APPLIED INDUSTRIAL TECHNOLOGY (LIFTING TECHNOLOGIES)(ATLT)

ATLT-1000 Orientation for Lifting Tech
2 Credits

Introductory course covering the history and values of the Mazzella Company M/C, including career opportunities and advancement through continuing education and apprenticeship. Included are basic technical training and applcation as part of the rigging industry.
Lecture: 2 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-1010 Industrial Safety
1 Credit

Certification course covering industrial safety as it pertains to motorized lifts. Included are fork lifts and aerial lifts using crane and rigging industry for the movement of personnel, equipment, and/or material.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-1020 Introduction to Lifting & Rigging
2 Credits

Introductory course into the Lifting and Rigging Industry, the applied practices and applications of slings. Introduces various types of rigging gear in use, rigging hardware proper use and pre-use inspection. Explore loads, sling angle stresses, and common rigging applications and practices.
Lecture: 2 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-1030 Introduction to Wire Rope
1 Credit

Introductory course covering common types of wire rope used in the lifting and rigging industry. Includes basic understanding of terminology, indentification of ropes, construction types as well as proper use, inspection, and maintenance of wire rope. The physical properties of wire rope will also be covered.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admisison to Lifting Technologies Apprenticeship program.

ATLT-1040 Safety in Lifting and Rigging I
1 Credit

Introductory course covering common types of slings used in the rigging industry. Includes basic understanding of terminology, proper use, and maintenance of slings. In addition, the relationship of the rated load, including design factors and efficiency using sling charts and applied math concepts, for sling selection and proper lifting procedures will be covered.
Lecture: 1 hours
Prerequisite(s): Departmental approval: Admission to Lifting Technologies apprenticeship program.

ATLT-1050 Rigging Geometric
2 Credits

Provides an emphasis on the techniques used for understanding stresses common in lifting and rigging. Review of trade and industry math and applications commonly found in lift plans calculations. Includes the interpretation of drawings, technical drawings of lifting applications.
Lecture: 2 hours
Prerequisite(s): Departmental approval: admissions to Lifting Technologies apprenticeship program.

ATLT-1060 Layout & Fabrication Procedure
1 Credit

Introduction to the layout and fabrication techniques for slings and rigging gear. Covers the calculations and sizing of various types of slings. Includes practical hands on learning of techniques of layout and fabrication to manufacture slings and the basics of reading drawings, technical drawings, and prints.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-1070 Blue Print Reading for Rigging I
2 Credits

Introduction to reading and interpreting working drawings for fabrication processes of both weldments and fabricated slings. Covers the fabrication prints of various types of rigging gear in use. Explore reading drawings including dimensions, bill of material, weld symbols, and specialty notes.
Lecture: 2 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies Apprenticship program.

ATLT-1080 Lifting Technologies Safety Training
1 Credit

Covers the safety activities required in a lifting and rigging fabrication plant. Includes understanding of the hazards associated with wire rope, synthetic, and chain sling fabrication facilities. The safety considerations required for the handling, storage, shipping and receiving of rigging materials will also be covered.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-1090 Introduction to Welding for Lifting Technologies
2 Credits

Covers the safety requirements for welding and cutting proceses used in the lifting technologies industry. The physics of welding, various joints and positions and guided practices using oxygen - fuel and gas cutting is covered. In addition, welding processes using metal inert gas (MIG) and tungsten (TIG) used for specific applications will be addressed.
Lecture: 2 hours
Prerequisite(s): Departmenal approval: admission to Lifting Technologies apprenticeship program.

ATLT-1100 Introduction to Inspections: Field Tablets IC3
1 Credit

Introductory course covering the rigging inspection connection process as performed on a mobile computer/tablet in the field. Includes utilizing an electronic tablet, the inspection data, and report delivered to the end user. Includes creating, maintaining, and organizaing an asset management system, "Inspection Connextion" IC3.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-1110 Technologies in Rigging
1 Credit

Provides an emphasis of the technologies used in lifting and rigging industry. Incorporates the use of computers and specialized equipment to learn how to communicate and solve business and practical shop problems.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to apprenticeship program in Lifting Technologies.

ATLT-1801 Special Topics: Crane Operator Training
1 Credit

Operator training course for overhead cranes and hoists. Course identifies the different crane types, operation techniques and hoisting motions. Included are the applicable safety agencies and their respective standard with respect to safe crane and hoisting operations. In addition, practical application of crane maneuvering and hoisting is covered.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-1802 Mobile Cranes I: Types and Components
1 Credit

Course covers the different types of mobile cranes, electric and hydraulic, common components of each and their respective applications. Included is a discussion and explanation of the lateral and vertical operation of tower cranes.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-1803 Special Topics: Overhead Crane Classification
1 Credit

Course covers various industrial crane classifications with respect to national and international design standards and describes component specifications with respect to lifting applications. In addition, design criterion related to inspection procedures and cost factors is covered.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-1806 Special Topics: Overhead Crane Drive Systems
2 Credits

This course covers the types of drive systems used for all types of Cranes. The student will be able to demonstrate the ability to discuss and identify the types of drive systems on an electric overhead crane, hoist, or workstation.
Lecture: 2 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-2010 Lifting Project Module
1 Credit

Introductory course covering the lifting project module input and workflow in Adjutant. Includes utilizing Adjutant project module, task management and route maintenance to deliver a process and workflow in conjunction with the appropriate project types.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-2020 Proof Test Operations
1 Credit

An introductory course into the safe testing processes and requirements for operating test equipment for non-destructive testing of slings, rigging gear and special lifting assemblies and hardware.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-2040 Wire Rope Applications I
1 Credit

Intermediate course covering wire rope applications common to the lifting and rigging industry. Includes understanding wire rope terminology, wire rope constructions, characteristics of various wire rope constructions, and general understanding of wire rope selection.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-2050 Blue Print Reading for Rigging II
2 Credits

Advanced reading and interpreting of working drawings for fabrication processes of both weldments and fabricated slings including inspections. The course offers an advanced look into fabrication prints of various types of rigging gear in use. We will delve more deeply into real-world applications and involve more hands on activities. The course will explore the creation of as built noted drawings, inspection drawings, tolerance stacking, surface finishes specialty weld symbols, electrical schematics and material alternatives.
Lecture: 2 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticship program.

