Bergen Community College
Division of Mathematics, Science and Technology
Department of Biology and Horticulture

The Human Body (BIO-103)

General Course Syllabus

Course Title:	The Human Body (BIO-103)
Course Description:	This is a one-semester course that is concerned with basic chemistry, the human cell, tissues, and the musculoskeletal, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary and reproductive systems. The course includes a survey of metabolism and fluid/electrolyte balance. Lectures are supplemented by writing assignments and discussions. Laboratory exercises include microscopy, dissection, and anatomical and physiological experiments that complement the lecture.
Prerequisites:	None
General Education:	Yes
Course Credits:	4.0
Hours per week:	6.0: 3 lecture and 3 lab
Course Coordinator:	Coleen DiLauro
Required Lecture Textbook:	Tortora, Gerard J. and Derrickson, Bryan, ***Introduction to the Human Body***, 10th Edition, John Wiley & Sons, 2015 ***ISBN: 9781118583180***
***Required Laboratory Manual**	Tortora, Gerard J., and Amitrano, Robert ***Anatomy and Physiology Laboratory Manual***, 8th Edition, Thompson Brooks/Cole, 2013 ***ISBN: 9781333365488***

***Do not, under any circumstances, purchase used Laboratory Manuals or Learning Guides.**

Revised 2018

Student Learning Objectives –

The student will be able to:

1. Contrast the differences between the anatomy and physiology of the human body. Students will be evaluated by lecture exams, laboratory exams, laboratory reports and laboratory practical exams.

2. Explain the different levels that make up the human body and how are they organized. Understand the process of selective permeability, which is the means by which individual cells regulate their internal environment. Students will be evaluated by lecture exams and laboratory reports.

3. Explain the processes of life. Explain feedback systems and how these systems are the means by which the body regulates homeostasis. Link homeostasis to all systems of the body. Explain how the skin, bones, muscles, kidneys digestive organs, and all systems relate to the overall homeostasis of the human body. Students will be evaluated by lecture exams.

4. Give an explanation on the anatomical positions of the human body. Students will be evaluated by lecture, laboratory exams, and laboratory reports.

5. Recognize directional terms and planes of the body. Students will be evaluated by lecture, laboratory exams and laboratory reports.

6. Identify body cavities and regional quadrants. Students will be evaluated by lecture, laboratory exams and laboratory reports.

7. Generalize the nature of atoms, chemical compounds, including organic and inorganic compounds. Students will be evaluated by lecture exams.

8. Distinguish the parts of the cell, including the plasma membrane, cytosol, and organelles. Students will model the proper use of a microscope. Students will be evaluated by lecture, laboratory exams, laboratory practical exams and lab reports.

9. Describe gene expression and normal cell division. Students will be evaluated by lecture exams.

10. Compare and contrast the types of tissues found in the human body. Students will be evaluated by lecture, laboratory exams and laboratory reports.

11. Summarize the structure and function of the Integumentary System. Students will be evaluated by lecture exams, laboratory exams and laboratory reports.

12. Summarize the structure and function of the Skeletal System. This will include bone histology, the types of bone and parts of bones. Students will be evaluated by lecture exams, laboratory lab practical exams, and laboratory reports.

13. Identify the different articulations of the body, including the different classifications. Students will be evaluated by lecture exams, laboratory reports and laboratory exams.

14. Recognize the organs in the Muscular System including the names of muscles and actions. Examine the physiology of muscle contraction. Students will be evaluated by lecture exams laboratory reports and laboratory practical exams.

15. Describe the Nervous System including histology and function of the Central and Somatic Nervous Systems, and Autonomic Nervous System. Students will be evaluated by lecture exams, laboratory reports and laboratory exams.

16. Describe the Endocrine System including an overview of glands and the effects of hormones. Students will be evaluated by lecture exams, laboratory reports and laboratory exams.

17. Identify the structures in the Cardiovascular System including the Heart, Blood, and Blood Vessels. Examine the physiology of the cardiovascular system. Students will be evaluated by lecture exams, laboratory exams, laboratory reports, and laboratory exams.

18. Describe the Lymphatic System including structures and their functions and nonspecific resistance to disease. Students will be evaluated by lecture exams, laboratory reports and laboratory exams.

19. Summarize the Respiratory System including structures and their functions. Students will be evaluated by lecture exams, laboratory reports and laboratory exams.

20. Identify the anatomy of the digestive system and explain the digestive process. Be able to explain basic carbohydrate, lipid and protein metabolism. Students will be evaluated by lecture, laboratory and laboratory practical exams and laboratory reports.

21. Summarize the Urinary System including structures and their functions. Students will be evaluated by lecture laboratory practical exams and laboratory reports.

22. Distinguish between water and electrolyte balances and imbalances including acid-base balances and imbalances. Students will be evaluated by lecture and laboratory exams.

23. Identify the male and female Reproductive System structures and point out their functions. Students will be evaluated by lecture, laboratory, practical exams and laboratory reports.

