

## Master Syllabus

### OPT 2216 - Facilities Planning

**Division:** Science, Mathematics and Engineering

**Department:** Operations Technology

**Credit Hour Total:** 3.0

**Lecture Hrs:** 2.0 **Lab Hrs:** 2.0

**Prerequisite(s):** OPT 2205

**Date Revised:** October 2012

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### Course Description:

Students will gain a basic understanding of facility planning, layout strategies and material handling techniques within a safe working environment. Two classroom, two lab hours per week.

### General Education Outcomes:

- Oral Communication Competency
- Written Communication Competency
- Critical Thinking/Problem Solving Competency
- Values/Citizenship/Community Competency
- Computer Literacy Competency
- Information Literacy Competency

### Course Outcomes:

#### Plant layout & material handling

Describe the relationships between plant layout and material handling.

**Assessment Method:** Locally developed exams

**Performance Criteria:** Correctly answer 70% of exam questions

**Assessment Method:** Portfolios

**Performance Criteria:** Grade of 70% or better on portfolio

#### Plant layout & material handling design

Perform basic plant layout & material handling analysis and planning techniques and apply knowledge to a plant design project.

**Assessment Method:** Locally developed exams

**Performance Criteria:** Correctly answer 70% of exam questions

**Assessment Method:** Performance appraisals

**Performance Criteria:** Grade of 70% or better on portfolio

#### Plant site selection factors

Describe factors that effect plant site selection.

**Assessment Method:** Locally developed exams

**Performance Criteria:** Correctly answer 70% of exam questions

**Assessment Method:** Portfolios

**Performance Criteria:** Grade of 70% or better on portfolio

### Outline:

Introduction to Plant Layout & Material Handling.

Plant site selection.

The plant layout problem.

Plant layout procedures (in general).

Types of layouts.

Group technology.

PERT (Program Evaluation and Review Technique)

Activity relationships.

Process and flow pattern planning.

Flow pattern-planning techniques.

Emerging technologies and PL & MH CAD/CAM, robotics, integrated manufacturing, etc.

Introduction to material handling.

Material handling equipment.

Material handling systems planning and costs.

Robotics and material handling.

Shipping and receiving.

Plant services.

Work area planning.

Quantitative techniques in PL & MH.

Selling your plan.

Maintaining the facility.