



Republic of the Philippines
OFFICE OF THE PRESIDENT
COMMISSION ON HIGHER EDUCATION



CHED MEMORANDUM ORDER

No. 14
Series of 2017

SUBJECT: POLICIES, STANDARDS AND GUIDELINES FOR THE BACHELOR OF SCIENCE IN NUTRITION AND DIETETICS (BSND) PROGRAM

In accordance with the pertinent provisions of Republic Act (RA) No. 7722, otherwise known as the "*Higher Education Act of 1994*", in pursuance of an outcomes-based quality assurance system as advocated under CMO No. 46 s. 2012 entitled "Policy Standards to Enhance Quality Assurance (QA) in Philippine Higher Education Through an Outcomes-Based and Typology-Based QA", and by virtue of Commission en banc Resolution No. 231-2017 dated March 28, 2017 the following policies, standards, and guidelines (PSGs) are hereby adopted and promulgated by the Commission.

**ARTICLE I
INTRODUCTION**

Section 1. Rationale

Based on the Guidelines for the Implementation of CMO No. 46 s. 2012, this PSG implements the "shift to learning competency-based standards/outcomes-based education." It specifies the 'core competencies' expected of BS Nutrition and Dietetics graduates "regardless of the type of HEI they graduate from." However, in "recognition of the spirit of outcomes-based education and ... of the typology of HEIs," this PSG also provides "ample space for HEIs to innovate in the curriculum in line with the assessment of how best to achieve learning outcomes in their particular contexts and their respective missions"

**ARTICLE II
AUTHORITY TO OPERATE**

Section 2. Government Recognition

All private higher education institutions (PHEIs) intending to offer BS Nutrition and Dietetics must first secure proper authority from the Commission in accordance with this PSG. All PHEIs with an existing BS Nutrition and Dietetics program are required to shift to an outcomes-based approach based on this PSG. State universities and colleges (SUCs), and local colleges and universities (LUCs) should likewise strictly adhere to the provisions in these policies and standards.

ARTICLE III GENERAL PROVISIONS

Per Section 13 of RA 7722, the higher education institutions shall exercise academic freedom in its curricular offerings but must comply with the minimum requirements for specific programs, the general education distribution requirements and the specific professional courses.

Section 3. The Articles that follow give minimum standards and other requirements and prescriptions. The minimum standards are expressed as a minimum set of desired program outcomes which are given in Article IV Section 6. The CHED designed a curriculum to attain such outcomes. This curriculum is shown in Article V Section 8 as a **sample** curriculum. The number of units of this curriculum is here prescribed as the "minimum unit requirement" under Section 13 of RA 7722. In designing the curriculum, the CHED employed a curriculum map which is shown in Article V Section 10 as a **sample** curriculum map (Appendix A).

Using a learner-centered/outcomes-based approach the CHED also determined appropriate curriculum delivery methods shown in Article V Section 10. The sample course syllabi given in Article V Section 11 show some of these methods (Appendix C). Based on the curriculum and the means of its delivery, the CHED determined the physical resource requirements for the library, laboratories and other facilities and the human resource requirements in terms of administration and faculty. See Article VI.

Section 4. Curriculum Design

The HEIs are allowed to design curricula suited to their own contexts and missions provided that they can demonstrate that the same leads to the attainment of the required minimum set of outcomes, albeit by a different route. In the same vein, they have latitude in terms of curriculum delivery and in terms of specification and deployment of human and physical resources as long as they can show that the attainment of the program outcomes and satisfaction of program educational objectives can be assured by the alternative means they propose.

The HEIs can use the **CHED Implementation Handbook for Outcomes-Based Education (OBE) and the Institutional Sustainability Assessment (ISA)** as a guide in making their submissions for Sections 16, 17 and 18 of Article VII.

ARTICLE IV PROGRAM SPECIFICATIONS

Section 5. Program Description

5.1 Name of Degree

The degree program described herein shall be called
"Bachelor of Science in Nutrition and Dietetics (BSND)."



5.2 Nature of the Field of Study

The Bachelor of Science in Nutrition and Dietetics is a four-year program consisting of general education and professional courses. The first and second semesters of the fourth year is devoted to field practice in hospital dietetics, foodservice, and community nutrition/public health nutrition.

5.3 Program outcomes

1. Promote the role of nutrition and dietetics for human well-being in relation to the needs, resources and potentials of individuals, groups and families
2. Practice comprehensive nutritional care for the total wellness of individuals in a multidisciplinary and multi-cultural settings
3. Integrate nutrition concerns with local and national development efforts.
4. Manage nutrition programs for individuals, groups and institutions.
5. Manage a foodservice unit in hospital or other settings.
6. Implement an economically viable activity related to nutrition and dietetics.
7. Design and/or conduct a scientific study on food, nutrition and related topics.
8. Uphold ethical standards of the profession.
9. Engage in lifelong learning activities

5.4 Specific Professions/Careers/Occupations for Graduates

1. In Government Hospitals and Other Agencies
 - Dietary Director
 - Chief Nutritionist-Dietitian
 - Therapeutic Nutritionist-Dietitian
 - Administrative Nutritionist-Dietitian
 - Teaching Nutritionist-Dietitian
 - Research Nutritionist-Dietitian
 - Public Health Nutritionist-Dietitian
 - Clinical Dietitian
 - Nutritionist-Dietitian
 - Consultant
2. In Private Hospitals and Other Agencies
 - Dietary Director
 - Chief Nutritionist-Dietitian
 - Therapeutic Nutritionist-Dietitian
 - Administrative Nutritionist-Dietitian
 - Teaching Nutritionist-Dietitian
 - Research Nutritionist-Dietitian
 - Public Health Nutritionist-Dietitian
 - Clinical Dietitian
 - Nutritionist-Dietitian
 - Consultant



3. In Food Industry
 - Nutritionist-Dietitian in Quality Control Department
 - Nutritionist-Dietitian in the Test Kitchen (Product Development)
 - Teaching Nutritionist-Dietitian (Product Demonstrator, etc.)
 - Research Nutritionist-Dietitian
 - Consultant
4. In Schools
 - Administrator (Dean/Director/Chief/Head/Chairperson/Coordinator)
 - Teacher
 - Researcher
5. In Foodservice establishments (e.g. Hotels/Restaurants/Cafeteria)
 - Food Service Manager
 - Canteen Supervisor
 - Food Service Supervisor
 - Menu Planner
 - Food Checker
- 5.5 Allied Fields
 - Medicine
 - Nursing
 - Sports/Kinetics
 - Physical therapy
 - Dentistry
 - Public Health
 - Microbiology
 - Molecular Biology/Genetics
 - Health Administration/Management
 - Hotel and Restaurant Management
 - Health Education

Section 6. Program Outcomes. The minimum standards for the BS Nutrition and Dietetics program are expressed in the following minimum set of learning outcomes:

6.1 Common to all programs in all types of schools

The graduates have the ability to:

- a. engage in lifelong learning and understanding of the need to keep abreast of the developments in the specific field of practice. (PQF level 6 descriptor)
- b. effectively communicate orally and in writing using both English and Filipino.
- c. work effectively and independently in multi-disciplinary and multi-cultural teams. (PQF level 6 descriptor)
- d. act in recognition of professional, social, and ethical responsibility.



- e. preserve and promote "*Filipino historical and cultural heritage*" (based on RA 7722)

6.2 Common to the discipline

- a. Theoretical knowledge and skills in health science
- b. Communication skills
- c. Research oriented
- d. Interpersonal skills and leadership
- e. Lifelong learning
- f. An ability to work effectively either independently or in multi-disciplinary and multi-cultural teams

6.3 Specific to BSND

- a. Theoretical knowledge and technical skills required for career entry into the BSND profession
- b. Application of the nutrition care process in various settings
- c. Interpersonal skills and leadership in the practice of BSND profession
- d. Skills in judgment, problem-solving and decision-making to analyze results
- e. Ability to conduct research and community-oriented activities
- f. Lifelong learning
- g. Effective oral and written communication skills

6.4 Common to a horizontal type as defined in CMO No. 46 s. 2012

- For professional institutions: a service orientation in one's profession
- For colleges: an ability to participate in various types of employment, development activities, and public discourses particularly in response to the needs of the communities one serves
- For universities: an ability to participate in the generation of new knowledge or in research and development projects
- Graduates of State Universities and Colleges must, in addition, have the competencies to support "national, regional and local development plans." (RA 7722).
- A PHEI, at its option, may adopt mission-related program outcomes that are not included in the minimum set.

Section 7. Sample Performance Indicators

For each of the program outcomes, performance indicators were identified. Below are the minimum performance indicators which HEIs can adopt.

1. Advocate the role of nutrition and dietetics for human well-being in relation to the needs, resources and potentials of individuals, groups and families

Performance Indicators

- Acquire knowledge and skills in food, nutrition and dietetics.



- Design, plan and conduct nutrition promotion and advocacy programs.
- Practice nutrition and dietetics following professional standards.

2. Practice comprehensive nutritional care for the total wellness of individuals in a multidisciplinary and multi-cultural settings

Performance Indicators

- Assess the nutritional status of individuals.
- Provide nutrition care following standard procedures.
- Practice professionalism by providing nutrition care using correct procedures.
- Practice the principles of data security and patient's confidentiality.
- Work effectively with other disciplines.
- Exhibit ethical behavior towards other members of the profession/discipline.

3. Integrate nutrition concerns with local and national development efforts.

Performance Indicators

- Formulate nutrition plans/programs.
- Integrate nutrition concerns in local and national development plans.

4. Manage nutrition programs for individuals, groups and institutions.

Performance Indicators

- Conduct assessment.
- Plan nutrition programs.
- Implement nutrition programs.
- Monitoring and evaluation of nutrition programs.

5. Manage a foodservice unit in hospital or other settings.

Performance Indicators

- Prepare and conduct feasibility study.
- Plan and manage a foodservice unit.
- Demonstrate administrative skills in quality assurance and continuous quality improvement.
- Apply the principles of resource management.
- Apply food safety and nutrition principles.

6. Implement an economically viable activity related to nutrition and dietetics.

Performance Indicators

- Identify an economically viable activity
- Plan, implement, and manage the activity.
- Prepare financial status.
- Use computers and laboratory software effectively.



7. Conduct a scientific study on food, nutrition and related topics.

Performance Indicators

- Identify research topic relevant to the field of study.
- Design appropriate methods.
- Perform the research according to plan.
- Analyze and interpret research data.
- Communicate/share research results.

8. Uphold ethical standards of the profession.

Performance Indicators

- Practice professionalism
- Practice the principles confidentiality
- Work effectively with other disciplines
- Exhibit ethical behavior towards other members of the profession/discipline
- Ability to plan and organize activities

9. Engage in lifelong learning activities.

Performance Indicators

- Apply principles of educational methodology.
- Apply principles of management.
- Keep current of the development in food, nutrition, dietetics and related fields (continuing professional education and development)

ARTICLE V CURRICULUM

Section 8. Curriculum Description. The curriculum for the Bachelor of Science in Nutrition and Dietetics has a total of 165 units required for graduation categorized into general education and professional courses. HEIs offering BSND may exercise flexibility in their curricular offering. However, professional courses as prescribed in the sample program of study shall be implemented.

Section 9. Sample Curriculum

1. GE Courses	36
Core GE Courses	24
GE 1- Understanding Self	3
GE 2- Readings in Philippine History	3
GE 3- The Contemporary World	3
GE 4- Mathematics in the Modern World	3
GE 5- Purposive Communication	3
GE 6- Art Appreciation	3
GE 7- Science, Technology, and Society	3
GE 8- Ethics	3



Additional from AH, MST, SSP	9
Elective 1- The Entrepreneurial Mind (from SSP)	3
Elective 2 – (to be selected by PHEI)	3
Elective 3 – (to be selected by PHEI)	3
Mandated GE course	3
Rizal's Life, Works, and Writings	3
2. Supportive/Foundation Courses	34
Biochemistry	5
Microbiology/ Parasitology [L]	3
Anatomy/ Physiology	5
Accounting	3
Biostatistics	3
Health Economics	3
Developmental Psychology	3
Logic	3
English [Technical Writing]	3
Principles and Strategies of Teaching	3
3. Professional Courses	57
Basic Foods I [L]	3
Basic Foods II [L]	3
Foodservice Systems I [L]	5
Foodservice Systems II [L]	5
Basic Nutrition [L]	5
Food and Nutrition Research I	3
Food and Nutrition Research II	3
Meal Management [L]	3
Fund of Food Tech [L]	3
Nutritional Assessment [L]	3
Nutrition Care Process	3
Nutrition in the Life Stages I [L]	3
Nutrition in the Life Stages II [L]	3
Nutrition Therapy I [L]	3
Nutrition Therapy II [L]	3
Nutrition Education [L]	3
Public Health Nutrition	3



4. Practicum	24
Public Health Nutrition	6
Hospital	12
Food service	6
5. Physical Education and NSTP	14
PE 1	2
PE 2	2
PE 3	2
PE 4	2
NSTP 1	3
NSTP 2	3
Total =	165

9.1 Program of Study

FIRST YEAR

First Semester	Units	Second Semester	Units
Biochemistry	5	Microbiology/ Parasitology	3
Anatomy/ Physiology	5	Accounting	3
GE 1 - Understanding the Self	3	GE 3 - The Contemporary World	3
GE 2 - Readings in Philippine History	3	GE 4 -Mathematics in the Modern World	3
Basic Foods I	3	Basic Foods II [L]	3
		Basic Nutrition [L]	5
PE 1	2	PE 1	2
NSTP 1	3	NSTP 1	3
Total =	24	Total =	25

SECOND YEAR

First Semester	Units	Second Semester	Units
Biostatistics	3	Principles and Strategies of Teaching	3
Developmental Psychology	3	English [Technical Writing]	3
GE 5 - Purposive Communication	3	GE 8 - Ethics	3
GE 6 - Art Appreciation	3	Foodservice Systems I [L]	5
Elective 1- [The Entrepreneurial Mind]	3	Fundamentals of Food Technology [L]	3
Meal Management [L]	3	Nutrition Care Process	3
Nutritional Assessment [L]	3	Nutrition in the Life Stages I [L]	3
PE 3	2	PE 4	2
Total =	23	Total =	25



THIRD YEAR

First Semester	Units	Second Semester	Units
GE 7 - Science, Technology, and Society Logic	3	Health Economics	3
Foodservice Systems II [L]	3	Rizal's Life, Works, and Writings	3
Food and Nutrition Research I	5	Elective 2	3
Nutrition Therapy I [L]	3	Elective 3	3
Nutrition in the Life Stages II [L]	3	Food and Nutrition Research II [L]	3
Public Health Nutrition	3	Nutrition Therapy II [L]	3
Total =	23	Total =	21

FOURTH YEAR

Practicum Courses	Units
Foodservice (300 hours)	6
Public Health Nutrition (300 hours)	6
Hospital Dietetics (600 hours)	12
Total =	24

9.2 Thesis/research/project requirements

The college/school/department shall encourage independent or joint research activities in nutrition or allied fields. Nutrition-dietetics students shall be required to present a research proposal incorporating the principles of research methods. The two courses, namely, Food and Nutrition Research I and Food and Nutrition Research II, are to be designed such that the first research course will have research/study proposal as output and the second course will focus on the implementation of the proposal and thesis/special problem report will be the ultimate output.

9.3 On-the-job-training or practicum requirements

The school with a college/school/department of nutrition-dietetics must be affiliated with an appropriate hospital, a public institution/agency and/or a food service establishment where the practical experiences of the students will be conducted.

9.4 General criteria for selecting a practicum are:

- Presence of a qualified training supervisor, i.e. a registered nutritionist dietitian or equivalent in case of food service practicum.
- With adequate facilities.
- Suitable program implemented by the affiliating school.



9.5 Specific Criteria for Selecting Dietary Department for Hospital Practicum
(Refer to CMO for Hospital Affiliation)

9.6 Specific Criteria for Selecting Food Service Institutions and/or Systems for Practicum

- a. Institutions preferably with a RND under its employment who will supervise the foodservice practicum.
- b. Institutions preferably have an existing practicum program.
- c. The institution must be willing to sign a MOA with the school.
- d. MOA must not be undertaken with individual students.
- e. The institution must be willing to accommodate students in all areas of concern in the practicum program.
- f. The institution must have a dine-in service with a seating capacity of at least 50 clients and practices quantity cookery.

9.7 Criteria for Selecting LGU for Community Nutrition Practicum

- a. The selected LGU must have identified a nutritional problem.
This could be evaluated based on the LGU's existing nutrition data which can be obtained from municipal, provincial, regional or national level. Priority could be given to those LGUs which have high malnutrition rate.
- b. The selected LGU has an existing nutrition program.
If existing programs are not being implemented, the LGU is willing to give support to the implementation of nutrition programs spearheaded by practicum students. Support could be in terms of participation of officials, from local chief executive down to barangay officials, and budget allotment. Aside from the leaders, community participation should also be considered.
- c. There must be health and nutrition personnel stationed in the LGU with whom the faculty members and students could coordinate their activities. This includes the Municipal Nutrition Action Officer (MNAO), Barangay Nutrition Scholar (BNS), and Barangay Health Workers (BHW). Preferably, the MNAO should be a registered nutritionist-dietitian.
- d. The selected LGU must ensure the safety of the students within practicum duration.
There must be assigned health and nutrition workers to accompany the students at all times during their field work.
- e. The proximity of the practicum site to the university or school must also be considered for accessibility for students and ease of coordination of faculty members.
- f. The LGU must be willing to sign MOA with the school. Meaning, the MOA must not be with individual students.

Section 10. A sample curriculum map from first year to fourth year level of the BSND curriculum is provided in Appendix A.

Section 11. A sample means of curriculum delivery is provided in Appendix B.

Section 12. Course syllabi for the Basic and Professional courses under the BSND program is provided in Appendix C.



ARTICLE VI REQUIRED RESOURCES

Section 13. Administration

1. **Dean/Chair/Section Head.** The BSND program shall be administered by a faculty member with a full-time appointment. He/She must have the following qualifications:
 - a. A master's degree holder preferably with a major in nutrition-dietetics. The Bachelor's degree must be in Nutrition-Dietetics and a registered nutritionist-dietitian (RN-D);
 - b. Must have at least three (3) years of teaching experience in nutrition or allied fields; and
 - c. Must have at least two (2) years of experience in nutrition-dietetics profession other than teaching;
 - d. As a general rule, the person in-charge of the BSND program should have a teaching load not exceeding twelve (12) units.
2. **Responsibilities of a dean/department chair/section head.** The general responsibilities and functions of the faculty-in charge of the BSND program are:
 - a. To assist the school heads/president in all matters affecting the general academic and administrative policies of the institution and particularly those pertaining to the college/school/department of nutrition and dietetics;
 - b. To direct and coordinate all matters related to academic programs including the:
 - 1) development and implementation of curricular programs in nutrition and dietetics with the assistance of qualified faculty members, and in keeping these programs attuned to current trends and developments in nutrition and dietetics education;
 - 2) admission, classification and advising of students;
 - 3) selection, appointment, promotion or separation of faculty members in his college/school/department;
 - 4) assignment of teaching loads of faculty members in his college/school/ department;
 - 5) initiation and institution of a faculty development program;
 - 6) institution of a program of supervision and evaluation of classroom and practicum teaching methodologies and strategies, and instructional materials in order to improve teaching effectiveness, to identify areas of faculty development and consequently raise the standards of instruction;
 - 7) establishment of linkages with other schools and other agencies related to Nutrition and Dietetics.



- c. To encourage and initiate research and extension activities among faculty and students;
- d. To coordinate co-curricular and extracurricular programs within the college/school/department;
- e. To coordinate with other deans/heads of other units in the institution regarding academic programs, faculty activities as well as student affairs and services.
- f. To actively participate in the financial management of the college/school/department.

Section 14. Faculty

1. **Qualifications:** The teaching personnel in nutrition-dietetics education must be a holder of a master's degree in nutrition-dietetics or in fields related to the discipline that the person is going to teach. The following are examples but not limited to the following: home economics, economics, food science, food service and management, agriculture, chemistry, epidemiology, business administration, management, pharmacy, education, public health, psychology, health administration, public administration, anthropology, social sciences, among others. Professional courses in Nutrition and Dietetics must be taught by a registered Nutritionist-Dietitian.
2. **Load:** The teaching load of a regular full-time faculty member shall not exceed 24 units per semester. Part-time faculty member may be allowed to carry a maximum of twelve (12) units. For full-time faculty members who are teaching in another school shall have a permit to teach from the head of the mother institution. The total faculty load from the mother institution and other institutions shall not exceed 24 units per semester.
3. **Employment status:** When vacancies occur in the teaching force of the college/school/department during the school year, substitutes or replacements with equal or higher qualifications shall be employed. The following conditions of employment shall be observed.
 - a. The remuneration paid to college instructors in nutrition-dietetics shall be comparable to current salary rates for college instructors in government schools with similar professional qualifications. Such remuneration must be paid in full, regularly and on time. Remuneration should not be based on enrollment, i.e. number of students in class, nor should remuneration be paid in the form of stocks.
 - b. The ratio of full-time faculty members to part-time instructors should be at least 2:1, in order to encourage the development of commitment of instructors to the school and the employment of more full-time instructors. [Note: Part time faculty handles at most 50% of the teaching load of a full time faculty.]
 - c. At least 60% of the professional courses shall be taught by permanent full-time faculty members who are provided with security of tenure and other fringe benefits.



