**ESSEX COUNTY COLLEGE**

**Biology & Chemistry Division**

**BIO 241 – Pathophysiology**

**Course Outline**

**Course Number & Name:** BIO 241 Pathophysiology

**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 103 or BIO 121 or placement

**Co-requisites:** BIO 104 or BIO 122 **Concurrent Courses:** None

**Course Outline Revision Date:**  Fall 2010

**Course Description**: This course will emphasize disease mechanisms, the various responses of the body to restore homeostasis, and the affect of these responses on normal function. Pathogenesis will be viewed at the molecular, cellular, tissue and systematic levels and be correlated with signs and symptoms. Diagnostic procedures and the rationale or treatment modalities will be covered for model diseases.

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

1. apply basic science concepts and physiological processes to discuss pathological processes and disease;

2. describe the adaptive and compensatory responses of the human body;

3. explain differences in pathological processes and manifestations across the life span;

4. critically analyze the impact of physiological and pathological changes on health and illness;

5. differentiate between normal physiological and pathological processes in the human body; and

6. examine the relationship between pluralistic factors and pathophysiological processes.

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

MPOs for BIO 241 are developed in a lecture module format.

MPOs are identified and established by state licensure standards, NLNAC accreditation standards, JCOAH national safety standards, ANA national patient care standards.

**Methods of Instruction**: Instruction will consist of lecture, discussion, group projects, multimedia, laboratory, individual conferences and group discussions.

**Outcomes Assessment:** Exam questions are blueprinted to course objectives. Data is collected and 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 class. Absences or late arrivals negatively affect student understanding of material and, therefore, performance in the course.

2. Complete assigned readings in a timely manner.

3. Take all exams as scheduled. Note: Policies regarding make-up exams depend on the individual instructor of the class.

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

**% of**

**Grading Components final course grade**

* **Attendance and Class Participation 0 – 10%**

Students who attend class benefit from the expertise of the instructor. Class participation indicates some level of comprehension of course topics.

* **4 or more Unit Exams** (dates specified by the instructor)  **90 – 100%**

Exams will show evidence of the extent to which students meet course objectives, including but not limited to, identifying and applying concepts, analyzing and solving problems, and stating appropriate conclusions using correct terminology.

Note: The instructor will provide specific weights, which lie in the above-given ranges, for each of the grading components at the beginning of the semester. Also, a minimum course average of 75% must be achieved for successful course completion.

**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 **Pathophysiology: The Biologic Basis for Disease in Adults and Children**, 5th edition, by Kathryn L McCance & Sue E Huether; published by Elsevier; ISBN #: 9780323035071.

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| **Week** | **Topics** | **Reading Assignments** |
| 1 – 2 | Cells, Genes | Chs 1 – 5 |
| 3 | Mechanisms of Self-Defense, Stress | Chs 6 – 10 |
| 4 | Cancer, Hematological System  **Unit Exam I** | Chs 11 – 13, Chs 25 – 28 |
| 5 | Hematological System (continued) | Chs 25 – 28 (continued) |
| 6 – 7 | Pulmonary System, Cardiovascular System  **Unit Exam II** | Chs 32 – 34, Chs 29 – 31 |
| 8 | Cardiovascular System (continued) | Chs 29 – 31 (continued) |
| 9 | Fluids/Electrolytes, Endocrine System | Ch 3, Chs 20 – 21 |
| 10 | Endocrine System (continued) | Chs 20 – 21 (continued) |
| 11 | Digestive System  **Unit Exam III** | Chs 38 – 40 |
| 12 | Renal/Urologic System | Chs 35 – 37 |
| 13 | Neurological System | Chs 14 – 19 |
| 14 | Neurological System (continued), Musculoskeletal System | Chs 14 – 19 (continued), Chs 41 – 43 |
| 15 | Review/Evaluation  **Unit Exam IV** |  |