship Safety

COURSE MWA3460: MWA PRACTICUM A

Students, on the work site, continue to develop and refine those competencies developed in related Career and Technology Studies (CTS) occupational areas, previous practicums and other experiences.

Prerequisite: None

COURSE MWA3465: MWA PRACTICUM B

Students, on the work site, continue to develop and refine those competencies developed in related career and technology studies (CTS) occupational areas, previous practicums and other experiences.

Prerequisite: None

COURSE MWA3470: MWA PRACTICUM C

Students, on the work site, continue to develop and refine those competencies developed in related career and technology studies (CTS) occupational areas, previous practicums and other experiences.

Prerequisite: None

COURSE MWA3475: MWA PRACTICUM D

Students, on the work site, continue to develop and refine those competencies developed in related career and technology studies (CTS) occupational areas, previous practicums and other experiences.

Prerequisite: None

COURSE MWA3900: APPRENTICESHIP SAFETY

Students develop knowledge, skills and attitudes in the practice of workshop health and safety, communication and career planning.

Prerequisite: None