

REGISTRATION EXAMINATION FOR DIETITIANS
STUDY OUTLINE – 2011
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DOMAIN I – PRINCIPLES OF DIETETICS - (12%)

TOPIC A - Food Science and Nutrient Composition of Foods

1. Food science
 - a. Physical and chemical properties of food
 - (1) Meats, fish, poultry, meat alternatives
 - (2) Eggs
 - (3) Milk and dairy products
 - (4) Flour and cereals
 - (5) Vegetables and fruits
 - (6) Fats and oils
 - (7) Functional foods
 - b. Scientific basis for preparation and storage
 - (1) Function of ingredients
 - (2) Effects of techniques and methods on
 - (a) Aesthetic properties
 - (b) Nutrient retention
 - (3) Roles of food additives
2. Composition of food
 - a. Sources of data, labels
 - b. Macro and micronutrients sources
 - c. Phytochemicals
 - d. Nutrient databases

TOPIC B - Nutrition and Supporting Sciences

1. Principles of normal nutrition
 - a. Function of nutrients and non-nutritive substances
 - b. Nutrient and energy needs throughout the life span
 - c. Herbals, botanicals, and supplements
2. Principles of normal human anatomy, physiology, and biochemistry
 - a. Gastrointestinal
 - (1) Ingestion
 - (2) Digestion
 - (3) Absorption
 - (4) Metabolism
 - (5) Excretion
 - b. Renal
 - c. Pulmonary
 - d. Cardiovascular
 - e. Neurological
 - f. Musculoskeletal
 - g. Reproductive

TOPIC C – Education and Communication

1. Components of the educational-plan
 - a. Targeted setting/clientele
 - (1) Cultural competencies and diversity
 - (2) In-service education (students, health and rehabilitative service providers)
 - (3) Patient/client counseling
 - (4) Other (e.g., on-the-job training, telemedicine/telehealth, e-learning)
 - b. Goals and objectives
 - c. Needs assessment (external constraints, competing programs, illness)
 - (1) Individual
 - (2) Group
 - d. Content: community resources, learning activities/methodology, references and handouts; audiovisual specifications
 - e. Evaluation criteria
 - f. Budget development
 - g. Program promotion
2. Theories of educational readiness
3. Implementation
 - a. Communication
 - (1) Interpersonal
 - (2) Group process
 - b. Interviewing
 - (1) Techniques of questioning: open-ended, closed, leading
 - c. Counseling
 - (1) Techniques: motivational, behavioral, other
 - d. Methods of communication
 - (1) Verbal/non-verbal
 - (2) Written
 - (3) Media (e.g., print, electronic, social media)
 - (4) Technology (e.g., informatics)
4. Evaluation of educational outcomes
 - a. Measurement of learning
 - (1) Formative
 - (2) Summative
 - b. Evaluation of effectiveness of educational plan
5. Client Information
 - a. Records
 - b. Confidentiality
6. Documentation
7. Orientation and training

TOPIC D - Research

1. Types of research and research design
2. Statistical evaluation, interpretation and application
3. Evidence-based research

TOPIC E - Management Concepts

1. Forecasting
2. Marketing strategies
 - a. Product
 - b. Place
 - c. Price
 - d. Promotion
3. Planning
4. Organizing
5. Directing
6. Controlling
7. Evaluating

DOMAIN II – NUTRITION CARE FOR INDIVIDUALS AND GROUPS – (50%)

TOPIC A - Screening and Assessment

1. Nutrition screening
 - a. Purpose
 - b. Selection and use of risk factors and evidence-based tools
 - c. Parameters and limitations
 - d. Methodology
 - e. Participation in interdisciplinary nutrition screening teams
 - f. Cultural competence
2. Nutrition assessment of individuals
 - a. Dietary intake assessment, analysis and documentation
 - b. Medical and family history
 - c. Physical findings
 - (1) Anthropometric data
 - (2) Nutrition focused physical exam
 - d. Medication management
 - (1) Prescription and over-the-counter medications
 - (2) Medication/food interactions
 - e. Diagnostic tests, procedures, evaluations
 - (1) Assessment of energy requirements
 - (2) Biochemical analyses
 - f. Physical activity habits and restrictions
 - g. Economic/social
 - (1) Psychosocial and behavioral factors
 - (2) Socioeconomic factors
 - (3) Functional factors
 - h. Educational readiness assessment
 - (1) Motivational level and readiness to change
 - (2) Educational level
 - (3) Situational: environmental, economical, cultural
3. Nutrition Assessment of Populations and Community Needs Assessment
 - a. Community and group nutrition status indicators
 - (1) Demographic data
 - (2) Incidence and prevalence of nutrition-related status indicators
 - (3) Prevalence of food insecurity

