

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: DRAFTING

Code No.: DRF 109-2

Program: MACHINE SHOP

Semester: \_\_\_\_\_

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APPROVED: *N.P. Crozitto*  
Chairperson

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Date



DRAFTING 109-2

Topic Number	Periods	Topic Information
1	4	Blueprint reading involving more complex machining situations.
2	4	Determination and use of datum edges and faces from blueprints, for setting up purposes.
3	8	Blueprint reading for the determination of operation sequences.
4	6	Consideration of economical approach to setting up components, from blueprints in order to obtain maximum number of operations from single setting.
5	6	Conversion of blueprint angular dimensions to co-ordinate dimensions to facilitate machining.
6	4	Introduction to jigs and fixtures.

PERFORMANCE OBJECTIVES:

GENERAL OBJECTIVES:

To expose the student to complex drawings of components to be machined, and develop the ability to read such drawings quickly and efficiently.

To develop in the student the ability to determine operational sequences, and methods of economic setting up, by efficient reading of drawings.

SPECIFIC OBJECTIVES:

Unit 1

1. Demonstrate ability to read drawings correctly.
2. Identify the use and importance of datum edges and surfaces.
3. Determine from drawings datum edges and surfaces.
4. Demonstrate ability to select the correct datum from a drawing for setting up purposes.
5. Demonstrate ability to read complex machining drawings and recognize datums to be used for setting up.

Unit 2

6. Identify importance of setting up a component correctly.
7. With respect to (6), identify the need to reduce to a minimum the number of crane lifts required to machine large components.

Unit 3

components from a drawing.

9. Demonstrate ability to determine operational sequences, for complex components, from a drawing.

#### Unit 4

10. Identify the necessity of carrying out maximum number of machining operations from one setting.
11. Demonstrate from reading a simple component drawing, ability to determine set up which will enable maximum amount of machining to be done in one setting .
12. Demonstrate from reading complex component drawings, ability to determine set up which will enable maximum amount of machining to be done in one setting.

#### Unit 5

13. Identify the need to convert angular dimensions to co-ordinate dimensions in many instances.
14. Demonstrate ability to convert angular dimensions to co-ordinate dimensions.
15. Demonstrate (14) taking into consideration specific set-ups which may necessitate further conversions of dimensions.
16. Identify the need to keep a record of calculations involved for dimension conversions and set-ups.
17. Demonstrate ability to keep a record of calculations, including identification of the component the calculations were made for.

#### Unit 6

18. Identify the need for the use of jigs and fixtures.
19. Demonstrate ability to read a component drawing, in order to set the jig to be used correctly.
20. Identify the importance of cleanliness and care of jigs and fixtures in order to obtain correct machining of a component.

#### Unit 7

21. Demonstrate ability to use permanent features in a set up where a number of identical components are to be machined.
22. Demonstrate ability to use permanent features in a set up where a number of identical components are to be machined in successive operations.
23. Identify the need to keep a record of features in (21) and (22) including sketches and component identification for subsequent batches.