

Operator Level Course Syllabus

Drop On Demand Ink Systems



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Class Hours: 8:30 - 4:30

Lunch: 12:00 - 1:00

Instructor Office hours: 8:00 - 8:30 & 4:30 - 5:00

Instructor: Matthews Intl.
Technical Training Instructor
Matthews International Corporation
Marking Products Division
6515 Penn Avenue
Office Phone: 412-665-2500

A. DESCRIPTION

This course is a supplement to all Drop on Demand (DOD) courses provided by Matthews. This course will enable the student to properly identify, install and understand the theory of operation of the Drop On Demand Ink Systems listed. This course is one half day and will be coupled with other Drop On Demand printer systems.

B. ORGANIZATION

This is a lecture-lab course in which the instructor presents discussion topics. Labs will be presented by the instructor and performed by the student. All labs are designed to reinforce the lecture portion of the course.

C. COURSE OBJECTIVES

1. To introduce students to the operation of the DOD Ink Systems, and to acceptable procedures of DOD Ink System technology.
2. Upon completion of this course the student shall be able to properly identify and install any of the listed ink systems.
3. Upon completion of this course the student shall be able to understand the theory of our DOD Ink Systems.
4. Upon completion of this course the student shall be able to perform routine maintenance on the any of the DOD Ink Systems listed.

D. COURSE TOPICS

The course will cover the following topics:

- 1. Introduction**
 - a. Safety (Matthews)
 - b. Facilities (Matthews)
- 2. Welcome to Matthews Marking Products**
- 3. DOD Ink System Theory & Operation**
 - a. High Pressure Ink Module (HP)
 - b. Low Pressure Ink Module (LP)
 - c. High Pressure Advanced Ink System (HPA)
 - d. Large Capacity Ink System (LCIS)
 - e. Water-based High Pressure 5-gallon Ink System
 - f. Just Add Water System (JAWS)
 - g. Fluid Pump System (FPS)
 - h. Circulating Ink System Unit (CISU)
 - i. Flow-Jet XP
- 4. Overview**
 - a. Ink System Description

 - b. Specifications per Ink System
 - i. Power requirements
 - ii. Air Requirements
 - iii. Water Requirements
 - iv. Voltages
- 5. Installation**
 - a. Positioning and Mounting
 - i. Number of Printheads per Ink System
 - ii. Tubing Lengths
 - iii. Pre-mixing of Inks as Required
 - b. Connecting External Equipment
 - i. Warning lights
 - ii. Optional Outputs
 - c. Setting Up the Ink System
 - i. Ink Container Preparation
 - ii. Connecting Tubing
 - iii. Configuring Printheads for Circulatory Ink Systems
 - d. Checking and Finalizing the Installation
 - i. Troubleshooting non-Ink Situations
 - ii. Pressures
- 6. Routine Maintenance**
 - a. Ink Filter Changes
 - b. Identifying the proper Filters
 - c. Cleaning Air Filters
 - d. Basic Troubleshooting

F. GRADING PLAN

ATTENDANCE:

Attendance is mandatory for the entire length of course. Any failure to attend all classroom lectures and labs will result in failure of class by the student and employer will be notified.

GENERAL: Upon successful completion of the class, the student will be awarded a certificate of completion.

G. STUDENT REQUIREMENTS

1. Students *are required* to bring a laptop PC
2. Safety Glasses (Non-prescription Safety glasses will be provided)
3. Safety Steel Toe shoes in the event that training may take place on the shop floor.

H. CLASSROOM RULES OF CONDUCT

1. As a courtesy to all students/staff, cell phones must be turned off while in class.
2. Laptops are only permitted for designated training purposes.
3. Recording devices are not allowed in the classroom.
4. Food is not permitted in the classroom during course instruction.
5. Beverages are allowed only on the student's desk, not equipment benches.
6. Class lab time is expected to be spent in lab work. Lab time is not free time. Attendance and concerted work on assignments are required.
7. Breaks shall be given at the discretion of the instructor.

I. YOUR IDEAS, EVALUATIONS, ETC.

Students are encouraged to complete a course evaluation at the completion of the class. In general, your ideas, comments, suggestions, questions, etc. are welcome. Your discretion in these matters is expected, however.