Content competencies for nutrition majors organized under Bloom's taxonomy of educational objectives

Knowledge	Learning objectives	Learning strategies
A. Knowledge of Food		
1. Identify food components, dietary/nutrition supplements, and food sources of nutrients.	181. Identify major food components in foods: water, carbohydrates, protein, and lipids. 185. 1) Describe what nutrients are and state basic information about each of 6 categories. 2) Use US dietary guidelines and food guide pyramid to evaluate nutrient adequacy of diet. 281. *Analyze the formulation of each new concoction developed by the students.* 310. 312. 370. Identify components in breast milk and other infant milk. Evaluate a diet using computer nutrient analysis. Identify food sources of key nutrients and amounts needed throughout the life span. (e.g. Fe, Ca, protein, fat, energy, folic acid, Zn, water, fiber) 451. Assess dietary pattern of a particular community. 452. implicit; none specific 467-468, or 475. Identify food sources of key nutrients needed throughout the life span. (e.g. six nutrient groups) as related to disease. 469. 480. Composition of sports beverage/products. 485. Derivation Atwater factors for common foods. 486. Identify foods that are major sources of vitamins, minerals, and fiber. 490-492. Apply nutritional assessment techniques, as appropriate to field setting.	181. Critical exam questions, group discussions, and chapter exams. 185. Assignment 1: DG and FGP. Lectures and previous exams and answers. 281. In class exercises, assignments, lecture material, and exams. Use of computer data base programs. Work in groups of three for formulation analysis. Work with powders, concentrates, and other different forms of food. 370. Diet analysis? Assignments, lectures, in-class exercises, exams (A/L/E/E). 452. WI assignments 467-468, 475. Come up with a table, give it to students, and say memorize this. Case studies, handouts, and exams. Nutrient analysis incorporated into SOAPS. 480. Text, lecture, and exams. 485. Handouts, lecture, and exams. 486. Text, lecture, and exams.

2. **Recognize how cooking and processing affect nutrient value and other food characteristics**.	181. Show how cooking and processing affects the nutritive value of food components. 181L. Identify which nutrients are affected by the following food preparation, processing and storage conditions: acid, alkaline, neutral pH; light; cold; moist or dry heat; and incorporation or exposure to air or oxygen. 185. Discuss current issues related to the safety of the food supply using concepts from toxicology. 281. Evaluate experiments and discuss how cooking and processing affects food components, positively and negatively. 310. 312. Need to understand the terminology and procedure used in food service organizations and their impact on food quality. 370. 451. 452. 467-468. 469. 475. 480. 485- 486. Be aware that processing of food can effect vitamin, mineral, and fiber content of food.	181. Text reading, discussion, demonstrations, exams. 181L. Table. Use computer database to compare raw and prepared foods. 185. Lectures, old exams/answers. Assign #4: food safety. 281. Laboratory experimentation, group discussions, laboratory write-ups. 310. Field trips and visits to commercial kitchens. 486. Reading in text, lectures.
3. Name frequent food-borne illnesses (at least 10) and their causes.	181. Know some of the frequent food borne illnesses. 185. Discuss current issues related to safety of the food supply using concepts from food toxicology. 281. 310. 312. Name food borne illnesses, symptoms, and ways of preventing. 370. 451. 452. 467. 468. 469. 475. 485. 486. 490-492.	181. Chapter readings and newspaper articles. 185. Assignment 4: food safety. Lectures and previous exams and answers. 281. 312. Small group discussion, report to class.

4. Recognize cultural variability in food/nutrition behavior. This is very important that this should be more integrated into the curriculum - there should be more of this in the higher level courses. Solution: Tighten up objectives for each course to include this characteristic. Or, ascertain that when opportunity arises, either point out this "fact" or bring up cultural diversity with nutrition, food, and disease topics under discussion. Note: Have discussions with anthropology dept. about a cultural foods course. There is one course on the books that hasn't been removed. Look at FSHN 476 - cultural aspects of food habits.	181. Basic components are ubiquitous across all foods. 181L. Explain what influences food selection choices throughout the life span. 185. Identify factors which influence why you eat as you do and how to make changes in your diet. 281. Use or have students make foods from different cultures. 310. 312. Consider cultural factors in menu planning. 370. Identify important social and cultural factors influencing nutrition status throughout the life span. 451. Identify and Accommodate cultural variation in food and nutrition choices and in strategy for program implementation. 452. State the general ways in which food and culture can interact and describe nutrition sensitive problems in the various ethnic groups in Hawaii. 467. 468. 469. Identify and apply modified diets to meet cultural/individual needs. 475. 485. 486. Compare different food guide pyramids 492. Identifying the influence of culture on professional interactions with others.	181. Have students taste different cultural foods that show how different food components are used in different cultures. 181L. Readings and class projects 185. Assignment 1 and 3. (One day diet records). Lectures and previous exams. 311. Class project on menu planning. 370. Assignments, in class exercises, lectures, and exams. 451. Case studies, discussion. 452. Units on food and culture and Hawaii and Pacific diet/disease. In class discussions, WI assignment on ethics and exam questions. 469. Class exercise, video taping, feedback, role playing, student presentations, lectures. 486. Lecture and readings. 492. Individualized counseling.

5. Identify (or recall) basic cooking principles, ingredients, and measures.	181. Explain basic cooking principles, procedures, food components, and measures. 181L. Have a working knowledge of cooking terms and ingredients. Have a working knowledge of basic purchasing. Have a working knowledge of food container measurements and associated weights. Have a working knowledge of basic cooking/recipe skills including the following techniques: measuring; raw food prepping; cutting; mixing; dry versus moist heat preparation; cooling and freezing; use of spices and herbs; and presentation of foods. Have a working knowledge of food preservation techniques. Be able to describe both the food safety and the food quality changes that occur with these food preservation techniques. Have a working knowledge of basic home kitchen and restaurant food preparation utensils and equipment. Describe sensory evaluation criteria and have a working knowledge of various basic food sensory tests (including statistics). 185. Use US dietary guidelines and food guide pyramid to evaluate nutrient adequacy of diet. 281. Demonstrate and explain effects of basic cooking procedures, ingredients, and measures on outcomes of classroom experiments. 310. 312. Apply and use cooking principles in menu and recipe development. 370. 451. 452. 467. 468. 469. 485. 486. 490-492.	181. Readings in Text, group discussion, exam questions. 181L. Readings, assignments, tests. Hands-on assignment, lab and supermarket assignments, lab training, evaluate television cooking demonstrations for appropriateness of techniques. In-class assignment evaluating spoilage, hands-on review and practicum testing. Conduct in-class taste testing. 185. Assignment 1&3)Estimate and convert measures of foods eaten. Provide students with a three page handout on estimating food amount. Lectures and previous exams and answers. 281. Group experiments. 312. Lecture and case studies.
6. Know the seven principles of HACCP	181. 181L. 185. 281. 310. 312. Know how to apply seven principles in developing a HACCP program for a food service operation. 370. 451. 452. 467. 468. 469. 475. 485. 486 490-492.	181. 181L. 185. 281. 310. 312. Lecture, student project, exam. 370. 451. 452. 467. 468. 469. 475. 485. 486 490-492.

