

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

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1992 '
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INDUSTRIAL ORGANIZATION

Course Title:

IND 100 - 3

Code No.:

Technology Programs

Program:

Semester:

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Date:

Brian Christie

Author:

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Chairperson "Z/

Date

INDUSTRIAL ORGANIZATION

IND 100

Course Name

Course Number

PHILOSOPHY/GOALS :

The traditional management styles and structures of North American Industries are being severely stressed and tested by intense foreign competition, particularly from Japan and South Korea. Philosophies of Management in these countries have been influenced by tradition and Dr. Deming's concepts of Quality Management. The styles are not directly transferable, but the goals are. North American industry needs quality, not only in its products but in its Industrial and Employee Relations.

Materials presented in this course are intended to:

1. Identify for the student, the North American traditional style of business.
2. Identify alternate styles including the Japanese, Co-operative and variations between.
3. Promote "Quality Management" and some of its supporting techniques like Statistical Process Control.
4. Assist the student in understanding his own behavioural style and that of others.

METHOD OF ASSESSMENT (GRADING METHOD) :

The course is divided into three topics with testing as below:

Styles and Structures	35% (2 tests maximum)
Productivity and Quality Management	45% (3 tests maximum)
Motivation	20% (1 test)

Tests will be a combination of True/False and Essay type, and will be announced at least one week in advance.

A final letter grade will be assigned.

A	80 - 100%
B	65 - 79%
C	55 - 64%
R	Less than 55%

TEXTBOOKS:

There is no assigned textbook. With the exception of library materials reserved for reading assignments, learning materials will be provided.

CALENDAR BRIEF;

Overview of organization structures and styles, power in conflict, ownership and finance, productivity, unemployment, management, science techniques like Critical Path and Statistical Process Control, occupational health and safety, industrial alienation, motivation, invention and entrepreneurialism, case studies of management problems.

COORSE DESCRIPTION

TOPIC #1 - STYLES AND STRUCTURES

Japan, as a powerful industrial entity, has drawn the attention of all other industrial powers to the methods employed to attain economic greatness. The Japanese style of management which arises out of ancient Japanese culture provides most of the answers and is in stark contrast to the North American method which relies on "John Wayne" type individualism and decision making. This topic starts off using a supervisory-in-basket game that succeeds in informing the students not only of the functions performed in a manufacturing facility, but also the mood and tone of the management style. Subsequent lectures, film and video study illustrate how the North American style of management encourages conflict and adversarial postures.

The topic is concluded with a video study of a North American application of the Japanese method, a game to illustrate the concept of conscious and an assignment requesting the redesign of a North American company using the principles learned.

Learning Materials:

- The Economics of Unemployed
- Northern Machines Inc. (an in-basket exercise)
- The Final Offer - Bob White and General Motors Corporation
- We Can Work It Out - Power in Conflict in Organizations
- Mondragon
- The Jamestown Story
- A Yen for Harmony

GENERAL OBJECTIVES;

1. Recognize the basic units of any organization and their inter-relationships from a systemic perspective.
2. Comprehend and apply a problem solving model in an industrial organization setting.
3. Appreciate the complexity and need for balance among counter-vailing forces and powers within organizations.
4. Appreciate that there are characteristic and fundamentally different ways of running a business, philosophically, as well as in formal style and structure.

SPECIFIC OBJECTIVES;

1. Describe the seven components of a "cognitive map" of an organization and discuss the interrelationship and balance of these components.
2. List and describe the nine steps of a problem solving model, and apply this model to identify and solve issues in an "in-basket" exercise.
3. Identify the basic "currencies of power" and recognize and describe them in a real life setting.
4. Explain the advantages and disadvantages of the three common forms of ownership of organizations.
5. Explain the nature and concept of worker co-operatives as an alternate business form and how it varies from more traditional forms.
6. Describe the principle features of Japanese management methods and how they vary from North American management styles.
7. Experience firsthand being part of a group using consensus decision making.
8. Recognize and describe the experiences at 3 levels of people in a newly forming social/organizational system.

TOPIC #2 - PRODUCTIVITY & QUALITY MANAGEMENT

North American industry must compete everywhere in the world with companies and social systems that do not have the same values that we have or the same reliance on social safety nets. As a competing nation, we must learn about "productivity", how we must balance the high technology of robots and computer integrated manufacturing against the goals of good wages and employment, and safe well-managed work places.

