

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: GASTROINTESTINAL  
Code No: NUR 405  
Program: RN CRITICAL CARE NURSING PROGRAM  
Semester:  
Date: FEBRUARY 1988  
Author: WENDY MALESH

New:

Revision:

APPROVED:

  
Chairperson

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GASTROINTESTINAL

NUR 405

Course Name

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**COURSE DESCRIPTION:**

The Gastrointestinal course presents the anatomy and physiology of the G.I. system. The hematologic system is also discussed and the interrelationship of the two systems is outlined.

The course includes assessment of the Gastrointestinal and hematologic systems followed by pathophysiology related to both systems.

Factors that impair nutrition, maintenance of adequate nutrition and nutritional interventions (eg. TPN) are studied.

Throughout the unit, the application of nursing interventions is discussed.

## COURSE OBJECTIVES

- 1, Outline the major function of each of the digestive organs.
2. List and describe the G.I. hormones•
3. Describe the blood supply to the G.I. system.  
  
Describe the nervous control to the G.I. system.  
  
Discuss the contributions made by the pancreas, gall bladder and liver.
6. Discuss the regulation and hemolysis of red blood cells
7. Outline the clotting mechanism and the fibrinolytic system-

## COURSE CONTENT

- Functions of Digestive Organs
- a) Esophagus
  - b) Stomach
    - gastric glands
    - gastric motility
    - gastric secretion
  - c) Small Intestine
    - duodenumf jejunum, ileum
    - villi
    - Crypts of Leiberkuhn
    - Payer's patches
    - motility
    - function - ATP absorption secretion
  - d) Large Intestine
    - cecum
    - colon
    - rectum
    - motility
- B. G.I. Hormones
- C. Blood Supply - Arterial Venous (Portal Venous System)
- D. Nervous Innervation
- Accessory G.I. Organs
- pancreas, function
  - control of secretions
  - gall bladder
  - liver
- Regulation and Hemolysis of of RBC's
- Clotting Mechanism  
Fibrinolysis

## COURSE OBJECTIVES

- Systematically assess gastrointestinal function
9. Systematically assess hematologic function.
  10. Outline diagnostic studies and related laboratory values for the G.I. and hematologic systems.
  11. Describe each of the acute situations in the abdomen requiring emergency interventions (surgical or medical).
  12. Discuss the treatment of each acute situation and outline nursing diagnoses, expected outcomes and nursing interventions.
  13. Discuss hepatic failure in relation to total body function.  
  
Outline nursing interventions for the patient in hepatic failure.

## COURSE CONTENT

- A. Assessment of the gastrointestinal system
    - Inspection
    - Auscultation
    - Percussion
    - Palpation
  - B. Assessment of the hematologic system
  - C. Diagnostic studies
  - D. Laboratory findings
- Acute problems of the abdomen
- ulcers
  - esophageal varices
  - acute pancreatitis
  - bowel obstruction
  - bowel infarct
  - acute abdomen
  - trauma
  - esophagectomy (cancer)
- Hepatic failure
- cirrhosis
  - hepatitis
  - hepatic encephalopathy
  - hepato^renal syndrome
  - liver transplant

14. Discuss anemia in relation to oxygen carrying capacity. C, Anemia  
- body compensators
15. Outline predisposing causes pathology/ and clinical presentation of Disseminated Intravascular Coagulation, D. D.I.C.
16. Outline nutritional requirements. A. Nutritional requirements
17. Discuss the clinical presentation of inadequate nutrition. B. Factors that impair nutrition:
  - a) intake
  - b) malabsorption
  - c) excess excretion
  - d) tissue destruction
  - e) increased nutritional requirements
18. Provide essential elements of nursing care when the patient is receiving Total Parenteral nutrition. A. Maintenance of adequate nutrition.
  - i) signs of nutritional imbalance
  - ii) nutritional intake
  - iii) Nitrogen balance
  - iv) T.P.N.
    - calories
    - nutrient
    - electrolytes
  - v) Indications for TPN  
Complications of TPN
  - vi) Techniques of administration
  - vii) Laboratory values
19. Set-up equipment correctly and safely for total parenteral nutrition. B. Set up for administration
  - central venous catheterization
  - multi-lumen catheters
  - Hickman catheter
  - Port-a-cath
20. Recognize the need for psychological support implement measures to give psychological assistance. A. Provision of physical and and psychological support.

