QUINSIGAMOND COMMUNITY COLLEGE

PRACTICAL NURSING PROGRAM

PNP 210
NUTRITIONAL CONCEPTS IN HEALTH AND ILLNESS

Semester II
Course Outline
Class of 2008

B. Dunn, RN, MSN

I. COURSE DESCRIPTION

The course focuses on review of concepts of normal nutrition, principles related to health maintenance and nutritional modifications required during states of illness. Students correlate principles of normal nutrition with therapeutic diets needed to promote health in culturally diverse individuals experiencing health deviations. Students acquire knowledge of dietary management of clients with a variety of pathological conditions.

***Prerequisites**
BIO140 or BIO 111 and BIO 112,PNP 1 01,PNP 111
Co-requisites : PNP 210,PNP 222,PNP 233

II. LEVEL TWO OBJECTIVES

1. **Apply the nursing process when caring for clients with self-care deficits.**
2. **Collect data to identify specific self-care needs.**
3. **Apply common nursing diagnoses to communicate identified self-care needs.**
4. **Identify resources within the community to assist with individual self-care needs.**
5. **Demonstrate the ability to organize nursing care to meet the universal and/or health care deviation requisites of 2-3 clients.**
6. **Demonstrate competency in the performance of advanced nursing care skills.**
7. **Evaluate care given based on stated outcomes.**
8. **Discuss proposed modifications in client's plan of care.**
9. **Practice safely in all aspects of nursing care.**
10. **Utilize principles of effective communication in the delivery of health care.**
11. **Employ principles of recording.**
12. **Practice effective communication with clients, families, and health team members.**
13. **Practice applying critical thinking skills in providing nursing care.**
14. **Employ principles of teaching to assist clients meet universal and/or health-deviation requisites.**
15. **Develop interactive skills with other health team members to assist clients meet self-care needs.**
16. **Compare one's own practice with the role expectations of practical nursing.**
17. **Relate ANA code of ethics to client care situations.**

III. COURSE OBJECTIVES

Upon successful completion of the course, the student will be able to:

1. **Relate appropriate scientific terminology when describing nutritional concepts.**
2. **Describe the current United States Department of Agriculture (USDA) standards and guidelines.**
3. **Identify the functions of carbohydrates, fats, proteins, vitamins, minerals, water and fiber in providing energy and meeting nutritional requirements.**
4. **Discuss nutritional modifications necessary for elderly and culturally diverse clients.**
5. **State ways in which a normal diet is modified for therapeutic purposes.**
6. **Discuss nutritional modifications needed for clients with cancer, surgical musculoskeletal, cardiovascular, gastrointestinal, endocrine and renal dysfunction.**
7. **Describe teaching plans appropriate for clients experiencing altered health states.**

IV. CURRICULUM DESIGN

Nutritional Concepts in Health and Illness is presented through a series of modules designed to provide a framework for normal nutritional needs. Additionally, concepts will be related to a variety of medical-surgical disorders. The curriculum proceeds from simple to complex. The modules include:

Module I: Nutrition in Health Maintenance
Module II: Nutritional Needs of the Medical/Surgical Client
Module III: Nutritional Needs of the Elderly and Culturally Diverse Population

Placement: Semester II
Course Contact Hours: 15 hours
Course Credit Hours: 1 hour

Curriculum Threads: The curriculum threads are concepts, which appear throughout the curriculum. Each thread develops in complexity from the first semester courses through succeeding courses. The curriculum threads are:

1. **Communication**
2. **Critical Thinking**
3. **Cultural Diversity**
4. **Health Education**
5. **Nursing Care Skills**
6. **Nursing Process**
7. **Nutrition**
8. **Pharmacodynamics**
9. **Safety**
10. **Standards of Practice & Trends in Health Care.**

V. METHOD OF INSTRUCTION

Lecture/Class Presentations
Discussion
Critical thinking exercises
Videos
Written assignments
Transparencies
Hand-outs

VI. METHOD OF EVALUATION

Achievement of course objectives are measured by written quizzes, food plans for hospitalized clients, and class presentation.