ATLT-2110 Introduction to Project Planning and Processing for Lifting Technologies
2 Credits

Introduction to project planning and processing for lifting technology projects including introduction to the basics of the project planning and processing from project approval to closing.
Lecture: 2 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-2130 Overhead Crane Electrical
2 Credits

Cover electrical maintenance procedures for all types of Cranes. Demonstrate the ability to troubleshoot electrical problems and determine effective methods of installing or repairing electrical components in any type of electric overhead crane, hoist, or workstation.
Lecture: 2 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-2140 Overhead Crane Mechanical
2 Credits

Introductory course in identifying and understanding the mechanical components of overhead cranes and hoists. Included will be an overview of proper component terminology, types, uses, and the subsequent selection of various mechanical components and devices that make up an Overhead Crane or hoist.
Lecture: 2 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-2170 Overhead Crane Inspector
2 Credits

Advanced course covering crane safety standards, as prescribed by the Occupational Health and Safety Administration, different crane types, and crane components. Included are procedures for crane inspections, configurations and reporting, and report delivery to the end user with critical findings.
Lecture: 2 hours
Prerequisite(s): Departmental approval: Admission to Lifting Technologies apprenticeship programs.

ATLT-2280 Overhead Crane Inspect Safety
2 Credits

Safety course covering inspection of overhead cranes. Included are the use of aerial lifts, personal protective equipment (PPE), and fall protection. Also covered is electrical safety concerns related to specific inspections.
Lecture: 2 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-2500 Rigging Inspector Certification
3 Credits

Introductory course covering the OSHA and ASME requirements for the visual inspection of alloy chain slings, metal mesh slings, wire rope slings, synthetic slings, round slings, and rigging hardware within the rigging industry. Includes the basic understanding of terminology, OSHA 1910.184, ASME B30.9 ASME B30.26 and application of these standards.
Lecture: 3 hours
Prerequisite(s): Departmental aproval: admission to Lifting Technologies apprenticeship program.

ATLT-2510 Sling Fabrication - Flat Web & Chain
1 Credit

Introducton to the layout and fabrication techniques for flat web slings and chain slings. Covers the calculations and sizing of various types of flat web and chain slings. Practical hands on learning of the techniques of layout and fabrication to manufacture flat web and chain slings and will cover basics of reading drawings, technical drawings, and prints.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-2520 Socketing
1 Credit

Covers the basic types and fabrication of socket assemblies. Outlines the techniques and processes required to fabricate these assemblies. Features the application and installation procedures of the various types of socketing.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-2801 Special Topics: Safety in Lifting and Rigging
1 Credit

This course covers the planning for load handling activities. It includes the basic understanding of terminology, proper planning, and use of cranes, hoists, slings, and lifting accessories. Personnel qualifications, and their roles and responsibilities will be discussed. In addition, standard and critical lift plans will be covered. Finally, sling charts and applied math concepts, for proper sling selection will be covered.
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-2802
Special Topics: Crane Preventative Maintenance
1 Credit

Advanced course covering the preventative maintenance procedures required for different crane types. Included are prescriptive measures as stated in OSHA and ANSI standards. The course addresses specific safety procedures mandated by Federal safety regulations
Lecture: 1 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies Apprenticeship program.

ATLT-2803 Special Topics: Lifting Technologies/Technical Pricing
1 Credit

Customer pricing techniques to increase price realization and maximize profits. Learn and practice List Less Pricing vs Traditional Cost-Plus Models. Understand current changes taking place in order to build a consistent and profitable pricing system. Utilize the concepts, tools, and techniques of customers by segment in order to better understand their willingness to pay, decision making, and industry dynamics which will help maximize profits and sales.
Lecture: 1 hours
Prerequisite(s): Departmental approval and an employee of the Mazzella Lifting Technologies Company

ATLT-2806 Special topics in Introduciton to Project Planning and Processing for Lifting Technologies
2 Credits

Introduction to project planning and processing for lifting technology projects. This course offers an introduction to the basics of project planning and processing from project approval to closing. The course will also introduce basic project management tools and best practices.
Lecture: 2 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-2807 Special Topics in Welded Chain Sling
2 Credits

This course covers the layout and fabrication of welded chain slings including the welding processes. Also covered is the chain heat treating and proof testing procedures.
Lecture: 2 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-2808 Special Topics in Overhead Crane Drive Systems
2 Credits

This course covers the types of drive systems used for all types of Cranes. The student will be able to demonstrate the ability to discuss and identify the types of drive systems on an electric overhead crane, hoist, or workstation. Designed for the electrically experienced technician and will also guide the non-experienced technician to understand crane drive systems.
Lecture: 2 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.

ATLT-2809 Special Topics in Crane Preventative Maintenance
2 Credits

Advanced course covering the preventative maintenance procedures required for different crane types. Included are prescriptive measures as stated in OSHA and ANSI standards. The course addresses specific safety procedures mandated by Federal safety regulations.
Lecture: 2 hours
Prerequisite(s): Departmental approval: admission to Lifting Technologies apprenticeship program.