Rochester COMMUNITY AND TECHNICAL College

COMMON COURSE OUTLINE: Course discipline/number/title: NUTR 1211: Principles of Nutrition

A. CATALOG DESCRIPTION

1. **Credits: 3**
2. **Hours/Week: 3 hours of lecture per week**
3. **Prerequisites (Course discipline/number):** BIOL 1217 or BIOL 1220, one college chemistry course above CHEM 1101.
4. **Co-requisites (Course discipline/number):** None
5. **MnTC Goals (if any):** NA

This course covers the composition of, the sources of, and the human requirements of carbohydrates, lipids, proteins, vitamins and minerals in the diet throughout the life-cycle. Metabolism of nutrients, energy balance and fluid and electrolyte balance will also be discussed. RECOMMENDED ENTRY SKILLS/KNOWLEDGE: College level reading and writing and working knowledge of algebra.

B. DATE LAST REVISED (Month, year): April, 1997

C. OUTLINE OF MAJOR CONTENT AREAS:

1. Introduction: Nutrients, Guidelines, Exchange System
2. Carbohydrates
   a) Chemistry
   b) Foods
   c) Fiber
   d) Diabetes mellitus
3. Lipids
   a) Chemistry
   b) Foods
   c) Cholesterol
   d) Atherosclerosis
4. Proteins
   a) Chemistry
   b) Foods
   c) Function
   d) Quality
   e) Deprivation
5. Digestion
   a) Process, control
   b) Absorption
   c) Digestive Problems
6. Metabolism
   a) Carbohydrates, lipids, proteins
   b) Interconversions
   c) Alcohol metabolism
   d) Energy balance, BMR
   e) Fitness, physical activity
7. Weight Control
   a) Obesity
   b) Underweight
   c) Eating disorders
8. Vitamins –- Functions, Food Sources, Deficiencies, Excess
   a) Fat-soluble – A,D,E,K
   b) Water-soluble – vitamin C, B vitamins
9. Water and Body Fluids
   a) Fluid balance
   b) Acid-base balance
   c) Electrolyte regulation

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C. OUTLINE OF MAJOR CONTENT AREAS: Continued. . .

10. Minerals – Functions, Food Sources, Deficiencies, Excess
    a) Major
    b) Trace
11. Life Cycle Nutrition
    a) Pregnancy
    b) Lactation
    c) Infancy
    d) Aging
12. Food Safety Issues
13. Hunger and Global Environmental Problems

D. LEARNING OUTCOMES (GENERAL): The student will be able to:

1. Use the exchange system for diet planning, especially for diabetic diets
2. Understand the chemistry of carbohydrates, lipids and proteins, the food sources of each and the human use of each
3. Become familiar with biochemical inter-conversions of each of the human energy nutrients
4. Learn the biological function and sources of minerals and vitamins through the life cycle
5. Study energy balance and weight control throughout the life cycle

E. LEARNING OUTCOMES (MNTC): NA

F. METHODS FOR EVALUATION OF STUDENT LEARNING:

1. 3-day diet analysis in computer lab
2. Lecture exams and quizzes
3. Problems assigned

G. SPECIAL INFORMATION (if any): None