4. **Faculty ranks.** The faculty members in the colleges/schools/departments of nutrition-dietetics through a faculty ranking system shall be assigned academic ranks in accordance with their educational qualifications experience, training and performance.
5. **Faculty development program.** Each academic institution offering nutrition-dietetics must have a faculty development program within the financial capabilities of the school. The following are suggested:
 - a. Every school of nutrition-dietetics shall provide one scholarship grant for at least one (1) year graduate study in nutrition.
 - b. The school shall make available thesis grants to deserving members of the faculty.
 - c. If the school offers a doctoral or master's program, faculty members shall be given tuition free privileges for the pursuance of a degree in their field of specialization.
 - d. Attendance at in-service training programs on official time shall be encouraged and records of such attendance shall be filed at the office of the dean.
 - e. The school shall encourage the professional development of its faculty in activities such as the pursuant of further studies, in the practice of their profession and involvement in the national development endeavors. The school shall also encourage and involve faculty members in nutrition research and community extension activities. In relation to research and community activities, an arrangement for honorarium and/or reduced teaching load without prejudice to his regular salary shall be instituted. The procedure of granting faculty development privileges shall be defined in the school's faculty manual.
6. **Faculty Manual.** Every school shall have a faculty manual which provides guidelines, rules and regulations for faculty compliance and shall define the faculty rights and obligations.
7. **Consultation Hours.** Faculty members, full-time and part-time, are encouraged to render hours of consultation with students.
8. **Improvement of Instruction.** Faculty members shall take upon themselves the continuing development of the BSND program in areas such as the quality of teaching, field placement, development of appropriate teaching materials, etc., which are related in the delivery of quality education in nutrition-dietetics.



9. **Tenure.** Security of tenure may be given to faculty members without prejudice to the existing rules of the government.

Section 15. Library

Library personnel, facilities and holdings should conform to existing CHED requirements for libraries which are embodied in a separate CHED issuance.

Section 16. Laboratory and Physical Facilities

Colleges/schools/departments offering nutrition-dietetics program should provide adequate facilities and equipment for both General Education and Professional Courses to include:

1. The minimum classroom floor space should be 1.5 square meter per student.
2. Besides laboratories required for General Education courses, there should be laboratories for Food and Nutrition courses which should accommodate a maximum of 25-30 students at a time. The laboratories should measure 2.3 sq.m. per student. In addition to floor area requirements, the laboratory should:
 - a. be well-lighted, well-ventilated and screened;
 - b. have a good source of water supply;
 - c. have a storeroom for kitchen equipment utensils and supplies within the laboratories;
 - d. should be divided into completely equipped kitchen units; and
 - e. each unit must accommodate a maximum of seven (7) students and must be equipped with a range, sink, a work table, cabinets and drawers for kitchen utensils and accessories.
3. The school food service/cafeteria should be supervised by a licensed Nutritionist-Dietitian or the head of the Nutrition-Dietetics department, where Foodservice System I and II classes may be held.
4. The school shall provide a Nutrition Clinic to serve as a laboratory where students can practice counseling and nutritional care.
5. The minimum equipment and utensils for the Foods and Nutrition laboratory are as follows:



Each Laboratory Room

Quantity	Description
1	Refrigerator
1	Microwave
1	Oven toaster
1	Demonstration table with mirror boards
2	Long tables for table setting with chairs
	Exhaust fans/hoods
	Weighing scale
	First aid kit
	Fire extinguishers
	Continuous and adequate supply of water, gas and electricity
	Appropriate and safe waste disposal system

Individual Kitchen Units - one/unit

Set of measuring cups (dry and liquid ingredients)	Oven
Set of measuring spoons	Rubber scraper
Dietetic scale	Egg beater/wire whisk
Kitchen knife	Flour sifter
Potato peeler	Colander
Cleaver	Turner
Strainer	Kitchen tongs
Mortar and pestle	Kitchen scissors
Chopping board [color coded]	Sauce pans – 2 qt. and 4 qt.
Utility plates	Double boiler
Wooden spoons	Covered skillet
Burner/stove	Dish pans
Can opener	Utility can for silverware
	Garbage can (color coded according to waste management)

General Storeroom

Quantity	Description
2	Food weighing scale
5	Pint and quart measuring cups
2	Stock pot
1	Grinder
3	Steak hammer
2	Kitchen shears
2	Sets of utility bowls - 1 qt., 2 qts., 3 qts., 4 qts.
2	Tea strainer
2	Sets pie pans - 6", 8" & 9"
3	8" layer cake pan
3	Square pans
3	Rectangular pans – 8" x 13 1/2"
2	Tube pans 4"x10"
3	Muffin pans
3	Tea cake pans
5	Cake coolers
5	Cookie sheets
2	Doz. Custard cups
1	Osterizer/blender
1	Coffee maker or percolator



Quantity	Description
2	Pressure cookers
1	Electric mixer
5	All-purpose thermometers
1	Candy thermometer
1	Meat thermometer
1	Fat thermometer
1	Oven thermometer
1	Food thermometer
2	Refrigerator thermometer
1	Timers
1	Fire extinguisher
3	Rolling pins
1	Set of knives
3	Griddles
5	Set racks - assorted to fit saucepans
2	Tea kettles
2	Steamers
1	Pressure Cooker
1	Ice Crusher
	Wine glasses
	Flatwares
	Chinaware
	Linens
	Chafing dish
	Long tables with chairs
	Pastry blender
	Bottle opener
	Traditional cooking equipment

6. Equipment for Nutrition laboratory

1	Skinfold caliper
1	Height/Length board
1	Weighing scales [for infants, children and adults]
	Measuring tape
	Scissors
	Food models
	Computer [optional]

7. The minimum equipment and supplies for the audiovisual room are as follows:

- a. Multimedia equipment
- b. Projectors/TV Monitor
- c. Audio-video player
- d. Recorder
- e. Camera
- f. Computer/s
- g. Whiteboard
- h. Sound System



ARTICLE VII COMPLIANCE OF HEIs

Using the *CHED Implementation Handbook for OBE and ISA* as reference, the HEI shall develop the following items which will be submitted to CHED when they apply for a permit for a new program:

- Section 17.** The complete set of program outcomes, including its proposed additional program outcomes.
- Section 18.** Proposed curriculum, and its justification including a curriculum map (Appendix A)
- Section 19.** Proposed performance indicators for each outcome. Proposed measurement system for the level of attainment of each indicator.
- Section 20.** Proposed outcomes-based syllabus for each course. (Appendix C)
- Section 21.** Proposed system of program assessment and evaluation
- Section 22.** Proposed system of program Continuous Quality Improvement (CQI).

For existing programs, the CHED shall conduct regular monitoring and evaluation on the compliance of HEIs to this PSG using an outcomes-based assessment instrument.

ARTICLE VIII SANCTIONS FOR NON-COMPLIANCE

Noncompliance with the provisions of this CMO, after due process, shall cause the Commission to impose sanctions. The sanctions for HEIs offering nutrition and dietetics programs shall be based on the 3-year consolidated institutional performance in the Licensure Examination for Nutritionist-Dietitians and the outcome of the monitoring visits, and shall adhere to the following guidelines.

Compliance of nutrition and dietetics schools shall be based on the following major areas:

A. Performance of their graduates in the Licensure Examination for Nutritionist-Dietitians

The institutional passing average or performance of the graduates of HEIs in the Licensure Examination for Nutritionist-Dietitians for the past three (3) years based on data provided by the Professional Regulatory Board for Nutrition and Dietetics.

B. Outcome/Result of the Joint CHED-PRC monitoring and evaluation activities

1. Dean/Administration
2. Faculty
3. Curriculum and Instruction
4. Internship/Practicum Training Program and Accreditation of Facilities
5. Students (Admission, Promotion and Retention)



6. Laboratory and physical facilities
7. Library and learning facilities
8. Research and extension

Effective Academic Year 2018-2019 and yearly thereafter, higher education institutions offering Nutrition and Dietetics program whose average passing percentage in the licensure examinations is twenty-five percent (25%) and below for the past three (3) consecutive years (2015, 2016, 2017) of examination periods, shall be imposed sanctions based on the following:

Overall Licensure Performance (Passing Average)s	Action/s
21-25%	Warning
	CHED monitoring visit in one (1) year
15-20%	Probation
	CHED monitoring visit in 6 months
Below 15%	Phase out program
	Stop admissions with gradual phase out

The institutional passing average in the licensure examination for programs to be phased out shall consider ratings of examinees who took the licensure examination for the first time.

Effective Academic Year 2018-2019 and yearly thereafter, higher education institutions offering Nutrition and Dietetics program subjected to Joint CHED-PRC monitoring and evaluation shall be imposed sanctions based on the following:

Non-Compliance with Areas of Evaluation in PSG	Action/s
1 area	Warning
	Yearly visit
	Phase out if non-compliant during the second visit
2 areas	Probation
	Revisit in 6 months
	Phase out if non-compliant during the second visit
More than 2 areas	Phase out program
	Stop admissions with gradual phase out

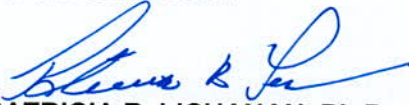


ARTICLE IX
TRANSITORY, REPEALING and EFFECTIVITY PROVISIONS

- Section 23. Transitory Provision.** All private HEIs, state universities and colleges (SUCs) and local universities and colleges (LUCs) with existing authorization to operate the Bachelor of Science in Nutrition and Dietetics program are hereby given a period of three (3) years from the effectivity thereof to fully comply with all the requirements in this CMO. However, the prescribed minimum curricular requirements in this CMO shall be implemented starting Academic Year 2018-2019.
- Section 24. Repealing Clause.** This Order supersedes all previous issuances concerning nutrition and dietetics education which may be inconsistent or contradictory with any of the provisions hereof.
- Section 25. Effectivity Clause.** This set of Policies, Standards and Guidelines for Nutrition-Dietetics Education shall take effect beginning Academic Year 2018-2019.

Quezon City, Philippines May 8, 2017

For the Commission:


PATRICIA B. LICUANAN, Ph.D.
Chairperson

Attachments:

- Appendix A - Sample Curriculum Map
- Appendix B - Sample Means of Curriculum Delivery
- Appendix C - Sample Syllabi of Core and Professional Courses



APPENDIX A

Sample Curriculum Map

FIRST YEAR PROGRAM OUTCOMES	Biochemistry	Anatomy/ Physiology	GE 1 Understand- ing Self	GE 2 Readings in Philippine History	Basic Foods I	Microbiology/ Parasitology	Accounting	GE 3 The Contemporary World	GE 4 Mathematics in the Modern World	Basic Foods II	Basic Nutrition	PE 1	PE 2	NSTP 1	NSTP 2
1. Promote the role of nutrition and dietetics for human well-being in relation to the needs, resources and potentials of individuals, groups and families	I	I	I	I	I	I	I	P	P	I	I	I	I	I	I
2. Apply the concept of comprehensive nutritional care for the total wellness of individuals in a multidisciplinary and multi-cultural settings	I	I	I	I	I	P	P	P	P	I	P	I	I	I	I
3. Integrate nutrition concerns with local and national development efforts	P	P	I	I	P	P	P	P	P	I	P	I	I	I	I
4. Manage nutrition programs for individuals, groups and institutions.	P	I	I	I	P	P	P	P	P	I	P	I	I	I	I
5. Demonstrate the ability to plan and manage a foodservice unit in hospital or other settings	P	I	I	I	P	P	P	P	P	I	P	I	I	I	I
6. Plan and implement an economically viable activity related to nutrition and dietetics	I	I	I	I	P	P	P	P	P	I	P	I	I	I	I
7. Ability to design and/or conduct a scientific study on food, nutrition and related topics	I	I	I	I	P	P	P	P	P	I	P	I	I	I	I
8. Conduct themselves in a manner consistent with the ethical standards of the profession	P	P	I	I	P	P	P	P	P	P	P	I	I	I	I
9. Engage in lifelong learning activities	P	P	I	I	P	P	P	P	P	P	P	I	I	I	I

Legend: I – Introduction: basic concepts are merely introduced; P – Practice: the concepts and principles are presented with applications;
D – Demonstrate: I + P + with skills acquisition



SECOND YEAR PROGRAM OUTCOMES	Biostatistics	Developmental Psychology	GE 5 Purposive Communication	GE 6 Art Appreciation	Elective 1 The Entrepreneurial Mind	Meal Management	Nutritional Assessment	Principles and Strategies of English (Technical Writing)	G8 Ethics	Food Service Systems I	Fundamentals of Food Technology	Nutrition in the Life Stages I	Nutrition Care Process	PE 3	PE 4
1. Promote the role of nutrition and dietetics for human well-being in relation to the needs, resources and potentials of individuals, groups and families	I	I	I	I	I	P	P	P	I	I	P	P	P	I	I
2. Apply the concept of comprehensive nutritional care for the total wellness of individuals in a multidisciplinary and multi-cultural settings	I	P	I	I	P	P	P	P	I	P	P	P	P	I	I
3. Integrate nutrition concerns with local and national development efforts	P	P	I	I	P	P	P	P	I	P	P	P	P	I	I
4. Manage nutrition programs for individuals, groups and institutions.	P	P	I	I	P	P	P	P	I	P	P	P	P	I	I
5. Demonstrate the ability to plan and manage a foodservice unit in hospital or other settings	P	P	I	I	P	P	P	P	I	P	P	P	P	I	I
6. Plan and implement an economically viable activity related to nutrition and dietetics	P	P	I	I	P	P	P	P	I	P	P	P	P	I	I
7. Ability to design and/or conduct a scientific study on food, nutrition and related topics	P	P	I	I	P	P	P	P	I	P	P	P	P	I	I
8. Conduct themselves in a manner consistent with the ethical standards of the profession	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
9. Actively engage in lifelong learning activities	P	P	I	P	P	P	P	P	P	P	P	P	P	P	P



THIRD YEAR PROGRAM OUTCOMES	GE 7STS	Logic	Foodservice Systems II	Food and Nutrition Research I	Nutrition Therapy I	Nutrition in the Life Stages II	Public Health Nutrition	Health Economics	Rizal's Life, Works, and Writings	Elective 2	Elective 3	Food and Nutrition Research II	Nutrition Therapy II	Nutrition Education
1. Promote the role of nutrition and dietetics for human well-being in relation to the needs, resources and potentials of individuals, groups and families	I	P	P	P	D	P	P	P	P	P	P	P	P	P
2. Apply the concept of comprehensive nutritional care for the total wellness of individuals in a multidisciplinary and multi-cultural settings	I	P	P	P	P	P	P	P	P	P	P	P	P	P
3. Integrate nutrition concerns with local and national development efforts	I	P	P	P	P	P	P	P	P	P	P	P	P	P
4. Manage nutrition programs for individuals, groups and institutions.	I	P	P	P	P	P	P	P	P	P	P	P	P	P
5. Demonstrate the ability to plan and manage a foodservice unit in hospital or other settings	I	P	P	P	P	P	P	P	P	P	P	P	P	P
6. Plan and implement an economically viable activity related to nutrition and dietetics (entrepreneurial activity)	I	P	P	P	P	P	P	P	P	P	P	P	P	P
7. Ability to design and/or conduct a scientific study on food, nutrition and related topics	I	P	P	P	P	P	P	P	P	P	P	P	P	P
8. Conduct themselves in a manner consistent with the ethical standards of the profession	P	P	P	P	P	P	P	P	P	P	P	P	P	P
9. Actively engage in lifelong learning activities	P	P	P	P	P	P	P	P	P	P	P	P	P	P



FOURTH YEAR PROGRAM OUTCOMES	Hospital Dietetics Practicum	Foodservice Practicum	Public Health Nutrition Practicum
1. Promote the role of nutrition and dietetics for human well-being in relation to the needs, resources and potentials of individuals, groups and families	D	D	D
2. Apply the concept of comprehensive nutritional care for the total wellness of individuals in a multidisciplinary and multi-cultural settings	D	D	D
3. Integrate nutrition concerns with local and national development efforts	D	D	D
4. Manage nutrition programs for individuals, groups and institutions.	D	D	D
5. Demonstrate the ability to plan and manage a foodservice unit in hospital or other settings	D	D	D
6. Plan and implement an economically viable activity related to nutrition and dietetics	D	D	D
7. Ability to design and/or conduct a scientific study on food, nutrition and related topics	D	D	D
8. Conduct themselves in a manner consistent with the ethical standards of the profession	D	D	D
9. Actively engage in lifelong learning activities	D	D	D



APPENDIX B

Sample Means of Curriculum Delivery

Program Outcomes	Knowledge	Skills	Attitudes
1. Promote the role of nutrition and dietetics for human well-being in relation to the needs, resources and potentials of individuals, groups and families	Concepts and principles embodied in the core courses	Active listening Critical thinking Oral and written communication Coordination Social perceptiveness Problem solving Instructing and counseling Judgment and decision-making Leadership	Courteous Concern for client and public safety Integrity Culturally-sensitivity Ethical Responsibility Health consciousness Creativity Innovativeness
2. Practice comprehensive nutritional care for the total wellness of individuals in a multidisciplinary and multi-cultural settings	Nutrition Care Process Therapy and Counseling Client and personal service Education and training Meal planning and management	Active listening Critical thinking Speaking Oral and written communication skills Coordination Human relations Social perceptiveness Problem solving Instructing and counseling Judgment and decision-making	Patience Courteous Concern for client and public safety Integrity
3. Integrate nutrition concerns with local and national development efforts.	Laws, policies, regulations, programs and current trends relevant to food and nutrition. Legislative process	IT proficiency Social skills Networking Advocacy Lobbying	Persistent Socially responsible Problem-sensitive Compassionate
4. Manage nutrition programs for individuals, groups and institutions.	Concepts and principles in Program Management Cycle Public Health Nutrition Program	Planning Organizing Staffing Directing Coordinating	Patience Hardworking With Integrity Creative Resourceful



Program Outcomes	Knowledge	Skills	Attitudes
	Foodservice systems	Reporting Budgeting Monitoring Evaluating Networking Leadership Human Relations	With Initiative Dedication Goal-driven "Out-of-the-box thinker" Culturally-sensitive Highly motivated With High Emotional Quotient Flexible
5. Manage a foodservice unit in hospital or other settings.	Management Entrepreneurship Accounting Customer relations Food safety	Marketing Communication Planning Organizing Staffing Directing Coordinating Budgeting Leadership Human Relations	Patience Hardworking With Integrity Creative Resourceful Culturally-sensitive Highly motivated Flexible
6. Implement an economically viable activity related to nutrition and dietetics.	Management Personality development Accounting	Management Leadership Marketing	Confident Decisive
7. Design and/or conduct a scientific study on food, nutrition and related topics.	Statistics Tech writing Science, Technology, Society Research essentials	Writing Decision making skills Discernment of valid data Analytical thinking Computer literacy	Resourceful Patience Honesty Integrity Inquisitive
8. Uphold ethical standards of the profession.	Relevant laws related to ND profession Code of ethics (ND)	Communication Active listening Good inter-personal relations	Confident Maturity
9. Engage in lifelong learning activities	Food and nutrition science	Decision making skills Discernment of valid data Analytical thinking Computer literacy	Driven to further develop knowledge and skills Resilient



APPENDIX C

SAMPLE SYLLABI OF CORE AND PROFESSIONAL COURSES

Course Title: BASIC FOODS I (Lecture/Laboratory)

Course Description:

This course contains the principles in the preparation and cooking of different classes of food, their composition, structure and market forms. Emphasis is given on the principles underlying preparation and cooking in order to maintain quality, palatability, nutritive value and acceptability of meals with consideration on economic factors under strict compliance with food safety standards. Laboratory experience will include the preparation of basic recipes to apply the above principles.

Number of units: 3 (2 hours lecture & 3 hours laboratory per week)

Prerequisites: None

Course objectives:

Lecture

1. Identify the fundamental principles in the preparation of different types of foods including local and indigenous food materials.
2. Explain the changes and interactions of foods and their components during preparation
3. Identify basic physical and chemical principles affecting the behavior of food.
4. Discuss common problems in food preparation and ways of preventing/remedying these.
5. Discuss minimum standards for the acceptability of foods and ways to achieve them.

Laboratory

1. Apply the principles of food preparation.
2. Follow a recipe.
3. Develop proper and efficient technique in the preparation of specific foods.
4. Present prepared foods properly.
5. Evaluate foods according to acceptable standards.
6. Handle and operate the tools, utensils and equipment used in food preparation.
7. Manage time and resources in the preparation of foods.