7. Understand the principles of menu planning and recipe development.	181. 181L. 185. 281. Explain how to "tinker" with formulations and ramifications of modifications. 310. 312. Able to plan menu for various occasions. Develop and modify recipes to meet special nutritional needs. 370. 451. 452. 467. 468. 469. 475. 485. 486 490-492	181. 181L. 185. 281. 310. 312. Use service-learning project to plan menu, lecture, exams. 370. 451. 452. 467. 468. 469. 475. 485. 486 490-492

B. Knowledge of Nutrients, Basic Metabolism, and Physiology		
	Learning objectives	**Learning strategies**
1. Recall *basic* elements of anatomy, physiology, biochemistry, and metabolism. NOTE: Michael and Alan to complete. NOTE: Students don't have basic metabolism and biochemistry when they arrive in 485-486. Note: Should we consider converting the Food chemistry course to a Organic chemistry for the health sciences. Note: Students lack background for 485-486. Food chemistry course? Organic chemistry for health sciences?	181. 181L. 185. Describe what nutrients are and state basic information about each of six categories of nutrients (e.g. functions in the body, risks of excesses/deficiencies, sources, guidelines for intake). Identify which nutrients are sources of energy for the body and how an excess or a deficiency of energy can affect the body. Describe physiological changes that occur during the life span and explain the changes in nutrient needs that accompany these changes. 281. 310. 312. 370. Identify physiological changes affecting nutrient utilization during pregnancy, infancy, childhood, adolescence, and aging. Identify key physiologic changes that occur during pregnancy and understand appropriate weight gain. Correlate the cellular theories of aging with physiological aging. Recognize age-related physiological changes in the major organ systems. 451. 452. implicit throughout 467. 468. 469. 475. 480. Exercise physiology basics and exercise metabolism basics. 485.Integrate inter-organ relationships and biochemistry of digestion, absorption, distribution, storage, mobilization, and general metabolism of macronutrients (excluding water) and related compounds 486. Recall basic elements of anatomy, physiology, biochemistry, and metabolism. 490-492	181. 181L. 185. lectures, old exams/handouts, Assign #3: Fats energy in body. 281. 310. 312. 370. A/L/E/E 451. 452. WI assignments, in-class discussions 467. 468. 469. 475. 486. 480. text, lectures, exams. 485. Initial 2 lectures review & discuss basic overview as a starting point for the course 487. text, lectures, exams. 490-492.

2. Name the nutrients and identify basic elements of their metabolism and function. Michael and Alan will complete	181. 181L. 185. Describe what nutrients are and state basic information about each of six categories of nutrients (e.g. functions in the body, risks of excesses/deficiencies, sources, guidelines for intake). .Identify which nutrients are sources of energy for the body and how an excess or a deficiency of energy can affect the body. Define malnutrition as over- and under-nutrition and discuss its causes, cures, and associated health effects. 186. 281. 310. 312. 370. Identify nutrients of concern for pregnant women, children, and adolescents and understand why they are of concern. 451. 452. 467. 468. 469. 475. 480. Identify nutrient effects on energy metabolism/sports performance and the effects of exercise on nutrient needs 485. Identify chemical structures of macronutrients & describe basic metabolic pathwars for macronutrients 486. Name the vitamins, minerals and types of dietary fiber and identify basic elements of their metabolism and function 490-492 492 Apply nutrition information to the field setting.	181. 181L. 185. lectures, old exams/handouts, Assign #3: Fats energy in body. 281. 310. 312. 370. A/L/E/E 451. 452. 467. 468. 469. 475. 480. text, lectures, assignment, exam. 485. Lect/disscuss, quiz, assignment, exam 486 Text,lecture,exams 490-492.

3. Recognize the potential effects on the body of other substances in food.	181. 181L. 185. Discuss how alcohol and other drugs interact with nutritional processes. 281. 310. 312. 370. Identify and understand maternal risk factors that predict pregnancy outcome. Recognize and discuss nutrition-related concerns for children and adolescents. 451. 452. 467. 468. 469. 475. 480. Phytochemicals and hormone precursors used in supplements. 485. metabolism of alcohol 486 Recognize the term phytochemicals and their potential effects on the body 490-492	181. 181L. 185. lectures, old exams/handouts, 281. 310. 312. 370. A/L/E/E 451. 452. 467. 468. 469. 475. 480. Covered in lecture. 485. text, lecture 486 Text,lecture 490-492.
4. Recognize pharmacological role of nutrients.	181. 181L. 185. Describe what nutrients are and state basic information about each of six categories of nutrients (e.g. functions in the body, risks of excesses/deficiencies, sources, guidelines for intake). 281. 310. 312. 370. Toxicity of nutrients in pregnancy. Dietary supplements during the life span. 451. 452. 467. 468. 469. Drug-nutrient interaction program used. 475. Use of nutrients as pharmacological agents. 480. Describe effects of nutrient toxicity. 485. Effects on essential fatty acids on eicosanoid synthesis, effects of amino acids on neurotransmitter synthesis. 486. Definition of pharmacological use of nutrients and phytochemicals 490-492	181. 181L. 185. lectures, old exams/answers, 281. 310. 312. 370. 451. 452. 467. 468. 469. 475. 480. lecture, handout 485. text, lectures, exams. 486. lectures and discussion. 490-492.

5. Recall *detailed* elements of anatomy, physiology, biochemistry, and metabolism.	181. 181L. 185. 281. 310. 312. 370. Identify physiological changes affecting nutrient utilization during pregnancy, infancy, childhood, adolescence, and aging. Identify key physiologic changes that occur during pregnancy and understand appropriate weight gain. Identify factors that influence infant birth size and growth/development and to interpret patterns of infant growth. Correlate the cellular theories of aging with physiological aging. 451. 452. 467. 468. 469. 475. 480. Muscle energetics, muscle glycogen & triglyceride storage, and inter-organ metabolism during exercise. 485. specify inter-organ relationships & organ-specific metabolism of macronutrients 486 Recall details of anatomy, physiology, biochemistry and metabolism to apply to vitamin, mineral and fiber nutrition 490-492.	181. 181L. 185. 281. 310. 312. 370. A/L/E/E 451. 452. 467. 468. 469. 475. 480. assn, text, lect, exam 485. assn, text, lect, exam 486 text, lecture,exams 490-492.
6. Recall in detail the metabolism and functions of the nutrients.	181. 181L. 185. 281. 310. 312. 370. 451. 452. implicit 467. 468. 469. 475. 480. nutrient balance concepts, exercise effects on nutrient needs, substrate utilization during rest and exercise 485. Integrate inter-organ metabolism with energy balance concepts. 486 Recall the details of vitamin, mineral and fiber metabolism and biochemical function 490-492.	181. 181L. 185. 281. 310. 312. 370. 451. 452. WI assignments, in-class discussions 467. 468. 469. 475. 480. assn, text, lect, exam 485. assn, text, lect, exam 486 Text, lecture and exams 490-492.

