

**DEREE COLLEGE SYLLABUS FOR: BMS 3425 HUMAN NUTRITION****UK LEVEL: 5  
UK CREDITS: 15  
US CREDITS: 3/0/3**

(Fall 2019)

**PREREQUISITES:**BI 1000 Introduction to Biology I  
BI 1101 Introduction to Biology II  
CH 1002 Principles of Chemistry  
CH 2115 General Chemistry**CATALOG  
DESCRIPTION:**

An integrated overview of the physiological requirements and functions of major nutrients for humans, the connection between nutrition and disease, the role of nutrients in growth and health through the life cycle and in physical activity, dietary requirements, as well as issues of food safety, food security and contemporary challenges of nutrition and the food system.

**RATIONALE:**

The course is designed for life sciences majors and students interested in learning more about nutrition and human health. It provides an understanding of the basics of human nutrition and the relationships between nutrition, health, and disease. Our world faces major contemporary challenges in relation to food availability, production and consumption. Poverty and overpopulation in the less-developed countries lead to malnutrition, hunger and deficiency diseases; on the other side, affluence and changing lifestyles in the more developed countries, characterized by a variety of food choices, result in over nutrition, obesity, cardiovascular disease and cancers, as well as large quantities of food waste. Physical exercise is known to be important for maintaining good health and each stage in the life cycle of an individual has different requirements for nutrients. This Human Nutrition course provides essential knowledge and skills that help students better understand the role of nutrition in health promotion and disease prevention, better evaluate its role in different life stages and conditions and make more informed personal health choices. This knowledge is essential for students aiming at careers in the biomedical and health professions. Such students will be expected to integrate what they will learn about nutrition with their knowledge of chemistry and physiology.

**LEARNING OUTCOMES:**

As a result of taking this course, the student should be able to:

1. Demonstrate knowledge and understanding of the major macro and micronutrients relevant to human health: their structure, properties, dietary sources, intake levels, physiological role, use and requirements by the human body.
2. Explain the role of key nutrients in the prevention of disease, based on current evidence, and discuss major nutrition-related diseases, as well as issues of food safety and food security in a global context.
3. Discuss the role of nutrition in growth and health through the life cycle, as well as its role in physical activity and explain the rationale for defining nutritional requirements with reference to specific conditions such as pregnancy, lactation, older age and physical activity.
4. Critically discuss current advances and challenges in food safety, food technology and global food production, and propose sustainable solutions for human health and the environment.

