

Template for UGEC / UUAC Review of Courses

Meeting University Requirements

Instructions: Please fill out this form and attach a course syllabus that includes student learning outcomes. Submit both to the Registrar's Office for review by UGEC.

Course Title: Nutrition and Wellness

Course Subject / Number: NUTR 120

College: Education and Human Services Department: Kinesiology and Nutrition

Total Credit Hours: 3

Course contact hours - Lecture	
Course contact hours - Lab	
Course contact hours - Practicum	
Course contact hours - Seminar	
Course contact hours - Studio	
Course contact hours - Online	at least 3/week
Course contact hours - Colloquium	
Course contact hours – Field Experience	
Course contact hours - Internship	
Course contact hours - Research	
Course contact hours - Workshop	
Course contact hours – Other (specify)	

Prerequisites: None

Course Offered: Fall X Spring X Summer X
 Every Year? X Odd Years? _____ Even Years? _____

Course HAS counted in general education? Yes

As? Fine Arts _____ Social Science _____ Science X Bible Elective _____

For all majors or only certain majors? If only certain majors, which?
All majors that do not require specific science courses.

Department requests course to count in new University Requirements as:

 Social Science _____ Science X Bible elective* _____

*Bible elective refers to courses that fill the Bible elective slot (BIBM, BMIS, et al 300-499).

Justification for course counting in the checked area above:

Nutrition is an applicable science. What is more applicable than curriculum pertaining to what we do three times each day? NUTR 120 Nutrition and Wellness is an overview of nutrition and includes multiple facets of the subject. The course includes the role of nutrition in our health, how nutrition affects our bodies and productivity, and how to design a healthful diet. These initial concepts verify the practicality and applicability of the course to each student. The course has been extremely popular among ACU students. Many have sent messages of thanks for offering the course because they learned a lot and because the information was so applicable to their everyday lives.

Nutrition is completely based in the sciences. Nutrition recommendations are not made until there is a meta-analysis of scientific research on any particular topic to back up information. One of the main objectives in NUTR 120 is for the student to learn how to evaluate nutrition information to determine whether it is valid or not, based on whether there is scientific research on the topic, whether there is a peer-reviewed published study, whether there are other studies with the same outcome, and who is providing the information and what their credentials are. Students should understand both the limitations of scientific research and the potential impact on society that it can have by the conclusion of the course.

The sciences of anatomy and physiology are incorporated into nutrition science. NUTR 120 describes gastrointestinal anatomy and physiology involving the gastrointestinal and ancillary systems of the body involved in digestion, absorption, transport, and biochemistry of nutrient metabolism. Biochemical pathways such as the Krebs's Cycle and glycolysis are presented. The digestion process, including particular hormones and enzymes are depicted. Roles, sources, functions, absorption, transport, biochemical metabolism, symptoms of deficiencies and toxicities, and the recommended intakes of each nutrient are studied. Multiple disease states are introduced, including cardiovascular disease, cancer, diabetes, and osteoporosis. Students are required to read the research and critically relate how nutrition is involved with certain diseases. Information of how individual nutrients can promote or deter certain conditions or disease states is included within the context of each nutrient (i.e. fatty acids and cardiovascular disease, calcium and osteoporosis). Students are required to read the research and critically relate how nutrition is involved with the disease.

Chemistry concepts are demonstrated in NUTR 120 through the study of macronutrients (carbohydrate, protein, and fat) and their chemical structures. In the study of simple sugars glucose, fructose, and galactose, the glycosidic bonds that form between them which then form the more common sugars (sucrose, maltose, and lactose) are covered. Amino acid structures, peptide bonds, and primary, secondary, tertiary, and quaternary structures are explained. The structures of fatty acids, glycerol, and triacylglycerols are studied throughout the chapter on lipids.

Assignments outside of class include the Personal Dietary Analysis, Supermarket Project Discussion, Nutrition Myth Busters Reports, and Research Project. In the Personal Dietary Analysis project, students log three days of intake into a diet analysis computer program, which analyzes and compares the intake

with the recommendations for nutrients and energy. Students must interpret the data and describe what changes they need to make in their diet to meet the recommendations for long-term health. The Supermarket Project Discussion requires students to research certain items in the supermarket and determine which are best for health. Students use critical thinking skills while answering questions about case study scenarios given in Nutrition Myth Busters. Finally, students search the Internet to find erroneous advertisements of nutritional products in the Research project and assess why they are erroneous. The student must then locate Internet sources of valid nutrition information and distinguish differences between erroneous and valid sources. Erroneous and invalid information is deemed so if it is not grounded in scientific study. Students are informed citizens that can make informed decisions when they complete NUTR 120.

Everything we know about nutrition is based in scientific studies of various types. Initially, there may be an epidemiological study to look at nutritional factors that may influence disease states in regions of the world. Next, cohort studies, case-control studies, randomized clinical trials, and even double-blind studies may be conducted to discover correlations between dietary components and disease. Meta-analyses of each topic are reviewed before nutrition recommendations are made by governmental agencies and professional organizations such as the Academy of Nutrition and Dietetics, American Medical Association, or the American Heart Association to name a few.

Listed below are the 5 Student Outcomes from the faculty approved Core Curriculum document:

1. Strong analytical, communication, quantitative, and information skills.
2. Deep understanding of and hands-on experience with the inquiry practices of disciplines that explore the natural, socio-cultural, aesthetic, and religious (or theological or spiritual) realms.
3. Intercultural knowledge, integrative thinking, and collaborative problem-solving skills.
4. A proactive sense of responsibility for individual, civic, and social choices.
5. Habits of mind that foster integrative thinking and the ability to transfer skills and knowledge from one setting to another.