C. Knowledge of Nutrition		
	Learning objectives	**Learning strategies**
1. Recall dietary recommendations (including the Dietary Guidelines for Americans and food guide pyramid) and RDA/DRI's.	181. 181L. 185. Use the U. S. Dietary Guidelines and Food Guide Pyramid to evaluate the nutrient adequacy in your diet. Describe what nutrients are and state basic information about each of six categories of nutrients (e.g. functions in the body, risks of excesses/deficiencies, sources, guidelines for intake). 281. 310. 312. 370. Identify nutrient requirements during pregnancy, infancy, childhood, adolescence, and aging. Identify nutrients of concern for pregnant women, children, and adolescents and understand why. Identify and understand maternal risk factors that predict pregnancy outcome. Describe nutrient requirements and food selection patterns of the elderly. 451. Determine appropriate food and dietary recommendations for selected target population. 452. Identify appropriate sources of nutrition information, both in professional research and/or review publications and in the popular media, and identify sources of nutrition misinformation. Describe nutrition education strategies with regards to a variety of target audiences, in general, and with regards to the specific target audience identified in the student's semester project. 467. Overview of dietary guides and recommendations. 468. 469. 475. Overview of dietary guidelines and food guide pyramid. 480. describe factors used to establish RDA/DRI values 485. describe factors involved in setting RDA for protein 486. Know where to find and be aware of RDA and DRI's for vitamins and minerals. Identify recommendations for dietary fiber. 490-492. Determine appropriate food and nutrition recommendations for field setting.	181. 181L. 185. lectures, old exams/answers, group nutrients by RDA amounts, not memorize RDAs, understand concept of RDA and DRL 281. 310. 312. 370. A/L/E/E 451. 453. WI assignments (DG/FGP-2000), Unit on FG systems/DG, in class assignments 467. 468. 469. 475. 480. text, lect, exam 485. lect. 486 Text,lectures,exams 490-492.

2. Identify nutrition assessment techniques	181. 181L. 185. Compare the various types of nutrition research with respect to type and reliability of information produced. 281. 310. 312. 370. Identify factors that influence infant birth size and growth/development and interpret patterns of infant growth. Describe valid methods of assessments of both growth and development in childhood and adolescence. List and describe components of the adult stage of the life cycle. 451. *Design and implement a needs assessment for a community, using basic epidemiologic and nutritional assessment methodology*. 452. 467. To explain and/or do the steps of a nutrition assessment. To understand medical records, interpret lab results, and understand medical terminology. To write concise SOAPS. List the major resources listing drug- nutrient interactions. To conduct dietary histories-24 recall, food frequency, 3-day dietary records. Anthropometry. 468. Incorporate assessment techniques learned in 467. 469. 475. Dietary assessment, 24-hour recall. 480. Identify circumference, skinfold, BMI, discuss underwater weighing, bio-electrical impedance, review other factors involved in assessment of an athlete's nutr status/needs 485. Basis for assessment of protein and energy needs 486. biochemical assessment of selected vitamins and minerals. 490-492.	181. 181L. 185. lectures, old exams/answers, Assign #1&3 (dietary intake, anthropometric measures) 281. 310. 312. 370. A/L/E/E 451. 452. 467/468. write SOAPS, exams, nutrient analysis 469. 475. 480. lect, practical experience lab, assn 485. lecture 486 Text,lecture,exams 490-492.

3. Recall food group systems (food guide pyramid and Exchange list).	181. 181L. 185. Compare the various types of nutrition research with respect to type and reliability of information produced. Use the U. S. Dietary Guidelines and Food Guide Pyramid to evaluate the nutrient adequacy in your diet. Discuss current issues related to the safety of the food supply using concepts from toxicology. 281. 310. 312. 370. Identify appropriate infant feeding patterns and techniques, introduction of complementary food and caregiver-infant interaction with food. List components of a healthy lifestyle. 451. 452. Identify appropriate sources of nutrition information, both in professional research and/or review publications and in the popular media, and identify sources of nutrition misinformation. Describe nutrition education strategies with regards to a variety of target audiences, in general, and with regards to the specific target audience identified in the student's semester project. 467. Incorporated into course application 468. Incorporated into course application 469. 475. Taught overview of dietary guides and recommendations. 480. General review of pyramid/DGs/exchange system 485. 486 Recall where specific vitamins minerals and fiber types can be found in the food guide pyramid 490-492. Utilize appropriate food group systems for the field setting.	181. 181L. 185. lectures, old exams/answers 281. 310. 312. 370. A/L/E/E 451. 452. WI assignment(2000), in class discussion, unit on DG/FGP, exam Q's 467. 468. 469. 475. 480. text 485. 486 text lectures, exams 490-492.

4. Recognize appropriate sources of nutrition information and resources including food composition data, computer software, reference materials, and professionals in the field.	181. 181L. 185. Compare the various types of nutrition research with respect to type and reliability of information produced. Evaluate nutrition information in popular media critically, with respect to its correctness. 281. 310. 312. 370. Compare and contrast a nutrition review article and a research article. Critique nutrition related WEBsites. 451. 452. Identify appropriate sources of nutrition information, both in professional research and/or review publications and in the popular media, and identify sources of nutrition misinformation. Critique nutrition education research, with regards to both content and structure of the research article. 467. Identify and use computer nutrient analysis software 468. Utilize Food Processor to analyze diets in case studies. 469. To recognize and utilize resources useful in interviewing assessing and counseling with the patient. 475. Overview of computer and professional sources 480. discussed throughout the course 485. discussed periodically in course 486. Understand that the DRIs are our best estimate for the requirements for vitamin and minerals at the present time, but they will evolve. 492. Discriminate appropriate food and nutrition information for field setting.	181. 181L. 185. lectures, old exams/answers 281. 310. 312. 370. 451. 452. WI or in class eval. adg website, research articles, exam questions 467. 468. 469. Computer lab-software intro Nht III, food processor, caseware, software, drug master+, handouts, student sharing resources 475. 480. lect, assn. 485. lect 486 Text , lecture 492. Learning plan