Course Outline:

Topic	No. of Hours
Introduction to Food Science <ol style="list-style-type: none">1. Physical and Chemical Properties of Food2. Heat in Food Preparation3. Assessment of Food Quality<ol style="list-style-type: none">3.1 Food Safety3.2 Biological Properties of food	10
Sugar and Sugar Cookery <ol style="list-style-type: none">1. Classification and occurrence2. Manufacture of sugar3. Properties and Characteristics: crystallization, caramelization & hydrolysis4. Functions of sugars in food preparation	10



Topic	No. of Hours
5. Artificial and synthetic sweeteners	
Frozen Desserts	5
Milk and Dairy Products	10
Vegetables and Fruits	10
1. Structure and composition of plant cells	
2. Color pigments; enzymatic and non-enzymatic browning in fruits and vegetables	
3. Flavor and texture substances and their characterization	
4. Food safety in the preparation of vegetable salads	
5. Cookery, Kinds, Classifications and storage of vegetables and fruits	
Pectin in fruits for jellies, jams and preserves and other gelling agents	10
1. Structure and composition of fruit jellies	
2. Role of ingredients in jelly formation	
3. Quality of a good jelly	
4. Other gelling agents	
Meat, Fish and Poultry	20
1. Meat: Kinds and market forms, Structure and composition, changes in a meat carcass after slaughter, the parts and uses of a meat carcass, factors affecting tenderness in meats, stages of doneness of meats	
2. Fish: Kinds and quality of fish, structure and composition, deterioration and changes in quality during storage, identification of local fishes	
3. Poultry: Market forms and problems in poultry cookery, safe poultry handling	
4. Distinction between finfish and shellfish	
Beverages	10
Spices, Herbs, Seasonings and Condiments	5

Suggested Laboratory Activities:

- Exercise 1 Orientation to the Kitchen as a work area, tools and equipment
Food Safety Sanitation
Mise en place
- Exercise 2 Measuring and Cutting Techniques
- Exercise 3 Sensory Evaluation
- Exercise 4 Sugar cookery
- Exercise 5 Frozen Desserts and Dairies
- Exercise 6 Cheese identification and cheese making
- Exercise 7 Preparation and Evaluation of Vegetable Dishes
- Exercise 8 Preparation and Evaluation of Fruit and fruit based dishes
- Exercise 9 Effect of Sugar, Acid, Base and Salt on Color and Texture of Fruits and Vegetables
- Exercise 10 Preparation and Evaluation of Fruit Jellies and Jams/ Effects of Sugar on the Quality of Fruit Jellies
- Exercise 11 Preparation and Evaluation of Meat Dishes
- Exercise 12 Preparation and Evaluation of Fish and seafood Dishes
- Exercise 13 Preparation and Evaluation of Poultry Dishes
- Exercise 14 Preparation of stocks
- Exercise 15 Identification and preparation of coffee and tea concoctions, identification of other alcoholic and non-alcoholic dishes



Exercise 16 Identification and preparation of different herbs and spices
Preparation of bouquet garni and mirepoix

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- Jamorabo-Ruiz A., Serrano-Claudio V.S. and Silvestre-Ama, S. 2016. *Food and Beverage Reference Dictionary* 2nd ed. Manila, Philippines: Merriam and Webster Bookstore Inc.
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- Luna, MVF. 2005. *Guzman's Introduction to Food Preparation*. 6th ed. Manila: Merriam and Webster, Inc.

Foreign

- Bennion, M. and B. Scheule. 2015. *Introductory Foods*. 14th ed. Upper Saddle River, NJ: Prentice Hall/Pearson/Co.
- Brown, A. 2014. *Understanding Food Principles and Preparation*. 5th ed. Belmont, CA: Wadsworth, Cengage Learning.
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- McWilliams, M. 2006. *Food Fundamentals*. 8th ed. Upper Saddle River, NJ: Pearson Education, Inc. publishing as Prentice Hall
- McWilliams, M. 2010. *Illustrated guide to food preparation*. 10th ed. Upper Saddle River, NJ: Pearson Education, Inc.
- Chefs of Le Cordon Bleu. 2011. *Cuisine foundations classic recipes*. New York: Delmar.
- Vaclavik VA and Christian EW. 2008. *Essentials of Food Science*. 3rd ed. NY: Springer-Verlag.

Websites (*Instructor's recommendations*)

***Course Requirements and Grading system:**

(Subject to modification based on university/ college policy)

Example:

Lecture: 2/3 of course grade

Class Participation (Exams,
Recitation, Seatwork, Project,
Quizzes, Assignments)

Laboratory: 1/3 of course grade

Assignments/Quizzes
Evaluation sheets/Laboratory Exercises
Assignments/Projects/Portfolio/Quizzes,
Practical Exam
Peer evaluation
Teacher evaluation

Class policies:

Instructor Information:

Name of Faculty:
Consultation hours/ days:
Consultation office:
Contact No./ e-mail address



Course Title: BASIC FOODS II (Lecture/Laboratory)

Course Description:

This course contains the principles in the preparation and cooking of different classes of food, their composition, structure and market forms. Emphasis is given on the principles underlying preparation and cooking in order to maintain quality, palatability, nutritive value and acceptability of meals with consideration on economic factors under strict compliance with food safety standards. Laboratory experience will include the preparation of basic recipes to apply the above principles.

Number of units: 3 (2 hours lecture & 3 hours laboratory per week)

Pre-requisites: Basic Foods II

Course objectives:

Lecture

1. Identify the fundamental principles in the preparation of different types of foods including local and indigenous food materials.
2. Explain the changes and interactions of foods and their components during preparation.
3. Identify basic physical and chemical principles affecting the behavior of food.
4. Discuss common problems in food preparation and ways of preventing/remedying these.
5. Discuss minimum standards for the acceptability of foods and ways to achieve them.

Laboratory

1. Apply the principles of food preparation.
2. Follow a recipe
3. Develop proper and efficient technique in the preparation of specific foods
4. Present prepared foods properly
5. Evaluate foods according to acceptable standards
6. Handle and operate the tools, utensils and equipment used in food preparation
7. Manage time and resources in the preparation of foods

Course Outline:

Topic	No. of Hours
Egg and Egg Cookery <ol style="list-style-type: none">1. Structure and composition of eggs2. Changes in eggs during storage3. Tests for egg quality4. Properties of eggs5. Functions of eggs in food preparation6. Storage of eggs7. Safe handling of eggs in food preparation	10
Fats and Oils <ol style="list-style-type: none">1. Structure and composition of fats and oils2. Kinds of Fats and oils used in food preparation3. Properties of fats and oils: melting, smoke, flash and fire points4. Principles of frying	10



Topic	No. of Hours
5. Emulsion systems: mayonnaise, salad dressings, cream puffs 6. Fat replacers	
Rice, corn and other cereals 1. Kinds and market forms of cereals 2. Structure and composition 3. Pointers in buying cereals 4. Storage and care of cereals 5. Alimentary pastes and noodles	10
Starch and starch products 1. Food sources and kinds of starches 2. Production of starch 3. Chemical composition of starch molecules 4. Properties of starch and applications in cooking: gelatinization, gelation, syneresis, retrogradation, dextrinization, enzyme reaction 5. Functions of starch in food preparation 6. Proper cooking of starchy products 7. Storage of starch and starchy products 8. Alimentary pastes and noodles	15
Flour and flour mixtures 1. Wheat and wheat flour: structure, composition and properties 2. Production of wheat flour 3. Market forms and kinds of wheat flour 4. Flour mixtures: types and ingredients 5. Gluten: elasticity and bread making quality	15
Dough 1. Yeast bread: kneading, fermentation, baking quality of bread, problems encountered 2. Biscuits and Pastry: kinds, mixing method, baking quality of biscuits and pastry	15
Batters 1. Shortened cakes and chemical leavens 2. Unshortened cakes 3. Methods of mixing cakes 4. Common problems in mixing and baking cakes	15

Suggested Laboratory Activities:

- Exercise 1 Assessment of Freshness of Eggs
 Exercise 2 Preparation and Evaluation of Egg Dishes (egg as a Thickening and Gelling Agent)
 Exercise 3 Egg as a Foaming Agent
 Exercise 4 Fat cookery
 Exercise 5 Food emulsion
 Exercise 6 Rice, cereals and other grains preparation and evaluation
 Exercise 7 Application of Principles of Starch Cookery in the Preparation of Foods
 Exercise 8 Effects of Ingredients and Dextrinization on the Thickening and Gelling Ability of Starches
 Exercise 9 Preparation and evaluation of Batters
 Exercise 10 Preparation and evaluation of Doughs
 Exercise 11 Preparation and Evaluation of Quick Breads
 Exercise 12 Preparation and Evaluation of Yeast Breads



- Exercise 13 Preparation and Evaluation of Pie Crusts
- Exercise 14 Preparation and Evaluation of Unshortened Cakes
- Exercise 15 Preparation and Evaluation of Shortened Cake
- Exercise 16 Preparation and Evaluation of Cookies

References:

Local

- Claudio, V.S., Jamorabo-Ruiz. A, De Leon, S.Y., and Chavez, L.L. 2014. *Basic Foods for Filipinos* 5th ed. Manila: Merriam and Webster Bookstore Inc.
- Jamorabo-Ruiz A., Serrano-Claudio V.S. and Silvestre-Ama, S. 2017. *Food and Beverage Reference Dictionary* 2nd ed. Manila, Philippines: Merriam and Webster Bookstore Inc.
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- Bennion, M. and B. Scheule. 2015. *Introductory Foods*. 14th ed. Upper Saddle River, NJ: Prentice Hall/Pearson/Co.
- Brown, A. 2014. *Understanding Food Principles and Preparation*. 5th ed. Belmont, CA: Wadsworth, Cengage Learning.
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*Course Requirements and Grading system:

(subject to modification based on university/college policy)

Lecture: 2/3 of course grade

Class Participation (Exams, Recitation,
Seatwork, Project, Quizzes, Assignments)

Laboratory: 1/3 of course grade

Assignments/Quizzes
Evaluation sheets/Laboratory Exercises
Assignments/Projects/Portfolio/Quizzes,
Practical Exam
Peer evaluation
Teacher evaluation

Class policies:

Instructor Information:

Name of Faculty:
Consultation hours/ days:



Course Title: BASIC NUTRITION (Lecture/Laboratory)

Course Description:

The course centers on the fundamentals of nutrition science as they relate to human life and growth. It includes the study of nutrients – their nature, functions, interrelationships and utilization in the body, food sources, requirements and deficiencies. Laboratory experience includes use of dietary tools in the planning of nutritionally adequate, economical, safe, and aesthetically pleasing meals.

Prerequisites: Basic Foods
Biochemistry

Number of Units: 5 units (3 hours lecture and 6 hours laboratory per week)

Course Objectives:

1. Define and explain the common terms and basic concepts in Nutrition;
2. Discuss and trace the development of Nutrition as a science;
3. Identify and explain the uses and functions of the basic tools in Nutrition
4. Explain energy metabolism and factors affecting energy requirements;
5. Identify and relate the nutrients according to concentration and structure, essentiality, functions, food sources, symptoms of deficiency and excessive intake.
6. Discuss and illustrate the functions of water in body metabolism;
7. Explain and relate the nutrient interrelationships in terms of digestion, absorption and utilization of food;
8. Appreciate the concepts and principles of human nutrition in sustaining optimal growth and development of individuals.

Course Outline:

Topic	No. of Hours
Introduction	6
A. Course Objectives	
B. Definitions: Food, Health, Nutrition, Dietetics, Nutrient, Nutritionist Dietitian, Nutritional Status, Malnutrition, Dietary Requirement, Dietary Allowance, Estimated Average Requirement, Adequate Intake, Upper Tolerable Limit, Recommended Nutrient Intakes, Clinical Nutrition,	
C. History of Nutrition from International and National point of view (People, time, events)	
D. The Philippine Nutrition Situation	
E. The Philippine Plan of Action for Nutrition (PPAN)	
Basic Concepts in Nutrition	2
A. Various disciplines related to nutrition	
B. The role of nutrition in the development of a healthy mind and body	
Basic Tools of Nutrition	6
Description, Uses and Interpretation of:	
1. Basic Food Guides, Food Pyramids and Nutritional/Dietary Guidelines	
2. Philippine Dietary Reference Intakes	



Topic	No. of Hours
3. Food Exchange Lists	
4. Food Composition Tables	
5. Nutrition Labels	
6. Computer software in Nutrition	
The Macronutrients or Energy-Giving Nutrients:	4
A. Carbohydrate, Protein and Fat will be discussed with respect to	
1. Classifications	
2. Functions	
3. Food sources	
4. Digestion, absorption, and utilization	
5. Individual requirements and PDRI	
6. Effects of excessive and deficient intakes	
Energy	4
A. Terminology (Energy, Calorie, Calorimeter, Metabolism, Basal metabolism, Basal metabolic rate)	
B. Measurement of Energy Expenditure of the body (Direct calorimetry; Indirect calorimetry)	
C. Factors influencing the total energy requirement	
1. Basal metabolism	
2. Physical Activity	
3. Thermal Effect of Food	
D. Energy Imbalance	
The Micronutrients: Vitamins and Minerals	6
A. Water soluble and fat-soluble vitamins will be discussed with respect to:	
1. Classification	
2. Functions	
3. Food sources	
4. Digestion, absorption, and utilization	
5. Individual requirements and RNI	
6. Effects of excessive and deficient intakes	
B. Major minerals and trace elements will be discussed with respect to:	
1. Functions and importance	
2. Digestion, absorption and metabolism	
3. Effects of deficiency and toxicity	
4. Food sources and RNI	
Water and Electrolytes	3
1. Classification	
2. Functions	
3. Digestion, absorption, and utilization	
4. Individual requirements and RNI	
5. Effects of excessive and deficient intakes	
6. Water Balance	
7. Electrolyte Balance	
Nutrient Utilization and Interrelationships	2
Discussion on Current Nutrition Related Issues	3



Suggested Laboratory Exercises:

1. Exercise on Determining the Food Habits and Preferences of an Individual
2. Exercises on the Use of Qualitative Dietary Tools (NGF, Food Guide Pyramid, YGGN)
3. Exercises on the Use of Quantitative Tools (FCT, FEL, PDRI)
4. Estimating the Total Energy Allowance using different methods.
5. Determining the Energy content of food using the dietary tools.
6. Planning, Preparation and Evaluation of an energy rich meal.
7. Determining the Macronutrient content of food
8. Planning, preparation, and evaluation of a meal rich in Carbohydrates, Proteins, and Fats
9. Determining the Micronutrient content of food using the dietary tools.
10. Planning, preparation, and evaluation of a meal rich in vitamins and minerals
11. Planning, preparation, and evaluation of a "healthy" meal.

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- Mahan LK. and Raymond JL. 2017. *Krause's Food and the Nutrition Care Process* 14th ed. Philadelphia, PA: Elsevier/Saunders.
- Ross AC, Caballero B., Cousins RJ, Tucker KL and Ziegler TR. (editors). 2012. *Modern Nutrition in Health and Disease* 11th ed. Wolters Kluwer/Lippincott, Williams and Wilkins.
- Smolin, Lori A. and Grosvenor, Mary B. 2016. *Nutrition: Science and Applications*, 4th ed. NYC, NY: Wiley-Blackwell.
- Whitney E. and Rolfes S. 2016. *Understanding Nutrition* 14th ed. Belmont, CA: Wadsworth/ Cengage Learning.

Websites (Instructor's recommendations)

*Course Requirements and Grading system:

(subject to modification based on university/ college policy)

- Quizzes and long tests
- Recitation/Reports
- Assignments
- Periodic exams



Lecture: 2/3 of course grade

Class Participation (Recitation,
Seatwork, Project, Quizzes,)

3 exams

Assignments

Laboratory: 1/3 of course grade

Assignments/Quizzes

Evaluation sheets/Laboratory Exercises

Laboratory performance

Peer evaluation

Teacher evaluation

Class Policies

Instructor Information:

Name of Faculty:

Consultation hours/ days:

Consultation office:

Contact No./ e-mail address



Course Title: MEAL MANAGEMENT (Lecture/Laboratory)

Course Description:

The course deals with the principles of planning, procurement, preparation, storage and service of nutritious and adequate meals for the family, and for special occasions, with emphasis on economy, sanitation, nutrition, and aesthetics. Laboratory experience will include application of the above principles using local and foreign dishes.

Number of Units: 3 units (2 hrs lecture; 3 hrs laboratory)

Prerequisites: Basic Foods I and II
Basic Nutrition

Course Objectives:

Lecture

1. Discuss the multiple definitions and dimensions of the meals
2. Discuss the principles of planning, procurement, storage, preparation and services of meals emphasizing the importance of time and energy.
3. Describe Philippine and International Cuisines
4. Explain the variations in meal management practices across groups in the context of culture

Laboratory

1. Propose a plan for a nutritious menu for a family for considering varied occasions in both formal and informal across cultural settings.
2. Procure food supplies that conform to the standards of quality.
3. Set-up proper food storage observing proper conditions.
4. Prepare meals highlighting Philippines and International cuisines.
5. Identify table wares appropriate for varied meal services.
6. Apply the principles of varied styles of meal service.

Course Outline:

Topic	No. of Hours
1. Introduction 1.1 Historical Background 1.2 Definition of Terms 1.3 The Meal Manager and the Meal Management Process 1.4 Importance of Food and Dining 1.5 Factors that influences Meal Management Practices 1.6 Dimensions of the Meal	2
2. Menu Planning 2.1 Goals in Menu Planning 2.1.1 Nutritive Aspect in Menu Planning 2.1.2 Economic Aspect of Menu Planning 2.1.3 Managerial Aspect in Menu Planning 2.1.4 Aesthetic Aspect in Menu Planning 2.2 Mechanics in Menu Planning 2.2.1 Rules in Menu Planning 2.2.2 Meal Pattern	8



Topic	No. of Hours
2.1.3 Types of Menu	
2.1.4 Rules in Menu Writing	
2.3 Menu for Breakfast, Lunch and Supper	
2.4 Menu for Brunch, Merienda, Tea and Cocktail Party and other occasions	
3. Purchasing	1.5
3.1 Quality Characteristics of Foods to be Purchased	
3.2 How to Buy Wisely and Economically	
3.3 Food Buying Guides and Cost Analysis	
3.4 Other Food Stores	
4. Food Storage	1.5
4.1 Importance of Proper Storage	
4.2 Types of Storage Facilities	
4.3 How to Store Specific Foods	
5. Meal Preparation	4
5.1 Management of Time and Energy in Meal Preparation	
5.1.1 Work Simplification in Meal Preparation	
5.2 Meal Preparation Schedule	
5.3 Nutrient Conservation in Meal Preparation	
5.4 Minimizing Food and Energy Cost and Waste	
5.5 Safety and Sanitation in Meal Preparation	
5.6 Art of Plate Presentation	
5.6.1 Food Styling	
5.6.2 Tools	
5.6.3 Rules	
5.6.4 Techniques	
6. Table Wares	1.5
6.1 Types and Materials	
6.2 Selection	
6.3 Care and Maintenance	
7. Setting the Table	1.5
7.1 General Pointers in Table Setting	
8. Meal Service Styles	5
8.1 Russian Service	
8.2 English Service	
8.3 Family Service	
8.4 American/Plate Service	
8.5 Tray Service	
8.6 Buffet Service	
8.7 Tea Service	
9. Table Etiquette	2
9.1 Seating Arrangement at the Dining Table	
9.2 Serving Food at the Table	
9.3 Proper Use of Table Wares	
9.4 Table Manners	
9.5 Cultural Differences in Table Manners	
10. Philippines and International Cuisine	8
10.1 Terminology	
10.2 Philippine Cuisine	
10.2.1 Characteristics	
10.2.2 Specialty Dishes	
10.3 International Cuisine	
10.3.1 Characteristics	
10.3.2 Specialty Dishes	



Suggested Laboratory Activities:

- Exercise 1 Planning menus: 1 meal, 1 day, 7 days for a family of six (low, middle, high income families) considering regional and international cuisine.
- Exercise 2 Assessing quality of food supplies:
- 2.1 Standard specification
 - 2.2 Set specification based on assessed need
- Exercise 3 Conduct of survey on market forms of food and its prices
- Exercise 4 Storage of Selected Food Supplies
- Exercise 5 Identification of table wares
- Exercise 6 Setting the table for various styles of meal service
- Exercise 7 Mc service using different meal service styles.
- Exercise 8 Planning, procuring food (supplies), preparing and serving meals highlighting Philippine and international cuisines using appropriate styles of meal service.

