SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

COURSE OUTLINE

COURSE TITLE:	STRUCTURAL DRAFTING
CODE NO.:	DRF 209
SEMESTER.	IV
PROGRAM:	ARCHITECTURAL / CIVIL TECHNOLOGIST

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DATE:	JAN 1997
PREVIOUS OUTLINE DATED:	JAN 1995

APPROVED:

DEAN _____ DATE JANUARY 6, 1997

CO-ORDINATOR _____ DATE 3-JAN-97

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TOTAL CREDIT HOURS: 3
PREREQUISITE: None

1. PHILOSOPHY/GOALS:

This course will introduce the student to drawing principles and skills as they relate to structural detailing. The student will be introduced to the various phases of structural drawing - from line drawings, to shop drawings. Emphasis will be on steel and reinforced concrete. Upon completion of the course, the student will be able to detail simple beams and columns using CAD, understand shop methods, standards and also to prepare and read structural and 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 interference.
5. Read and understand structural steel drawings.
6. Identify line drawings and properly use the information provided.
7. Detail masonry and reinforced concrete assemblies.
8. Identify and detail placement of reinforcing steel.
9. Draw structural details using CAD.

III. TOPICS TO BE COVERED

1. Structural Shapes
2. Drawings
3. Connections
4. Steel Beam Detailing
5. Steel Column Detailing
6. Girts, Purlins, Gussets and Bracing
7. Reinforcing Steel
8. Concrete Beam Detailing
9. Concrete Column Detailing

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

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

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

4. Steel Beam Detailing 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

5. Steel Column Detailing Learning Activities: In class instruction, practical exercises and assignments on:

Basic principles
Elevations

Resources: Handbook of Steel Construction, handouts and overheads

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

7. Reinforcing Steel: In class instruction, practical exercises and assignments on:

Standards for reinforcing steel
Identification of reinforcing steel
Standard practice for detailing
Standard practice for placement

Resources: RSIC Manual of Standard Practice, handouts and overheads

8. Concrete Beam Detailing: In class instruction, practical exercises and assignments on:

Edge beam detailing
One-way slab detailing

Resources: RSIC Manual of Standard Practice, handouts and overheads

9. Concrete Column Detailing: In class instruction, practical exercises and assignments on:

Concrete wall detailing
Concrete column detailing

Resources: RSIC Manual of Standard Practice, handouts and overheads

V. EVALUATION METHODS: (Includes assignments, tests, and attendance.)

A final grade will be derived as follows:

Attendance	10%
Assignments (8-10)	65%
Tests (2)	25%
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 not receive a grade higher than 'C' (62). Assignments submitted after marked assignments have been returned, will not be accepted.

2. Minimum acceptable grade for this course is 55%.

VI. STUDENT RESOURCES

Required Text:

Canadian Institute of Steel Construction
Handbook of Steel Construction
Latest Edition

Additional Resources:

Canadian Institute of Steel Construction
Fundamentals of Structural Shop Drafting
Latest Edition

Reinforcing Steel Institute of Canada
Manual of Standard Practice
Latest Edition

VII. SPECIAL NOTES

Students with special needs (e.g. 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 deemed necessary to meet the needs of students.