5. Identify food/nutrient relationships to health (body needs) and disease throughout life.	181. 181L. 185. Describe physiological changes that occur during the life span and explain the changes in nutrient needs that accompany these changes. 281. 310. 312. 370. Identify and understand maternal risk factors that predict pregnancy outcome. Recognize and discuss nutrition-related concerns for children and adolescents. Recognize the interactions of nutrition in chronic diseases of the adult and differentiate health issues and disease processes that are unique to women. 451. 452. implicit 467. Learn relationships between nutrients and disease 468. Learn relationships between nutrients and disease 469. 475. Learn relationships between nutrients and disease 480. interwoven throughout course 485. identify relationships among macronutrients and energy balance/imbalance with age changes 486 Identify relationships of vitamins, minerals and fiber nutrition to risk for chronic disease and prevention of nutritional deficiencies. 490-492.	181. 181L. 185. lectures, old exams/answers 281. 310. 312. 370. A/L/E/E 451. 452. WI assignments, in class discussions/exercises 467. 468. 469. 475. 480. text, lect, exam 485. assn, text, lect, exam 486Text, lecture, exams 490-492.
6. Recognize required nutrition components of food labels.	181. 181L. 185. Use the U. S. Dietary Guidelines and Food Guide Pyramid to evaluate the nutrient adequacy in your diet. 281. 310. 312. 370. 451. 452. 467. 468. 469. 475. Provided brief overview (handout) 480. discussed in context of sports products/supplements 485. 486. 490-492.	181. 181L. 185. Assign #2 evaluate food label 281. 310. 312. 370. 451. 452. 467. 468. 469. 475. 480. lect, text 485. 486 490-492.

7. Identify, including mechanisms, the food/nutrient relationships to health (body needs) and disease throughout the life cycle.	181. 181L. 185. Describe physiological changes that occur during the life span and explain the changes in nutrient needs that accompany these changes. 281. 310. 312. 370. Identify important social and cultural factors influencing nutritional status during pregnancy, infancy, childhood, adolescence, adulthood, and aging. [continued in next row **] 451. 452. 467. Identify the nutrients related to disease 468. Identify the nutrients related to disease 469. 475. Overview of adult requirements 480. 485. 486 Identify biochemical and physiological mechanisms for the relationships of vitamins, minerals and fiber to risk for chronic disease and prevention of nutritional deficiencies. 490-492.	181. 181L. 185. lectures, old exams/answers 281. 310. 312. 370. 451. 452. depends on year taught 467. 468. 469. 475. 485. 486 Text, lectures, exam 490-492.
	*** 370 continued* Identify physiological changes affecting nutrient utilization during pregnancy, infancy, childhood, adolescents, adulthood, and aging. Identify important social and cultural factors influencing nutritional status during pregnancy, infancy, childhood, adolescence, adulthood, and aging. Define nutrition education, discuss its ethical and philosophical complexity and enumerate the steps involved in producing and marketing a nutrition education program. Identify appropriate sources of nutrition information, both in professional research and/or review publications and in the popular media, and identify sources of nutrition misinformation. Describe nutrition education strategies with regards to a variety of target audiences, in general, and with regards to the specific target audience identified in the student's semester project. Discuss the attributes of a critical thinker and describe/tell how it has become a part of her/his thinking and learning process. Critique nutrition education research, with regards to both content and structure of the research article. Write learning objectives that are structured correctly and that address the three domains of learning. Describe how the concepts of networking, mentoring, and building liaisons are integral parts of the education process. Develop and demonstrate effective oral and written techniques for conveying nutrition information. State the general ways in which food and culture can interact and describe nutrition-sensitive problems in the various ethnic groups in Hawaii. Identify: a) key physiological changes that occur during pregnancy, and understand appropriate weight gain; b) nutrients of concern for pregnant women, children, and adolescents and understand why they are of concern; c) and understand maternal risk factors that predict pregnancy outcome; d) factors that influence infant birth size and growth/development and to interpret patterns of infant growth; e) nutrient requirements of infants; f) nutritional differences between cows milk breast milk, and infant formulas; g) appropriate infant feeding patterns and techniques, introduction of complementary food and caregiver-infant interaction with food. Recognize and discuss nutrition-related concerns for children and adolescents. Recognize the interactions of nutrition in chronic diseases of the adult and differentiate health issues and disease processes that are unique to women. Describe nutrient requirements and food selection patterns of the elderly. Discuss nutritional disorders of the elderly.	

D. Comprehension and application of nutrition		
	Learning objectives	**Learning strategies**
1. Explain (orally and in writing) and apply dietary guidelines and RDA's /DRIs appropriately	181. 181L. 185. 281. 310. 312. 370. Discuss important social and cultural factors influencing nutritional status during pregnancy, infancy, childhood, adolescence, adulthood, and aging. 451. Apply dietary recommendations to target populations 452. Use appropriate sources of nutrition information, both in professional research and/or review publications and in the popular media, and evaluate sources of nutrition misinformation. Describe nutrition education strategies with regards to a variety of target audiences, in general, and with regards to the specific target audience identified in the student's semester project. Develop and demonstrate effective oral and written techniques for conveying nutrition information 467. Brief overview 468. 469. Appropriately explain in an oral or written form the Dietary Guidelines and RDA/DRIs to subjects in a counseling session. 475. Brief overview 480. Explain how RDAs/DRIs may or may not be appropriate for athletes of various types. 485. 486 Explain how RDAs are derived for selected vitamins and minerals. 490. When appropriate, explain in an oral or written form, the Dietary Guidelines and RDA/DRIs. 491. Integrate dietary recommendations into field setting.	181. 181L. 185. 281. 310. 312. 370. A/L/E/E 451. Class project 452. WI assignments, oral project present. 467. 468. 469+490. Videotaping and feedback 475. 480. lecture, assn 485. 486 Text,lectures,exams 492.

