**I. COURSE TITLE:** Human Biology I

**COURSE NUMBER:** 1104 **CATALOG PREFIX:** BIOL

**II. PREREQUISITES:** None

**COREQUISITE:** None

**III. CREDIT HOURS:** 4 **LECTURE HOURS:** 3

**LABORATORY HOURS:** 1 **LAB CONTACT HOURS:** 2

**IV. COURSE DESCRIPTION:**

A course on the basic biology of the human organism. Topics include simple chemistry, cell and tissue structure and function, structure and function of the nervous and endocrine systems, cell division, basic genetics, DNA biology, reproduction and aging. Laboratory sessions emphasize and reinforce major concepts covered. For non-science majors.

**V. ADOPTED TEXT(S):**

*Biology of Humans Concepts, Applications, and Issues, 2017*

6th edition, Goodenough/McGuire

Pearson, ISBN: 978-0-13-404544-3

*Human Biology Concepts and Current Issues Lab Manual, 2017*

8th edition, Atsma/Johnson

Pearson, ISBN: 978-0-13-428381-4

**Package Bundle** ISBN: 978-0-13-465674-8 (includes Textbook, Lab book, and Mastering Access card)

**VI. COURSE OBJECTIVES:**

Upon completion of this course the student will be able to:

1. Describe the characteristics of life.
2. Conduct investigations using scientific method.
3. Describe the structure and function of basic molecules.
4. Recognize the structures and processes associated with eukaryotic cells.
5. Briefly diagram and describe the process of cellular respiration.
6. Recognize the four basic human tissue types and their respective functions.
7. Describe the processes of mitosis and meiosis.
8. Work genetics problems using Mendel’s Laws.
9. Describe the structure and function of the nervous and endocrine systems.
10. Describe the structures and the processes of human reproduction.
11. Recognize the stages of human development.

**VII. GRADING:**

Grading will follow policy in college catalog.

|  |  |  |  |
| --- | --- | --- | --- |
| **A** | **90** | **–** | **100** |
| **B** | **80** | **–** | **89** |
| **C** | **70** | **–** | **79** |
| **D** | **60** | **–** | **69** |
| **F** | **0** | **–** | **59** |

**VIII. COURSE METHODOLOGY**

This course may use lecture, discussion, video, and overhead presentations.

The course may include chapter and workbook assignments, hand-in assignments, computer assignments, work projects, research papers, and laboratory activities. Written quizzes and exams may be used as appropriate to the course objectives and online instruction.

**IX. COURSE OUTLINE:**

**Lecture Material:**

A Human Perspective

Chemistry of Life

Cell Structure and Function

Organization and Regulation of Body System

Cell Division and the Human Life Cycle

Cancer

Patterns of Inheritance

Genetic Counseling

Nervous System

Endocrine System

Reproductive System

Development and Aging

**Laboratory Activities:**

Scientific method, metric system and measurements

Basics of microscopy

Chemistry of life: molecules and enzymes

Cell biology: types of cells, movement across membranes

Human tissues

Mitosis, meiosis and simple genetics

Gross morphology of the human

Nervous system anatomy and sheep brain dissection

Anatomy of the human reproductive systems

**Sample Course Calendar:**

Week 1: Course introduction, a human perspective

Lab: Scientific method, metric system and measurements

Week 2: Chemistry of Life

Lab: Chemistry of life: molecules and enzymes

Week 3: Chemistry, continued

Lab: Lab test #1

Week 4: Cell Structure and function

Lab: Basics of microscopy

Week 5: Cell biology, continued

Lab: Cell biology: types of cells, movement across membranes

Week 6: Organization and regulation of body systems

Lab: Lab test #2

Week 7: Organization, continued

Lab: Human tissues

Week 8: Cell division and the human life cycle,cancer

Lab: Human tissues, continued

Week 9: Patterns of inheritance – Mendelian genetics

Lab: Mitosis, meiosis

Week 10: Patterns of inheritance – Mendelian genetics, continued

Lab: Lab test #3

Week 11: Nervous system

Lab: Gross morphology of the human

Week 12: Nervous system, continued

Lab: Nervous system anatomy and sheep brain dissection

Week 13: Endocrine system

Lab: Lab test #4

Week 14: Reproductive Systems

Lab: Anatomy of the human reproductive systems

Week 15: Reproductive, continued

Development and aging

Week 16: **Final lecture and lab exams**

**X. OTHER REQUIRED BOOKS, SOFTWARE, AND MATERIALS:**

None

**XI. EVALUATION:**

Final grade in this course will be determined by mastery of lecture and

laboratory material. There will be periodic written exams and a comprehensive final exam. A grade for the laboratory component will be included in the calculation of the grade for the class. The laboratory grade will account for approximately 25% of the final class grade.

**XII. SPECIFIC MANAGEMENT REQUIREMENTS:**

At the discretion of the instructor

**XIII.** **OTHER INFORMATION:**

**FERPA:** Students need to understand that your work may be seen by others. Others may see your work when being distributed, during group project work, or if it is chosen for demonstration purposes.

Students also need to know that there is a strong possibility that your work may be submitted to other entities for the purpose of plagiarism checks.

**DISABILITIES:** Students with disabilities may contact the Disabilities Service Office, Central Campus, at 800-628-7722 or 937-393-3431.