References:

Local:

- Claudio VS, Leocadio CG and Escudero EG. 2009. *Meal Management and Table Service*. Manila, Philippines: Merriam and Webster Bookstore, Inc.
- Claudio VS, Leocadio CG and Escudero EG. 2009. *Meal Management and Table Service Laboratory Manual*. Manila, Philippines: Merriam and Webster Bookstore, Inc.
- Claudio VS and Jamorabo-Ruiz A. 2007. *International Cuisine*. National Book Store Inc.
- Jamorabo-Ruiz A, Claudio VS, and Joves LS. 2011. *Cultural Foods around the World*. 2nd ed. Manila: Merriam & Webster Bookstore Inc.
- Jamorabo-Ruiz A and Serrano-Claudio V.S. 2008. *International Menus for Celebrations and Festivities*. National Book Store Inc.
- Serrano-Galbaugh, R. et al. 2004. *Philippine Recipes. Authentic and Cosmopolitan*. Manila: Merriam and Webster Bookstore Inc. (on revision)

Foreign:

- Baskette M and Painter J. 2008. *The Art of Nutritional Cooking* 3rd ed. NJ: Prentice Hall, Inc.
- Heyman P. (2012). *International cooking a culinary journey*. N.J.: Prentice Hall.
- Kittler PG, Nelms MN and Sucher KP. 2017. *Food and Culture*. 7th Edition. USA: Wadsworth Learning
- Kotschevar L and Withrow D. 2008. *Management by Menu*. N.J: John Wiley and Sons.
- Larousse Gastronomique. 2009. Clarkson Potter; Revised Updated edition
- McVety, P.J., Ware, B.J. and Ware CL. 2009. *Fundamentals of Menu Planning*. New Jersey : John Wiley and Sons
- McWilliams M. 2009. *Fundamentals of Meal Management*. New Jersey Prentice Hall
- Meiselman H.L. (2009). *Meals in Science and Practice*. Woodhead Publishing/Elsevier.
- National Restaurant Association Educational Foundation. 2007. Menu marketing and Management Competency guide.

Websites (Instructor's recommendation)



***Course Requirements and Grading system:**

(Subject to modification based on university/ college policy)

Course Requirements:

Short and Unit tests
Periodic examinations
Recitation
Seatwork and Assignment
Research/Reaction Paper

Grading:

Example:

Lecture: 2/3 of course grade

Class Participation (Exams,
Recitation, Seatwork, Project,
Quizzes, Assignments)

Laboratory: 1/3 of course grade

Assignments/Quizzes
Evaluation sheets/Laboratory Exercises
Assignments/Projects/Portfolio/Quizzes,
Practical Exam
Peer evaluation
Teacher evaluation

Class policies:

Instructor Information:

Name of Faculty:
Consultation hours/ days:
Consultation office:
Contact No./ e-mail address



Course Title: NUTRITIONAL ASSESSMENT (Lecture/Laboratory)

Description:

The principles and methods of measuring and evaluating the nutritional status of individuals and populations groups both in clinical and public health setting are discussed in this course. Laboratory experience will focus on anthropometric and dietary methods of nutritional assessment

Number of Units: 3 units (2 hours lecture and 3 hours laboratory per week)

Prerequisite: Basic Nutrition

Course Objectives:

Lecture:

1. Define the relevant terms used in the assessment of nutritional status;
2. Discuss the determinants of nutritional status of individuals and population groups;
3. Describe the current nutritional status of Filipinos based on the results of the National Nutrition Survey;
4. Discuss the direct and indirect methods of assessing nutritional status in terms of:
 - Essential Features
 - Steps and procedures involved
 - Reference Standards and Cut-off points
 - Advantages and Disadvantages/limitations
5. Correctly apply the different reference standards, tools and cut-off points used in nutritional assessment;
6. Conduct actual nutrition assessment to demonstrate proper use of an anthropometric and dietary methods and interpretation of results;
7. Select appropriate method and reference standards to assess the nutritional status of adolescents, elderly and pregnant women; and
8. Formulate a nutritional assessment system appropriate in a clinical setting.

Laboratory:

1. Use various tools and standards in assessing nutritional status;
2. Demonstrate correct procedures in conducting anthropometric and dietary methods;
3. Interpret hypothetically generated anthropometric, dietary, clinical and biochemical data; and
4. Analyze the nutrition implications of certain medications used in both clinical and community settings.

Course Outline:

Topic	No. of Hours
Overview of the course <ol style="list-style-type: none">1. Objectives and scope of the course2. Course requirements and class policies	2
Definition of terms relevant to nutritional assessment <ol style="list-style-type: none">1. Overview of nutritional assessment2. Purpose of nutritional assessment3. Forms and uses of nutritional assessment systems	2



Topic	No. of Hours
<ul style="list-style-type: none"> a. Nutrition screening b. Nutrition survey c. Nutrition surveillance 4. Introduction to the different methods of nutritional assessment <ul style="list-style-type: none"> a. Direct Methods b. Indirect Methods 5. Pathogenesis of the Development of Nutritional deficiency and appropriate method of detecting the condition 	
National Nutrition Survey of the Philippines <ul style="list-style-type: none"> 1. Objectives, coverage and components of the survey 2. Highlights of results 3. Different Methods and procedures used in nutritional assessment in terms of rationale, procedure, indices derived, reference standards used, cut-off points used in interpreting results, advantages and limitations 	2
Nutritional Anthropometry <ul style="list-style-type: none"> 1. Weight Measurements 2. Linear Measurements 3. Soft Tissues measurements 	6
Dietary Assessment <ul style="list-style-type: none"> 1. National Level <ul style="list-style-type: none"> 1.1 Food Balance Sheet 2. Household Level <ul style="list-style-type: none"> 2.1 Food Inventory 2.2 Food Accounts 3. Individual level <ul style="list-style-type: none"> 3.1 Quantitative Methods <ul style="list-style-type: none"> 3.1.1 24-hour food recall 3.1.2 Food Record 3.1.3 Food weighing 3.2 Qualitative Methods <ul style="list-style-type: none"> 3.2.1 Food frequency 3.2.2 Diet History 4. Validity, reliability and objectivity of dietary methods 	6
Clinical Assessment <ul style="list-style-type: none"> 1. Signs and symptoms of the different nutritional deficiencies 2. Guide to interpretation of clinical signs of malnutrition 	2
Biochemical and Biophysical Assessment <ul style="list-style-type: none"> 1. Appropriate biochemical tests to detect subclinical nutrient deficiencies 2. Basic considerations in conducting biochemical tests 3. Guidelines in collection of samples and specimens 4. Interpretation of results of biochemical tests to detect subclinical nutrient deficiencies 	2
Ecological Assessment <ul style="list-style-type: none"> 1. Vital health statistics 2. Socio-economic information 3. Rapid assessment methods 	2
Nutrition Survey: an overview <ul style="list-style-type: none"> 1. Objectives 2. Steps in planning nutrition survey 	2



Topic	No. of Hours
Nutritional assessment system in a clinical setting	2
Nutritional assessment of individuals in varied physiological conditions	2
1. Adolescents	
2. Elderly	
3. Pregnant Women	

Suggested Laboratory Activities:

Exercise	Title
1	Taking weight measurements in adults Comparing weight obtained from bathroom scale with that obtained from using platform balance
2	Measurement of Stature/Standing Height in Adults Estimating height using knee height caliper
3	Assessment of Nutritional Status of Preschool Children using the Child growth standards
4	Measuring Body Circumferences (Arm, waist and hip)
5	Skinfold Measurement: Triceps Skinfold Thickness
6	Dietary assessment using the 24-hour food recall
7	Dietary assessment using the three day food record
8	Dietary assessment using food frequency recall
9	Qualitative dietary assessment
10	Interpreting biochemical assessment
11	Interpreting clinical assessment

References:

Local:

- FNRI Committee on Nutrition Surveys. *Manual on Instructions for Nutritional Surveys*, Manila Philippines.
- FNRI-DOST. *8th National Nutrition Survey, 2013*
- FNRI-DOST. *Nutritional Status of Filipinos 2015*

Foreign:

- Charney, P. and A. Malone. 2009. *ADA Pocket Guide to Nutrition Assessment*. Chicago, IL; ADA.
- Fahmida U and Dillon D. 2011. *Handbook: Nutritional Assessment 2nd ed.* Jakarta: SEAMEO-TROPED RCCN UI.
- Gibson RS. 2005. *Principles of Nutrition Assessment 2nd ed.* Oxford University Press, Inc., New York.
- Jelliffe DB. 1985. *The Assessment of the Nutritional Status of the Community*, World Health Organization, Geneva.
- Lee RD, Nieman DC. 2013. *Nutritional Assessment*. 6th edition. McGraw-Hill.
- Moore MC. 2009. *Pocket guide to nutritional assessment and care 6th ed.* St. Louis: Elsevier Mosby
- Morris, J. 2011. *Dietitian's Guide to Assessment and Documentation*. Sudbury, MA: Jones & Bartlett.



Course Requirements and Grading System*:

(subject to modification based on university/college policy)

Lecture: 2/3 of course grade

Recitation	=	20%
Journal Patrol	=	10%
2 major exams	=	40%
Quizzes	=	20 %
Assignments	=	<u>10%</u>
		100%

Laboratory: 1/3 of course grade

Laboratory Reports	=	50%
Assignments/Quizzes	=	20%
Laboratory performance		
Peer evaluation	=	15%
Teacher evaluation	=	<u>15%</u>
Total		100%

Class Policies: To be determined by the course instructor

Instructor Information:

Name of Faculty:
Consultation hours/ days:
Consultation office:
Contact No./ e-mail address



Course Title: FOODSERVICE SYSTEMS I (Lecture/Laboratory)

Course Description:

The course includes the principles, techniques and management of large-scale food production particularly on the phases of foodservice: menu planning, purchasing, receiving, storage and issuance, pre-preparation, production, merchandising and service, food safety and sanitation and cost control. Laboratory experiences include menu planning, purchasing, receiving, storage and issuance standardization and quantification of recipes, portion control and utilization of leftover food.

Number of Units: 5 units (3 hrs lecture; 6 hrs laboratory)

Prerequisites: General Microbiology and Parasitology
Basic Financial Accounting

Course Objectives:

1. Discuss the historical background of the industrial and institutional food service. (Local and International)
2. Explain the different principles applied in menu planning, purchasing, receiving, storing and issuing, food production and service of food.
3. Interpret the objectives and policies in quantity food production.
4. Apply principles and techniques of sanitation and safety in foodservice institutions.
5. Develop cost control system in all phases of the food service cycle.
6. Apply the general principles of food selection and preparation in quantity food production.
7. Demonstrate planning, preparing and serving meals using the utmost standards of preparation.
8. Apply the different principles of menu pricing and menu merchandising.
9. Analyze the recent updates in relation to foodservice management.

Course outline:

Course Outline	No. of Hours
Introduction 1. Course Objectives 2. Historical Background and Development of the Foodservice Industry 2.1. Food Service Through the Ages 2.2. Segments of the Foodservice Industry	2
The Foodservice System 1. Definition of Terms 2. Foodservice as a System 3. Classification of Foodservice 4. Types of Foodservice System 5. Legal Aspects of Foodservice Professional Ethics	6
Sanitation, Food Safety, and Energy and Waste Management 1. Definition of Terms 2. Causes of Food borne Illnesses 3. Sanitation in Purchasing, Receiving, Storing, Issuing, Preparation and Serving of Food 4. Hazard Analysis and Critical Control Point (HACCP)	9



Course Outline	No. of Hours
5. Cleaning, Sanitizing and Pest Control 6. Safety Precautions and Accident Prevention 7. Waste Management	
Institutional Menu Planning 1. Factors to Consider in Menu Planning 2. Maximizing Food utilization in Menu Planning 3. Types of Menu 4. Food Characteristics and Combinations 5. Menu Pattern, Design and Format 6. Mechanics of Menu Planning 7. Menu Analysis and Evaluation	3
Purchasing 1. Requisites of a Good Buyer 2. Ethics of a Good Buyer 2.1 Professional Ethics 3. The Vendor or Supplier 4. Types of Purchasing 5. Methods of Purchasing 6. Product Selection (Market Forms and Food Quality) 7. Purchasing Procedure	3
Receiving 1. Types of Receiving 2. The Receiving Personnel 3. The Receiving Process 4. Facilities, Equipment and Sanitation in the Receiving Section	1
Storage and Issuance 1. Types of Storage 2. Facilities and Equipment 3. Guidelines for Storage and Issuance 4. Security 5. Records and Control 1.1 Inventory Process/Methods and Guidelines in Inventory Training and Storage Personnel	3
Quantity Food Production 1. Quantity Food Production Principles and Techniques 2. Important Aspects of Food Production 3. Quantification, Standardization and Evaluation of Recipes 4. Forecasting 5. Production Schedule	9
Assembly, Distribution and Service 1. Factors Affecting Choice of Distribution Systems 2. Equipment needs 3. Styles of Service	3
Cost Control 1. Definition of Terms 2. Step in the Control Process 3. Factors Affecting Cost Control 3.1. Food Cost Control	2



Course Outline		No. of Hours
3.2.	Labor Cost Control	
3.3.	Operating Cost Control	
4.	Financial Report Merchandising and Sales Promotion in Foodservice Operation	2
	1. Professional Ethics 2. Feeding during disaster	
	Foodservice Trends and Issues 1. Feeding during disasters and calamities (production)	4

Suggested Laboratory Activities:

1. Menu Planning
2. Standardization of recipes
3. Recipe Costing
4. Portion control for single and combination menu both for in-house and off-site service
5. Quantification of recipes
6. Preparation of market list/requisition
7. Assigning utilization of leftover foods

References:

Local:

- Jamorabo-Ruiz A, Perdigón GP and Claudio VS. 2006. *Quantity Food Production in the Philippines*. Nutritionist-Dietitians' Association of the Philippines and Merriam & Webster Bookstore Inc., Manila, Philippines.
- Perdigon GP, Chavez LL and Claudio VS. 2009. *Food, Water and Environmental Sanitation and Safety*. Merriam & Webster Bookstore Inc., Manila, Philippines.
- Perdigon Grace P. 2007. *Foodservice Management in the Philippines*. C&E Publications.

Foreign:

- Drummond KE and Brefere L. 2017. *Nutrition for foodservice and culinary professional* 9th ed. NJ: John Wiley & Sons.
- Gregoire M. 2013. *Foodservice Organizations: A Managerial and Systems Approach*. 8th ed. Upper Saddle River, NJ: Pearson/Prentice Hall Co.
- Keiser J, DeMicco F, Cobanoglu C and Grimes R. 2007. *Analyzing and Controlling Foodservice Costs: A Managerial & Technology Approach* 5th ed. Prentice Hall.
- Knechtges, Paul L. 2012. *Food Safety: Theory and Practice*. Sudbury, MA: Jones & Bartlett.
- Kotschevar L and Withrow D. 2008. *Management by Menu* 4th ed. Hoboken, NJ, John Wiley and Sons Inc.
- Lieux, Elizabeth McKinney and Patricia Luoto. 2008. *Exploring Food Service Systems Management Through Problems* 3rd ed. Prentice Hall.
- Molt M. 2010. *Food for Fifty* 13th ed. Upper Saddle River, NJ: Pearson/Prentice Hall Co.



- Payne-Palacio J. and Theis M. 2015. *Foodservice Management: Principles and Practices* 13th ed. Upper Saddle River, NJ: Pearson/Prentice Hall Co.

Others:

- Cookbooks and Food Magazines
- Websites (Instructor's recommendation)

***Course Requirements and Grading system:**

(Subject to modification based on university/ college policy)

Course Requirements:

Quizzes and long tests
Recitation
Seatwork
Assignments
Evaluation sheets
Laboratory performance
Reports
Periodic exams

Grading:

Example:

Lecture: 60% of course grade

Class Participation (Exams,
Recitation, Seatwork, Project,
Quizzes, Assignments)

Laboratory: 40% of course grade

Assignments/Quizzes
Evaluation sheets/Laboratory Exercises
Assignments/Projects/Portfolio/Quizzes,
Practical Exam
Peer evaluation
Teacher evaluation

Class policies:

Instructor Information:

Name of Faculty:
Consultation hours/ days:
Consultation office:
Contact No./ e-mail address



Course Title: FOODSERVICE SYSTEMS II (Lecture/Laboratory)

Course Description:

The course puts emphasis on personnel management, laws and regulations related to foodservice institutions, entrepreneurship, catering management and service. Basic concepts in facilities planning, layout and development, and equipment specifications are included. Laboratory experiences include application of the principles and techniques in Food Service System I in an accredited facility.

Number of Units: 5 units (3 hrs lecture and 6 hours laboratory)

Prerequisites: Foodservice Systems I

Course Objectives:

1. Discuss the principles of personnel management as applied to foodservice
2. Discuss the laws and regulation related to foodservice institutions.
3. Explain the principles of entrepreneurship and techniques in catering and service.
4. Demonstrate the skills in operating different types of foodservice equipment.
5. Produce sample menu for different types of foodservice.
6. Apply the basic principles and techniques in planning different foodservice facilities.
7. Present a layout for a proposed foodservice establishment
8. Prepare feasibility study on foodservice operations.
9. Apply appropriate modern technology in the foodservice system.

Course Outline:

Topic	No. of Hours
Introduction <ol style="list-style-type: none">1. Course Objectives2. Review of Food Service System I3. Definition of terms4. Concepts	1
Organization and Management <ol style="list-style-type: none">1. Definition of Terms2. Types of Organization3. Theories of Management4. Levels of Management5. Functions of Management6. Leadership7. Tools of Management	6
People Management <ol style="list-style-type: none">1. Recruitment2. Selection3. Hiring4. Training5. Scheduling6. Evaluation7. Disciplining Employees	9



Topic	No. of Hours
7.1 Professional Ethics 8. Employee Benefits 9. Communication	
Laws and Regulation Affecting Foodservice Institutions in the Philippines 1. Legal Considerations 1.1. Zoning 1.2. Licensing 1.3 Workers compensation and benefit coverage i. Professional Ethics 2. Basic steps to follow in obtaining permit to operate a foodservice establishment	2
Facilities Planning 1. Factors to consider in facilities planning 2. Functional requirements 3. Planning the atmosphere of foodservice facilities	6
Work Place Design 1. Space allocation 2. Ergonomics or Human Engineering 3. Environment	2
Lay-out of Facilities 1. Space Arrangement and Flow 2. Layout configuration 3. Guidelines in setting a layout for the following: 3.1. Receiving Area 3.2. Storage Area 3.3. Pre-preparation Area 3.4. Preparation Areas/Main Cooking Area 3.5. Service Area 3.6. Dishwashing Area 3.7 Waste segregation/disposal area	9
Equipment Specifications 1. Classification of Equipment 2. Specification of Equipment 3. Standard dimension of different types of equipment 4. Safety, Care, and Maintenance of Equipment	4
Catering and Banquet 1. Type of Catering Establishment 2. Factors to consider establishing a catering business 3. Establishing the Market 4. Contracting 5. Catering Service – basic consideration and requirements in: 5.1. Off premise catering 5.2. On premise catering	4
Emergency Feeding 1. Definition of Terms 2. Guidelines in Planning Disaster Meals 3. Kinds of Food needed in all Stages of Emergency 4. Planning a sample menus for the following conditions 4.1. No fuel, no water 4.2. Fuel available, no water	4



Topic	No. of Hours
4.3. Water available, no fuel	
4.4. Water and Fuel available	
Case Analysis	3

Suggested Laboratory Activities:

1. In-campus catering functions
2. Educational tours to food establishment/institution like commissary
3. Case analysis of emergency feeding situations
4. Design of foodservice facility layout
5. Development of equipment specifications
6. Development of a cost control system for a foodservice facility
7. Preparation of job description for a foodservice facility staff

References:

Local:

- Jamorabo-Ruiz A, Perdigon GP and Claudio VS. 2006. *Quantity Food Production in the Philippines*. Nutritionist-Dietitians' Association of the Philippines and Merriam & Webster Bookstore Inc., Manila, Philippines.
- Perdigon GP, Chavez LL and Claudio VS. 2009. *Food, Water and Environmental Sanitation and Safety*. Merriam & Webster Bookstore Inc., Manila, Philippines.
- Perdigon, G. 2004 (updated 2008). *Facilities Planning and Design for Lodging and Foodservice Operations*. Manila, Philippines: Merriam and Webster Bookstore, Inc.
- Perdigon Grace P. 2007. *Foodservice Management in the Philippines*. C&E Publications.
- Sison PS, Payos RP and Zorilla OS. 2013. *People Management in the 21st Century* 8th ed. People Management Association of the Philippines, Manila: Rex Book Store.

Foreign:

- Drummond KE and Brefere L. 2017. *Nutrition for foodservice and culinary professional* 9th ed. NJ: John Wiley & Sons.
- Gregoire M. 2013. *Foodservice Organizations: A Managerial and Systems Approach*. 8th ed. Upper Saddle River, NJ: Pearson/Prentice Hall Co.
- Hudson, Nancy R. 2013. *Management Practice in Dietetics* 3rd ed. Cognella Academic Publishing.
- Keiser J, DeMicco F, Cobanoglu C and Grimes R. 2007. *Analyzing and Controlling Foodservice Costs: A Managerial & Technology Approach* 5th ed. Prentice Hall.
- Knechtges, Paul L. 2012. *Food Safety: Theory and Practice*. Sudbury, MA: Jones & Bartlett.
- Kotschevar L and Withrow D. 2008. *Management by Menu* 4th ed. Hoboken, NJ, John Wiley and Sons Inc.
- Lieux EM and Luoto P. 2008. *Exploring Food Service Systems Management Through Problems* 3rd ed. Prentice Hall.



- Payne-Palacio J. and Theis M. 2015. *Foodservice Management: Principles and Practices* 13th ed. Upper Saddle River, NJ: Pearson/Prentice Hall Co.