- b. Development and maintenance of nutrition screening and surveillance systems
 - (1) National, state and local reference data (e.g., NHANES, BRFSS, YRBSS)
- c. Availability of community resources
 - (1) Food and nutrition assistance programs
 - (2) Consumer education resources
 - (3) Health services
 - (4) Studies on food systems, local marketplace, food economics
 - (5) Public health programs

TOPIC B – Diagnosis

1. Relationship between nutrition diagnoses and medical diagnoses
 - a. Pathophysiology
 - b. Identifying medical diagnoses affecting nutrition care
 - c. Determining nutrition risk factors for current medical diagnoses
 - d. Determining nutrition factors for groups
2. Data sources and tools for nutrition diagnosis
 - a. Organizing assessment data
 - b. Using standardized language
3. Diagnosing nutrition problems for individuals and groups
 - a. Making inferences
 - b. Prioritizing
 - c. Differential diagnosing
4. Etiologies (Cause/contributing risk factors)
 - a. Identifying underlying causes and contributing risk factors of nutrition diagnoses
 - b. Making cause and effect linkages
5. Signs and symptoms (Defining characteristics)
 - a. Linking signs and symptoms to etiologies
 - b. Using subjective (symptoms) and/or objective (signs) data
6. Documentation

TOPIC C – Planning and Intervention

1. Nutrition care for health promotion and disease prevention
 - a. Identification of desired outcomes/actions
 - (1) Evidence-based practice for nutrition intervention
 - (2) Evaluation of nutrition information
 - (3) Food fad
 - (4) Health fraud
 - b. Determination of energy/nutrient needs specific to life span stage
 - c. Implementing care plans
 - (1) Nutrition recommendations to promote wellness
 - (2) Communication and documentation
2. Medical Nutrition Therapy
 - a. Identify desired outcomes and actions
 - b. Relationship of pathophysiology to treatment of nutrition-related disorders
 - (1) Critical care and hypermetabolic states
 - (2) Eating disorders
 - (3) Food allergies and intolerance
 - (4) Immune system disorders, infections, and fevers
 - (5) Malnutrition: protein, calorie, vitamin, mineral

- (6) Metabolic, endocrine, and inborn errors of metabolism
- (7) Oncologic and hematologic conditions
- (8) Organ system dysfunction
- (9) Orthopedic/wounds
- c. Determine energy/nutrient needs specific to condition
- d. Determine specific feeding needs
 - (1) Oral
 - (a) Composition/texture of foods
 - (b) Diet patterns/schedules; Diagnostic test meals
 - (c) Modified diet products and food supplements
 - (d) Adaptive equipment
 - (2) Enteral and Parenteral Nutrition
 - (a) Formulas and calculations
 - (b) Routes, techniques, equipment
 - (c) Complications
 - (3) Integrative & functional care, herbal therapy
- e. Implementing care plans
 - (1) Nutrition therapy for specific nutrition-related problems
 - (2) Basis for quality practice [evidence-based guidelines, standardized process (NCP), regulatory and patient safety issues]
 - (3) Counseling
 - (4) Communication and documentation
 - (5) Discharge planning and disease management
- 3. Implementation and Promotion of National Dietary Guidance (e.g., My Plate, Dietary Guidelines for Americans)
 - a. Legislation and policy development
 - b. State and community resources and nutrition related programs
 - (1) Block grants to states
 - (2) Federal and state funded food and nutrition programs
 - (3) Community interventions
- 4. Development of programs and services
 - a. Identification and attainment of funding
 - b. Resource allocation and budget development
 - c. Provision of food and nutrition services to groups