Two topics will be discussed in this section:

- Quality Management and Statistical Process Control
- Occupational Health and Safety Act, and Workplace Hazardous Materials Information System (WHMIS)

SPECIFIC OBJECTIVES - Quality Management Concepts and S.P.C.

1. Explain the need for S.P.C.
2. List the limitations of the 100% inspection method.
3. List the shortcomings of Go-NoGo inspection.
4. Define quality in terms of the customer's needs and expectations.
5. Define "process" as it applies to manufacturing.
6. State the "Pareto" principle.
7. Draw a basic Cause and Effect diagram.
8. Provided with appropriate information, perform a Pareto Analysis to identify the vital few.
9. Construct a histogram using recommended procedures for provided data.
10. For the histogram above, perform calculations for and locate the areas on the histogram showing.
11. Explain the meaning of the sigma limits.

12. Explain the difference between specification limits and process spread limits.
13. State the meaning of $P(A \text{ or } B)$ and $P(A \text{ and } B)$.
14. Explain the difference between the normal distribution and the distribution found from the rolling of a pair of dies.
15. Explain, using a diagram, how the cp index is developed from specification limits and process limits.
16. Memorize and apply the procedure for determining process capability by the use of probability paper.
17. Explain the relationship between normal curves produced from actual readings compared to normal curves produced from plating averages of small groups of readings.
18. Perform the steps in making an averages chart from provided data.
19. Perform the steps in making a Range Chart from the data provided above.
20. Explain the procedure for handling validated out-of-control points on \bar{X} or R charts including the revision to the control limits.
21. Recognize that specification limits must not be shown on \bar{X} or R charts, and explain why this is so.
22. Identify two ways of estimating process spread and capability from the control chart.
23. Perform the steps in the construction of a p -chart from provided data.
24. Explain how " p " (the average proportion defective) is calculated.
25. Calculate and position the control limits on the " p " chart.
26. Provided with various process patterns on various charts, interpret and make comment on the condition of the processes.

SPECIFIC OBJECTIVES - Occupational Health and Safety

1. Explain who is covered by the Act.
2. Define the duties and responsibilities of the Employer, Employee and Government.
3. Explain the "Right to Refuse" and other rights under the Act.
4. Define "Toxic Substances".
5. Define the Legal Enforcement elements under the Act (ie. role of inspector).

SPECIFIC OBJECTIVES - Workplace Hazardous Materials Information System (WHMIS)

1. Explain how the new "Right to Know" legislation defines hazardous ingredients, identifies exclusions and controlled products.
2. Identify what is meant by a hazardous physical agent.
3. Explain the duties of employers and employees under WHMIS.
4. Explain the requirements for and contents of labelling.
5. Explain the requirements for and contents of Material Safety Data Sheets.
6. Explain the requirements for worker training.
7. Explain how the body is affected by hazardous materials (ie. routes of entry).
8. Explain the three main methods of controlling hazards.
9. Explain the principles of emergency planning.

TOPIC #3 - INDUSTRIAL MOTIVATION/ALIENATION

What can we learn from the behaviorists like Maslow and McGregor, Hertzberg, and Massey? How do our needs relate to the needs of the corporation and the merging styles in North America? This section identifies features of our makeup and how we can be motivated to perform better in our jobs. Also discussed will be the nature and characteristics of industrial alienation and the way that energy and creativity are damaged. Finally, a study of the effect of monetary rewards and power on productivity. A study of the video film "Its Not Just the Money", will complete the course of study.

GENERAL OBJECTIVES:

1. Appreciate and understand the major importance of motivation of motivation in a personal and organizational context.
2. Recognize the contributions of behavioural scientists, over the past 30-40 years, to our understanding of the nature of motivation in the work place and the consequences when not nurtured.

SPECIFIC OBJECTIVES;

1. Define each and describe the interrelationship of behaviour, motives and goals.
2. List the steps in Maslow's Hierarchy of Needs.
3. Describe Hertzberg's Motivation - Hygiene Factors.
4. Explain the relationship of Maslow and Hertzberg to a motivation situation.
5. Describe the characteristics of McGregor's X and Y styles of managing/motivating people.
6. Discuss in detail the question "Does Money Motivate"?
7. Discuss the significance of age and value sets in managers/supervisors approach to motivating employees.