Others:

- Implementing Rules and Regulations of Chapter III Food Establishments on the Code of Sanitation of the Philippines (PD856) Department of Labor and Employment.
- Occupational Safety and Safety Standards as amended Department of Labor and Employment. Handbook on Worker's Statutory Monetary Benefits. (2006) Bureau of Working Conditions. Intramuros Manila.
- Journals and Magazines on Human Resource Development
- Cookbooks and Food Magazines
- Websites (Instructor's recommendation)

***Course Requirements and Grading system:**

(Subject to modification based on university/ college policy)

Course Requirements:

Quizzes and long tests
Recitation
Seatwork
Assignments
Evaluation sheets
Laboratory performance
Reports
Layout Presentation
Periodic exams

Grading:

Example:

Lecture: 60% of course grade

Class Participation (Exams,
Recitation, Seatwork, Project,
Quizzes, Assignments)

Laboratory: 40% of course grade

Assignments/Quizzes
Evaluation sheets/Laboratory Exercises
Assignments/Projects/Portfolio/Quizzes,
Practical Exam
Peer evaluation
Teacher evaluation

Class policies:

Instructor Information:

Name of Faculty:
Consultation hours/ days:
Consultation office:
Contact No./ e-mail address



Course Title: FUNDAMENTALS OF FOOD TECHNOLOGY

(Lecture/Laboratory)

Course Description:

Principles of physical, chemical and biochemical changes in Foods as they undergo various stages of food processing and storage are discussed in this course. Emphasis is given to food preservation techniques at the home and community levels using indigenous foods in the laboratory for applying the principles and methods of processing.

Number of Units: 3 units (2 hours lecture and 3 hours laboratory per week)

Prerequisites: Basic Foods I & II
General Microbiology/Parasitology

Course Objectives:

Lecture

1. Identify the causes of physical, chemical and bio-chemical changes in foods.
2. Explain the principles and methods of food preservation.
3. Evaluate the effects of food preservation methods on food quality.
4. Describe the trends in food technology.

Laboratory

1. Apply the principles and methods of food preservation.
2. Evaluate the acceptability of the preserved products.

Course Outline:

Topic	No. of Hours
1. Introduction to Food Technology Description of the course, its objectives, scope content and requirements	2
2. Food Spoilage: Causes, types, signs of spoilage	2
3. Food Poisoning: Types, Causes, Symptoms	2
4. General Principles and Methods of Food Preservation Post harvest, post slaughter and pre-processing operations	2
5. Drying of Foods a. Differences Between Sun Drying and Dehydration b. Advantages of Sun Drying and Dehydration c. Selection and Preparation of Foods for Drying d. Problems e. Other methods of drying	2
6. Salting, Curing and Smoking a. Principle/s in salting, Curing and Natural Smoking b. Functions of Each Curing Ingredients c. Methods of Curing d. Selection and Preparation of Foods for Salting, Curing and Smoking e. Problems Encountered in Preparing Cured Products	3
7. Fermentation and Pickling a. Types of Fermentation: Alcoholic, Acetous, Lactic Acid	3



Topic	No. of Hours
<ul style="list-style-type: none"> b. Selection and Preparation for Fermentation and Pickling c. Requirements for Obtaining Successful Fermented and Pickled Products: 	
<ul style="list-style-type: none"> d. Brine Concentration, Grain Strength of Vinegar, etc. e. Problems Encountered in Fermentation and Pickling 	
8. Canning <ul style="list-style-type: none"> a. Principles of Heat Preservation – Pasteurization, Sterilization b. History of Canning c. Canning Equipment d. Containers for Canning e. Steps/Procedures in Canning f. Problems in Canning 	4
9. Refrigeration and Freezing <ul style="list-style-type: none"> a. Requirements of Food Refrigeration b. Methods of Freezing c. Types of Home Freezing Equipment d. Selection and Preparation of Foods for Refrigeration and Freezing e. Changes during Freezing f. Thawing of Frozen Products 	3
10. High Sugar Preservation <ul style="list-style-type: none"> a. Principle b. Types of High Sugar Preservation Products c. Selection and Preparation of Fruits/ Some Vegetables for Jam, Jelly, Marmalade, Preserve, Conserve, Butter, Fruit Paste Candies and Fruit Leather Making d. Problems Encountered in Preparing and Cooking High Sugar Preservation Products 	3
11. Radiation Preservation <ul style="list-style-type: none"> a. Theories in radiation Preservation of Foods b. Sources of Radiation c. Applications of Radiation in Food Preservation d. Advantages and Disadvantages of Radiation e. Packaging of Irradiated Foods 	2
12. Food Additives in food Preservation <ul style="list-style-type: none"> a. Justified and Unjustified Uses of Food Additives b. Classifications of Food Additives – the GRAS List c. Hazards of Food Additives d. Regulations on the Use of Food Additives – RA 3720 	2
13. Food Packaging <ul style="list-style-type: none"> a. Types and Properties of Packaging Materials b. Methods of Food Packaging: MAP, MAC, Vacuum Packaging c. Food Labeling (date marking, bar code, product analysis, symbols in packaging) 	2
14. Trends in Food Processing <ul style="list-style-type: none"> a. Organic foods/farming b. Sustainable foods 	2



Suggested Laboratory Activities:

1. Application of Refrigeration and Freezing
 - A. Comparison of shelf life between refrigerated and frozen foods using the same food items (one week storage period)
 - B. Freezing local vegetables (blanched vs. unbalanced, in brine/without brine)
 - C. Freezing local fruits (sugar packed, syrup packed, without sugar)
 - D. Freezing fruit concentrates (kamias, mango, strawberries, etc.)
2. Application of Canning/Bottling
 - A. If a manual can sealing machine and pressure canner are available in the laboratory: canning of dinuguan, pork-chicken adobo, bangus sardines, bagoong, laing, other vegetable and fruit products
 - B. If can sealing machine is not available in the laboratory: bottling of sardines, bagoong, fruit juices, halo-halo mix, fruit cocktail, fruit concentrates

Note: These products must be evaluated before the end of the semester.
3. Application of Drying/Dehydration
Preparation and Evaluation of saba banana chips, shrimp kropeck, chicharon, mussel (tahong), chips, etc.
4. Application of Salting, Curing and Smoking
Preparation and Evaluation of Hams (Chicken, Pork, Fish) Bacon, Tapa, Tocino, Longanisa, Corned Beef, Salted Eggs (Brine or Clay method), bagoong, tinapa
5. Application of Fermentation and Pickling
Preparation and Evaluation of Nata, Vegetable Pickles (Papaya, Chayote, Cucumber, etc.) Mango chutney, Catsup (Tomato, Banana, Chayote), Vinegar (Nipa sap, coconut water, rice washing, sugar cane, etc.) wines (cashew, bignay, duhat, etc.)
6. Application of Sugar Preservation
Preparation and Evaluation of jellies, jams, marmalades, conserves, paste candies, preserves, candied fruits, candied peels, fruit leather using local fruits in season.

Suggested References:

Local:

- Claudio VS, Leocadio CG, de Leon SY and Joves LS. 2002. *Food Sanitation and Safety for Philippine Consumers*. Metro Manila, RP: Merriam Webster Bookstore, Inc.
- De Leon, Sonia. *Fruits and Vegetables Dehydration Manual*. 1988. Manila: National Bookstore.
- Perdigon GP, Claudio VS and Chavez LL. 2006. *Food, Water and Environmental Sanitation and Safety* Manila, Philippines: Merriam and Webster Bookstore, Inc.
- Sonido DG, Chavez LL, De Leon SY. 2009. *Practical Food Preservation and Processing*. National Book Store.



Foreign:

- Bowers, J (ed.). 1992. *Food Theory and Applications* 2nd ed. New York. Macmillan Publishing, Co.
- Brennan JG (ed.). 2006. *Food Processing Handbook*. Weinheim: Wiley-VCH.
- Clark S, Jung S and Lansal B (eds.) 2014. *Food Processing and Applications* 2nd ed. Wiley/Blackwell Publishing.
- Edelstein S. 2014. *Food Science: An Ecological Approach*. Jones and Bartlett Publishers.
- McWilliams M. 2012. *Foods: Experimental Perspectives* 7th ed. Upper Saddle River, NJ: Pearson Education, Inc publishing as Prentice Hall.
- Rahman MS. 2007. *Handbook of Food Preservation* 2nd ed. CRC Press.

Journals

- Food Technology Journal
- Journal of Food Science
- Food Packaging Journal

Suggested Course Evaluation: (subject to modification based on university/ college policy)

Example:

Lecture: 2/3 of the course grade

Class participation, exams, quizzes, recitation, seatwork, assignment

Laboratory: 1/3 of the course grade

Evaluation/Laboratory activities, assignments, projects, portfolio, quizzes, practical exam

Class Policies

Instructor Information:

Name of Faculty:

Consultation hours/ days:

Consultation office:

Contact No./ e-mail address



Course Title: NUTRITION IN THE LIFE STAGES I (Lecture/Laboratory)

Course Description:

The interrelationship between nutrition, growth, development and maintenance of health at different stages of the life cycle with emphasis on the at-risk groups specifically for maternal and pediatric health.

Prerequisites: Basic Nutrition
Nutritional Assessment of Status

Number of Units: 3 units (2 hours lecture, 3 hours laboratory)

Duration: 18 weeks (36 hours lecture; 54 hours laboratory)

Course objectives:

Lecture:

1. Enumerate the socio-psychological characteristics of various at-risk groups, specifically those of pregnant and lactating mothers, infants and children.
2. Relate the physiologic characteristics of pregnant and lactating mothers, infants and children with their nutritional requirements;
3. Explain the relevance of socio-psychological and physiological characteristics to the existing government programs/policies that address their needs;
4. Integrate in the daily living the importance of an adequate diet throughout the life stages.

Laboratory:

1. Plan and evaluate diets for different at-risk groups;
2. Discuss the nutritional problems of public health importance prevalent among the at-risk groups;
3. Describe existing government programs/policies that address the nutritional problems of the at-risk groups;

Course Outline:

Lecture Topic	No. of Hours
Introduction to the course <ul style="list-style-type: none">• Introduction to the role of nutrition in the life cycle• Introduction on assessment criteria used at the life stages• Principles of growth and development	1
Maternal Nutrition: The Course and Outcome of Pregnancy <ul style="list-style-type: none">• Preconception Care• Physiological changes associated with pregnancy• Placenta physiology• Stages of Fetal Growth• Maternal weight-gain• Nutritional requirements• Diet-related complications of pregnancy• Advances in Maternal Care• Exercise during Pregnancy	4
Lactation and Human Milk <ul style="list-style-type: none">• Breast development	4



Lecture Topic	No. of Hours
<ul style="list-style-type: none"> • Physiology of Lactation • Composition of human milk • Human milk as an evolved food • Diet of the nursing mother • Advantages of breastfeeding • Proper latch-on and breastfeeding positions • Local nutrition programs for lactating women Typical Concerns of the Breastfeeding Mother <ul style="list-style-type: none"> • Nipple conditioning • Management of nipple and breast problems during lactation • Storage of expressed breast milk • Special problems • Common reasons for failure of lactation • Poor maternal attitude • Inadequate milk supply • Lack of information and support 	4
FIRST EXAMINATION	
Nutrition During Infancy <ul style="list-style-type: none"> • Growth and maturation • Nutrient needs of infants • Milk for infants • Semi-solid foods in the infant's diet • Weaning and brain development • Feeding behaviors • Food Choices • Bottle feeding • Nutrition programs for infants 	4
Nutrition for the preschool child <ul style="list-style-type: none"> • Milestones in growth and development • Nutritional requirements • Common feeding problems • Nutritional deficiencies of public health significance • Nutrition programs and policies 	4
Nutrition for the school-age child <ul style="list-style-type: none"> • Physiological changes and catch-up growth • Nutritional requirements and nutritional problems • Common food or dietary problems • Conditions with special needs • Weight training for children • Framework for household and community integrated management of childhood diseases 	4
SECOND EXAMINATION	
Special Diets for Children with Special Needs <ul style="list-style-type: none"> • Autism • Attention Deficit Hyperactive Disorder (ADHD) • Cerebral Palsy 	3



Lecture Topic	No. of Hours
Inherited Metabolic Disorders <ul style="list-style-type: none"> Phenylketonuria (PKU) G6PD Deficiency Maple Syrup Urine Disease 	3
Synthesis	1
THIRD EXAMINATION	

Suggested Laboratory Activities:

- Review and application of the basic tools in Nutrition
- A review of the tools in documenting the nutritional status of different age groups
- Planning, preparing and evaluating diets for pregnant and lactating
- Management of breastfeeding problems
- Planning, preparing and evaluating diets for infants, including preparation of artificial feeding
- Planning, preparing and evaluating diets for preschool and school children including appropriate packed snacks and lunches
- Charting the growth of infants and children
- Case study research

References:

Local

- Jamorabo-Ruiz A and Claudio VS. 2010. *Basic Nutrition for Filipinos* 6th ed. Manila, Philippines: Merriam & Webster Bookstore Inc
- Tanchoco CC and Jamorabo-Ruiz A. (eds.) 2010. *Diet Manual: Recommended for Use in the Philippines* 5th ed. NDAP Publication.

Foreign

- Anderson J, Root M and Garner S. 2015. *Human Nutrition: Healthy Options for Life*. MA: Jones and Bartlett Publishers.
- Brown, JE. 2014. *Nutrition throughout the Life Cycle* 5th ed. MI: Cengage Learning.
- Edelstein, S. 2015. *Life Cycle Nutrition: An Evidence-Based Approach*, 2nd ed. Sudbury, MA: Jones and Bartlett.
- Insel P, Ross D, McMahon K. and Bernstein M. 2014. *Nutrition* 5th ed. Burlington, Sudbury, MA: Jones & Bartlett Learning.
- Langley-Evans S. 2015. *Nutrition, Health and: A Lifespan Approach* 2nd ed. NYC, NY: Wiley-Blackwell.
- Mahan LK and Raymond JL. 2017. *Krause's Food and the Nutrition Care Process* 14th ed. Philadelphia, PA: Elsevier/Saunders.
- Rolfes SR, Pinna K, and Whitney, E. 2015. *Understanding Normal and Clinical Nutrition* 10th ed. Detroit, MI: Cengage Learning.
- Ross AC, Caballero B., Cousins RJ, Tucker KL and Ziegler TR. (editors). 2012. *Modern Nutrition in Health and Disease* 11th ed. Wolters Kluwer/Lippincott, Williams and Wilkins.
- Schlenker E and Gilber J.A. 2015. *William's Essentials of Nutrition and Diet Therapy* 11th ed. Elsevier/Mosby.



- Smolin LA and Grosvenor MB. 2016. *Nutrition: Science and Applications* 4th ed. NYC, NY: Wiley-Blackwell.
- Whitney E. and Rolfes S. 2016. *Understanding Nutrition* 14th ed. Belmont, CA: Wadsworth/ Cengage Learning.
- WHO. 2006. *Infant and Young Child Feeding Counseling: An Integrated Course. Participant's Manual.*

Course Requirements and Grading system*:

(subject to modification based on university/ college policy)

Example:

Lecture: 2/3 of course grade

Class Participation (Recitation,
Seatwork, Project, Quizzes,)
3 Long examinations
Assignments

Laboratory: 1/3 of course grade

Assignments/Quizzes
Evaluation sheets/Laboratory Exercises
Laboratory performance
Peer evaluation

Class policies:

Instructor Information:

Name of Faculty:
Consultation hours/ days:
Consultation office:
Contact No./ e-mail address



Course Title: NUTRITION IN THE LIFE STAGES II (Lecture/Laboratory)

Course Description:

The interrelationship between nutrition, growth, development and maintenance of health at different stages of the life cycle with emphasis on the at-risk groups specifically for adolescent and geriatric health.

Prerequisites: Nutrition in the Life Stages I

Number of Units: 3 units (2 hours lecture, 3 hours laboratory)

Duration: 18 weeks (36 hours lecture; 54 hours laboratory)

Course objectives:

Lecture

1. Enumerate the socio-psychological characteristics of various at-risk groups, specifically those of adolescents, adults and older persons.
2. Relate the physiologic characteristics of adolescents, adults and older persons. with their nutritional requirements;
3. Explain the relevance of socio-psychological and physiological characteristics to the existing government programs/policies that address their needs;
4. Integrate into daily living the importance of an adequate diet throughout the life stages.

Laboratory

1. Plan and evaluate diets for different at-risk groups specifically for adolescents, adults and older persons
2. Discuss the nutritional problems of public health importance prevalent among the at-risk groups;
3. Describe existing government programs/policies that address the nutritional problems of the at-risk groups;

Course Outline:

Lecture Topic	No. of Hours
Introduction to the course Review on assessment criteria used for adolescents, adults and older persons	1
Nutrition for the Adolescent <ul style="list-style-type: none">• Growth and development• Nutritional requirements• Eating behaviors• Nutrition Counseling• Eating disorders (Anorexia nervosa and Bulimia)• Causes of Teenage Obesity• Adolescent pregnancy• Government Nutrition Programs for adolescents	6
FIRST EXAMINATION	
Adult Nutrition	6



Lecture Topic	No. of Hours
<ul style="list-style-type: none"> Physiological changes relevant to digestion, absorption and utilization of nutrients Common Chronic Degenerative Diseases (CDD) that develop during this stage (e.g. Hypertension and DM Type II) Effects of physical and psychological stress on normal metabolism and nutrition Functional foods to manage common CDD 	
Aging <ul style="list-style-type: none"> Theories of Aging Effect of Aging on Nutritional Status Gene-Nutrient Interaction Aging and the mitochondria Effect of Malnutrition on the process of aging Special foods for maintenance of health during aging 	6
SECOND EXAMINATION	
Nutrition for Older Adults (Geriatric Nutrition) <ul style="list-style-type: none"> Nutritional requirements Feeding or dietary problems Effects of Neurodegenerative diseases on nutritional status (e.g. Alzheimer's, Dementia) Food selection patterns Government Nutrition Programs for Older Adults 	6
Nutrition for the physically active individuals <ul style="list-style-type: none"> Components of physical fitness Nutrition and physical fitness Special Weight Management programs for athletes Foods and Beverages Developed for Athletes (e.g. high protein shakes and preparations) 	4
Synthesis	2
THIRD EXAMINATION	

Suggested Laboratory Activities:

- A review of the tools in documenting the nutritional status of adolescents, adults and elderly
- Planning, preparing and evaluating diets for adolescents
- Planning diets for normal adults that incorporates functional foods and/or supplements
- Planning, preparing and evaluating diets for the normal elderly
- Planning, preparing and evaluating diets for elderly with neurodegenerative conditions
- Case study research

References:

Local

- Jamorabo-Ruiz A and Claudio VS. 2010. *Basic Nutrition for Filipinos* 6th ed. Manila, Philippines: Merriam & Webster Bookstore Inc



- Tanchoco CC and Jamorabo-Ruiz A. (eds.) 2010. *Diet Manual: Recommended for Use in the Philippines* 5th ed. NDAP Publication.

Foreign

- Anderson J, Root M and Garner S. 2015. *Human Nutrition: Healthy Options for Life*. MA: Jones and Bartlett Publishers.
- Bernstein, Melissa and Munoz Nancy. 2016. *Nutrition for the Older Adult* 2nd ed. Sudbury, MA: Jones & Bartlett.
- Brown, JE. 2014. *Nutrition throughout the Life Cycle* 5th ed. Cengage Learning.
- Chernoff, Ronni. 2014. *Geriatric Nutrition: The Health Professional's Handbook* 4th ed. MA: Jones and Bartlett Publishers.
- Edelstein, S. 2015. *Life Cycle Nutrition: An Evidence-Based Approach*, 2nd ed. Sudbury, MA: Jones and Bartlett.
- Insel P, Ross D, McMahon K. and Bernstein M. 2014. *Nutrition* 5th ed. Burlington, Sudbury, MA: Jones & Bartlett Learning.
- Langley-Evans S. 2015. *Nutrition, Health and: A Lifespan Approach* 2nd ed. NYC, NY: Wiley-Blackwell.
- Mahan LK and Raymond JL. 2017. *Krause's Food and the Nutrition Care Process* 14th ed. Philadelphia, PA: Elsevier/Saunders.
- Rolfes SR, Pinna K, and Whitney, E. 2015. *Understanding Normal and Clinical Nutrition* 10th ed. Detroit, MI: Cengage Learning.
- Ross AC, Caballero B., Cousins RJ, Tucker KL and Ziegler TR. (editors). 2012. *Modern Nutrition in Health and Disease* 11th ed. Wolters Kluwer/Lippincott, Williams and Wilkins.
- Schlenker E and Gilber J.A. 2015. *William's Essentials of Nutrition and Diet Therapy* 11th ed. Elsevier/Mosby.
- Smolin LA and Grosvenor MB. 2016. *Nutrition: Science and Applications* 4th ed. NYC, NY: Wiley-Blackwell.
- Whitney E. and Rolfes S. 2016. *Understanding Nutrition* 14th ed. Belmont, CA: Wadsworth/ Cengage Learning.