TOPIC D –Monitoring and Evaluation

- 1. Monitoring progress and updating previous care
 - a. Monitoring responses to nutrition care
 - b. Comparing outcomes to nutrition interventions
- 2. Measuring outcome indicators using evidence-based guides for practice
 - a. Explaining variance
 - b. Using reference standards
 - c. Selecting indicators
- 3. Evaluating outcomes
 - a. Direct nutrition outcomes
 - b. Clinical and health status outcomes
 - c. Patient-centered outcomes
 - d. Health care utilization outcomes
- 4. Relationship with outcomes measurement systems and quality improvement

5. Determining continuation of care
 - a. Continuing and updating care
 - b. Discontinuing care
6. Documentation

DOMAIN III – MANAGEMENT OF FOOD AND NUTRITION PROGRAMS AND SERVICES - (21%)

TOPIC A – Functions of Management

1. Functions
 - a. Planning
 - (1) Short and long range
 - (2) Strategic and operational
 - (3) Policies and procedures
 - (4) Disaster planning
 - b. Organizing
 - (1) Work scheduling
 - (2) Structure/design, department/unit
 - (3) Workload, simplification, productivity, and FTE requirements
 - (4) Establishing priorities
 - (5) Tasks/activities and action plans
 - (6) Resources
 - c. Directing
 - (1) Coordination
 - (2) Delegation
 - (3) Communication
 - (4) Motivation strategies
 - (5) Leadership styles, skills, techniques
 - (6) Management approaches
 - d. Controlling
 - e. Evaluating
2. Characteristics
 - a. Skills
 - (1) Technical
 - (2) Human/managing diverse workforce
 - (3) Conceptual
 - b. Roles
 - (1) Informational
 - (2) Conflict resolution
 - (3) Problem-solving
 - (4) Decision-making
 - (5) Other
 - c. Traits
 - (1) Interpersonal communications
 - (2) Use of authority, influence, and power
 - (3) Ethical practice
3. Professional standards of practice
 - a. *Standards of Practice in Nutrition Care*
 - b. *Standards of Professional Performance*
 - c. Legislative process

TOPIC B - Human Resources

1. Recruitment and selection
 - a. Laws and regulations
 - b. Job analysis, specifications, descriptions
 - c. Performance standards
 - d. Candidate recruitment
 - e. Candidate screening
 - f. Candidate interviewing
2. Employment process and procedures
 - a. Personnel information
 - (1) Records
 - (2) Confidentiality
 - b. Unions/contracts
 - c. Disciplinary action
 - d. Grievances
 - e. Performance evaluation
 - f. Retention strategies
 - g. Compensation

TOPIC C – Financial Management

1. Budget development/resource allocation for food and nutrition programs and services
 - a. Budget procedures
 - b. Types
 - (1) Operational
 - (2) Capital
 - c. Methods
 - (1) Incremental
 - (2) Performance
 - (3) Zero-based
 - (4) Flexible
 - (5) Fixed
 - d. Components
 - (1) Direct expenses
 - (2) Indirect expenses
 - (3) Capital expenses
 - (4) Profit margin
 - (5) Revenue
 - e. Resources allocation
 - (1) Financial and materials
 - (2) Cost control decisions
 - (3) Factors affecting available resources
2. Financial monitoring, evaluation, and control
 - a. Accounting procedures
 - (1) Cash/credit procedures
 - b. Financial statements
 - (1) Profit and loss statements
 - c. Value analysis

TOPIC D - Marketing and Public Relations

1. Marketing analysis
 - a. Process
 - (1) Identification of target market
 - (2) Determination of needs/wants
 - (3) Marketing mix
 - (4) Customer satisfaction
 - (5) Documentation and evaluation
2. Pricing
 - a. Strategies
 - (1) Breakeven
 - (2) Revenue-generating
 - (3) Loss leader
 - b. Rationale
3. Public relations
 - a. Media relations
 - b. Social networking
 - c. Campaign development

TOPIC E - Quality Improvement

1. Regulatory guidelines (e.g., federal, local, TJC)
2. Process, implementation, evaluation
 - a. Cost/benefit analysis
 - b. Productivity studies
3. Outcomes management systems
4. Vendor performance and evaluation