	<p>5. Analyze and critically evaluate data and information from scientific research articles on human nutrition, plan and produce a project report and communicate it in writing and orally.</p>								
<p><b>METHOD OF TEACHING AND LEARNING:</b></p>	<p>In congruence with the learning and teaching strategy of the college, the following tools are used:</p> <ul style="list-style-type: none"> <li>• Class lectures, interactive learning (class discussions, group work), video presentations, and practical problems solved in class.</li> <li>• Student project and literature discussion</li> <li>• Exercises and primary source documents are assigned as homework and are discussed and reviewed in class</li> <li>• Use of textbook companion site, CD-ROMs, Blackboard online interactive tools and online resources.</li> <li>• Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material.</li> <li>• Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources.</li> </ul>								
<p><b>ASSESSMENT:</b></p>	<p><b>Summative:</b></p> <table border="1" data-bbox="574 821 1317 1129"> <tr> <td data-bbox="574 821 1138 1031"> <p><b>First Assessment:</b> It includes the following components: a) Student project on a specific nutrition topic leading to a written report (1,500 words) and oral presentation (30%) b) Critical reflection on a scientific article or report (20%)</p> </td> <td data-bbox="1138 821 1317 1031"> <p><b>50%</b></p> </td> </tr> <tr> <td data-bbox="574 1031 1138 1129"> <p><b>Second Assessment:</b> Final examination (2 hours) (essay questions)</p> </td> <td data-bbox="1138 1031 1317 1129"> <p><b>50%</b></p> </td> </tr> </table> <p><b>Formative:</b></p> <table border="1" data-bbox="574 1188 1317 1283"> <tr> <td data-bbox="574 1188 1138 1251"> <p>Essay questions/problems (in-class or as homework assignments)</p> </td> <td data-bbox="1138 1188 1317 1251"> <p><b>0</b></p> </td> </tr> <tr> <td data-bbox="574 1251 1138 1283"> <p>In-class or online quizzes</p> </td> <td data-bbox="1138 1251 1317 1283"> <p><b>0</b></p> </td> </tr> </table> <p>The formative tests aim to prepare students for the examinations. The coursework portfolio tests Learning Outcomes 2, 3, 4 and 5. The final examination tests Learning Outcomes 1, 2, 3 and 4.</p>	<p><b>First Assessment:</b> It includes the following components: a) Student project on a specific nutrition topic leading to a written report (1,500 words) and oral presentation (30%) b) Critical reflection on a scientific article or report (20%)</p>	<p><b>50%</b></p>	<p><b>Second Assessment:</b> Final examination (2 hours) (essay questions)</p>	<p><b>50%</b></p>	<p>Essay questions/problems (in-class or as homework assignments)</p>	<p><b>0</b></p>	<p>In-class or online quizzes</p>	<p><b>0</b></p>
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<p><b>INDICATIVE READING:</b></p>	<p><b>Required Reading:</b></p> <ul style="list-style-type: none"> <li>•Sizer, F. and Whitney, E. (2016) <i>Nutrition: Concepts and Controversies</i>. 14<sup>th</sup> edition. Cengage Learning. ISBN-13: 978-1305627994.</li> </ul> <p><b>Recommended Reading:</b></p> <ul style="list-style-type: none"> <li>• <i>Encyclopedia of Human Nutrition</i> (1998). London: Academic Press.</li> <li>• Shils, Olson, Shike, and Ross (Eds.), (1999). <i>Modern Nutrition in Health and Disease</i>, 9th edition. Williams and Wilkins.</li> <li>• Linder, Ed. (1991). <i>Nutritional Biochemistry and Metabolism</i>, 2nd edition. Elsevier.</li> </ul>								

<p><b>INDICATIVE MATERIAL:</b> (e.g. audiovisual, digital material, etc.)</p>	<p><b>REQUIRED MATERIAL:</b> N/A</p> <p><b>RECOMMENDED MATERIAL:</b> N/A</p>
<p><b>COMMUNICATION REQUIREMENTS:</b></p>	<p>Verbal skills using academic/professional English</p>
<p><b>SOFTWARE REQUIREMENTS:</b></p>	<p>Word, PowerPoint, Excel</p>
<p><b>WWW RESOURCES:</b></p>	<ul style="list-style-type: none"> <li>• American Society for Nutrition: <a href="http://www.nutrition.org/">http://www.nutrition.org/</a></li> <li>• Food and Agricultural Organization: <a href="http://www.fao.org">http://www.fao.org</a></li> <li>• International Food Information Council (IFIC) Foundation: <a href="https://foodinsight.org/">https://foodinsight.org/</a></li> <li>• National Institute for Occupational Safety and Health (NIOSH), Pocket Guide to Chemical Hazards: <a href="http://www.cdc.gov/niosh/npg/npg.html">http://www.cdc.gov/niosh/npg/npg.html</a></li> <li>• Nature (Journal): <a href="https://www.nature.com/">https://www.nature.com/</a></li> <li>• Science (Journal): <a href="http://www.sciencemag.org/">http://www.sciencemag.org/</a></li> <li>• Scientific American (Journal): <a href="http://www.sciam.com">www.sciam.com</a></li> <li>• World Health Organization: <a href="http://www.who.int/en/">http://www.who.int/en/</a></li> </ul>
<p><b>INDICATIVE CONTENT:</b></p>	<ul style="list-style-type: none"> <li>• Introduction to Nutrition</li> <li>• Nutrition Tools – Standards and Guidelines</li> <li>• Nutrition and the Human Body</li> <li>• Carbohydrates</li> <li>• Lipids</li> <li>• Proteins and Amino Acids</li> <li>• Vitamins</li> <li>• Minerals and Water</li> <li>• Energy Balance and Healthy Body Weight</li> <li>• Nutrients and Physical Activity</li> <li>• Diet &amp; Health</li> <li>• Life Cycle and Nutrition</li> <li>• Consumer Concerns &amp; Food Safety</li> <li>• Hunger and the Global Environment</li> </ul>