Course Requirements and Grading system*:

(subject to modification based on university/ college policy)

Example:

Lecture: 2/3 of course grade

Laboratory: 1/3 of course grade

Class Participation (Recitation, Seatwork, Project, Quizzes,)

Assignments/Quizzes

3 long examinations

Evaluation sheets/Laboratory Exercises

Assignments

Laboratory performance

Peer evaluation

Class policies:

Instructor Information:

Name of Faculty:

Consultation hours/ days:

Consultation office:

Contact No./ e-mail address



Course Title: NUTRITION CARE PROCESS

Course Description:

Nutrition Care Process will provides opportunities for students to be introduced to the role of nutrition counseling in patient care.

Number of Units: 3 units (3 hours lecture per week)

Prerequisites: Nutritional Assessment

Course Objectives:

1. Relate the developments in health care that support use of a care process by dietitians.
2. Describe each of the components of the Nutrition Care Process and Model.
3. Discuss the benefits associated with using a standardized terminology in dietetics practice.
4. Determine level of autonomy for implementing nutrition interventions depending on practice setting and experience.
5. Develop an understanding of critical thinking skills.
6. Describe the mechanics of proper diet counseling
7. Discuss the role of the nutritionist-dietitian in patient care
8. Discuss the principles and theories of behavior change as applied in diet counseling; and
9. Relate diagnostic procedures, medication and other forms of treatment to nutrition care

Course Outline:

Topic	No. of Hours
I. Introduction to the Course A. Healthcare Terminology	1
II. Medical Nutrition Therapy and Evidence-based Nutrition Care A. Developments in health care that support use of a care process by dietitians B. International Dietetics and Nutrition Terminology (IDNT)	2
III. Nutritional Care Process A. Standards of practice B. The nutrition care process: ADA model C. Documenting the NCP	2
IV. The Steps in the Nutritional Care Process (NCP) A. Nutrition Assessment 1. The components of nutrition assessment as described in the NCP 2. Critically evaluating patient information to complete a nutrition assessment	2
B. Nutrition Diagnosis 1. Differences between the medical diagnosis and the nutrition diagnosis 2. The components of nutrition diagnosis as described in the NCP (PES) 3. Nutrition diagnoses currently used (with sample codes) 4. Given a case scenario, correctly diagnosing nutrition problems	6



Topic	No. of Hours
5. Writing clear, concise P-E-S statements for case scenarios	
C. Nutrition Intervention <ol style="list-style-type: none"> 1. The steps of nutrition intervention (Planning and Implementation) 2. Identifying goals and objectives (patient-centered) 3. Communicating plans to patient for understanding and compliance 4. Given a case scenario, selecting interventions appropriate for a given nutrition diagnosis 5. Discussing rationale for selecting a nutrition intervention 6. Listing and describing at least 2-3 goals for a given nutrition intervention 	9
D. Nutrition Monitoring and Evaluation <ol style="list-style-type: none"> 1. The components of nutrition monitoring and evaluation as described in the NCP 2. Indicators and evaluation of process and outcomes 3. Identifying standards for comparison when selecting monitoring and evaluation parameters 	6
IV. Documentation of Nutritional Care Process <ol style="list-style-type: none"> 1. Components of Medical Record 2. Standard Language and Medical Abbreviations 3. Problem-Oriented Medical Records 4. Organization and Nutrition Documentation: SOAP, PES, ADIME, IER Notes, PIE Notes, Charting by Exception 5. Guidelines in Charting 6. Gather information from a patient history using a case study 	9
V. Nutrition Counseling and Documentation Review <ol style="list-style-type: none"> 1. Nutrition Counseling Principles <ol style="list-style-type: none"> 1.1. Effective counselor-client relationship 1.2. Interviewing skills: non-verbal skills 1.3. Listening skills 1.4. Action responses 2. Counseling Process 3. Tools for Nutrition Counseling 4. Nutrition informatics 5. Locating nutrition-related information using a search engine 6. Critically evaluating appropriateness of web page content 7. Continuous quality improvement 	10
VI. Developing Critical Thinking Skills and Professional Performance: components of critical thinking (specific knowledge base, experience, competencies, attitudes, and standards); levels of clinical reasoning	2

References:

Local

- Jamorabo-Ruiz A, Serrano-Claudio V, and Exevea-de Castro E. 2011. *Medical Nutrition Therapy for Filipinos* 6th ed. Manila, Philippines: Merriam & Webster Bookstore Inc.
- Jamorabo-Ruiz A, Laguna RT and Claudio VS. 2012. *Nutrition and Diet Therapy Reference Dictionary Revised and Enlarged Philippine Edition*. Merriam & Webster Bookstore, Inc.



Foreign

- American Dietetic Association. 2009. *International Dietetics and Nutrition Terminology Reference Manual*. Chicago, IL; ADA Publications.
- Bauer KD, Liou D and Sokolik CA. 2016. *Nutrition Counseling and Education Skill Development* 3rd ed. MI: Cengage Learning.
- Escott-Stump S. 2015. *Nutrition and Diagnosis-Related Care*. 8th ed. Philadelphia, PA: Kluwer/Lippincott, Williams and Wilkins.
- Hark L, Deen D. and Morrison G (Editors) 2014. *Medical Nutrition and Disease: A Case-Based Approach*, 5th ed. NYC, NY: Wiley/Blackwell.
- Holli, Betsy and Beto Judith A. 2013. *Nutrition Counseling and Education Skills for Dietetics* 6th ed. Philadelphia, PA: Kluwer/Lippincott, Williams and Wilkins
- Mahan LK. and Raymond JL. 2017. *Krause's Food and the Nutrition Care Process* 14th ed. Philadelphia, PA: Elsevier/Saunders.
- Morris, J. 2011. *Dietitian's Guide to Assessment and Documentation*. Sudbury, MA: Jones & Bartlett.
- Stewart R., Vivante A. and Myers E. 2013. *Nutrition Care Process and Terminology: A Practical Approach*. Nutrition Care Professionals Australia.

***Course Requirements and Grading system:**

(subject to modification based on university/college policy)

Course Requirements:

Short and Unit tests
Periodic examinations
Recitation
Seatwork and Assignments
Case presentations

Grading

Recitation	20%
2 major exams	40%
Quizzes	20%
Seatwork	10%
Assignments	<u>10%</u>
	100%

Class policies: To be formulated by the faculty-in-charge

Instructor Information:

Name of Faculty:
Consultation hours/ days:
Consultation office:
Contact No./ e-mail address



Course Title: NUTRITION THERAPY I (Lecture/Laboratory)

Course Description:

Medical Nutrition Therapy I provides opportunities for students to explore the pathophysiology and the use of nutrition care process to identify nutrition-related problems and determine appropriate medical nutrition therapy for communicable diseases, febrile conditions, metabolic stress, diseases of GIT and accessory organs, metabolic disorders and weight problems. Emphasis is on the application of nutrition science principles to the treatment and prevention of these health conditions and in gaining skills in dietary modifications to correct nutritional insufficiencies, promote optimal health, and manage medical problems.

Number of Units: 3 units (2 hours lecture and 3 hours laboratory per week)

Prerequisites: Meal Management
Nutritional Assessment

Course Objectives:

Lecture

10. Explain the pathophysiology and effects of the disease on patient's nutritional status and the required dietary management;
11. Apply the principles involved in the dietary management of a patient's disease through
 - a. Correlating signs and symptoms of the disease with the dietary modification and the principles or rationale involved;
 - b. Recommendation of evidenced-based nutrition therapy for the disease conditions. Identify the energy and nutrient requirements of the individual based on the disease condition
 - c. Discussion of the possible consequences of inappropriate diet.
12. Prepare and present a critical appraisal of published literature on specific topic covered in this course;
13. Describe the mechanics of proper diet counseling
14. Discuss the role of the nutritionist-dietitian in patient care

Laboratory

1. Formulate a nutritional care plan to address the needs of individuals with medical conditions;
2. Present simulated nutrition counseling in a Nutrition Clinic setting.
3. Modify diets and prepare meals of patient considering family traditions and individual preferences;
4. Present case problems and case studies to develop clinical practice skills; and
5. Discuss the principles and theories of behavior change as applied in diet counseling; and
6. Relate diagnostic procedures, medication and other forms of treatment to nutrition care.



[illegible]

Topic	No. of Hours
<ul style="list-style-type: none"> 4.1.3. Periodontal Disease 4.2. Esophagus <ul style="list-style-type: none"> 4.2.1. Achalasia 4.2.2. Esophagitis and GERD, and Hiatal Hernia 4.3. Stomach <ul style="list-style-type: none"> 4.3.1. Dyspepsia 4.3.2. Gastrectomy 4.3.3. Gastritis 4.3.4. Peptic Ulcer Disease 4.4. Small and Large Intestines <ul style="list-style-type: none"> 4.4.1. Celiac Disease 4.4.2. Constipation 4.4.3. Diarrhea 4.4.4. Diverticular Disease 4.4.5. Fat Malabsorption Syndrome 4.4.6. Inflammatory Bowel Disease 4.4.7. Irritable Bowel Syndrome 4.4.8. Lactose Maldigestion 4.4.9. Short Bowel Syndrome 4.5. Rectal: Hemorrhoids 4.6. Liver <ul style="list-style-type: none"> 4.6.1. Alcohol Liver Disease 4.6.2. Hepatitis 4.6.3. Hepatic Cirrhosis 4.6.4. Hepatic Failure, Encephalopathy, and Coma 4.6.5. Liver Transplant 4.7. Gallbladder <ul style="list-style-type: none"> 4.7.1. Biliary Cirrhosis 4.7.2. Cholelithiasis 4.7.3. Cholecystitis 4.8. Pancreas <ul style="list-style-type: none"> 4.8.1. Acute and Chronic Pancreatitis 4.8.2. Pancreatic Insufficiency 4.8.3. Zollinger-Ellison Syndrome 	
<p>D. Nutrition Therapy in Metabolic Disorders</p> <ul style="list-style-type: none"> 1. Review of energy balance and its control 2. Overweight and Obesity <ul style="list-style-type: none"> Definitions, etiology, classification Methods of assessment Health implications Management: dietary; nondietary 3. Underweight <ul style="list-style-type: none"> Etiology and health hazards Dietary management 4. Primary Nutritional Disease <ul style="list-style-type: none"> Starvation Common nutritional deficiency diseases 5. Review of physiology of the Endocrine System 6. Diabetes Mellitus <ul style="list-style-type: none"> 1. Classification 2. Pathophysiology 3. Management <ul style="list-style-type: none"> Dietary Management 	9



Topic	No. of Hours
Insulin and Drug Therapy Exercise Alternative Therapies 4. Complications and their dietary management 7. Pathophysiology and Management of Other Metabolic Disorders 1. Hypoglycemias 2. Addison's Disease 3. Cushing's Syndrome 4. Hypothyroidism and hyperthyroidism 8. Inborn Errors of Metabolism 1. Etiology and symptoms 2. Dietary management	
IV. Synthesis	2

Suggested Laboratory Exercises:

1. Dietary Calculations of Normal and Therapeutic diets
2. Diets Modified in Consistency and Texture
 - 2.1. Progression diets
 - 2.2. Dysphagia diets
3. Oral supplementation and Tube feeding Diets
4. Diets Modified in Caloric Content
5. Diets Modified in Protein and its Constituents
6. Diets Modified in the Quality and Quantity of Fats
7. Diets Modified in the Quality and Quantity of Carbohydrates
8. Food Label Reading and Interpretation of PDRI/Percent Daily Values
9. Simulated Exercises on Diet Counseling

References:

Local

- Jamorabo-Ruiz A, Serraon-Claudio V, and Exevea-de Castro E. 2011. *Medical Nutrition Therapy for Filipinos* 6th ed. Manila, Philippines: Merriam & Webster Bookstore Inc.
- Jamorabo-Ruiz A., Laguna RT and Claudio VS. 2012. *Nutrition and Diet Therapy Reference Dictionary Revised and Enlarged Philippine Edition*. Merriam & Webster Bookstore, Inc.
- Tanchoco CC and Jamorabo-Ruiz A. (eds.) 2010. *Diet Manual: Recommended for Use in the Philippines* 5th ed. NDAP Publication.

Foreign

- Alpers DH, Taylor BE, Bier DM and Klein S. 2015. *Manual of Nutritional Therapeutics* 6th ed. Philadelphia, PA: Kluwer/Lippincott, Williams and Wilkins.
- DeBruyne LK, Pinna K and Whitney EN. 2016. *Nutrition and Diet Therapy* 9th ed. MI: Cengage Learning.
- Gandy, Joan (ed.). 2013. *Manual of Dietetic Practice* 5th ed. British Dietetic Association. Wiley-Blackwell.
- Hark L, Deen D. and Morrison G (Editors) 2014. *Medical Nutrition and Disease: A Case-Based Approach*, 5th ed. NYC, NY: Wiley/Blackwell.



- Mahan LK and Raymond JL. 2017. *Krause's Food and the Nutrition Care Process* 14th ed. Philadelphia, PA: Elsevier/Saunders.
- Maher A (Editor). 2011. *Simplified Diet Manual* 11th ed. Iowa Dietetic Association. Wiley/Blackwell
- Nelms MN, Sucher KP, and Lacey K. 2016. *Nutrition Therapy and Pathophysiology* 3rd ed. Boston, MA: Cengage Learning.
- Nelms MN. 2017. *Medical Nutrition Therapy: A Case-Study Approach* 5th ed. MA: Cengage Learning.
- Ross AC, Caballero B., Cousins RJ, Tucker KL and Ziegler TR. (editors). 2012. *Modern Nutrition in Health and Disease* 11th ed. Wolters Kluwer/Lippincott, Williams and Wilkins.
- Rolfes SR, Pinna K, and Whitney, E. 2015. *Understanding Normal and Clinical Nutrition* 10th ed. Detroit, MI: Cengage Learning.
- Schlenker E and Gilber JA. 2015. *William's Essentials of Nutrition and Diet Therapy* 11th ed. Elsevier/Mosby.

***Course Requirements and Grading system:**

(subject to modification based on university/college policy)

Example:

Lecture: 2/3 of course grade

Class Participation (Recitation,
Seatwork, Project, Quizzes)
3 exams
Assignments

Laboratory: 1/3 of course grade

Assignments/Quizzes
Evaluation sheets/Laboratory Exercises
Laboratory performance
Peer evaluation
Teacher evaluation

Class policies:

Instructor Information:

Name of Faculty:
Consultation hours/ days:
Consultation office:
Contact No./ e-mail address



Course Title: NUTRITION THERAPY II (Lecture/Laboratory)

Course Description:

This course is a continuation of Nutrition Therapy I. The students should gain further knowledge and skills in pathophysiology of other disease conditions and use of nutrition care process to identify nutrition-related problems and determine appropriate medical nutrition therapy for diseases of the blood, cancer and HIV, cardiovascular system, renal disorders, food allergies, skin disorders diseases of the musculoskeletal and nervous systems, and multiple morbidities. It deals with the application of nutrition science principles to the treatment and prevention of these health conditions with emphasis on dietary modifications to correct nutritional insufficiencies, promote optimal health, and prevent, manage, or correct medical problems.

Number of Units: 3 units (2 hours lecture and 3 hours laboratory per week)

Prerequisite: Nutrition Therapy I

Course Objectives:

Lecture

1. Explain the pathophysiology and effects of the disease on patient's nutritional status;
2. Apply the principles involved in the dietary management of a patient's disease through
 - a. Correlating signs and symptoms of the disease with the dietary modification and the principles or rationale involved;
 - b. Recommendation of evidenced-based nutrition therapy for the disease conditions; and
 - c. Discussion of the possible consequences of inappropriate diet.
3. Prepare and present a critical appraisal of published literature on specific topic covered in this course;
4. Describe the mechanics of proper diet counseling; and
5. Discuss the role of the nutritionist-dietitian in patient care.

Laboratory

1. Formulate a nutritional care plan to address the needs of individuals with medical conditions;
2. Relate diagnostic procedures, medication and other forms of treatment to nutrition care;
3. Modify diets and prepare meals of patient considering family traditions and individual preferences;
4. Present comprehensive case problems and case studies to enhance clinical practice skills; and
5. Relate diagnostic procedures, medication and other forms of treatment to nutrition care;
6. Present simulated nutrition counseling in a Nutrition Clinic setting.
7. Appreciate the contribution of nutrition to the overall care of the individuals with medical problems realizing that provision of quality and cost-effective nutritional care is a key role of a nutritionist-dietitian.



Course Outline:

Topic	No. of Hours
I. Introduction	2
A. Review of Medical Nutrition Therapy Principles	
B. Review of the Nutrition Care Process	
II. Common Diagnostic Tests Requiring Dietary Preparations (discussed in-depth in the laboratory)	1
III. Nutrition Therapy in Specific Conditions	
A. Nutrition Therapy in Diseases of the Hematological System	2
1. Nutrients required in blood formation	
2. Disorders of the Blood, Dietary Management, Prevention Strategies	
2.1. Nutritional anemias	
2.2. Non-nutritional anemias: aplastic anemia; hemolytic anemia, parasitic anemia, sickle-cell anemia, thalassemia, bleeding disorders, iron overload, polycythemia vera, thrombocytopenia	
B. Nutrition Therapy in Cancers and HIV	2
1. Pathogenesis and Management of Cancer	
1.1. Carcinogenesis and metabolic changes in cancer	
1.2. Medical treatment modalities and dietary implications	
1.3. Medical Nutrition Therapy	
1.4. Cancer Prevention	
2. Pathophysiology and Nutrition Therapy of AIDS and HIV Infection	
C. Nutrition Therapy in Cardiovascular Disorders	6
1. Review of the Heart Function and Structure and the Blood Circulation	
2. Pathophysiology, Nutrition Therapy, and Prevention Strategies of Disorders of the Cardiovascular System	
2.1 Hypertension	
2.2 Hyperlipidemias and Atherosclerosis	
2.3 Coronary heart disease	
2.4 Angina pectoris, TIAs	
2.5 Myocardial infarction	
2.6 Congestive heart failure	
2.7 Cardiac surgery	
2.8 Other vascular disorders: phlebitis, varicosities	
D. Nutrition Therapy in Diseases of the Kidney and Urinary Tract	6
1. Review of anatomy and physiology of the urinary system	
2. Pathophysiology, nutrition therapy and prevention of disorders of the kidneys and urinary tract	
2.1. Urinary tract infection	
2.2. Renal calculi	
2.3. Acute and chronic glomerulonephritis	
2.4. Nephrotic Syndrome	
2.5. Acute Kidney Injury	
2.6. Chronic Renal Disease	
2.7. Renal Replacement Therapies: dialysis treatment and transplantation	
E. Nutrition in Food Allergy and Skin Disorders	2
1. Food sensitivity	
1.1. Common food allergens	



Topic	No. of Hours
1.2. Diagnosis 2. Common Food intolerances 2.1. Etiology 2.2. Dietary management 3. Skin diseases 3.1. Pathophysiology of skin disorders: acne, psoriasis, pressure ulcers, and Nutrient-related skin diseases 3.2. Medical Nutrition Therapy	
F. Pathophysiology and Nutrition Therapy in Diseases of the Musculoskeletal System 1. Arthritis: (Osteoarthritis, Rheumatoid arthritis, Juvenile arthritis) 1.1. Classification and Pathophysiology 1.2. Medical Nutrition Therapy 1.3. Prevention and Alternative Therapies 2. Gout 2.1. Pathophysiology 2.2. Medical Nutrition Therapy 2.3. Prevention Strategies 3. Osteopenia and Osteoporosis 3.1. Classification and Risk Factors 3.2. Pathophysiology 3.3. Medical Nutrition Therapy 3.4. Prevention Strategies	2
G. Nutrition Therapy in Disorders of the Nervous System 1. Review of the anatomy and physiology of the nervous system 2. Pathophysiology, dietary management, and prevention of disorders of the nervous system 2.1. Malnutrition-Induced Neurologic Disorders: neuropathies, Wernicke-Korsakoff syndrome 2.2. Developmental disabilities: cerebral palsy, down syndrome, fetal alcohol syndrome 2.3. Neuromuscular Disorders: CVA, epilepsy, Alzheimer's disease, Parkinson's disease, multiple sclerosis, Meniere's syndrome, ALS or Lou Gehrig's disease, myasthenia gravis 2.4. Psychiatric disorders: schizophrenia, mood disorders, mental illness 2.5. Eating disorders: anorexia nervosa, bulimia nervosa, binge eating disorders 2.6. Migraine headaches 2.7. Alcoholism and Substance Abuse	3
H. Multiple Morbidities	2
I. Special Topics in Medical Nutrition Therapy 1. Fad Diets 2. Complementary or Integrative Nutrition	2

Suggested Laboratory Exercises:

1. Vegetarian Diets
2. Dysphagia diets
3. Diet Modification in Cholesterol and Fatty Acids
4. Diets for Renal Disorders
5. Renal Transplant Diets
6. Simulated Charting
7. Simulated Diet Counseling



References:

Local

- Jamorabo-Ruiz A, Serrano-Claudio V, and Exevea-de Castro E. 2011. *Medical Nutrition Therapy for Filipinos* 6th ed. Manila, Philippines: Merriam & Webster Bookstore Inc.
- Jamorabo-Ruiz A., Laguna RT and Claudio VS. 2012. *Nutrition and Diet Therapy Reference Dictionary Revised and Enlarged Philippine Edition*. Merriam & Webster Bookstore, Inc.
- Tanchoco CC and Jamorabo-Ruiz A. (eds.) 2010. *Diet Manual: Recommended for Use in the Philippines* 5th ed. NDAP Publication.