Which of the five core curriculum student learning outcomes does this course address? How?

1. Strong analytical, communication, quantitative, and information skills.

This student outcome is met by NUTR 120 because students must use information technology, not only because it is an online course, but because students search the Internet to find questionable nutrition information. They evaluate nutrition information by using the research process. Students also analyze their intake by using a computer program and determine what changes they could make to meet the recommendations.

2. Deep understanding of and hands-on experience with the inquiry practices of disciplines that explore the natural, socio-cultural, aesthetic, and religious (or theological or spiritual) realms.

Students learn how to evaluate nutrition information using several specific criteria. They learn how theories can be tested and what good research entails. Students develop a research project using the scientific method and gain hands-on experience in several aspects of foods and nutrition, which may involve any of the above-mentioned realms.

3. Intercultural knowledge, integrative thinking, and collaborative problem-solving skills.

Gaining knowledge of nutrition principles and the ability to integrate those principles to solving everyday medical problems with appropriate nutrition is what the student is required to do in certain assignments of NUTR 120. The student is presented with case study situations and must explain what is amiss and what should be done to correct the nutritional problem.

4. A proactive sense of responsibility for individual, civic, and social sciences.

Students meet this learning outcome by describing how nutrition can adversely affect their health and relating how individual health impacts society and the health care system. Through required projects, students address ethical issues associated with nutrition and disease states.

5. Habits of mind that foster integrative thinking and the ability to transfer skills and knowledge from one setting to another.

Students describe sound nutrition principles and articulate their importance for health based on textbook material and research while answering questions and applying the principles to health and other situational issues.

Chair Signature: _____ Date: 4-26-12

Dean Signature: _____ Date: 4-26-12

UGEC Criteria for Natural Sciences Core

1. Promotes Quantitative Literacy Through Analysis of Empirical Evidence

- a. In the Personal Dietary Analysis project, students log several days of dietary intake into a diet analysis computer program, which analyzes and compares the intake with recommendations for individual nutrients and for energy. Students must interpret the data from bar graphs and charts. They then must describe what changes they need to make in their diets and list which nutrients need to be increased or decreased and the corresponding foods they could increase or decrease to meet the recommendations for long-term health. Students interpret many tables and graphs containing data. A few examples include nutrient needs for various populations (all nutrients), nutrient content of foods, nutrients involved in fluid and electrolyte balance, comparison of various nutrient intake and the impact on muscle glycogen stores, nutrient recommendations for different types of activity, and calculations for calories, protein, fat, carbohydrate, and fluid.
- b. Students look for examples of questionable nutrition information in the Research Project. They formulate a hypothesis or null hypothesis based on the questionable piece of information they select. Students think logically and critically and determine whether the information is erroneous based on the body of scientific evidence. They analyze the information, find valid research examples of nutrition information, and formulate a statement to support their conclusions along with recommendations for additional studies that may be needed.
- c. Students develop their own simple experiment, select their own topic concerning nutrition, and use the scientific method. The scientific method requires students to:
 1. state the question they want to know.
 2. make observations and gather data.
 3. form a hypothesis and try to predict what the answer is to the question.
 4. test their hypothesis by performing the experiment.
 5. analyze the data/examine the results of the experiment.
 6. draw a conclusion as to whether the hypothesis was supported or not based on the interpretation of the results of the experiment.Mathematical determinations will be required.

2. Results Applied Within a Larger Framework

- a. Multiple disease states are introduced, including cardiovascular disease, cancer, diabetes, and osteoporosis. Information of how individual nutrients can promote or deter certain conditions or disease states is included within the context of each nutrient (i.e. fatty acids

and cardiovascular disease, calcium and osteoporosis). Students are required to read the research and critically relate how nutrition is involved with the disease. Proper nutrition is integral to the prevention of disease. With the current and rising costs of health care, preventing disease is an ethical issue that impacts every individual. It seems that it would be better for people to be healthy and prevent disease than to burden the health care system with enormous costs that could be averted. Through required projects, students address ethical issues associated with nutrition and disease states.

- b. Nutrition is completely based in the medical sciences, such as Anatomy, Physiology, and Biochemistry. Nutrition recommendations are not made until there is a meta-analysis of scientific research on any particular topic to back up information. One of the main objectives in NUTR 120 is for the student to learn how to test and evaluate nutrition information and to determine whether it is valid or not, based on whether there is scientific research on the topic, whether there is a peer-reviewed published study, whether there are other studies with the same outcome, and who is providing the information and what their credentials are. Students learn how theories can be tested and what good research entails. They should understand both the limitations of scientific research and the potential impact on society that it can have by the conclusion of the course.
- c. Some assignments in NUTR 120 are called Myth Busters. These assignments present medical/nutritional problems or inquiries into proper nutrition for a given situation. Information is presented in a case study format. Students are asked numerous questions to help them evaluate the problems/inquiries and what is being done or recommended about them. They use established recommendations based on scientific evidence and calculations to synthesize their answers. Students are required to use critical thinking skills while answering questions about case study scenarios.

3. Promotes Critical Thinking Through Evaluation

- a. Students evaluate scientific explanation in article reviews from peer-reviewed journals. They answer questions about the methods used in the articles and whether they believe the research is valid and reliable using scientific principles.
- b. A plethora of nutrition misinformation exists in all types of media and in the marketplace. Theories of nutrition principles and recommendations are questioned in the in-depth sections of the textbook. These sections help the student assess new and emerging theories in the field of nutrition.