2. Explain basic effects of nutrients and other substances in food on the body and their relationship to health, exercise, and weight control.	181. 181L. 185. 281. 310. 312. 370. discuss physiological changes affecting nutrient utilization during pregnancy, infancy, childhood, adolescents, adulthood, and aging. Identify: nutrients of concern for pregnant women, children, and adolescents and understand why they are of concern; nutrient requirements of infants; nutritional differences between cows milk breast milk, and infant formulas. Recognize and discuss nutrition-related concerns for children and adolescents. Recognize and discuss the interactions of nutrition in chronic diseases of the adult and differentiate health issues and disease processes that are unique to women. Describe nutrient requirements and food selection patterns of the elderly. Discuss nutritional disorders of the elderly. 451. 452. implicit 467. implicit 468. implicit 469. Appropriately explain the basic effects of nutrients and other substances in food on the body and their relationship to health, exercise and weight control to subjects in a counseling session 475. implicit 480. Explain effects of nutrients on exercise performance and weight loss/effects of exercise/weight loss on nutrient needs. 485. Interwoven throughout course 486 Explain at the physiological and biochemical levels the functions of vitamins, minerals and fiber, and how these functions relate to risk for chronic disease and deficiency symptoms. 490. When appropriate, explain the basic effects of nutrients and other substances in food on the body and their relationship to health, exercise and weight control. 492.	181. 181L. 185. 281. 310. 312. 370. A/L/E/E 451. 452. Depends upon set of WI assignments, some in-class, some exam q's 467. 468. 469. 475. 480. lect, text, exams 485. lect, text 486 Text, lecture, exams 490-492.

3. **Explain the basic elements of digestion and metabolism of the nutrients and other substances obtained from food**.	181. 181L. 185. 281. 310. 312. 370. describe physiological changes affecting nutrient utilization during pregnancy, infancy, childhood, adolescents, adulthood, and aging. 451. 452. 467. 468. 469. Explain the basic elements of digestion and metabolism of the nutrients and other substances obtained from food to subjects in a counseling session 475. Explain digestion/organ and the major events at each section. 480. Focus on interaction with exercise effects/sports performance 485. Focus on macronutrients and alcohol 486 Explain the physiological and biochemical process in digestion, absorption, transport, and excretion of vitamins and minerals 490. When appropriate, explain the basic elements of digestion and metabolism of the nutrients and other substances obtained from food**.** 492.	181. 181L. 185. 281. 310. 312. 370. 451. 452. Depends upon set of WI assignments, some in-class, some exam q's 467. 468. 469. 475. 480. lect, text, exams 485. lect, text, exams 486 Text, lectures, exams 490-492.
4. **Explain and apply the food guide pyramid appropriately**.	181. 181L. 185. Use the U. S. Dietary Guidelines and Food Guide Pyramid to evaluate the nutrient adequacy in your diet. 281. 310. 312. 370. 451. 452. Discuss appropriate sources of nutrition information, both in professional research and/or review publications and in the popular media, and evaluate sources of nutrition misinformation. Describe nutrition education strategies with regards to a variety of target audiences, in general, and with regards to the specific target audience identified in the student's semester project. Develop and demonstrate effective oral and written techniques for conveying nutrition information. 467. Explain the Food Guide Pyramid 468. 469. Explain, and help subjects apply, the food guide pyramid appropriately a counseling session. 475. Explain the Food Guide Pyramid 485. 486 492 Determine appropriate food and nutrition recommendations for field setting	181. 181L. 185. Assign #1 281. 310. 312. 370. 451. 452. WI assignments, exam q's 467. 468. 469. 475. 485. 486 490-492.

5. Interpret nutrition assessment information and demonstrate proper assessment techniques. Note: need to establish 370 lab for nutritional assessment	181 181L. 185. Use the U. S. Dietary Guidelines and Food Guide Pyramid to evaluate dietary adequacy in terms of food groups, energy, and fat content of the student's diet. 281. 310. 312. 370. Identify: key physiological changes that occur during pregnancy, and understand appropriate weight gain; factors that influence infant birth size and growth/development and to interpret patterns of infant growth. Describe valid methods of assessments of both growth and development in childhood and adolescence. Describe nutrient requirements and food selection patterns of the elderly. 451. Perform nutrition assessment of a particular community 452. 467/468. To be able to explain and/or do the steps of a nutrition assessment. To be able to read medical records, interpret lab results, and understand medical terminology. To be able to write concise SOAPS. Able to list the major resources listing drug-nutrient interactions. Able to conduct dietary histories-24 recall, food frequency, 3-day dietary records 469. Appropriately explain the basic effects of nutrients and other substances in food on the body and their relationship to health, exercise and weight control to subjects in a counseling session 475. 480. Interpretation of appropriate nutrient intake for various types of athletes, body composition assessment 485. 486 Interpret biochemical assessment measures for selected vitamins and minerals. 490. If appropriate, the student will be able to correctly interpret nutrition assessment information. 492-Apply nutritional assessment techniques, as appropriate to field setting.	181 181L. 185. Assign #1&3 281. 310. 312. 370. 451. Class project 452. 467. 468. 469. 475. 480. lect, lab, assn 485. 486 Text, lectures, exams 490-492.

6. Interpret nutrition information on food labels and in health claims, and explain their potential uses.	181. 181L. 185. 281. 310. 312. 370. 451. 452. 467. 468. 469. The student will be able to interpret basic nutrition information on food labels and in health claims, and explain their potential uses/abuses to subjects in a counseling session. 485. 486 Explain molecular theories for approved health claims for fiber and folate. 490 When appropriate, the student will be able to interpret nutrition information on food labels and in health claims, and explain their potential uses/abuses. 492 Determine appropriate food and nutrition recommendations for field setting. Synthesize knowledge from academic program and provide it to field site in an appropriate form for the field setting.	181. 181L. 185. Assign #2 281. 310. 312. 370. 451. 452. 467. 468. 469. 475. 485. 486 Text lecture exams 490-492.
7. Explain and predict effects of food processing on nutrition.	181. Have students learn effects of processing and cooking on nutrient retention. 181L. 185. 281. 310. 312. 370. 451. 452. 467. 468. 469 The student will be able to explain and predict effects of food processing on nutrition to subjects in a counseling session. 475. 485. 486 490. When appropriate, the student will be able to explain and predict effects of food processing on nutrition 492	

8. Explain appropriate use of supplements.	181. 181L. 185. 281. 310. 312. 370. Identify nutrients of concern for pregnant women and understand why they are of concern and identify the nutrient requirement of infants. 451. 452. 467. 468. 469. The student will be able to correctly explain appropriate use of supplements to subjects in a counseling session 475. 480. Explain the appropriate use of supplements for athletes 485. 486 This is a big issue to students, but I don't know how to properly address it. 490. If appropriate, the student will be able to correctly explain appropriate use of supplements. 492.	181. 181L. 185. 281. 310. 312. 370. A/L/E/E 451. 452. 467. 468. 469. 475. 480. lect/text 485. 486 492.