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- Alpers DH, Taylor BE, Bier DM and Klein S. 2015. *Manual of Nutritional Therapeutics* 6th ed. Philadelphia, PA: Kluwer/Lippincott, Williams and Wilkins.
- DeBruyne LK, Pinna K and Whitney EN. 2016. *Nutrition and Diet Therapy* 9th ed. MI: Cengage Learning.
- Gandy, Joan (ed.). 2013. *Manual of Dietetic Practice* 5th ed. British Dietetic Association. Wiley-Blackwell.
- Hark L, Deen D. and Morrison G (Editors) 2014. *Medical Nutrition and Disease: A Case-Based Approach*, 5th ed. NYC, NY: Wiley/Blackwell.
- Mahan LK and Raymond JL. 2017. *Krause's Food and the Nutrition Care Process* 14th ed. Philadelphia, PA: Elsevier/Saunders.
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- Nelms MN, Sucher KP, and Lacey K. 2016. *Nutrition Therapy and Pathophysiology* 3rd ed. Boston, MA: Cengage Learning.
- Nelms MN. 2017. *Medical Nutrition Therapy: A Case-Study Approach* 5th ed. MA: Cengage Learning.
- Ross AC, Caballero B., Cousins RJ, Tucker KL and Ziegler TR. (editors). 2012. *Modern Nutrition in Health and Disease* 11th ed. Wolters Kluwer/Lippincott, Williams and Wilkins.
- Rolfes SR, Pinna K, and Whitney, E. 2015. *Understanding Normal and Clinical Nutrition* 10th ed. Detroit, MI: Cengage Learning.
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Seatwork, Project, Quizzes)
3 exams
Assignments

Laboratory: 1/3 of course grade

Assignments/Quizzes
Evaluation sheets/Laboratory Exercises
Laboratory performance
Peer evaluation
Teacher evaluation

Class policies:

Instructor Information:

Name of Faculty:
Consultation hours/ days:
Consultation office:
Contact No./ e-mail address



Course Title: FOOD AND NUTRITION RESEARCH I

Course Description:

A study of the different nutrition and research principles and methodologies. It emphasizes on the meaning and importance of research in the field of nutrition and dietetics. This includes practical training in preparation of a research proposal-research problem, review of related literature and methodology. Students are expected to undertake a research proposal in the field of food and nutrition.

Number of units: 3 (2 hours lecture & 3 hours laboratory per week)

Prerequisites: Biostatistics
Nutritional Assessment

Course objectives:

1. Explain the meaning of research, its characteristics, and its scientific foundations;
2. Discuss the ethical issues involved in human research;
3. Identify parts of a research proposal;
4. Explain the basic steps in the research process;
5. Identify research designs, data collection methods and used in selected research articles;
6. Recognize a good problem on food and nutrition which is ideal for research;
7. Describe the different research methods applicable to nutrition;
8. Explain the data collection methods and tools used in each research method and the appropriate data analysis to be done;
9. Select the appropriate method of research applicable to the chosen problem on food and nutrition;
10. Identify various ways of presenting research results;
11. Formulate a research proposal in nutrition following the standard and rigor of scientific research; and
12. Defend the research proposal to a faculty panel.

Course Outline:

Topic	No. of Hours
Overview of the course Course requirements Students' expectations	2
Introduction to research <ol style="list-style-type: none">a. Definition of researchb. Characteristics of researchc. History of Nutrition Researchd. Definition of Research Terminologiese. Basic Concepts in Researchf. Purpose of researchg. Importance/uses of nutrition researchh. Skills and attitude essential in research	3
Research ethics <ol style="list-style-type: none">a. Ethical issues related to human subjectsb. Ethical issues related to research approachesc. Intellectual property rights	3



Topic	No. of Hours
THE RESEARCH PROBLEM <ol style="list-style-type: none"> Criteria for selection Sources Conceptual framework Statement of the problem Assumptions Formulation of hypothesis <ol style="list-style-type: none"> Definition and function Testing the hypothesis Significance of the study Limitations of the study Definition of terms 	9
REVIEW OF RELATED LITERATURE <ol style="list-style-type: none"> Purpose of RRL Mechanics <ol style="list-style-type: none"> Note-taking Proper documentation of sources Format of RRL Conceptual and Theoretical framework 	6
METHODS OF RESEARCH <ol style="list-style-type: none"> Qualitative Research <ol style="list-style-type: none"> Definition Aims/purpose Key Characteristics Main Types Methods of Data Collection Strengths and Limitations Application to Nutrition Quantitative Research <ol style="list-style-type: none"> Definition Aims/purpose Key Characteristics Main Types Methods of Data Collection Strengths and Limitations Application to Nutrition 	9
METHODOLOGY <ol style="list-style-type: none"> Research design: principles and purpose Sampling <ol style="list-style-type: none"> Kinds of sampling Size and limitation Data collection <ol style="list-style-type: none"> Questionnaire <ol style="list-style-type: none"> Uses and application Types and construction Pre-testing Interviews <ol style="list-style-type: none"> Nature and values Types of interview Preparation for the interview 	9



Topic	No. of Hours
DATA COLLECTION AND INTERPRETATION OF DATA: STATISTICS a. Importance of data interpretation b. Sorting and tabulating data c. Use of statistical methods	6
THE THESIS PAPER a. Definition of Thesis Paper b. Nature, types of thesis paper c. Characteristics of a good thesis paper d. Parts of a thesis paper	3
PROPOSAL DEFENSE	4

Suggested Student Activities

(Number of sessions per activity will depend on the student's progress)

1. Familiarization with the parts of a research proposal
2. Article reading and critiquing
3. Exercises in identifying research design, research objectives of selected published research articles
4. Exercises in identifying the data collection methods and tools used and the data analysis done in selected published articles
5. Exercises in selecting a research problem, formulating hypothesis and stating research objectives
6. Preparing a research proposal
7. Oral presentation of the research proposal

References:

Local

- De Leon SY, Claudio VS and Jamorabo-Ruiz A. 2012. *Term Paper and Scientific Writing with Guidelines on Research Writing and Theses* 4th ed. Merriam & Webster Book Store Inc.
- Ramos, F.O. and Jamorabo-Ruiz, A. 2009. *Statistics for Allied Health Sciences*. Manila: Merriam & Webster Bookstore Inc.

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- Bailey L, Vardulaki K, Langham J, Chandramohan D. *Introduction to Epidemiology*. New York: Open University Press; 2005.
- Bordens KS, Abbott BB. 2011. *Research design and methods: a process approach*. 8th ed. Singapore: McGraw Hill.
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- Lovegrove JA, Hodson L, Sharma S, and Lanham-New SA. (Editors). 2014. *Nutrition Research Methodologies*. Wiley-Blackwell.
- Neutens JJ, Robinson L. 1997. *Research Techniques for the Health Sciences*. Boston: Allyn & Bacon
- WHO. 2001. *Health Research Methodology. A Guide for Training in Research Methods*. Manila: Regional Office for the Western Pacific

*Additional references will be used and/or provided as needed.



Course Requirements and Grading system*:
(subject to university/college policy)

Class policies: To be formulated by the faculty-in-charge

Instructor Information:

Name of Faculty:
Consultation hours/ days:
Consultation office:
Contact No./ e-mail address



Course Title: FOOD AND NUTRITION RESEARCH II

Course Description:

This is a continuation of FNR 1 and includes the practical training in conducting research study- data gathering, data evaluation, data analysis and interpretation, and reporting of research results. Students are expected to complete a research study in the field of food and nutrition.

Number of units: 3 (2 hours lecture & 3 hours laboratory per week)

Prerequisites: Food and Nutrition Research I

Course objectives:

Lecture

1. Apply the theoretical knowledge in food and nutrition research by conducting a research study.
2. Discuss possible problems that may be encountered in conducting a research study and develop solutions to these problems.

Laboratory

1. Undertake a research study in nutrition following the standard and rigor of scientific research.
2. Defend the completed research study to a faculty panel.
3. Disseminate the completed nutrition research via oral and mural forms.
4. Write a nutrition research paper following the standard and rigor of scientific research.

Course Outline:

Topic	No. of Hours
Overview of the course Course requirements Students' expectations	2
Review Importance of research, definition of terms and skills The Research Problem Review of related Literature Research Methodology Data Collection, Processing and Encoding Data Analysis and Interpretation Thesis Writing	6
Conducting the Research Study (*Based on FNR 1 approved research proposal) Screening and enrolment of participants - Sampling techniques - Inclusion and exclusion criteria - Informed consent Implementation of the research study - Internal and external validity Data Collection, Processing, Encoding - Validity of measurement instruments	48



Topic	No. of Hours
Data analysis and Interpretation - Statistical analysis Results, Conclusion, Summary and Recommendations Bibliography	
Presenting research results (oral defense and poster presentation)	12
Final thesis writing	12

Suggested Laboratory Activities

(Number of sessions per activity will depend on the student's progress)

1. Conducting a research study.
2. Oral presentation of the research proposal.
3. Poster presentation of the research proposal.
4. Writing a completed research study.

References:

Local

- De Leon SY, Claudio VS and Jamorabo-Ruiz A. 2012. *Term Paper and Scientific Writing with Guidelines on Research Writing and Theses* 4th ed. Merriam & Webster Book Store Inc.
- Ramos, F.O. and Jamorabo-Ruiz, A. 2009. *Statistics for Allied Health Sciences*. Manila: Merriam & Webster Bookstore Inc.

Foreign

- Bailey L, Vardulaki K, Langham J, Chandramohan D. *Introduction to Epidemiology*. New York: Open University Press; 2005.
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- Neutens JJ, Robinson L. 1997. *Research Techniques for the Health Sciences*. Boston: Allyn & Bacon
- WHO. 2001. *Health Research Methodology*. A Guide for Training in Research Methods. Manila: Regional Office for the Western Pacific

*Additional references will be used and/or provided as needed.

Course Requirements and Grading system*:

(Subject to modification based on university/college policy)

Lecture: 2/3 of course grade

Laboratory: 1/3 of course grade

Class policies: To be formulated by the faculty-in-charge

Instructor Information:

Name of Faculty:
Consultation hours/ days:
Consultation office:
Contact No./ e-mail address



Course Title: PUBLIC HEALTH NUTRITION

Course Description:

The course discusses the ecology of nutrition. It deals with the theories, principles and methods of community diagnosis and management of nutrition programs.

Number of Units: 3 units (3 hours lecture per week)

Prerequisite: Nutritional Assessment; junior standing

Course Objectives:

1. Discuss the scope and focus of public health nutrition.
2. Identify the functions and characteristics of an effective public health nutritionist.
3. Discuss the nature, magnitude and determinants of the nutrition problems of the Philippines.
4. Illustrate the relationship of food and nutrition with health and nutrition problems among population.
5. Discuss the principles, objectives and importance of program planning and management.
6. Identify and discuss the steps in nutrition program planning and management.
7. Determine and apply the functions of management in nutrition program with emphasis on leadership qualities.
8. Discuss the Philippine Plan Action for Nutrition (PPAN) as an example of National Nutrition Program
9. Explain the salient provisions of laws/legislations relevant to public health nutrition.

Course Outline:

Topic	No. of Hours
Introduction	9
1. Overview of the Course	
2. Requirements and expectations	
3. Review of Nutritional Assessment	
4. Public Health Nutrition: Definition of Terms and General Concepts	
5. Functions and Characteristics of an Effective Public Health Nutritionist	
5.1 Professional Ethics	
5.2 Virtues of the Health Care Provider	
5.2.1 Virtues Necessary for a Health Care Provider	
5.2.2 Values and integrity in health care	
5.3 Supervision and Leadership	
5.3.1 Major Roles of Supervision	
5.3.2 Leadership Qualities and Characteristics of a Good Leader	
5.3.3 Steps in Making Effective Supervision	
Ecology of Nutrition	6
1. Determinants of malnutrition	
2. Pathogenesis of Nutritional Deficiency	
3. Causal Framework of Malnutrition	

* From Health Ethics Course



Topic	No. of Hours
4. Effects of Malnutrition	
5. Malnutrition and infection	
6. Food and Nutrition Security (Farm to Table Food Path)	
Emerging Nutrition Problems of Public Health Significance	
The Nutrition Situation	
1. The Philippine Scenario Results of the 8 th National Nutrition Survey	
2. Malnutrition Worldwide: A Global Nutrition Challenge	
The Philippine Nutrition Program: Retrospective Review	
Global Initiatives for Nutrition	
The Philippine Plan of Action for Nutrition (PPAN)	
Legislation in Public Health Nutrition	
Policy, Planning, and Program Management	
1. Definition of Terms	
2. Importance of Planning and Management	
3. Approaches to Food and Nutrition Planning	
Steps in Food and Nutrition Program Planning and Management	15
1. Assessing the situation and Defining the Problem	
2. Goals and Objectives Setting	
3. Selecting Strategies and interventions	
4. Formulating a Food and Nutrition program Plan	
5. Program Implementation and Management	
6. Monitoring and Evaluation	
7. Sustainability	
Community Organizing	3
1. Principles, steps and types of Community Organizing	
2. Strategies in Eliciting and Sustaining Community Participation	
3. Issues in Community Organizing	
Nutrition Advocacy and Social Mobilization	3
1. Concepts, Elements and Strategies	
2. Nutrition Networking	
3. Working with LGUs	
Nutrition Concerns in Local Development	
1. Nutrition in Development Approach	
2. Integrating Nutrition Concerns in Local Development Plan	

References:

Local

- DILG. *The Local Government Code*
- Eusebio et al. 1999. *Food and Nutrition Planning and Management*. RTP-FNP, UPLB-CHE.
- Florencio, CA. 2004. *Nutrition in the Philippines*. Diliman, Quezon City. UP Press.
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- Jamorabo-Ruiz A., Laguna RT and Claudio VS. 2012. *Nutrition and Diet Therapy Reference Dictionary Revised and Enlarged Philippine Edition*. Merriam & Webster Bookstore, Inc.
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- NNC. *Medium Term Plan of Action for Nutrition*, Latest Ed., NNC Secretariat.
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- Bagchi, K. 1990. *Guidelines for Management of Nutrition Programs*. WHO.
- Beghin et al. 1988. *A Guide to Nutritional Assessment*, WHO Geneva
- Boyle, M. A. and D. Holben. 2006. *Community Nutrition in Action 4th ed.* Belmont, CA: Wadsworth/Thomson Learning.
- Gibney, M.J., et.al. 2010. *Public Health Nutrition*. Blackwell Publishing, U.K.
- Owen, A. et al. 1999. *Nutrition in the Community: The Art and Science of Delivering Services 4th ed.* 1999. WCB/McGraw-Hill.
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- Sizer, Frances and Eleanor Whitney *Nutrition Concepts and Controversies 9th edition*, 2003. Wadsworth Thomson Learning.
- WHO. *Emergency Feeding*. 2004
- Worsley, T. and Lawrence, M. 2007. *Public Health Nutrition: From principles to practice*. McGraw-Hill, England.

Course Requirements*:

Quizzes and long tests
 Recitation
 Seatwork
 Assignments
 Evaluation sheets
 Reports
 Periodic exams

Class policies:

Instructor Information:

Name of Faculty:
 Consultation hours/ days:
 Consultation office:
 Contact No./ e-mail address



Course Title: NUTRITION EDUCATION

Course Description:

This course involves a study of the principles, teaching techniques and current trends applicable to the dissemination of nutrition information to individuals or groups at all levels. It includes practical training in the planning, implementation of nutrition education programs.

Number of Units: 3 units (2 hours lecture and 3 hours laboratory per week)

Prerequisites: Nutrition in the Life Stages I & II, Assessment of Nutritional Status, Principles and Strategies of Teaching

Course Objectives:

Lecture

1. Relate nutrition education to the total nutrition program of the country;
2. State the important role of nutrition education in human development include Emerging Trends in Nutrition Education;
3. Identify the principles of teaching applied in nutrition education; and
4. Identify the qualifications necessary for an effective nutrition educator.

Laboratory

1. Identify client groups for nutrition education and select appropriate content areas for client groups;
2. Prepare appropriate generalizations for specific groups;
3. Participate in an on-going nutrition education activity/ project for a specific audience;
4. Evaluate on-going Nutrition Education activities/projects in a community; and
5. Design, implement and evaluate an appropriate Nutrition Education program or activity.

Course Outline:

Topic	No. of Hours
I. Introduction <ol style="list-style-type: none">1. Course Objectives2. Overview of Nutrition Education3. Review of Food and Nutrition Situation and Nutrition Education in the Philippines (NNS, MTPPAN, NICE)	1
II. Basic Concepts of Nutrition Education: <ol style="list-style-type: none">1. Definition of Terms: Health, Education, Nutrition, and Nutrition Education2. Role of Nutrition Education in Human Development3. Goals and Objectives of Nutrition Education4. Strategies and Settings for Nutrition Education5. Opportunities and Challenges in Nutrition Education6. Importance of Nutrition Education7. Required Competencies of a Nutrition Educator<ol style="list-style-type: none">7.1 Personal, Technical and Communication Skills7.2 Knowledge7.3 Attitudes and Values8. Duties and Responsibilities of a nutrition educator<ol style="list-style-type: none">8.1 as an individual8.2 as a member of the team8.3 Professional Ethics	6



Topic	No. of Hours
III. Behavior modification for Nutrition 1. Definition of Terms: Culture, Food Habits, Food Behavior, Food patterns 2. Factors that influence eating behavior 2.1 Biological Factors 2.2 Socioeconomic Factors 2.3 Psychological Factors 3. Principles of behavior modification 4. Stages in the process of change 5. Pointers in bringing about change 6. Ways to reduce resistance to change 7. Problems in promoting behavioral change	6
IV. Principles of Teaching and Learning Applied to Nutrition Education 1. The Learning Process 2. Requisites to Learning 3. Principles of Learning 4. Aspects of Human personality involved in learning 5. Approaches to Nutrition Education 5.1 Social Marketing 5.2 Social Mobilization 5.3 Advocacy 5.4 Community Participation 6. Principles of Successful Nutrition Education 6.1 Behavior-focused 6.2 Research-focused 6.3 Consumer-centered 7. Principles and purpose of teaching 8. The communication process	4
V. The Client Groups for Nutrition Education 1. Schools: Integrating Nutrition Education in the Curriculum for: Elementary, Secondary and Tertiary Level 2. Community: Purok and Barangay Level, Health Workers, Extension Workers 3. Hospitals and Clinics 4. Industry and Business 5. Non-Health Professionals 6. Family	3
VI. Selection of Appropriate Generalizations and Subject Matter for Client Groups 1. Consideration of Learner Needs and Interest 1.1 Knowledge on Food and Nutrition 1.2 Application of the knowledge skills to improve eating behavior and health conditions 1.3 Considerations of attitudes and values influencing food acceptance/rejection 2. Developing Instructional Objectives 2.1 Definition of Objectives 2.2 Types of Objectives 2.3 Preparation of objectives 2.4 Use of Behavioral Objectives 3. Subject Matter for a Nutrition Course may be based on Identified Needs of Client Groups 3.1 Nutritional Guidelines for Filipinos 2000 3.2 Food management	4



Topic	No. of Hours
VII. The Teaching Method <ol style="list-style-type: none"> 1. The meaning and importance of methods 2. Factors that determine methods 3. Characteristics of good teaching methods 4. Approaches to methods/strategies of teaching 5. Teaching aids 6. The Communication process <ol style="list-style-type: none"> 6.1 Purpose and function of communication 6.2 Elements of the communication process 6.3 Communication barriers 6.4 Theories of communication 6.5 Types of communication methods 6.6 Development communication 6.7 Transcultural Communication 6.8 Therapeutic Approach 	5
VIII. Evaluation as an Integral Part of Teaching and Interpreting Results <ol style="list-style-type: none"> 1. Importance of evaluation 2. Assessment techniques 3. Evaluation of teaching methods and Aids 	3
IX. Designing, implementing and Evaluating a School or Community Nutrition Education Program (Laboratory) <ol style="list-style-type: none"> 1. Concepts and Principles of Planning a Nutrition Education Program 2. Steps in Designing a School/Community Nutrition Education Program <ol style="list-style-type: none"> 2.1 Situation Analysis 2.2 Problems Definition 2.3 Objective Setting 2.4 Strategy Formulation 2.5 Materials and Resources 2.6 Work Schedule and Programming 2.7 Allocation of resources 2.8 Program Evaluation 3. Implementation of the Program <ol style="list-style-type: none"> 3.1 Management of resources, personnel, time, supplies and materials 3.2 Record Keeping 3.3 Monitoring 4. Evaluation of the Nutrition Education program <ol style="list-style-type: none"> 4.1 Types of Evaluation 4.2 Conduct of Evaluation 4.3 Utilization and evaluation of data and Information 5. Development of Instructional Materials for Nutrition 	54

Suggested Laboratory Exercises:

1. My Body Profile, My Diet and Health
2. Understanding the Communication Process
3. Formulating Educational Objectives
4. Nutrition and Health-Related Behaviors and Practices that should be promoted
5. Interrogating the Role of Nutrition Education in Addressing the Malnutrition Problem
6. Designing Messages for Individuals and Groups
7. Selecting Appropriate Nutrition Topics of Specified Target Groups



8. Disease Risk Reduction Exercises (Examples: Have a Good Heart, Getting Control of Your Weight, Cooking for Good Health)
9. Lifestyle Profile & Personal Action Plan
10. Development of a Nutrition Session Plan
11. Actual Conduct of a Nutrition Education Class
12. Development of a Diet and Exercise Plan for a Diabetic

References:

Local

- Jamorabo-Ruiz A and Claudio VS. 2010. *Nutrition Education: Principles, Approaches and Strategies*. Manila: Merriam & Webster Bookstore Inc.
- Food and Nutrition Research Institute. *Nutritional Guidelines for Filipinos* 2012 Revised Edition. Department of Science and Technology.
- NFP Bulletins, PAN and NDAP Journals

Foreign

- Bauer KD, Liou D and Sokolik CA. 2016. *Nutrition Counseling and Education Skill Development* 3rd ed. MI: Cengage Learning.
- Boyle M. & D. Holben. 2013. *Community Nutrition in Action: An Entrepreneurial Approach* 6th ed. MI: Cengage Learning.
- Contento, IR. 2016. *Nutrition Education: Linking Research, Theory and Practice*. 3rd ed. MA: Jones and Bartlett Publishers.
- Holli, Betsy and Beto Judith A. 2013. *Nutrition Counseling and Education Skills for Dietetics* 6th ed. Philadelphia, PA: Kluwer/Lippincott, Williams and Wilkins
- Nnakwe E. 2008. *Community Nutrition: Planning Health Promotion and Disease Prevention*. Sudbury, MA; Jones & Bartlett.

