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SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY
SAULT STE. MARIE, ON

COURSE OUTLINE



COURSE TITLE: STRUCTURAL DRAFTING

CODE NO.: DRF 209 **SEMESTER:** III

PROGRAM: CIVIL TECHNICIAN

DATE: JAN 1995 **PREVIOUS OUTLINE DATED:** AUG 1990

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APPROVED: *L.P. Chojecki* 95-01-05
DEAN **DATE**

M. U.
Prof/95-

TOTAL CREDIT HOURS: 3

PREREQUISITE(S): None

STRUCTURAL DRAFTING
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DRF209
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PREREQUISITE(S): None

I. PHILOSOPHY/GOALS:

This course will introduce the student to basic drawing principles and skills as they relate to structural steel. The student will be introduced to the various phases of structural drawing - from line drawings, to shop drawings. Upon completion of the course, the student will be able to detail simple beams and columns, understand shop methods, standards and also to prepare and read erection drawings.

II. STUDENT PERFORMANCE OBJECTIVES (OUTCOMES):

Upon successful completion of this course the student will:

- 1) Identify different types of structural shapes, gauges and pitches.
- 2) Properly use structural tables to draw structural shapes
- 3) Identify the various components of a steel building
- 4) Detail simple beams and columns using standard clearance and interferences.
- 5) Read and understand structural steel drawings.
- 6) Identify line drawings and properly use the information provided.

III. TOPICS TO BE COVERED:

- 1) Structural Shapes
- 2) Drawings
- 3) Connections
- 4) Beam Detail
- 5) Column Detail
- 6) Girts, Purlins, Gussets and Bracing

IV. LEARNING ACTIVITIES/REQUIRED RESOURCES

1. Structural Shapes

Learning Activities: In class instruction and practical illustrations on:
- Parts
- Callouts

- Standard tables and charts
- standard gauges

Resources: Handbook of Steel Construction
 Handouts and overheads

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2. Drawings

Learning Activities: In class instruction, practical exercises and assignments on:

- Terms and definitions
- Line Drawings
- Plans and Elevations
- Drawing Office Procedures
- Grids
- Building Parts
- Structural Drawing Reading
- Column Schedules

Resources: Case Studies
 Handouts, overheads and demonstrations

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3. Connections

Learning Activities: In class instruction, practical exercises and assignments on:

- Standard Headers
- Seats and Gussets
- End Plans
- Definitions

Resources: Handbook of Steel Construction
 Handouts and overheads

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4. Beam Detail

Learning Activities: In class instruction, practical exercises and assignments on:

- Basic principles
- Clearance and Interference
- Running Dimensions
- Right and Left hand

Resources: Handbook of Steel Construction
 Handouts and overheads

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5. Column Detail

Learning Activities: In class instruction, practical exercises and assignments on:
- Basic principles
- Elevations
- Calculations

Resources: Handbook of Steel Construction
Handouts and overheads

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6. Girts, Purlins, Gussets & Bracing

Learning Activities: In class instruction, practical exercises and assignments on:
- Detailing and Designing
- Connections
- Calculations
- Use of clearance tables

Resources: Handbook of Steel Construction
Handouts and overheads

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V. EVALUATION METHODS: (INCLUDES ASSIGNMENTS, ATTENDANCE REQUIREMENTS, ETC.)

A final grade will be derived as follows:

Final Assignment	20%
Attendance	10%
Assignments	30%
Tests	<u>40%</u>
Total	100%

The grading system used will be as follows:

A+	90% - 100%
A	80% - 89%
B	70% - 79%
C	55% - 69%
R	Repeat

- 1) Late assignments will be penalized 5% per calendar day past due date. The instructor reserves the right to not accept any late assignment once marked assignments have been returned.
- 2) Minimum acceptable grade for this course is 55%.

VII. REQUIRED STUDENT RESOURCES

Required Text **CISC : Handbook of Steel Construction**

Added Resource : **CISC : Fundamentals of Structural Shop Drafting**
Architecture: Design, Engineering & Drawing

VIII. SPECIAL NOTES

Students with special needs (eg. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.

