

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: PAPER FINISHING
Code No.: PPE 162-4
Program: PULP AND PAPERMAKING OPERATIONS
Semester: SEMESTER II
Date: MARCH 1989
Author: ADAM SUGDEN

New: X **Revision:**

APPROVED: 
Chairjberso'n

Date Zfo»3//f*

CALENDAR DESCRIPTION

PAPER FINISHING

PPE 162-4

COURSE NAME

COURSE NUMBER

PHILOSOPHY/GOALS;

This course introduces the student to a variety of off-machine processes used as the final stages of papermaking. The operation of calenders, supercalenders and their effect on paper will be studied. Aspects of rewinding, wrapping, roll handling, sheeting, cut size operations and paper storage will be dealt with.

In addition, off-machine coating, coating formulations and their effect on paper properties will be investigated.

METHOD OF ASSESSMENT;

Students will be graded on the basis of their performance on two tests to be given at appropriate intervals during the semester.

Letter grades will be assigned according to the standard Sault College system. Students having a final overall cumulative percentage between 50 and 59% may be permitted to write a supplemental examination that will cover the material from the entire course.

TEXTBOOK(S);

The general reference book, used in other courses in this program will be used.

Smook, G. Handbook for Pulp & Paper Technologists. Joint Textbook Committee of the Paper Industry, CPPA, Montreal, 1982.

OBJECTIVES:

The overall educational objective of this course is that the student will be able to demonstrate adequate knowledge of the many and varied paper finishing theories and operations. More specific objectives to be met by the course are as follows:

1. Demonstrate knowledge of theory, function and operation of calenders and supercalenders.
2. Demonstrate knowledge of how calendering affects paper quality.
3. Demonstrate knowledge of process flow through finishing operations.
4. Demonstrate knowledge or rewinding, roll wrapping and roll handling operations and equipment.
5. Demonstrate knowledge of cut size (sheeting) equipment and operations.
6. Demonstrate knowledge of paper storage, shipment and inventory control systems.
7. Demonstrate knowledge of off-machine coating systems and the formulations used for coating.
8. Demonstrate knowledge of the effects coating has on paper properties and end-use.

NATURE OF PRESENTATION:

The course will be given for 3 hours per week in three single periods. The course material will be mainly presented in the form of lectures which will be supplemented by exercises and assignments.

TOPICS COVERED:

| WEEK | TOPIC |
|-------------|-----------------------------------------------------------------------------------------------|
| 1. | Introduction to course and topics Overview of finishing operations Why paper finishing? |
| 2. | Calendering and supercalendering Equipment Processes |
| 3. | Effect of calendering on paper Uses of calendered paper |
| 4. | Slitters and rewinders Economic aspects or rewinding |

| WEEK | TOPIC |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 5. | <ul style="list-style-type: none">- Roll wrapping- Roll handling |
| 6. | <ul style="list-style-type: none">- Cut size operations- Sheeters, wrappers etc. |
| 7. | <ul style="list-style-type: none">- Test 1- Paper storage and shipment |
| 8. | <ul style="list-style-type: none">- Inventory control- Process control systems |
| 9. | <ul style="list-style-type: none">- Process control systems |
| 10. | <ul style="list-style-type: none">- Off-machine coating |
| 11. | <ul style="list-style-type: none">- Coating and coating formulations |
| 12. | <ul style="list-style-type: none">- Effect of coating on paper properties- Coating problems |
| 13. | <ul style="list-style-type: none">- Hazards and safety in the finishing area- Economics of paper finishing |
| 14. | <ul style="list-style-type: none">- Some practical problems- Test 2 |