24. Be able to explain Development and Inheritance including embryonic growth and fetal growth. Students will be evaluated by lecture and laboratory exams and laboratory reports.

25. Students will use the scientific method of inquiry, through the acquisition of scientific knowledge.

26. Students will use computer systems or other appropriate forms of technology to achieve educational and personal goals.

Course Content

This course consists of lecture and has a laboratory component. During the lab component students practice the scientific method of inquiry and acquire scientific knowledge.

Student Assessment Tools:

The above student learning objectives will be generally assessed or evaluated by instructors using a variety of **assessment instruments** including **lecture exams, laboratory exams, quizzes, laboratory reports, written reports, presentations, projects, etc**. The decisions concerning the type or types and number of instruments that are used in a specific section of the course will be left to the instructor of that section. This information, when given by the instructor should be recorded by the student in the **Student Assessment Section** of the document.

Lecture Topics	**Chapter**
Organization of the Human Body Levels of Organization, Life Processes, Homeostasis, Anatomical Position, Directional Terms, Planes, Sections, Body Cavities, Abdominopelvic Regions and Quadrants	1
Introductory Chemistry Chemical Compounds and Life Processes, Inorganic and Organic Compounds	2
Cells Plasma Membrane, Cytosol, Organelles, Gene Action, Normal Cell Division	3
Tissues Types of Tissues, Epithelial Tissue, Connective Tissue,	4

Membranes, Muscle Tissue, Nervous Tissue

The Lymphatic System and Immunity 17
Functions, Lymph and Interstitial Fluid, Lymph Capillaries, and Lymph Vessels, Lymphatic Tissue, Lymph Circulation, Nonspecific Resistance to Disease, Immunity

The Respiratory System 18
Organs, Respiration, Control of Respiration, Common Disorders

The Digestive System 19
Digestive Process, Organization, Mouth Pharynx, Esophagus, Stomach, Pancreas, Liver, Gallbladder, Small Intestine, Large Intestine

Metabolism 20
Carbohydrate Metabolism, Lipid Metabolism, Protein Metabolism

The Urinary System 21
Kidneys, Functions, Ureters, Urinary Bladder, Urethra, Urine

Fluid, Electrolyte and Acid-Base Balance 22
Water, Electrolytes, Acid-Base Balance, Acid-Base Imbalances

The Reproductive Systems 23
Male Reproductive System, Female Reproductive System, Female Reproductive Cycle

Development and Inheritance 24
Sexual Intercourse, Development of Pregnancy, Embryonic Growth, Fetal Growth, Birth Control, Inheritance

LABORATORY SCHEDULE

Laboratory 1	Microscopy – Exercise 1 Introduction to the Human Body – Exercise 2
Laboratory 2	Cells – Exercise 3
Laboratory 3	Tissues – Exercise 4 Integumentary System – Exercise 5
Laboratory 4	Skeletal System – Exercises 6, 7, 8,
Laboratory 5	Skeletal System – Exercises 6, 7, 8 (con't)
Laboratory 6	Muscular System – Exercises 9, 10,
Laboratory 7	Nervous System: Structure of the Neuron, The Nerve Impulse, Spinal Cord, Reflexes – Exercise 12
Laboratory 8	Nervous System: The Brain, Sense Organs – Exercises 13, 14
Laboratory 9	Endocrine System – Exercise 15

Laboratory 10 Circulatory System: Blood and the Heart – Exercises 16 & 17

Laboratory 11 Blood Vessels, Cardiovascular Physiology, Lymph and Immune Systems – Exercises 18, 19, 20

Laboratory 12 Respiratory System – Exercise 21

Laboratory 13 Digestive System – Exercise 22

Laboratory 14 Fluid and Electrolytes
Urinary System – Exercise 23
pH and Acid-Base Balance – Exercise 24

Laboratory 15 Reproductive System – Exercises 25, 26
Development

Student Assessment:

A. Unit Examination #_____....._____%

B. Laboratory Work……. _____%

C. Report**/**Project……. _____%

D. Class Participation…… _____%

E. Term paper**/**research project….. _____%

Total……100%

If you have a medical condition or develop a medical condition during this semester, which prevents you from fulfilling the requirements of this course, you must notify your physician. You and your physician must decide whether or not it is appropriate for you to remain in this course. If the decision is to remain in this course, please obtain a letter from your physician indicating that your continued participation in this course is appropriate and present it to the Department Chair.

Faculty Addenda: As per individual faculty member

Lecture Attendance: As per instructor;

Lab Attendance: As per instructor;

Policy Concerning Late Assignments: As per instructor;

Policy concerning Make-Up Testing: As per instructor;

Safety Information: As per instructor and assigned exercise;

College Policies:

Student Responsibility

Students will be held responsible for reading all pertinent information in college publications regarding withdrawals, course drops, college deadlines, and tuition refunds. Students are responsible for compliance with the rules and regulations as stated in college publications.