Quizzes	**60%**
***Food Diary**	**20**
Classroom presentation	**20**
Total	**100%**

*** See separate guideline sheet**
*** Student must achieve a grade of 73% or higher in order to successfully complete this nursing course.**

VII. TEACHING PERSONNEL

Barbara Dunn, RN, MSN **508-854- 2736** **Office # 314 A**
Guest Lecturer [if applicable] **e-mail bdunn@qcc.mass.edu**

VIII. BIBLIOGRAPHY

REQUIRED TEXT:

ATI Assessment Technologies Institute, Nutrition

Williams, S.R., Basic Nutrition and Diet Therapy, 12TH Ed., Mosby Yearbook, Inc., 2005.

REFERENCE TEXTS:

Taber's Cyclopedic Medical Dictionary, 20TH ED., F. A. Davis,2005

Timby, Barbara. Fundamental Skills in Patient Care, 7th ed., J.B. Lippincott Co., Philadelphia, 2004

Timby,Smith . Introductory To Medical/Surgical Nursing, 9th ed. J.B. Lippincott Co., Philadephia, 2007

New England Dairy Council Web Site http://www.newenglanddairycouncil.org

MODULE I: NUTRITION IN HEALTH MAINTENANCE

A. Learning objectives: At the conclusion of this module, the student will:

1. **Describe the relationship between nutrition and health.**
2. **Describe the nursing process and its use in nutrition assessment.**
3. **Discuss the effects of malnutrition on health.**
4. **Describe the role of carbohydrates, fats and proteins as sources of energy.**
5. **Recall 4 nutrients that contribute to tissue building.**
6. **Describe common nutrient standards and guidelines.**
7. **Discuss the 5 basic food groups as represented in the Food Guide Pyramid.**
8. **Discuss dietary guidelines as outlined by the U.S. R.D.A.**
9. **Identify 3 dietary sources of carbohydrates, fats and proteins.**
10. **Discuss the importance of dietary fiber.**

Threads: 1, 2, 3, 4, 6, 7, 9, 10

CONTENT	LEARNING ACTIVITY	EVALUATION
Definition of terms **Nutrient Sources of energy: Proteins, Carbohydrates, and Fats** **Tissue Building: Proteins, Vitamins, Minerals and Fatty Acids** **Nutrient Standards: U.S. RDA, Food Guide Pyramid And Dietary Guidelines.** **Nursing Process**	**Williams, Chapter 1, 2, 3, 4** **Handouts** **Critical Thinking Activity** **Class Presentations**	**Quiz questions** **Class discussion**

MODULE I CONTINUED:

B. Learning objectives: At the conclusion of this module, the student will:

1. **Define basic energy requirements of the body**
2. **Discuss the measurement of energy**
3. **Name 5 food sources for energy**
4. **Discuss storage of food in the body**
5. **Define basal metabolism**
6. **List 5 factors that influence basal metabolic rate**
7. **Discuss variable factors influencing energy requirements**

Threads: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

CONTENT	LEARNING ACTIVITY	EVALUATION
Voluntary & involuntary Work. Fuel sources. Kilocalories & nutrient density Sources of stored energy Basal metabolism & methods of measurement. Factors influencing basal Metabolism.	Williams, Chapter 6 Critical Thinking Activity Class Presentations Handouts	Quiz questions Class discussion

MODULE I: Continued

C. Vitamins

Learning objective: At the conclusion of this module, the student will:

1. **Describe 2 classes of vitamins.**
2. **Identify functions and toxicity symptoms of fat soluble vitamins.**
3. **Discuss functions and toxicity symptoms of water soluble vitamins.**
4. **List 3 dietary sources rich in fat soluble vitamins.**
5. **Name 3 dietary sources rich in water soluble vitamins.**
6. **Describe 3 factors that influence vitamin requirements.**
7. **Discuss 2 basic principles of vitamin supplementation.**