- |   |   |
|---|---|
| 21. Discuss the administration of nutrients using intermittent or continuous enteral feeding techniques | A. Enteral Feeding <ul style="list-style-type: none"><li>- principles, techniques</li><li>- continuous intermittent</li><li>- tube placement, testing for patency</li><li>- checking absorption</li><li>- Complications</li></ul> |
| 22. Demonstrate management and trouble shooting of nasogastric suction.                                 | Nasogastric suction <ul style="list-style-type: none"><li>- Principle</li><li>- catheter management</li><li>- trouble shooting</li><li>- suction</li></ul>  |
| 23. Discuss the use of gastric lavage and related nursing interventions.                                | A, Gastric lavage <ul style="list-style-type: none"><li>Indications</li><li>Complications</li></ul>   |
| 24. Outline the types of ostomies and considerations for each.  | Ostomies <ul style="list-style-type: none"><li>Types</li><li>Care</li></ul>   |

B ASSIGNMENTS

ASSIGNMENT #1. (WORTH 10% of FINAL MARK)

Clotting mechanism.  
Fibrinolytic system.

ASSIGNMENT #2. (WORTH 10% OF FINAL MARK)

Esophagectomy, Esogastrectomy  
Nursing Care and Dietary Management

TESTS

TEST #1. (WORTH 40% OF FINAL MARK)

Anatomy, physiology  
Hematology, diagnostics, lab findings  
Assessment GI, Hematologic  
Pathophysiology: Acute problems

TEST #2. (WORTH 40% OF FINAL MARK)

Pathophysiology: Acute Problems  
Nutrition  
Anemia, D.I.C.

GRADING SCALE:

A minimum achievement level of 70% is required (B)

A+        90 - 100%  
A         80 - 89%  
B         70 - 79%  
C         60 - 69%  
R         Repeat: Objectives Not Met

NOTE: TESTS ARE THE PROPERTY OF SAULT COLLEGE

HOURS: 8 Weeks (24 Hours)  
8 Weeks X 3 hrs per week.

TEXTBOOKS:

Alspach, J, Williams, S., "Core Curriculum for Critical Care Nursing",  
3rd Edition, W.B. Saunders Co., Toronto, 1985.

Harvey, M.A., "Study Guide to Core Curriculum for Critical Care  
Nursing", W.B. Saunders Co., Toronto, 1986.

METHODOLOGY:

Consists of

Lecture

Guest Speakers        (Physician to discuss GI Bleeding, Esophageal Varices)  
                              (Dietician to discuss nutrition)

Audiovisual:         Overhead projector

Tests:                 2

Assignments:         2 - Graded

Labwork:              Demonstration

Homework & Reading Assignments

SAULT COLLEGE  
CRITICAL CARE NURSING  
GASTROINTESTINAL NUR

## CLASS SCHEDULE

## READING/HOMEWORK ASSIGNMENTS

## WEEK

## Lesson I

Text Pg. 564 - 579

Objective and course Intro-  
duction  
Anatomy, Physiology  
Functions of Digestive Organs  
GI Hormones

## Lesson II

Anatomy, physiology con't.  
Role of accessory GI Organs  
Hematology  
GI Assessment: History  
Physical Assessment

Assignment:  
Clotting Mechanism  
Fibrinolysis  
Text Pg. 579-586  
513-519  
592-596

## Lesson III

\*Discuss Assignment:  
Clotting, Fibrinolysis  
GI Assessment con't  
Hematologic Assessment  
Diagnostics, Lab findings  
Ulcers

Text: Pg. 600-612

## Lesson IV

GI Pathophysiology  
Liver Failure: Liver Disease  
Esophageal Varices

Pre-test review

## Lesson V

Guest Speaker  
GI Bleeding  
Esophageal Varices (1 hr)  
Hepatic Encephalopathy

Text: pg. 596-600  
Study Guide: pg. 192-198

Test #1

Lesson VI

Pancreatitis  
Die  
Bowel Disorders

Assignment #2  
Esophagectomy  
Esophyogastrectomy

Text: pg 612-618  
pg 588-589

Lesson VII

Guest Speaker  
Nutrition (1 hr)

Total parenteral nutrition

Lesson VIII

Review assignment:  
    Esophagectomy  
    Esophagastrectomy  
Enteral Feeding  
N/G Tube Management  
Gastric Lavage  
Final test