

I. COURSE DESCRIPTION

A. Department Information:

Division:	Technical
Department:	Transportation
Course ID:	WAREHS 020
Course Title:	Introduction to Warehouse Operations
Units:	4
Lecture:	3 Hours
Laboratory:	3 Hours
Prerequisite:	None
Departmental Advisory:	None

B. Catalog Description:

This course is designed to introduce students to warehouse operations, the objectives of warehousing; software information systems used in warehousing, and warehouse safety. In the laboratory part of the course, students will be exposed to practical activities in a functioning warehouse. Upon completion of the course, students should be well prepared to enter the field of warehousing, distribution, or logistics.

C. Schedule Description:

Introduction to warehouse operations, the objectives of warehousing, software information systems used in warehousing, and warehouse safety. The lab portion of the course exposes students to hands on exercises in a functioning warehouse. Coursework prepares students for entry-level work in the field of warehousing.

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: One

III. EXPECTED OUTCOMES FOR STUDENTS:

Upon completion of the course, students will be able to:

- A. Define warehousing
- B. Explain employee and employer expectations in the industry
- C. Outline a warehouse plan
- D. Diagram space planning for storage activities
- E. Compare and contrast the functions to be performed in equipment planning
- F. Identify the types of warehouse equipment
- G. Describe steps in managing and controlling receiving operations
- H. Distinguish steps in managing and controlling storage operations
- I. Categorize steps in managing and controlling picking and shipping operations
- J. Utilize typical WMS (Warehouse Management System) Software to accurately account for warehouse inventory
- K. Utilize typical WMS (Warehouse Management System) Software to organize and transact inventory items, thru the entire warehouse business cycle
- L. Compare and contrast the relationships between warehousing safety regulations and actual potential safety hazards in the warehousing workplace

IV. CONTENT:

A. Warehousing

- 1. Warehousing defined
- 2. The value of warehousing
- 3. The objectives of warehousing
- 4. Warehouse resources
- 5. Customer requirements
- 6. Design, analysis, control, and maintenance of warehouse operations

- B. Developing a Warehouse Plan
 - 1. Warehouse planning methodology
 - 2. Space planning for receiving and shipping
 - 3. Space planning for storage activities
 - 4. Creating preliminary designs for material handling
 - 5. Creating preliminary designs for the warehouse layout
- C. Equipment Planning
 - 1. Warehouse equipment planning methodology
 - 2. Define the functions to be performed
 - 3. Identify equipment alternatives
 - 4. Present value
 - 5. Evaluating alternatives: A case study
 - 6. Select the equipment
 - 7. Identify and select the vendor
- D. Managing and controlling Receiving Operations
 - 1. Managing the receiving function
 - 2. Basic receiving activities
 - 3. Requirements of a good receiving system
- E. Managing and controlling Storage Operations
 - 1. Types of Material Locations Systems
 - 2. Guidelines for an effective material location systems
 - 3. Storage policies and practices
 - 4. Accuracy
- F. Managing and Controlling picking and Shipping Operations
 - 1. Define the Picking function requirements
 - 2. Order Picking instruction and documents
 - 3. Order picking equipment
 - 4. Managing the Picking function
 - 5. The Picking document
 - 6. Establishing an effective Picking System
 - 7. Define Shipping Operations
 - 8. Staging Operations
 - 9. Basic Shipping Activities
 - 10. Managing the shipping function
- G. Utilizing Warehouse Management Systems
 - 1. Barcodes, part numbers, serialization and shelf life
 - 2. Item masters
 - 3. Purchase orders and change orders
 - 4. Receiving, shortages, overages and RMA's
 - 5. Adding, labeling, and storing inventory
 - 6. Customer orders
 - 7. Order picking
 - 8. Order shipping
 - 9. Customer returns
 - 10. Physical inventories and adjustments
- H. Warehouse Safety
 - 1. OSHA requirements
 - 2. Fire Safety
 - 3. Personal Protective Equipment (PPE)
 - 4. Repetitive Motion
 - 5. Reporting of Injuries
 - 6. Basic loading dock safety
 - 7. Drugs and Alcohol
 - 8. Hazardous materials handling and emergencies

9. Basic forklift safety

V. METHODS OF INSTRUCTION:

Methods of instruction will vary from instructor to instructor but may include:

- A. Lecture and video presentation
- B. Read text and other sources
- C. Class discussion
- D. Written homework assignments
- E. Written paper or project
- F. Laboratory projects

VI. TYPICAL ASSIGNMENTS:

Typical assignments will vary from instructor to instructor but may include:

- A. Read text and other sources; read the chapter on warehouse safety in the text.
- B. Class discussion; how do you recognize hazardous materials and what are the employee and employer risks in the handling of these materials?
- C. Written homework assignments from the questions and problems in each chapter of the class text, typical Question: The main resources of a warehouse are (1) space (2) equipment, and (3)_____.
- D. Written paper or project; draw a warehouse layout of an 80,000 sq. ft. warehouse used to store paper supplies, show receiving, storage, picking and shipping functions.
- E. Laboratory projects; using the WMS software create an item master for a perishable product and create its storage location bar code label.

VII. EVALUATION(S):

- A. Methods of evaluation
 - 1. Class participation and timely attendance.
 - a. Since this course has an objective of preparing students to be ready to enter the distribution center workforce, each student will keep a time card, punch a time clock, and submit it at the last class.
 - b. Students shall be subjectively evaluated on their frequency and quality of participation in class discussions.
 - 2. Objective and subjective examinations, typical questions:
 - a. List three types of MHE used in the warehouse.
 - b. Explain the use of the order picker.
 - 3. Term project. A typical warehousing industry project shall be assigned to each student or a team of students at the discretion of the instructor.
 - a. The term project shall be evaluated on the student or team's ability to present a practical and easily understandable project solution or recommendation.
 - b. The term project shall be subjectively evaluated on how well the use of in class knowledge was successfully utilized in completing the project assignment.
 - 4. Subjective and objective evaluations of laboratory projects.
 - a. Students shall be evaluated on their adherence to in the lab safety rules
 - b. Students shall be evaluated on their ability to successfully complete laboratory projects based upon accuracy of warehouse transactions, and demonstrated successful implementation of classroom theory.
- B. Frequency of evaluation shall include at a minimum:
 - 1. On time attendance at each class and lab session
 - 2. One mid term exam
 - 3. One final exam
 - 4. One term project
 - 5. Five laboratory projects
 - 6. Evaluation of adherence to laboratory safety requirements shall be on going throughout each laboratory class

San Bernardino Valley College
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VIII. TYPICAL TEXTS (S):

Tompkins, J.A. and J.D. Smith (eds) Second Edition The Warehouse Management Handbook, New York, NY 1998.

Viale, J. David, Basics of Inventory Management, Menlo Park, CA.

IX. OTHER SUPPLIES REQUIRED OF STUDENT:

Scientific calculator

No open toe footwear in the warehouse laboratory