DOMAIN IV – FOODSERVICE SYSTEMS (17%)

TOPIC A - Menu Development

1. Types of menus
 - a. Patient/resident
 - (1) Select/non-select
 - (2) Restaurant
 - (3) Room service
 - b. Commercial
 - c. Non-commercial
2. Menu development
 - a. Master menu
 - (1) Concepts
 - (2) Development
 - b. Guidelines and parameters
 - (1) Aesthetics
 - (2) Nutritional adequacy
 - (3) Cost
 - (4) Regulations
 - c. Modifications
 - (1) Diet/disease states

- (2) Substitutions
- (3) Nutritional adequacy
- (4) Allergies and food sensitivities
- d. Clients
 - (1) Age/life cycle stage
 - (2) Cultural/religious influence
 - (3) Vegetarian
 - (4) Satisfaction measurement
 - (a) Customer evaluation
 - (b) Sales data
- e. Operational influences
 - (1) Equipment
 - (2) Labor
 - (3) Budget
- f. External influences
 - (1) Trends
 - (2) Seasonal
 - (3) Disaster
 - (4) Product Availability

TOPIC B - Procurement, Production, Distribution, and Service

1. Procurement, receiving, and inventory management
 - a. Procurement principles, concepts, and methods
 - (1) Bidding
 - (2) Specification development
 - (3) Group purchasing/prime vendor
 - (4) Ethics
 - b. Procurement decisions
 - (1) Product selection/yield
 - (2) Product Packaging
 - (3) Cost analysis
 - c. Receiving and storage
 - (1) Equipment and methods
 - (2) Records
 - (3) Security
 - d. Inventory management
 - (1) Control procedures – par levels, rotation, minimum/maximum
 - (2) Issuing procedures
2. Principles of quantity food preparation and processing
 - a. Cooking methods
 - b. Equipment
 - c. Preservation and packaging methods
 - d. Modified diets
3. Food production control procedures
 - a. Standardized recipes
 - b. Ingredient control
 - c. Portion control and yield analysis
 - d. Forecasting production
 - e. Production scheduling

4. Production systems
 - a. Conventional
 - b. Commissary
 - c. Ready prepared
 - d. Assembly serve
 - e. Cook – chill
 - f. Display cooking
5. Distribution and Service
 - a. Type of service systems
 - (1) Centralized
 - (2) Decentralized
 - b. Equipment/packaging

TOPIC C - Sanitation and Safety

1. Sanitation and food safety
 - a. Principles
 - (1) Contamination and spoilage
 - (2) Factors affecting bacterial growth
 - (3) Signs and symptoms of food borne illness
 - b. Sanitation practices and infection control
 - (1) Personal hygiene
 - (2) Food and equipment
 - (3) Food storage
 - (4) Temperature control
 - (5) Food handling techniques
 - c. Regulations (government and other agencies)
 - d. Food safety
 - (1) Time and temperature control
 - (2) Additives
 - (3) Documentation and record keeping
 - (4) HACCP
 - (5) Recalls
 - (6) Operational emergencies
 - (7) Bioterrorism
2. Safety
 - a. Employee safety
 - (1) Universal precautions
 - (2) Equipment use and maintenance
 - (3) Personal work habits
 - b. Safety practices
 - (1) Environmental conditions
 - (2) Regulations
 - (3) Fire safety
 - (4) Accident prevention
 - c. Safety documentation and record keeping

TOPIC D – Equipment and Facility Planning

1. Facility layout
 - a. Equipment and layout planning
 - (1) Menu
 - (2) Service system
 - (3) Safety and sanitation
 - (4) Privacy/accessibility
 - (5) Codes and standards
 - (6) Fiscal aspects
 - b. Planning team
 - (1) Composition
 - (2) Roles
 - (3) Responsibilities
2. Equipment specifications and selection

TOPIC E – Sustainability

1. Food and water
2. Non-food
 - a. Supplies
 - b. Equipment
3. Waste management
 - a. Storage
 - b. Reduction
 - c. Disposal