**SYLLABUS: BSC 105 - INTRODUCTION TO BIOLOGY - Fall 2017**

**Instructor:** Ann Ludlow

**Office and Phone:** Elkins High School, Rm 204. 304-636-9170.

**Course Description:** 4 credit hour class designed for non-science majors. Basic biological principles will be examined using the human as a model. This class will cover the fundamentals of biological human structure, function, and interactions with the environment. Class format will include lecture and classroom discussion, along with weekly laboratory sessions.

**Course Expectations/Learning Outcomes**: Upon successful completion of this course, students will have an understanding of the life processes. They will develop a basic working knowledge of the anatomical structures of various organisms and the evolutionary development and significance of such structures. Students will be able to apply this knowledge to everyday life issues (health, etc.) using enhanced critical thinking skills.

**Course Meeting Time:** M-F. 9:30 – 10:55

**Text:** Human Biology, 15th ed. (Mader). **Lab Manual:** BSC 105 Lab Manual, 16TH ed. Both can be purchased through the Marshall University bookstore.

**Grading Policy:**

* Graded Material: This is on the Randolph County Livegrades site.

Tests – 30%

Quizzes- 30%

Informal/Labs – 20%

9 Week exam – 20%

Final Exam is 20% of total grade

* Grading Scale: Material is graded using a college scale. Successful completion of class requires a passing final grade.

A = 90-100%

B = 80- 89.9%

C = 70-79.9%

D = 60- 69.9%

F = Below 59.9%

* Absences and Makeup Work: Students are expected to attend class every day. In the event of absence, all work is to be made up in a timely manner. Makeup for labs is difficult if material is viable but every effort is made to accommodate the student.

***Course content:***

1. *Introduction: Man’s place in the kingdom of life.*

*a. Review of phyla and characteristics.*

*b. Evolutionary relationships in kingdom.*

*2. Homeostasis and chemistry review*

*a. Importance of maintaining homeostasis*

*b. Relationship between body structure and homeostasis*

*c. Chemistry of life; biological molecules*

*3. Digestion and Nutrition*

*a. Development of system in animals*

*b. Nutrition needs in organisms.*

*c. Human digestion: anatomy and physiology*

*d. Chemical and mechanical digestion.*

1. *Circulation and Immunity*

*a. Development of system in animals*

*b. Blood*

*c. Heart and blood vessels*

*d. Physiology of the circulatory system*

*e. Lymph System*

*f. Immune system: body defenses, features of immune system, etc.*

1. *Respiration*

*a. Development of system in animals*

*b. Human respiratory system anatomy and physiology*

1. *Systems of regulation*

*a. Development of regulatory systems in animals: hormone, nerve cells*

1. *Endocrine System*
2. *Characteristics of hormones as regulatory agents; chemical regulation*
3. *Structure, function, and location of endocrine glands in humans.*
4. *Nervous System*
5. *Nervous cell structure and function*
6. *Organization of human nervous system: anatomy and physiology*
7. *Brain*
8. *Sensory receptors*
9. *Excretion*
   1. *Need for and development of systems for removal of nitrogenous waste in*

*animals*

* 1. *Organization of human excretory system: anatomy and physiology*
  2. *Kidney*

1. *Reproduction and Development*
   1. *Development of reproductive systems in animals*
   2. *Review of life cycle: mitosis, meiosis, gamete formation, fertilization*
   3. *Human reproductive system: anatomy and physiology*
   4. *Cell differentiation and development in animals and in humans.*

*9. Human population and human environmental impacts*

*a. Population growth curves, biotic potential*

*b. Survivorship patterns*

*c. Human influences/impacts on ecosystems*

**BSC 105**

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| **Week** | **Topic** |
| 1 | Review of Kingdoms; Homeostasis; Chemistry |
| **2** | Body Terminology, General structure of Plants and Animals |
| **3** | Digestive & Nutrition |
| **4** | Digestive; Circulatory; Exam 1 |
| **5** | Circulatory |
| **6** | Lymphatic |
| **7** | Immune; Exam 2 |
| **8** | Respiratory |
| **9** | Respiratory; Endocrine; 9 Week Exam |
| **10** | Endocrine |
| **11** | Nervous |
| **12** | Nervous; Sensory |
| **13** | Sensory; Exam 3 |
| **14** | Excretory |
| **15** | Excretory; Reproductive, male & female |
| **16** | Reproductive, male & female |
| **17** | Pregnancy, development and genetics |
| **18** | Health issues, disease, relationship to ecological/population patterns, wrap-up; Final Exam |