9. Recognize misinformation about nutrition and explain why it is incorrect.	181. 181L. 185. Evaluate nutrition information in popular media critically, with respect to its correctness 281. 310. 312. 370. 451. 452. Identify appropriate sources of nutrition information, both in professional research and/or review publications and in the popular media, and identify sources of nutrition misinformation. Describe nutrition education strategies with regards to a variety of target audiences, in general, and with regards to the specific target audience identified in the student's semester project. Develop and demonstrate effective oral and written techniques for conveying nutrition information 467. Brief examples of current research provided. 468. ibid. 469 Appropriately explain the basic effects of nutrients and other substances in food on the body and their relationship to health, exercise and weight control to subjects in a counseling session 475. Brief examples of current research provided. 480. Interwoven in class as it fits topics and current events 485. Interwoven in class as it fits topics and current events 486 Recognize major misconceptions about the health effects of vitamin, minerals, and phytochemicals. 490. **When appropriate, the student will be able to recognize misinformation about nutrition and explain why it is incorrect.** 492 Synthesize knowledge from academic program and provide it to field site in an appropriate form for the field setting.	181. 181L. 185. lectures, old exams/answers 281. 310. 312. 370. 451. 452. 467. 468. 469. 475. 480. lecture 485. lecture 486 Text, Lectures, exams 492. Field placement, learning plan

10. Use nutrition resources appropriately, such as computer data bases, application software, food composition data, diet and health recommendations, etc.	181. 181L. 185. 281. Use nutrition database to optimize formulations. 310. 312. 370. throughout course 451. Resources used as needed 452. Identify appropriate sources of nutrition information, both in professional research and/or review publications and in the popular media, and identify sources of nutrition misinformation. Describe nutrition education strategies with regards to a variety of target audiences, in general, and with regards to the specific target audience identified in the student's semester project. Critique nutrition education research, with regards to both content and structure of the research article. Develop and demonstrate effective oral and written techniques for conveying nutrition information 467. Implicit 468. Implicit **469 The student will develop skills in assessing nutritional status, by using nutrition resources appropriately, such as computer data bases, application software, food composition data, diet and health recommendations, etc.480.** 485. 486 490. When appropriate, the student will develop skills in assessing nutritional status by using nutrition resources appropriately, such as computer data bases, application software, food composition data, diet and health recommendations, etc. 492. Analyze nutrition information for field site.	181. 181L. 185. 281. Require the use of the nutrition database for obtaining nutritive values of ingredients in recipe formulations. 310. 312. 370. assignments 451. WI assignments, in class discussion 452. WI assignments, in class discussion 467. 468. 469. 475. 485. 486 492. Use Food processser software and prepare reports.

11. Recognize real world opportunities and limitations of nutrition as a career.	181. 181L. 185. 281. 310. 312. 370. 451. Define elements of community nutrition and explore limitations and opportunities for intervention & impact. 452. Define nutrition education, discuss its ethical and philosophical complexity and enumerate the steps involved in producing and marketing a nutrition education program. Describe how the concepts of networking, mentoring, and building liasons are integral parts of the education process. 467. Careers covered in detail 468. 469. 475. 480. 485. 486 490. Students are able to recognize real-world, on-the-job opportunities and limitations. 491. Experience food and nutrition careers	181. 181L. 185. 281. 310. 312. 370. 451. lecture/text/project 452. net/ment/liason WI q's-last exam other exam q's 467. 468. 469+490. Evaluation feedback by proctor and student. 475. 485. 486 492. Shadowing, interviewing, working with mentor, resume writing.

12. Understand and apply principles of energy balance for weight control.	181. 181L. 185. 281. 310. 312. 370. Identify factors that influence infant birth size and growth/development and to interpret patterns of infant growth. To describe valid methods of assessments of both growth and development in childhood and adolescence. To recognize and discuss nutrition related concerns for children and adolescents. Recognize the interactions of nutrition in chronic diseases of the adult. Differentiate health issues and disease processes that are unique to women. Recognize age-related physiological changes in the major organ systems. 451. 452. 467. Implicit 468. Implicit 469 Identify and apply an appropriately modified diet specific to an individual's need in a counseling session. 475. Implicit 480. Quantification of energy expenditure and its impact on energy balance/weight loss 485. Quantification of the variability of the caloric equivalent of weight loss and conditions that affect this variability. 486 490 .If appropriate, identify and help patient(s) apply a modified diet specific to his/her needs. 492.	181. 181L. 185. 281. 310. 312. 370. A/L/E/E 451. 452. 467. 468. 469+490. videotape, lecture/student sharing. 475. 480. lecture, assn 485. lecture, handout 486 492.

13. Explain and apply the scientific method to solve nutrition-related problems.	181. 181L. 185. Compare the various types of nutrition research with respect to type and reliability of information produced. 281. Course designed to help students learn "scientific method" 310. 312. 370. 451. Design and conduct a community nutrition assessment. 452. 467. 468. 469. 475. 480. implicit 485. implicit 486 490-492.	181. 181L. 185. lectures, old exams/answers 281. 310. 312. 370. 451. class project 452. 467. 468. 469. 475. 480. lect, text 485. lect, text 486 490-492.
14. Explain (including mechanisms at the cellular and molecular level) the effects of food energy, nutrients, and other food substances on the body and their relationship to health, exercise, and weight control.	181. 181L. 185. 281. 310. 312. 370. n/a to a minor degree e.g. folate-->NT defects Ca----> bone health 451. 452. 467/468. Learn how nutrition is related to disease in terms of unchangable and changable risk factors. 468. 469. 475. Learn how nutrition is related to disease in terms of unchangable and changable risk factors. 480. Focus on exercise and some on wt control 485. Explain at the physiological and biochemical levels the functions of energy-containing macronutrients on health, exercise, wt control 486 Explain at the physiological and biochemical levels the functions of vitamins, minerals and fiber, and how they relate to mechanisms that alter risk for chronic disease and deficiency symptoms. 490-492.	181. 181L. 185. 281. 310. 312. 370. lectures 451. 452. 467/468. Lecture, exams, writing project, case studies, handouts. 468. 469. 475. Lecture, exams, handouts. 480. lecture, text, exams 485. lecture, text 486 Text, lectures,exams 490-492.

15, Explain details of the digestion and metabolism of nutrients and other substances obtained from food.	485. Explain the physiological and biochemical mechanisms involved in the digestion, absorption, transport, storage, and utilization of energy-containing macronutrients and alcohol and their components and metabolites. 486 Explain the physiological and biochemical mechanisms involved in the digestion, absorption, transport, and excretion of vitamins and minerals.	485. text, lecture, quizzes, exams Text lecture, exams
16. Read and understand research literature and all elements of a research paper *Note: This is coming too late.. maybe need to introduce it in 370?*	181. 181L. 185. 281. Conduct library research for group experiments 310. 312. 370. implicit 451. 452. Identify appropriate sources of nutrition information, both in professional research and/or review publications and in the popular media, and identify sources of nutrition misinformation. Critique nutrition education research, with regards to both content and structure of the research article. 467. Incorporated into research paper 468. Incorporated into research paper 469. 475. 480. conduct library research 485. 486 490-492. Use appropriate sources for providing nutrition information to field site.	181. 181L. 185. 281. Use information from the literature as background or substantiation in laboratory reports. 310. 312. 370. Assignments (depends on who teaches), readings 451. 452. WI- comp 2, research articles 467. 468. 469. 475. 480. preparation of annotated bibliography 485. 486 490-492.