Threads: 1, 2, 3, 4, 5, 7, 9, 10

CONTENT	LEARNING ACTIVITY	EVALUATION
Classes of vitamins: fat soluble (A,D,E &K) – functions & toxic symptoms of each. Water soluble (C & B Complex) – functions & Toxic symptoms of each Common dietary sources of Each vitamin Vitamin supplementation Factors influencing needs	Williams, Chapter 7 Lecture Critical Thinking Activity Class Presentations	Quiz questions Class discussion

MODULE I continued:

D. Minerals

Learning objective: At the conclusion of this module, the student will:

1. **Identify the 2 classes of minerals.**
2. **Describe 3 factors affecting mineral requirements.**
3. **Name 2 medical conditions that require therapeutic treatment with mineral supplementation.**
4. **List 2 functions, dietary sources and toxic symptoms of 7 trace materials.**
5. **Name 10 trace elements that have been proven to be essential in human nutrition.**
6. **Discuss 1 function, dietary source and toxic symptom of 5 trace elements.**

Threads: 1, 2, 4, 6, 7, 9

CONTENT	LEARNING ACTIVITY	EVALUATION
Major minerals: Functions, Dietary sources and Deficiency symptoms of each. **Factors affecting need & Absorption.** **Medical conditions requiring Mineral supplementation.** **Trace elements: Functions, Dietary sources and Deficiency symptoms of Each.**	**Williams, Chapter 8** **Lecture** **Critical Thinking Activity** **Class Presentations**	**Quiz questions** **Class discussion**

MODULE I continued:

E. Water Requirements
Learning objectives: At the conclusion of this module, the student will:

1. **Discuss 3 basic principles that are essential to understanding the balance and uses of water in the human body.**
2. **List 5 functions of body water.**
3. **Identify 5 factors that influence water requirements.**
4. **Discuss the purpose of extracellular and intracellular fluid compartments.**
5. **Discuss the daily adult intake and output of water.**

Threads: 1, 2, 3, 4, 5, 6, 7

CONTENT	LEARNING ACTIVITY	EVALUATION
Principles of water balance. **Factors influencing water balance.** **Extracellular & intracellular Compartments.** **Daily intake and output of water.**	**Williams, Chapter 9** **Class Presentations** **Lecture** **Critical Thinking Activity**	**Quiz questions** **Class discussion**

Module I continued:

F. Weight Management

Learning Objectives: At the conclusion of this module, the student will:

1. **Discuss the federal guidelines for the identification, evaluation and treatment of overweight and obesity in adults.**
2. **Describe three extreme practices used for weight reduction.**
3. **Discuss the cause of obesity.**
4. **List basic principles for weight management.**

Threads: 1, 2, 4, 8, 10

CONTENT	LEARNING ACTIVITY	EVALUATION
Obesity & health causes **Fad diets** **Surgery** **Weight Management**	**Williams: Chapter 15** **Handouts** **Class Presentations**	**Quiz Questions** **Class discussion**

MODULE II: Nutritional Needs of the Medical/Surgical Client

A. Surgical Client

Learning objectives: At the conclusion of this module, the student will:

1. **Discuss the use of the nursing process in clinical nutrition.**
2. **Identify three tests used in collecting nutritional information.**
3. **Describe four different types of hospital diets.**
4. **Describe the role of the nurse and the clinical dietician in the care of the surgical client.**
5. **Discuss the role of body nutrients in the care of the surgical client.**
6. **Identify means of overcoming nutritional depletion pre and post surgery.**

Threads: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

CONTENT	LEARNING ACTIVITY	EVALUATION
Nursing Process **Hospital Diets** **Pre operative nutritional needs** **Post operative healing needs**	**Williams: Chapter 17, Chapter 22, pps 412-419** **Handouts**	**Quiz Questions** **Class discussion**

B. Cancer/Immunity

Learning objectives: At the conclusion of this module, the student will:

1. **Discuss the relation of nutrition to immunity.**
2. **Describe the healing process and nutrition.**
3. **Discuss four factors thought to contribute to loss of appetite in clients experiencing cancer.**
4. **Define cachexia.**
5. **Discuss measures to increase oral intake for clients with cancer.**
6. **List three causes of body wasting experienced by the client experiencing AIDS.**
7. **Describe interventions to improve nutrition of the client with AIDS.**