*Course Requirements and Grading System:

(subject to modification based on university/college policy)

Lecture: 2/3 of course grade

Laboratory: 1/3 of course grade

Class Participation (Recitation,
Seatwork, Project, Quizzes
3 exams
Assignments

Assignments/Quizzes
Evaluation sheets/Laboratory Exercise
Laboratory performance
Peer evaluation
Teacher evaluation

Class Policies

Instructor Information:

Name of Faculty:
Consultation hours/ days:
Consultation office:
Contact No./ e-mail address



Course Title: FOODSERVICE PRACTICUM

Course Description:

The Food Service Practicum is a supervised practical application of principles and theories in foods and foodservice management in foodservice establishment.

Prerequisites:

The Foodservice Practicum is to be taken during the last year of the BSND Curriculum upon the completion of all professional courses.

Number of Units: 6 units (300 hours)

Duration: 37 days; 8 hours/day and 4 hours

General Objective:

To provide the students with supervised practical experiences in foodservice operation with waiter and self-service in restaurants/hotel/ institutional cafeteria.

Behavioral Objectives:

1. Propose a plan of menus according to policies and budgetary requirements of the institution towards the achievement of total customer satisfaction;
2. Identify and compare the different purchasing methods;
3. Apply cost control measures in purchasing, receiving, storing, issuing to preparation and service of food;
4. Prepare aesthetically acceptable food;
5. Design a kitchen and dining room layout;
6. Explain the relationship of functional organization chart in foodservice organization equipment, its care, operation and maintenance.
7. Develop employees' work schedule;
8. Apply sanitation and safety procedure including HACCP.
9. Develop skills in budgeting and preparing profit and loss statement.
10. Apply management skills in foodservice.
11. Apply proper waste management and resources conservation.

Course Outline:

1. Orientation
2. Menu Planning and Evaluation
 - a. Planning menus and menus for different occasions
 - b. Main menu adjustments
 - c. Evaluation of menus
3. Purchasing
 - a. Preparing market list and food specification
 - b. Identification and comparison of purchasing methods
 - c. Price canvass
 - d. Preparation of purchase order
 - e. Distribution of purchase order
 - f. Familiarization with bid conditions
4. Storeroom Control: Receiving, Storing and Issuing
 - a. Inspection and receiving deliveries
 - b. Familiarization of storeroom procedures
 - c. Requisitioning goods and supplies



- d. Storage room inventory – physical and perpetual
- e. Use of storeroom control forms
- 5. Production: Standardization of Recipes, Preparation of Quantity recipes and utilization of leftover
 - a. Familiarization of forecasting method
 - b. Preparation of production schedule
 - c. Determination of yield per unit purchase
 - d. Standardizing recipes
 - e. Preparation of Quantity Recipes
 - f. Portion Control
 - g. Minimizing and utilizing leftover
- 6. Food Presentation and Services
 - a. Plating and Garnishing Foods
 - b. Setting the buffet table
 - c. Waiting on the Table
 - d. Supervision of Service in the dining area
- 7. Personnel Management
 - a. Familiarization with organizational set-up
 - b. Supervision of Employees
 - c. Preparation of work schedule
 - d. Conduct time and motion study (managers/supervisors and staff)
 - e. Personnel Training Program
- 8. Equipment Operation, Care and Maintenance: Foodservice Layout and equipment needs, equipment care, operation, maintenance and sanitation
 - a. Familiarization with kitchen and dining room layout, equipment operation, care and maintenance.
 - b. Evaluation of existing kitchen and dining room equipment and layout
 - c. Design foodservice layout and equipment needs
- 9. Sanitation and Safety
 - a. Application of sanitation and safety procedures using HACCP.
 - b. Evaluation of existing sanitation and safety practices.
- 10. Cost control
 - a. Recipe costing
 - b. Budgeting
 - c. Preparation and analysis of Profit and Loss Statement. Gross and Net Profit, Operating expenses.
- 11. Proper waste management and resources conservation
- 12. Developing marketing techniques
- 13. Customer Management and Service: Assessment
 - 13.1. Customer needs and wants.
 - 13.2. Address/handle customer queries, comments, suggestions and complaints.
 - 13.3. Interpret the rate of customer turn over and its significance in the success of a Foodservice institution.

***Course Requirements and Grading System:** (Subject to modification based on university/college policy)

Class Policies: To be formulated by the faculty-in-charge

Instructor Information:

Name of Faculty:
 Consultation hours/ days:
 Consultation office:
 Contact No./ e-mail address



Course Title: HOSPITAL DIETETICS PRACTICUM

Course Description:

The Hospital Dietetics Practicum is a supervised practical application of principles and theories in nutrition and dietetics in a hospital setting. Students are exposed to hospital-based supervised training rotations to gain familiarity with both administrative and clinical phases of hospital dietetics.

Prerequisites: The Hospital Practicum is to be taken during the fourth year whether in the first or second semester of the BSND curriculum upon the completion of all professional courses.

Number of Units: 12 units (600 hours)

Duration: 600 hours (1 semester @ 8 hours/day)

Course Objectives:

General Objective: To provide the students with supervised onsite experiential learning opportunities in the administrative and clinical phases of hospital dietetics in an accredited Level III hospital.

Behavioral Objectives:

Clinical Phase

1. Diagnose nutritional problems and develop nutritional care plan of patients
 - Develop nutritional and dietary evaluation of patients using their diet history/food intake
 - Accurately interpret and transcribe diet prescription
 - Modify/Adjust diets as necessary (from full/regular to therapeutic diets or vice versa)
2. Give appropriate diet counseling and participate in ward rounds by the health team
4. Conduct at least one patient education activity
5. Plan and prepare therapeutic diets including tube feedings
6. Assist in the supervision of the tray line
7. Prepare and present a case study.

Administrative Phase

1. Plan, evaluate and adjust menus
2. Identify and compare the different purchasing methods
3. Use appropriate measures of storeroom control and costing
4. Prepare and standardize quantity recipes
5. Develop skills in food presentation and services
6. Apply management skills in the hospital and dietary services
7. Familiarize with kitchen and dining room layout, equipment, their care, operation and maintenance
8. Evaluate and apply existing sanitation and safety practices
9. Determine food cost and per capita of one-day's menu
10. Develop skills in budgeting and preparation of monthly report

Major Activities: (Clinical)

- 128 hours/16 days



Major Activities: (Clinical)

- 128 hours/16 days

- A. Nutritional and dietary history preparations
- B. Interpret diet prescription
- C. Diet counseling
- D. Ward Rounds
- E. Nutrition education
- F. Planning and preparation of therapeutic of diet
- G. Supervision of tray line
- H. Case study and presentation

Course Outline:

- I. Routine Paper Work
 - A. Summarize diet lists
 - B. Make diet changes
- II. Diet computation and interpretation – knowledge learned in school vis-a-vis that in the hospital
- III. Patient Nutritional Care
 - A. Interview patients
 - B. Prepare Nutritional History – subjective, objective, assessment, planning (SOAP)
 - C. Assess dietary intake – 24 hour recall
 - D. Evaluate drugs taken (for possible food-drug interactions and effect on diet)
 - E. Read charts and interpret nutrition-related data in medical charts
 - F. Give dietary counseling
- IV. Participation in ward rounds with dietitians and/or medical team
- V. Group instructions for mothers, watchers, nursing students, medical students, parents at the nutrition clinics (OPD)
- VI. Therapeutic Food Preparation:
 - A. Diet modification
 - B. Actual preparation of one dish
 - C. Tasting of therapeutic diets
 - D. Tube feeding preparation
- VII. Supervision of patient's tray service: Includes giving out evaluation questionnaire on food service
- VIII. Case Study preparation and presentation

Methodology/Strategies: (Clinical)

- A. Chart reading, patient's interview; preparation of nutritional and dietary history (24) hour recall, anthropometric measurements.
- B. Computation, diet modification filling out diet cards
- C. Preparation of instructional materials, Role playing
- D. Participation in ward rounds
- E. Lecture/discussion/demonstration
- F. Preparation of therapeutic diet; Recipe testing of therapeutic diet; Exercises on diet modification
- G. Participation in supervision of tray line
- H. Preparation and diet presentation of case study

Evaluation Tools: (Clinical)

- Follow up of patient record of weight and height of patient
- Actual checking of diet computation
- Follow-up by dietitian of instructed patient
- Ability to answer question raised



- Score cards and panel testing
- Acceptability by the patient of the therapeutic/modified diet prepared
- Checking or exercise on diet modification
- Spot checking of tray line
- Ability to answer questions during the open forum

Teaching Aids: (Clinical)

- Patient chart
- Diet handout
- Type of diets
- Diet cards
- Menu
- Diet handouts
- Food models
- Actual dietary counseling conducted by dietitian
- Background reading on disease and diets; patient's a chart
- Visual aids – food models, diet handouts, actual food samples
- Cooks guide, census of therapeutic diets
- Actual testing of therapeutic diet
- Observation of tray line
- Case study format
- Sample case study
- Patient's chart

Major Activities: (Administrative)

- Menu planning
- Purchasing
- Storeroom control and costing
- Standardization
- Food presentation and services
 - Cafeteria meal
 - Patients food service
 - Others
- People Management
- Equipment Care Operation & Maintenance & Sanitation layout
- Cost Accounting
 - Determination of food cost and per capita of one day's menu
 - Budgeting monthly report of expenses and statement of accounts
 - Precosting of recipes

Course Outline:

- Menu Planning
 - Preparation of cycle menus and menus for special occasions
 - Preparation of market orders
- Purchasing
 - Identification and comparison of purchasing methods
 - Distribution of purchase order
 - Familiarization with bid conditions
 - Formulation of food specifications
 - Price canvass
- Receiving, Storage and Issuing
 - Inspection and receiving of deliveries



- B. Checking and recording of invoices
- C. Familiarization of storeroom procedures
- D. Storage room inventory – physical and perpetual
- E. Use of control forms
- IV. Production
 - A. Testing/Standardizing quantity recipes
 - B. Conservation and utilization of ingredients
 - C. Determination of yield/unit purchase
- V. Food presentation and Services
 - A. Determining of portion SBE
 - B. Supervision of service in Cafeteria, Patient's Food Service, Others
 - C. Catering
- VI. Personnel Management
 - A. Familiarization with organizational set-up
 - B. Supervision of employees
 - C. Preparation of work schedule
 - D. Familiarization with organizational set-up
 - E. Conduct time and motion study, personnel training program
- VII. Equipment care, operation, maintenance and sanitation
 - A. Familiarization with kitchen and Dietary Service equipment care, operation and maintenance
 - B. Evaluation of existing sanitation and safety practices
- VIII. Cost Accounting
 - A. Determination of food cost and per capita or one day's menu
 - B. Budgeting, monthly report or expenses and statement of accounts
 - C. Pre-costing of recipes

Methodology/Strategies: (Administrative)

- A. 1. Planning and Preparation of cyclic/regular menus
 - 2. Menus for special occasions
- B. Lecture/discussion
 - 1. Identification and comparison of purchasing method
 - 2. Distribution of purchase orders,
 - 3. Familiarization with bid conditions
 - 4. Formulation of food specifications
 - 5. Price canvass
- C. Discussion/Actual Demonstration
 - 1. Inventory taking and checking of deliveries
 - 2. Checking of invoices/delivery receipts
 - 3. Updating stock cards
 - 4. Familiarization of storeroom procedures
 - 5. Storeroom inventory-physical and perpetual
 - 6. Use of control forms
 - 7. Recipe costing and determining food cost
 - 8. Familiarizing with the preparation of the budget
- D. 1. Tasting/standardization of quantity recipe
 - 2. Conservation and utilization of left over
 - 3. Checking of completeness of ingredients
 - 4. Determination of yield/unit of purchase
- E. 1. Determination of portion size
 - 2. Supervision of service
 - 3. Catering
- F. 1. Familiarization with organizational set up
 - 2. Supervision of employees
 - 3. Preparation of work schedule



4. Familiarization with job description
5. Conduct of time and motion studies
6. Personnel Training Program
- G.1. Familiarization with kitchen and dining room equipment; care operation and maintenance
2. Evaluation of existing sanitation and safety practices
3. Demonstration
4. Observation
- H. 1. Lecture
2. Discussion

Evaluation Tools: (Administrative)

- Oral and written exam
- Supervision Tests
- Identification of the different kitchen and dining room equipment
- Recitation/Reports

Teaching Aids: (Administrative)

- Guide to Good Nutrition; Food Guide Pyramid, Nutritional Guidelines for Filipinos
- Philippine Dietary Reference Intakes 2015 edition
- Nutrition Software
- General forms used in purchasing
- General forms in storeroom control and costing
- Standardized recipe
- Existing records
- Actual Food Samples
- Organizational chart
- Job description of employees
- Work flow chart
- Actual operation of equipment
- Blackboard/chalk

Methodologies:

1. Orientation Lecture-Discussion
2. Hands-on Learning Experiences
3. Assignments
4. Demonstration

Course Requirements*

Class standing	=	70%
(Recitation/paperwork; Practicum Performance; Practical Exams, Reports, Assignments, Cases)		
Project (by Group)	=	10%
Final examination	=	20%
		100%
Clinical Phase: 60% + Administrative Phase: 40%		



Course Title **COMMUNITY NUTRITION PRACTICUM**

Course Description:

The Community Nutrition Practicum is a supervised) practical application of principles and theories in food and nutrition in a community setting through organized community efforts.

Prerequisite: The Community Nutrition Practicum is to be taken during the fourth year whether in the first or second semester of the BSND Curriculum upon the completion of all professional courses.

Number of Units: 6 units (300 hours)

Duration: 37 days @ 8 hours/day

Course Objectives:

Students should gain knowledge; develop positive attitude and skills in applying theories into practical situations in managing community-based nutrition programs, projects and activities within the framework of the local nutrition and development plan.

Specific Objectives:

The student should be able to:

1. Determine the nature and magnitude of malnutrition in the community;
2. Explain causes and possible consequences of malnutrition in the community;
3. Assist in actual planning;
4. Organize and mobilize the community to participate actively in efforts for nutrition improvement; and
5. Generate or mobilize human, material and financial resources from government and non-government organization for selected food and nutrition programs, projects and activities.

PRACTICUM REQUIREMENTS

1. Students are required to stay in the community within the practicum period with one day off per week.
2. Submission of the student's pledge, consent of parents/guardians and student's waiver prior the practicum.
3. Secure group insurance.
4. Submission of team's framework and operational plan prior practicum.
5. Regular submission of weekly plan activities, weekly accomplishment reports and individual diary.
6. Regular attendance and participation in the mini-training, planning workshop and scheduled team activities.

PHASES OF THE FIELD PRACTICUM

A. Pre-practicum Phase

1. Assignment of faculty-in-charge and grouping of students.
2. Consultation meeting with the Mayor and the Municipal Nutrition Committee and /or Municipal Technical Action Team.



3. Formalizing the request for the practicum barangays.
4. Courtesy call and ocular visit to the practicum barangays
5. Preparation for the mini-training of the practicum students
6. Mini-training
7. Planning workshop with the municipal develop agencies and barangay leaders

B. Practicum Proper

1. Orientation meeting and presentation of team operational plans
2. Implementation of planned activities.
3. Mid-Assessment
4. Implementation of Planned Activities
5. Closing ceremonies
6. Post Assessment

C. Post Practicum

1. Evaluation of the practicum
2. Submission of course requirements
 - a. Three (3) copies of the practicum
 - b. Individual diary of students
 - c. File copy of the memorandum of agreement
 - d. Self and Peer evaluation
3. Preparation of Student's grade

Major Activities

Orientation

Community Organization/Social Preparation

Community Diagnosis/Nutritional Assessment

Program Planning

Training of Barangay/Implementors/Leaders

Implementation/Supervision

Monitoring Evaluation/Reporting

Course Outline

- I. Orientation/Overview
 - Objectives
 - Rationale
 - Mechanics/Requirements/Responsibilities
 - Strategies/Approaches
 - Time Table
 - Student's Expectation
- II. Implementation
 - A. Community Organization
 - PPAN at national, regional provincial, municipal, and barangay levels
 - Structure
 - Programs/Services
 - Resources
 - Potentials
 - B. Analysis of Municipal/Barangay Nutrition Program
 - Resources/Agencies
 - Programs/Services



- C. Social Preparation
 - Social Values and Orientation
 - Establishing Linkage (Communication, Personal Contact, Inter-Agencies (Tapping))
- III. Community Diagnosis and Nutrition Assessment
 - A. Data gathering and Interpretation
 - B. Nutritional Assessment
 - 1. Clinical Signs
 - 2. Anthropometric Measurements
 - 3. Degrees of Malnutrition/Levels of Nutritional Status
 - 4. Dietary Survey (24 hr. food recall)
 - C. Interpretation of Vital Statistics in Assessment of Nutritional Status
 - 1. Morbidity
 - 2. Mortality
- IV. Barangay Program Planning and Management
 - A. Nutrition Problem based on the result of community diagnosis & causes
 - 1. hygiene and sanitation
 - 2. lack of nutrition information
 - 3. poverty
 - 4. others
 - B. Available Resources
 - 1. Human (Existing organization and agency, Potential leaders)
 - 2. Materials (Facilities, tools and equipments)
 - 3. Possible Fund Resources
 - C. Priority Targets
 - D. Leadership training
 - Training on the role in planning and implementation of Barangay Nutrition Program
 - E. Program Planning
 - F. Implementation, Prioritization

Methodologies/Strategies according to objectives:

1. Presentation/Discussion
Brainstorming/Listing Validation of Expectations
2. Courtesy Call on Barangay Captain to Discuss Structure at Barangay Level
Observation of Barangay Resources
Agency Resource Persons to Present/Discuss Program/ Services Role Identification
Lecture/Discussion by local Resource Person
Lecturette
Pre-management Activities
Courtesy Calls
Case Follow-up
3. Consultations with Different Agencies Concerned/Gathering of Available Data
Data Gathering on Assigned Families
Identification of Clinical Signs
Actual Weight/Height Taking and Interpretation into Nutritional Status
Conduct Household Survey
Analysis of A Given Data



4. Diet of Priority Problems/Validation by the Community
 - List of Resources
 - Listing Priority Targets
 - Identification of potential Leaders
 - Listing of the roles in the Barangay Nutrition Planning and Implementation
 - Mini/Micro Barangay Plan
 - Involve one Community leader plan for conduct at least 1 nutrition class.
 - Refer health problems to health center/authorities/do follow-ups
 - Initiate setting up of at least a model house/community garden. Assist in setting up a workable food assistance scheme for agents
5. Weekly reports
 - Diary Account
 - Documentation of Activities (pictorial and written)
 - Weekly reports/terminal reports
 - Progress Reports in activities/targets
 - Pre and Post Evaluation Report

Teaching Aids

- Course Syllabus
- Brown paper/pentel pen
- Incidence report/case report
- Barangay Profile
 - Map
 - Nutrition Program Activities
 - Organizational Structure
- Blackboard, chalk, paper, pentel, masking tape
- Flip chart
- Fact Sheets, report
- Survey Forms or scale
- Barangay plan form
- Lesson Plan
- Monitoring Forms
- Weight Charts

Course Requirements

I. Compliance to Assignments/Requirements	15 %
II. Personality and Performance	40%
III. Quality of Performance	25%
IV. Group/Peer rating	<u>20%</u>
Total	100 %