Absence of Instructor

Students are expected to wait twenty minutes for a faculty member to come to class. If at the end of twenty minutes, the faculty member does not come, the students should sign an attendance sheet, which indicates the course, date, and time. A student should deliver the attendance sheet to the divisional office (A304) if between 9:00 a.m. and 5:00 p.m. or to the Evening Office (C107) if before 9:00 a.m. or after 5:00 p.m. Students cannot be penalized by faculty for not waiting longer than twenty minutes.

Academic Dishonesty and Plagiarism

Bergen Community College is committed to academic integrity – the honest, fair and continuing pursuit of knowledge, free from fraud or deception. Students are responsible for their own work. Faculty and academic support services staff will take appropriate measures to discourage academic dishonesty. **Plagiarism** is a form of academic dishonesty and may be a violation of U.S. Copyright laws. Plagiarism is defined as the act of taking someone else's words, opinions, or ideas and claiming them as one's own.

Consequences of Violations Academic Integrity

A. Instructor's Sanctions for a Violation

The faculty member will determine the course of action to be followed. This may include:

- Assigning a failing grade on the assignment;
- Assigning a lower final course grade;
- Failing the student in the course
- Other penalties appropriate to the violation;

In all cases, the instructor shall notify the Vice President of Student Services of the violation and the penalty imposed. The student has the right to appeal the decision of the instructor to the appropriate department head.

B. Institutional Sanctions for Violations

When a violation of academic integrity has been reported regarding a student, the Vice President of Student Services may impose disciplinary penalties beyond those imposed by the course instructor, which may include suspension or dismissal from the College. The student shall have the right to a hearing before the Vice President of Student Services or a designated judicial affairs committee. Judicial procedures governing violations of academic integrity are contained in the student handbook.

Class Attendance

All students are expected to attend punctually every scheduled meeting of each course in which they are registered. Attendance and lateness policies and sanctions are to be determined by the instructor for each section of each course. These will be established in writing on the individual course outline. Attendance will be kept by the instructor for administrative and counseling purposes.

Eating and Drinking

Eating or drinking in classrooms, lecture rooms, laboratories, gymnasium, swimming pool, or passageways is forbidden. Covered beverages only are permitted in the library. Eating and drinking are permitted in cafeteria and vending areas only.

Learning Assistance

Henry and Edith Cerullo Learning Assistance Center

The Tutoring Center, English Language Resource Center, Math Walk-In Center and Writing Center are collectively known as the Henry and Edith Cerullo Learning Assistance Center. The Cerullo Learning Assistance Center is located in the Pitkin Education Building, in Room L-125. The telephone number is (201) 447-7489. The Learning Assistance Center, staffed with peer and professional tutors, offers free individual and group tutoring, supplemental instruction, and online tutoring for subjects offered at the College. The Center provides alternative approaches to problem solving and organizational skills. Tutors help clarify classroom lectures and textbooks and help students prepare for exams. These services build student self-confidence and reduce fear of failure. The Center is equipped with the latest technology and software, including tapes, books, review sheets, exercises and software.

Services For Students With Disabilities

Bergen Community College aims to create inclusive learning environments where all students have maximum opportunities for success. Any student who feels he or she may need an accommodation based on the impact of a disability should contact the Office of Specialized Services at 201-612-5269 or via email at ossinfo@bergen.edu for assistance.

Sidney Silverman Library

Main Building, Pitkin Education Center, L-wing, 2nd Floor.
Paramus Library Hours: (201) 447-7131 or visit http://www.bergen.edu/library/calendar/gcal.htm
Paramus Service Desk: (201) 447-7970
Meadowlands Location: 1280 Wall Street, Lyndhurst 2nd Floor
Meadowlands Library Hours: http://www.bergen.edu/library/calendar/gcal.htm
Meadowlands Service Desk: (201) 301-9692
www.bergen.edu/library

Testing Services

The Bergen Community College Office of Testing Services (OTS) is located in Room S-127. OTS serves the college community by identifying, developing, procuring, administering, processing, and/or evaluating examinations, which meet a variety of administrative and instructional needs. To contact the OTS, please call (201) 447-7203. The Office of Testing Services administers makeup tests as a service for students who, for compelling and exceptional reasons, have missed a scheduled classroom examination. Students must receive prior permission from and make arrangements with their course instructors to take these examinations, under specific conditions, in the Office of Testing Services, Room S-127.

WebAdvisor

WebAdvisor is a web interface that allows students to access information contained in Datatel's Colleague, the administrative database used by Bergen Community College. Students may use WebAdvisor to register for classes, to pay tuition and fees, to view their class schedules, to check grades, to check on progress toward degree requirements, etc. WebAdvisor accounts are available for all students enrolled in credit programs. New students are strongly encouraged to attend an in-person registration or advisement session before using a WebAdvisor account. Eligible students without WebAdvisor user names and passwords may access their WebAdvisor account by going to *go.bergen.edu* and selecting "I'm new to WebAdvisor." Then, follow the on-screen directions. Check the WebAdvisor FAQ for answers to common questions, such as how to reset your password. Students must have a valid e-mail address on file with the College to use WebAdvisor