**ESSEX COUNTY COLLEGE**

**Biology and Chemistry Division**

**HSC 101 *–* Introduction to Nutrition**

**Course Outline**

**Course Number & Name:**  HSC 101 Introduction to Nutrition

**Credit Hours:**  3.0 **Contact Hours:**  3.0 **Lecture:** 3.0 **Lab:**  N/A **Other:**  N/A

**Prerequisites**:  Grade of “C” or better in BIO 100 or higher or in CHM 100 or higher

**Co-requisites:** N/A **Concurrent Courses:** N/A

**Course Outline Revision Date:**  Fall 2010

**Course Description**: This is a basic course of nutrition, intended to provide each student the foundation for understanding the science of nutrition, and the application of nutrition principles in daily dietary practice. An investigation of the relationship between diet and nutrition to the pathological and physiologic process of the body, as well as the benefit of food to emotional health, are the center of focus. The concepts of digestion, absorption, transport, and elimination are reviewed. Energy obtained from food, which supports ongoing activities of body tissue, and the mechanisms used to maintain energy, water and electrolyte balance are studied.

**Course Goals:** Upon successful completion of this course, students should be able to do the following:

1. identify and discuss the sources of nutrients in foods, the functions of essential and nonessential nutrients and the impact of excess and/or deficiency of these nutrients on health;
2. explain the role of carbohydrates, fat, and protein in relation to human metabolism; and
3. explain the structural components of the body, the pathways for distribution of nutrients to body cells and tissues, and the processes the body uses to obtain energy from food.

**Measurable Course Performance Objectives (MPOs)**: Upon successful completion of this course, students should specifically be able to do the following:

1. Identify and discuss the sources of nutrients in foods, the functions of essential and nonessential nutrients and the impact of excess and/or deficiency of these nutrients on health:

 1.1 *analyze a food label and the nutrition facts panel to determine the nutritional adequacy of a given food*;

 1.2 *identify the food groups, number of servings, and serving sizes in MyPyramid;* and

1.3 *describe the causes, symptoms, and treatments of gastroesophageal reflux disease and ulcers*

**Measurable Course Performance Objectives (MPOs)** (continued):

2. Explain the role of carbohydrates, fat, and protein in relation to human metabolism:

 2.1 *explain the process of catabolism of carbohydrates, fats, and proteins*;

 2.2 *explain the processes of gluconeogenesis, lipogenesis, and amino acid synthesis;* and

 2.3 *describe the effect of feasting and fasting on human metabolism*

3. Explain the structural components of the body, the pathways for distribution of nutrients to body cells and tissues, and the processes the body uses to obtain energy from food:

3.1 *identify the potential health risks associated with high-protein, high-carbohydrate, and high-fat diets*;

 3.2 *describe disorders related to inadequate carbohydrate, fat, and protein;* and

3.3 *discuss the role of amino acids, triglycerides, and essential fatty acids*

**Methods of Instruction**: Instruction will consist of lecture, discussion, case studies and course-related material.

**Outcomes Assessment:** All grading components are analyzed to determine the level of student performance on these assessment instruments in regards to meeting course objectives.  The results of this data analysis are used to guide necessary pedagogical and/or curricular revisions.

**Course Requirements:** All students are required to:

1. Attend classes and be on time for each class.
2. Participate in class discussions and activities.
3. Take all exams as scheduled.

**Methods of Evaluation:** Final course grades will be computed as follows:

 **% of**

**Grading Components final course grade**

* **6 or more Chapter Examinations** (dates specified by the instructor)  **100%**

Exams will provide evidence of the extent to which students meet course objectives.

Academic Integrity: Dishonesty disrupts the search for truth that is inherent in the learning process and so devalues the purpose and the mission of the College. Academic dishonesty includes, but is not limited to, the following:

* plagiarism – the failure to acknowledge another writer’s words or ideas or to give proper credit to sources of information;
* cheating – knowingly obtaining or giving unauthorized information on any test/exam or any other academic assignment;
* interference – any interruption of the academic process that prevents others from the proper engagement in learning or teaching; and
* fraud – any act or instance of willful deceit or trickery.

Violations of academic integrity will be dealt with by imposing appropriate sanctions. Sanctions for acts of academic dishonesty could include the resubmission of an assignment, failure of the test/exam, failure in the course, probation, suspension from the College, and even expulsion from the College.

**Student Code of Conduct:** All students are expected to conduct themselves as responsible and considerate adults who respect the rights of others. Disruptive behavior will not be tolerated. All students are also expected to attend and be on time for all class meetings. No cell phones or similar electronic devices are permitted in class. Please refer to the Essex County College student handbook, *Lifeline*, for more specific information about the College’s Code of Conduct and attendance requirements.

**Course Content Outline:** based on the text **The Science of Nutrition**, by Thompson, Manore & Vaughan; published by Pearson/Benjamin Cummings; ISBN #: 10-0-8053-9435-4

**Week Chapter/Topic**

|  |  |  |
| --- | --- | --- |
| 1 | Chapter 1: | The Role of Nutrition in Our Health |
| 2 | Chapter 2:  | Designing a Healthful Diet |
| 3 – 4 | Chapter 3:  | The Human Body: Are We Really What We Eat?**Exam 1** on Chapters 1, 2, and 3 |
| 5 – 6 | Chapter 4:  | Carbohydrates: Bountiful Sources of Energy and Nutrients |
| 6 – 7 | Chapter 5:  | Fat: An Essential Energy-Supplying Nutrient**Exam 2** on Chapters 4 and 5 |
| 7 – 8 | Chapter 6:  | Proteins: Crucial Components of All Body Tissues |
| 8 – 9 | Chapter 7:  | Metabolism: From Food to Life**Exam 3** on Chapters 6 and 7 |
| 10 – 11 | Chapter 8:  | Nutrients Involved in Energy Metabolism**Exam 4** on Chapter 8 |
| 12 – 13 | Chapter 9:  | Nutrients Involved in Fluid and Electrolyte Balance**Exam 5** on Chapter 9 |
| 14 – 15 | Chapter 10:  | Nutrients Involved in Antioxidant Function**Exam 6** on Chapter 10  |