

# SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

## COURSE OUTLINE

Course Title : Industrial Organization

Course No.: IND 100

Program: Electrical / Electronics / Instrumentation Technician

Semesters: Fourth

Author(s): A. Gooderham. 7592554ext581

Date: Jan. 1999

Previous

Outline Dated: Jan. 1998

Approved:

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Dean

Date

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**Course Name: Industrial Organization**  
**Course No.: Ind 100**

**TOTAL CREDITS: 4**  
**PREREQUISITES: none**  
**COURSE LENGTH: 16 wks**  
**TOTAL CREDIT HOURS:**

## I. COURSE DESCRIPTION

An introduction to the fundamentals of Statistical Quality Control (SQC). Emphasis is placed on the fundamentals of statistics where the use of graphs and charts allows for a more practical approach to Quality Management. Skills in analysis and evaluation will be developed through the use of these standard techniques, as well as an appreciation for the costs involved in Q.M. and the benefits of Total Quality Management. The analysis tools as well as an insight into today's business climate and the need for motivation provides an on-going approach to Quality Assurance in Design/Development, Production, Installation and Servicing. Augmenting these techniques is an analysis of, and practical experience with, Project Scheduling, Timelines and Critical Path.

## II. TOPICS TO BE COVERED:

1. Introduction to Quality, TQM
2. Potential Problem Analysis
3. Management Styles (Japanese, Saturn)
4. Quality Improvement Techniques, Deming's 14 Points
5. Fundamentals of Statistics
6. Control Charts for Variables
7. Additional SPC Techniques for Variables
8. Fundamentals of Probability
9. Control Charts for Attributes
- 10. Lot-By-Lot Acceptance Sampling by Attributes**
- 11. Acceptance Sampling Plan Systems**
12. Motivation
13. Quality Costs
14. The ISO 9001/CSA Q9001 Standards
15. Primavera Project Planning and Critical Path

### **III. LEARNING OUTCOMES AND ELEMENTS OF PERFORMANCE:**

#### **A. Learning Outcomes:**

Upon successful completion of this course the student will:

1. Have fundamental knowledge of Statistical Quality Control (SQC);
2. Be able to conduct basic Quality Control analysis using a variety of statistical charts and graphical approaches;
3. Be able to understand the needs for Quality Assurance in companies operating in the 2000's;
4. Have a fundamental knowledge of costing implications of Q.M. and the in-depth structure of Total Quality Management;
5. Be able to read and edit basic Primavera Schedules and calculate the Critical Path of a project.

#### **B. Learning Outcomes with Elements of Performance:**

**Upon successful completion of this course, the student will demonstrate the ability to:**

1. Produce examples of Quality Control approaches, philosophies and implications

#### **Potential elements of the performance:**

- Complete the PPA Assignment
- Complete class discussions and case studies
- Complete Test #1

2. Analyse data using statistical methods

#### **Potential elements of the performance:**

- Produce charts and graphs, the SPC Assignment
- Complete test #2

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3. Produce examples of Costs of Quality and the Motivation Factors required

**Potential elements of the performance:**

- Complete the Motivation Assignment
- Complete the Cost of Quality Quiz
- Complete the Cost of Quality/Motivation Test

4. Produce scheduling documentation using computer simulation software.

**Potential elements of the performance:**

- Complete the Primavera Assignment
- Complete test questions relating to scheduling

**IV. REQUIRED STUDENT RESOURCES:**

- Quality Control, 4<sup>th</sup> ed., by Besterfield

**V. METHODS OF EVALUATION:**

The following Grading System will be used:

A+	=	90% - 100%
A	=	80% - 89%
B	=	70% - 79%
C	=	60% - 69%
R	=	less than 60% (Repeat Course)
X	=	Temporary Grade as per College Policy

PPA Assignment	10%
Test #1	20 %
SPC Assignment	5 %
Test #2	35 %
Motivation T/F	5 %
Primavera Assign.	10%
Cost/Motivation Test	<u>15 %</u>
<b>TOTAL</b>	<b>100%</b>

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**VI. SPECIAL NOTES:**

1. The Instructor reserves the right to modify the course as is deemed necessary to meet **the** needs of the students.
2. Students with special needs (Physical Limitations, Visual/Hearing Impairments etc. ) are encouraged to discuss confidentially, required accommodations with the instructor and/or contact the Special Needs Office, Room E1204, Extension 493, 717 or 491.
3. Attendance to lab activities is compulsory, unless discussed with the instructor in advance of the absence. Your attendance and final grade are directly related.
4. If a student misses a test or quiz without contacting the instructor, the Dean's office or the switchboard prior to the test or quiz, a mark of zero will be granted without a re-write option

**VII. PRIOR LEARNING ASSESSMENT:**

Students who wish to apply for advanced credit in this course, should consult with the Professor.

## **IND 100 Course Outline Review**

The following students attended the class session in which the course outline was reviewed and have been notified that a copy of the outline is listed on the "scorpion" server for their perusal. Should a hard copy be preferred by a student, a printout may be taken from that location.