1. **COURSE TITLE\*:** Human Biology I
2. **CATALOG – PREFIX/COURSE NUMBER/COURSE SECTION\*: BIOL 1040**
3. **PREREQUISITE(S)\*: None COREQUISITE(S)\*: None**
4. **COURSE TIME/LOCATION/MODALITY: (*Course Syllabus – Individual Instructor Specific*)**
5. **CREDIT HOURS\*: 4 LECTURE HOURS\*: 3**

**LABORATORY HOURS\*: 1(2 contact hours) OBSERVATION HOURS\*:**

1. **FACULTY CONTACT INFORMATION: *(Course Syllabus – Individual Instructor Specific)***
2. **COURSE DESCRIPTION\*:**

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

1. **LEARNING OUTCOMES\*:**

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. Demonstrate an understanding of the structures and processes associated with eukaryotic cells.
5. Briefly diagram and describe the process of cellular respiration.
6. Demonstrate an understanding of the four basic human tissue types and their respective functions.
7. Describe the organization of the body and organ systems
8. Demonstrate an understanding of homeostasis and feedback systems
9. Describe chromosomes and genes, autosomes and sex chromosomes, and diploid and haploid cells
10. Describe the processes of mitosis and meiosis.
11. Define, give an example, and use the terms homozygous, heterozygous, dominant, recessive, genotype, phenotype, pleiotropy, multiple alleles, and polygenic.
12. Solve genetics problems using Mendel’s Laws.
13. Describe the stages of development of cancer, and its common causes and treatments
14. Describe the structures and the processes of human reproduction.
15. Demonstrate an understanding of the stages of human development.
16. Describe the structure and function of the human nervous and endocrine systems.
17. Demonstrate the ability to use the metric system, calculate metric conversions, and convert percentages, decimals, and fractions.
18. Demonstrate the ability to understand lab safety protocols and consequences of unsafe actions
19. Describe the process of scientific inquiry and the scientific method and its steps, that involve collecting data through observation and/or experimentation, data analysis, using data that are unique and that include random and/or systematic variability
20. Demonstrate the ability to take realistic measurements of physical quantities
21. Identify, and explain use and care of, standard laboratory equipment, including microscopes
22. Demonstrate the ability to use experimental apparatus, and realistic manipulation of tools/instruments and/or observed objects.
23. Demonstrate the ability to perform proper experimental protocols and confirm correctness of procedure.
24. Demonstrate the ability to interpret, discuss, and communicate results and critique experiments
25. Demonstrate the ability to collaborate/work with lab partner and/or groups
26. **ADOPTED TEXT(S)\*:**

*Biology of Humans* with Modified MyLab and Mastering Access Card Package

6th edition

Goodenough and McGuire

Pearson Publishing, 2017

ISBN: 978-0-13-432496-8 (includes Inclusive Access E-text and Mastering Access).

ISBN for students wanting a physical textbook (purchased separately) and Inclusive Access for Mastering only: 978-0-13-465674-8 (includes Mastering only).

ISBN for students not wanting Inclusive Access: 978-0-13-465674-8 (includes Mastering and E-text).

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

8th Edition

Pearson Publishing, 2017

ISBN: Not Available (includes Inclusive Access E-text and Mastering Access).

ISBN for students not wanting Inclusive Access: 978-0-13-428381-4 (includes Mastering and E-text).

**9a: SUPPLEMENTAL TEXTS APPROVED BY FULL TIME DEPARTMENTAL FACULTY (INSTRUCTOR MUST NOTIFY THE BOOKSTORE BEFORE THE TEXTBOOK ORDERING DEADLINE DATE PRIOR TO ADOPTION) \*\*\*.**

1. **OTHER REQUIRED MATERIALS: (SEE APPENDIX C FOR TECHNOLOGY REQUEST FORM.)\*\***

The Publisher’s supplemental materials that accompany the text, Microsoft Word and Microsoft PowerPoint.

1. **GRADING SCALE\*\*\*:**

Grading will follow the policy in the catalog. The scale is as follows:

A: 90 – 100

B: 80 – 89

C: 70 – 79

D: 60 – 69

F: 0 – 59

1. **GRADING PROCEDURES OR ASSESSMENTS: (*Course Syllabus – Individual Instructor Specific)***

**Grades will be based on:**

Tests 40%

Midterm and Final Exams 10%

Lab assignments 25%

My Lab and Mastering assignments 15%

Miscellaneous assignments 10%

Total: 100%

1. **COURSE METHODOLOGY: *(Course Syllabus – Individual Instructor Specific)***

This course may use face-to-face or recorded lecture, PowerPoint presentations, videos, in-class or online Discussions, chapter reading and writing assignments, individual or group projects, research papers, primary scientific literature, and online assignments, quizzes, and other activities. Both written and online quizzes, tests and exams may be used as appropriate to assess the course objectives. During the hands-on lab portion of this course, students will demonstrate the application of the methods and tools of scientific inquiry, by actively and directly identifying/collecting data, manipulating data, evaluating and analyzing data, and interpreting data, presenting findings, and using information to answer questions. Students will interact with the Instructor at several points during each lab activity and will receive synchronous feedback on following proper laboratory safety protocol.

