



South Central College

CMAE 1518 Manufacturing Process and Production

Course Outcome Summary

Course Information

Description	This course is designed to align with the National Skill Standard assessment and certification system for Manufacturing Processes. The course curriculum is based on federally-endorsed national standards for production workers. The course emphasizes Just-In-Time manufacturing principles, basic supply chain management, communication skills, and customer service. (Prerequisites: None)
Total Credits	2
Total Hours	32

Types of Instruction

Instruction Type	Credits/Hours
Lecture	2/32

Pre/Corequisites

None

Institutional Core Competencies

Critical and Creative Thinking - Students will be able to demonstrate purposeful thinking with the goal of using a creative process for developing and building upon ideas and/or the goal of using a critical process for the analyzing and evaluating of ideas.

Course Competencies

1. Explain aspects of identifying customer needs.

Learning Objectives

- Recognize the different and common needs of internal customers.
- Explain the importance of customer contact about product aspects and printed specifications.
- Discuss how to ensure regular review of customer needs in order to keep customer specifications up-to-date.
- Describe how to communicate customer needs effectively to others including shift-to-shift, co-workers, and managers.
- Identify issues that could prevent customer needs from being met and discuss how to address them proactively.

2. Discuss how to determine resources available for the production process.

Learning Objectives

- Identify how raw materials are checked against work orders.

Discuss the process to check tools and equipment against work orders.
Explain how to communicate production discrepancies.
Describe placement of necessary resources at the workstation.
Recognize the importance of scheduling workers with appropriate skills according to production needs.

3. Identify set-up and verification of equipment for the production process.

Learning Objectives

Explain aspects of proper repair and adjustment to production equipment prior to putting into service.
Describe set-up meeting process requirements, product, and equipment specifications.
Identify first piece or production run meeting specifications.
Select appropriate documentation of set-up procedures to enhance repeatability.
Discuss ergonomic and other relevant health, safety, and environmental standards.

4. Describe the process of setting team production goals.

Learning Objectives

Define team goals as specific, measurable, and achievable.
Discuss how team goals are aligned with customer and business needs.
Explain how team goals focus the team in order to meet team objectives.
Identify documentation and communication of team goals.

5. Explain job assignments.

Learning Objectives

Identify how job assignments match skills with the production work to be done.
Describe how job assignments maximize the use of available skills.
Explain the relationship of job assignments to ensuring business and customer needs are met.
Discuss the importance of effective notification of workers regarding job assignments.

6. Identify work flow with team members and other work groups.

Learning Objectives

Describe how to meet production schedules effectively.
Explain notification of team members regarding schedule requirements.
Discuss efficient production work flow and how relationships with others helps to facilitate it.
Identify how to minimize downtime.
Explain how workers actively participate in meetings and problem-solving groups.

7. Discuss communication of production, material requirements, and product specifications.

Learning Objectives

Recognize communication that reflects knowledge of production requirements, levels, and product specifications.
Identify communication that reflects knowledge of material specifications and delivery issues and schedules.
Describe communication that demonstrates knowledge of customer and business production needs.
Explain communication that is initiated cross-functionally and made in a timely and accurate manner to the correct parties.
Describe clear communication that is relevant to production and products.
Discuss how to track and document communications, as appropriate.

8. Explain how to perform, monitor, and document the process to make the product.

Learning Objectives

Identify process control data that indicates the manufacturing process is meeting product specifications.
Describe manufacturing process cycle time to meet customer and business needs.
Explain how to ensure product meets customer specifications.
Relate appropriate labeling of products to meet compliance.
Discuss aspects of production operations that ensure compliance with all health, safety, and environmental policies and practices.

9. Identify documentation and compliance process in regards to customer requirements.

Learning Objectives

Identify characteristics of compliance documentation that show it is legible, written in the appropriate format, and correctly stored.
Explain how to forward documentation of compliance to the proper parties, and obtain "sign off."

Describe process in regards to labeling products appropriate for compliance and non-compliance.

10. Explain the process of preparing the final product for shipping or distribution.

Learning Objectives

Identify procedure to ensure packaging materials meet packaging and shipping specifications, including appropriate labeling and safety requirements.

Discuss completion of documentation for packaging and shipping.

Explain why it is important to communicate product availability to the proper parties in a timely manner.

Explain checking of quantity, destination, and packaging instructions of product against the work order.

Identify correct storage or staging procedure for shipping.

Explain laws and regulations in regard to labeling, packaging, and transporting of product.

Identify material handling procedures to prevent product damage.

SCC Accessibility Statement

South Central College strives to make all learning experiences as accessible as possible. If you have a disability and need accommodations for access to this class, contact the Academic Support Center to request and discuss accommodations. North Mankato: Room B-132, (507) 389-7222; Faribault: Room A-116, (507) 332-7222.

Additional information and forms can be found at: www.southcentral.edu/disability

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