17. Apply analytical, math, and computer skills to solve problems.	181. 181L. 185. Use the U. S. Dietary Guidelines and Food Guide Pyramid to evaluate the nutrient adequacy in your diet. Identify which nutrients are sources of energy for the body and how an excess or a deficiency of energy can affect the body. 281. Solve food formulation problems. 310. 312. 370. 451. Analyze nutrition problems of particular communities 452. 467. Dietary analysis in SOAPS 468. Dietary analysis in SOAPS 469. 475. Personal dietary analysis. 485. 486 Limited use of arithmetic and algebra to solve analytical problems. Use concepts of means and standard deveations when deriving RDAs of selected vitamins and minerals. 490-492.	181. 181L. 185. Lectures, old exams/answers 281. Analyze and discuss results of food formulation experiments to solve problems that arise. 310. 312. 370. 451. Class project-data analysis, case study exam problems 452. 467. 468. 469. 475. 485. 486 Text, lecture exams 490-492.
18. Do a computer literature search	181. 181L. 185. 281. Write a group laboratory report 310. 312. 370. 451. 452. Identify appropriate sources of nutrition information, both in professional research and/or review publications and in the popular media, and identify sources of nutrition misinformation. 467/468. Learn various databases and uses for computer literature search. 469. 475. 480. Conduct library research 485. 486 492. Synthesize scientific information to convey current information on food and nutrition topics	181. 181L. 185. 281. Use library to conduct a computer literature search. 310. 312. 370. 451. 452. Concept search—WI assignment 467/468. Use MEDICINE and other databases to do writing assignment. 469. 475 480. prepare annotated bibliography 485. 486 492. write a fact sheet, write an article

18. Use basic nutrition laboratory techniques and instruments.	181. 181L. 185. 281. 310. 312. 370. 451. 452. 467/468. 469. 475 480. Use circumference, skinfold, and bioelectric impedance techniques in assessment of body composition, observe measurement of respiratory exchange measurement during exercise for the assessment of energy expenditure, substrate utilization, and VO2max 485. 486 492. Field report, journal	181. 181L. 185. 281. 310. 312. 370. 451. 452. 467/468. 469. 475 480. Lab demo & practical, assn 485. 486 492. Field report, journal
E. Analysis and Evaluation		
	Learning objectives	**Learning strategies**
1. **Recognize that nutrition is a constantly evolving science**.	181. 181L. 185. no clear objective 281. 310. 312. 370. 451. 452. implicit throughout course 467/468. 469. 475 480. implicit throughout course 485. implicit throughout course 486 Recognize that all the functions of vitamins, minerals and fiber are not completely understood yet, and that new nutrients may be discovered. 492. Integrate scientific information obtained from research literature	181. 181L. 185. lectures, old exams/answers 281. 310. 312. 370. Lectures 451. 452. 467/468. 469. 475 480. lect, text, discuss 485. lect, text, discuss 486 Text, lecture 492. write a fact sheet. write an article

2. Analyze information to extract the important nutrition message.	181. 181L. 185. 281. Practice analyzing and drawing conclusions of lab data. 310. 312. 370. Lectures 451. 452. Identify appropriate sources of nutrition information, both in professional research and/or review publications and in the popular media, and identify sources of nutrition misinformation. Describe nutrition education strategies with regards to a variety of target audiences, in general, and with regards to the specific target audience identified in the student's semester project. Critique nutrition education research, with regards to both content and structure of the research article. State the general ways in which food and culture can interact and describe nutrition-sensitive problems in the various ethnic groups in Hawaii. 467/468. 469. The student will be able to analyze information to extract the important nutrition message for subjects in a counseling setting. 475 485. 486 490 The student will be able to analyze information to extract the important nutrition message. 492. 492.	181. 181L. 185. 281. Analyze discuss in groups, and conclude reasons for results obtained in food formulation experiments. 310. 312. 370. 451. 452. WI assignments, q's on exam, in class discussions 467/468. 469. 475 485. 486 490-492.

3. Distinguish which nutrition concepts are applicable in specific circumstances and apply them appropriately.	181. 181L. 185. 281. 310. 312. 370. 451. Analyze nutrition problems of particular communities. 452. Describe nutrition education strategies with regards to a variety of target audiences, in general, and with regards to the specific target audience identified in the student's semester project. 467/468. 469 The student will be able to successfully counsel a client based on the client's needs 475 485. 486 490. If appropriate, the student will be able to successfully counsel a client based on the client's needs. 492. . Synthesize knowledge from academic program and provide it to field site in an appropriate form for the field setting.	181. 181L. 185. 281. 310. 312. 370. 451. Class discussions/project 452. WI assignments, q's on exam, in class discussions, oral/written projects 467/468. 469+490. Use of medical history, lab, anthropometics and dietary intake forms, videotaping feedback. 475 485. 486 492.
4. Evaluate capabilities of other health, nutrition, food professionals and how to work effectively with them.	181. 181L. 185. 281. 310. 312. 370. 451. 452. implicit 467/468. 469. 475 485. 486 492. analyze job responsiblilties and training for personnel at field site	181. 181L. 185. 281. 310. 312. 370. 451. 452. 467/468. 469. 475 485. 486 492. Field report, journal

5. Evaluate programs and manage people in the nutrition professions.	181. 181L. 185. 281. 310. 312. 370. 451. Critique community nutrition programs. Identify techniques to manage people. 452. 467/468. 469. 475 485. 486 490-492. Describe & critique personnel and activity of field setting 490-493. 490-494. .	181. 181L. 185. 281. 310. 312. 370. 451. Report on a nutrition program, interview staff of community nutrition programs, exams. 452. 467/468. 469. 475 485. 486 490-492.