**14. COURSE OUTLINE: *(Course Syllabus – Individual Instructor Specific)***

***(Insert sample course outline with learning outcomes tied to assignments / topics.)***

**Lecture Material:**

Humans in the World of Biology

Chemistry Comes to Life

Cell Structure and Function

Body Organization and Homeostasis

Chromosomes and Cell Division

Patterns of Inheritance

Cancer

Reproductive System

Development and Aging

Nervous System

Endocrine System

**Laboratory Activities:**

Scientific Method

Lab Safety and Measuring with Metric

Basics of Microscopy

Cell biology

Human tissues with histology

Gross morphology of the human

Mitosis, meiosis and simple genetics

Human reproductive system

The Nervous System

Endocrine System and fetal pig dissection

**SAMPLE** **Course Calendar**

|  |  |  |
| --- | --- | --- |
| **Week** | **Content** | **SLO** |
| (1) | **Lecture** **and Chapter Review** – Ch 1 Humans in the World of Biology  **Chapter 1 Quiz; Mastering Activity**: Scientific method, metric system and measurements  **Lab**: Scientific Method | **1 – 2**  **17 – 25** |
| (2) | **Lecture** **and Chapter Review** – Ch 2 Chemistry Comes to Life  **Chapter 2 Quiz; Mastering Activity**: Basic Chemistryand Lab Safety  **Lab**: Lab Safety and Measuring with Metric | **3**  **17 – 25** |
| (3) | **Test 1:** Ch 1 and 2  **Lecture** **and Chapter Review** – Ch 3 The Cell  **Chapter 3 Quiz; Mastering Activity**: Basics of Microscopy and Cell Biology  **Lab**: Cell biology: Anatomy and Diversity of Cells with histology | **4 – 5**  **17 – 25** |
| (4) | **Lecture** **and Chapter Review** – Ch 4 Body Organization and Homeostasis  **Chapter 4 Quiz; Mastering Activity**: Human Tissues, Body Organization and Homeostasis  **Lab**: Cell biology: cell physiology, and movement across membranes | **6 – 8**  **17 - 25** |
| (5) | **Test 2:** Ch 3 and 4  **Lecture** **and Chapter Review** – Ch 19 Chromosomes and Cell Division  **Chapter 19 Quiz; Lab**: Human Tissues with histology | **9 – 10**  **17 – 25** |
| (6) | **Lecture** **and Chapter Review** – Ch 20 Patterns of Genetic Inheritance  **Chapter 20 Quiz; Lab**: Gross morphology of the human | **11 – 12**  **17 - 25** |
| (7) | **Lecture** **and Chapter Review** – Ch 21a Cancer  **Chapter 21a Quiz; Mastering Activity**: Mitosis, Meiosis and Genetics  **Lab**: Mitosis, meiosis and simple genetics | **13**  **17 - 25** |
| (8) | **Test 3:** Ch 19, 20, 21a  **Midterm Exam** | **1 – 13** |
| (9) | **Lecture** **and Chapter Review** – Ch 17 Reproductive System, Ch17a STDs and AIDS  **Chapter 17 and 17a Quizzes** | **14**  **17 – 25** |
| (10) | **Lecture** **and Chapter Review** – Ch 18 Development throughout Life  **Chapter 18 Quiz; Mastering Activity**: The Reproductive System and Development  **Lab**: Human Reproductive System | **15**  **17 – 25** |
| (11) | **Test 4:** Ch 17, 17a, 18  **Lecture** **and Chapter Review** – Ch 7 Neurons; **Chapter 7 Quiz;**  **Lab**: The Nervous System I: Organization, neurons, nervous tissue, and spinal reflexes | **16**  **17 – 25** |
| (12) | **Lecture and Chapter Review** – Ch 8 The Nervous system, Ch 8a Drugs and the Mind  **Chapter 8 and 8a Quizzes; Mastering Activity**: The Nervous System  **Lab**: The Nervous System II: spinal cord, brain, autonomic nervous system with sheep brain dissection | **16**  **17 – 25** |
| (13) | **Lecture** **and Chapter Review** – Ch 10 Endocrine System, Ch 10a Diabetes Mellitus  **Ch 10 and 10a Quizzes; Mastering Activity**: The Endocrine System  **Lab**: The Endocrine System with fetal pig dissection | **16**  **17 – 25** |
| (14) | **Test 5:** Ch 7, 8, 8a, 10, 10a  **Research Paper Due** | **16** |
| (15) | **Project presentations** | **24** |
| (16) | **Final Comprehensive Exam**  **Final Lab Exam** | **1 – 25** |

**15. SPECIFIC MANAGEMENT REQUIREMENTS\*\*\*:**

Final grade in this course will be determined by mastery of course material as assessed by quizzes, tests, exams, and other assignments.

**16. FERPA: \***

Students need to understand that their work may be seen by others. Others may see students’ 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 their work may be submitted to other entities for the purpose of plagiarism checks.

**17. ACCOMMODATIONS: \***

Students requesting accommodations may contact Ryan Hall, Accessibility Coordinator at rhall21@sscc.edu or 937-393-3431, X 2604.

Students seeking a religious accommodation for absences permitted under Ohio’s Testing Your Faith Act must provide the instructor and the Academic Affairs office with written notice of the specific dates for which the student requires an accommodation and must do so no later than fourteen (14) days after the first day of instruction or fourteen (14) days before the dates of absence, whichever comes first. For more information about Religious Accommodations, contact Ryan Hall, Accessibility Coordinator at [rhall21@sscc.edu](mailto:rhall21@sscc.edu) or 937-393-3431 X 2604.

**18. OTHER INFORMATION\*\*\*:**

**SYLLABUS TEMPLATE KEY**

**\*** Item cannot be altered from that which is included in the master syllabus approved by the Curriculum Committee.

**\*\*** Any alteration or addition must be approved by the Curriculum Committee

**\*\*\*** Item should begin with language as approved in the master syllabus but may be added to at the discretion of the faculty member.