Threads: 1, 2, 3, 4, 5, 6, 7

CONTENT	LEARNING ACTIVITY	EVALUATION
Systemic effects for cancer **Principles of Nutritional care** **Prevention of cancer-nutritional guidelines** **Client with AIDS** **Nutritional plan**	**Williams, Chapters 23** **Lecture and discussion** **Handouts**	**Quiz questions**

MODULE II: continued

C. Musculoskeletal

Learning objectives: At the conclusion of this module, the student will:

1. **Define osteoporosis.**
2. **List the risk factors/causes of osteoporosis.**
3. **Describe the role of calcium in the development of osteoporosis.**
4. **Discuss three food sources for calcium.**
5. **Identify dietary modifications important for prevention of osteoporosis.**
6. **Describe dietary plan appropriate for the client with osteoporosis.**
7. **Describe the role of phosphorous as a partner with calcium.**

Threads: 1, 3, 4, 5, 7, 8

CONTENT	LEARNING ACTIVITY	EVALUATION
Functions of Calcium and Phosphorous **Sources of Calcium and Phosphorous** **Definition: Osteoporosis** **Diet plan for prevention of Osteoporosis** **Diet plan of treatment of Osteoporosis**	**Williams, Chapters 8 pp 127-130 (review)** **Lecture and discussion**	**Quiz questions** **Food plan for hospitalized client**

MODULE II continued

D. CARDIOVASCULAR

Learning objectives: At the conclusion of this module, the student will:

1. **Identify strategies likely to reduce the risk of cardiovascular disease.**
2. **Discuss the relationship of fat, cholesterol, and sodium intakes to the development of cardiovascular disease.**
3. **Describe the traditional 2 gram sodium diet.**
4. **Identify major sources of sodium in the diet.**
5. **Identify sources of saturated and unsaturated fats in food sources.**
6. **Explain four dietary modifications necessary for following a prudent diet.**
7. **Describe teaching plan for dietary modifications related to cardiovascular diseases.**
8. **Discuss the actions, uses and adverse reactions of the drugs used to treat anemia (specifically iron preparation and B_{12}).**

Threads: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

CONTENT	LEARNING ACTIVITY	EVALUATION
Definition of Athero-sclerosis **Fat metabolism** - **Triglycerides** - **Cholesterol** - **Lipoproteins** **Risk factors for heart disease** **Prudent diet** **Sodium restricted diets** **Preventative measures related to nutriton and heart disease** **Drugs used to Rx, Anemia** **-iron** **-B_{12}**	**Williams, Chapter 19, Chapter 8, pps 139-142** **Lecture and discussion** **Handouts** **Critical Thinking**	**Quiz questions**

MODULE II continued

E. GASTROINTESTINAL/ ACCESSORY ORGANS

Learning objectives: At the conclusion of this module, the student will:

1. **Describe the types of muscle movement involved in mechanical digestion.**
2. **Discuss three types of materials that aid chemical digestion in the stomach.**
3. **Discuss the role of fiber in the dietary treatment of gastrointestinal disease.**
4. **Identify three dietary sources of fiber.**
5. **Explain dietary modifications for the client with GERD.**
6. **List five basic principles for planning a diet for the client with peptic ulcer disease.**
7. **Describe the diet plan appropriate for the client experiencing gall bladder disease.**
8. **Explain four dietary modifications for the client experiencing disease of the small and large bowel.**
9. **Discuss the use of TPN for clients experiencing problems involving the GI tract and accessory organs.**

Threads: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

CONTENT	LEARNING ACTIVITY	EVALUATION
Mechanical chemical digestion **Dietary care of GERD** **Peptic ulcer disease** **Accessory organ disease** **Dietary management**	**Williams, Chapter 5, 18, 22 pps 419-429** **Lecture and discussion** **Handouts and Presentations**	**Quiz questions** **Clinical applications**

MODULE II continued

F. ENDOCRINE DYSFUNCTION

Learning objectives: At the conclusion of this module, the student will:

1. **Recognize the difference in treatment plan for two types of Diabetes Mellitus.**
2. **Discuss the dietary management plan for each type of Diabetes Mellitus.**
3. **Explain the food exchange system used by clients experiencing Diabetes.**
4. **List three examples of foods from each of the six food exchange lists.**
5. **Explain the need for an individualized approach to dietary management of Diabetes Mellitus.**
6. **Develop a teaching plan for a client experiencing Diabetes Mellitus.**

Threads: 1, 2, 3, 4, 5, 6, 7, 9

CONTENT	LEARNING ACTIVITY	EVALUATION
Review of Diabetes Mellitus **Types of Diabetes:** - **Type 1** - **Type 2** **Symptoms** **Basic goals of care** **Food Exchange System** **Client education**	**Williams, Chapter 20** **Lecture and discussion** **Handouts** **Class Presentation**	**Quiz questions**

MODULE II continued

G. RENAL DYSFUNCTION

Learning objectives: At the conclusion of this unit, the student will:

1. **Discuss general causes of acute and chronic kidney failure.**
2. **List nutritional factors that must be adjusted for the client experiencing renal disease.**
3. **Describe protein restrictions appropriate for selected renal conditions (glomerulonephritis, nephrotic syndrome, and chronic renal failure).**
4. **Explain dietary restrictions necessary for the client undergoing dialysis therapy.**
5. **Identify dietary restrictions appropriate for the client with urinary calculi.**

Threads: 1, 2, 4, 5, 6, 7, 9, 10

CONTENT	LEARNING ACTIVITY	EVALUATION
Causes of kidney disease **Definition:** - **Glomerulonephritis** - **Nephrotic syndrome** - **chronic renal failure** **Nutritional therapy for:** - **glomerulonephritis** - **nephrotic syndrome** - **renal failure** - **dialysis** - **urinary calculi** **Dietary sources of protein** **Dietary sources of calcium**	**Williams, Chapter 21** **Lecture and discussion** **Handouts** **Class Presentations**	**Quiz questions** **Clinical application**

MODULE III NUTRITIONAL NEEDS OF THE ELDERLY AND CULTURALLY DIVERSE POPULATION

Learning objective: At the conclusion of this module, the student will:

1. **Identify 3 factors that affect the nutritional status of the elderly.**
2. **Describe 3 nutrient modifications that should be considered when caring for the elderly.**
3. **Discuss 3 factors contributing to malnutrition in the elderly.**
4. **List 4 agencies that provide nutrition-related services for the elderly.**
5. **Discuss the relationship of culture to food patterns.**
6. **Describe religious dietary laws.**
7. **Describe: 2 physical, social, and psychological factors that influence our food habits.**
8. **Identify 2 changes associated with a current food fad.**

Threads: 1, 2, 3, 4, 5, 7, 9

CONTENT	LEARNING ACTIVITY	EVALUATION
Socioeconomic factors. **Health promotion and disease prevention.** **Community Resources.** **Cultural influence on food patterns.** **Religious dietary laws.** **Social, economic, psychological and physical influences.** **Food fads in America.**	**Williams, Chapters 12, 14** **Lecture** **Multicultural food sampling** **Class Presentation**	**Quiz questions** **Class discussion** **Clinical application**

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CLASS MEETING SCHEDULE

Classes held in 120S

Material to be tested on will be announced in class

Quiz #1

Quiz #2 **TBA**

Quiz #3 **TBA**

Barbara Dunn, RN, MSN
Extension # 2736

Topics to Consider for Presentation

1. **Food Poisoning – What it is and how to prevent it.**
2. **Reading Food Labels**
3. **Gastric By-Pass Diet**
4. **Gerd Diet**
5. **Kidney Dialysis Diet**
6. **Diets for the gallbladder,liver,spleen**
7. **Kidney Stone Diet**
8. **Diabetic Diet**
9. **Compare two popular diets ie Weight Watchers vs Atkins Diet or South Beach diet.**
10. **Soda – How healthy is it?**
11. **Compare a diet of your culture with McDonald's fast food.**
12. **Antioxidants what are they and how do they work.**