6. Assess the extent of one's own nutrition knowledge and recognize one's own strengths and weaknesses.	181. 181L. 185. 281. Test what student understands and doesn't understand about food experimentation and manipulation. 310. 312. 370. Identify important social and cultural factors influencing nutritional status during pregnancy, infancy, childhood, adolescence, adulthood, and aging. Identify physiological changes affecting nutrient utilization during pregnancy, infancy, childhood, adolescents, adulthood, and aging. Identify important social and cultural factors influencing nutritional status during pregnancy, infancy, childhood, adolescence, adulthood, and aging. 451. 452. Define nutrition education, discuss its ethical and philosophical complexity and enumerate the steps involved in producing and marketing a nutrition education program. Discuss the attributes of a critical thinker and describe/tell how it has become a part of her/his thinking and learning processes. 467. 468. 469 Students will develop and practice newly acquired counseling skills, recognizing one's own strengths and weaknesses 470 475. 485. Appreciate the essentiality of understanding the physiological and biochemical basis of nutrition for solving real-world nutrition problems in all applied nutrition realms. 486 490 Students will develop and practice newly acquired skills, recognizing one's own strength and weaknesses. 492. Evaluate your preparation for and performance at your assigned duties at field site.	181. 181L. 185. 281. Question in semester exams determine extent to which student understands his/her own strengths and weaknesses. 310. 312. 370. exams, assignments 451. 452. WI assignments, q's on exam, in class discussions 467. 468. 469+490. Self-evaluation 475. 485. lect, discuss 486 492. Field report, oral presentation

7. Appreciate the need to learn research design and statistics.	181. 181L. 185. 281. 310. 312. 370. Lectures 451. Practice using research design and statistics to assess needs of a community. 452. Critique nutrition education research, with regards to both content and structure of the research article. 467/468. 469. 475 480. Organize and analyze data from anthropometric and respiratory exchange measurements. 485. 486 490-492.	181. 181L. 185. 281. 310. 312. 370. 451. class project 452. WI-Compare articles, reading assignments 467. 468. 469. 475. 480. practical lab assn 485. 486 490-492.
8. Evaluate one's own interest in the research process.	181. 181L. 185. 281. Conduct food formulation laboratory experiments 310. 312. 370. 451. 452. 467/468. 469. 475 480. Experience reading original research papers related to nutrition and exercise. 485. 486 492. Field report, journal	181. 181L. 185. 281. Write up results of laboratory experiments 310. 312. 370. 451. 452. 467/468. 469. 475 480. library research project 485. 486 492. Field report, journal

9. Design, evaluate and communicate a senior research project (senior seminar).	181. 181L. 185. 281. Communicate results of food experimentation 310. 312. 370. 451. 452. 467/468. 469. 475 485. 486 490 The student will compile medical/nutritional information and orally present a nutrition intervention case study. 491 492. Design and evaluate field experience through communication and negotiation with field supervisor and instructor.	181. 181L. 185. 281. Brief report to class on findings of group experiments. 310. 312. 370. 451. 452. 467/468. 469. 475 485. 486 492. Field report, journal

CTAHR Competencies	Learning strategies
Written Communications	181. Daily journals 181L. 185. Assign #1(FGP/DG), 3 (energy/fat), 4 (food saftey), 2 (labels) 281. Discuss experiments and write laboratory reports as a group on outcome of experiments. 310. 312. 370. exams, assignments, all in-class activities 451. Grant proposal 452. WI assignments, exam q's, project report 467. 468. 469+490. Journal, medical record entries (SOAPS), pamphlet writing 475. 485. 486 Take home essay exams 492. Journal, field report, resume, writing learning objectives
Oral Communications	181. Group discussion and oral reporting of results to rest of class. 181L. 185. 281. Group discussion and oral reporting of results 310. 312. 370. in-class exercises and groups 451. 452. in class discussions and groups, oral project update/reports 467. 468. 469+490. Video midterm/final, interactive counseling exercises, TV/radio/community/in service presentations. 475. 485. Class discussion interspersed with lect 486 Frequent in class questions that must be answered by someone or by group effort in the class. 492. Group discussion, oral presentation

Analytical Problem Solving skills	181.Group discussions, exam questions. 181L. 185. lectures, old exams/answers, assignments, MC exams 281. 310. 312. 370. exams, assignments, all in-class exercises 451. Class project 452. W. assignments, exam Q's, semester project 467. 468. 469. 475. 480. assignments 485. 486 Take-home, problem-solving, essay exams 492. self-evaluation
Personal Characteristics	181. Assign responsibilities to each student in group. Deal with problems as they arise. 181L. 185. integrating humor into classroom, deadlines and high standard for performance, realistic, detailed and quick feedback. 281. 310. 312. 370. punctuality in class and on assignments 451. 452. semester project, discussion format, deadlines-high stds, realitic/detailed feedback of WI assignments, humor, faculty as resources, emphasis on critical thinking, lots of reading 467. 468. 469+490. Video shows lots! 475. 480. practical labs/demos 485. 486 Take-home (study in groups) problem-solving essay exams that must be answered by the individual in their own words (not by the group). Ask students to be self-confident and outgoing enough to at least attempt to answer challenging question in class from the instructor & not to be afraid of mistakes in this context. 492. field report, journal

Human Relationship skills	181.Assign responsibilities to each group member – facilitator, recorder, etc. Rotate responsibilities. 181L. 185. faculty-student interaction 281. Assign responsibilities to each group member – facilitator, recorder, etc. Rotate responsibilities 310. 312. 370. group activities 451. 452. group project, discussion format, multi-cultural emphasis, ethics discussion/WI assignment, role playing 467. 468. 469+490. Videotaping and feedback, self feedback evaluation 475. 480. practical lab 485. 486 Group study for take home essay exam. Discuss difficult technical questions posed by the instructor in class. 492. field placement

Business Management skills	181. 181L. 185. 281. 310. 312. 370. 451. 452. WI/exams-case studies or eval/revising GEMS 467. 468. 469. 475. 485. 486 492. Learning plan, gantt chart
"Real World" Experience	181. 181L. 185. 281. 310. 312. 370. case studies/in class assignments 451. 452. Class project, guest speakers, directed research proj, students presentations, Q on last exam 467. 468. 469+490. Placement of students in hospital/clinical sites with planned experiences. 475. 485. 486 492. field placement

Leadership skills	181. Assign responsibilities to each group member – facilitator, recorder, etc. Rotate responsibilities 181L. 185. 281. Assign responsibilities to each group member – facilitator, recorder, etc. Rotate responsibilities 310. 312. 370. 451. 452. WI assignments, exam Q's, in class discussion 467. 468. 469. 475. 485. 486 490-492.
Computer skills	181. All journal entries must be typed. 181L. 185. 281. All journal entries must be typed. 310. 312. 370. depends on instructor, diet analysis assignment 451. class project 452. WI assignment-write/rewrite on word processing, some use web searches 467. 468. 469. 475. 485. 486 490-492.

Global Perspective	181. 181L. 185. integration of local foods into course material 281. 310. 312. 370. 451. exams, class discussion 452. semester project, ethics WI assignment, other WI 467. 468. 469. 475. 485. 486 490-492.