RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE

BIOL 124 - Human Anatomy and Physiology I

I. Basic Course Information

A. Course Number and Title:	BIOL 124 – Human Anatomy and Physiology I
B. New or Modified Course:	Modified
C. Date of Proposal: Semester:	Fall Year: 2020
D. Effective Term:	Fall 2021
E. Sponsoring Department:	Science and Engineering
F. Semester Credit Hours:	4
G. Weekly Contact Hours:	Lecture: 3 Laboratory: 3 Out of class student work per week: 7.5
H. Prerequisites:	Two years of college preparatory laboratory science or equivalent
I. Laboratory Fees:	NO

J. Name and Telephone Number or E-Mail Address of Department Chair and Divisional Dean at time of approval:
Department Chair: Ed Carr, Edward.Carr@raritanval.edu
Divisional Dean: Sarah Imbriglio, sarah.imbriglio@raritanval.edu

II. Catalog Description

Prerequisite: Two years of college preparatory laboratory science or equivalent.

This course is an in-depth study of the structure and function of the human body. The course content highlights the chemical, cellular and tissue levels of organization, and the anatomy and physiology of the integumentary, skeletal, muscular and nervous systems. In the laboratory students will examine models and preserved specimens, and conduct physiological as well as computer simulated experiments. Students that successfully complete this course will be able to identify relevant anatomical structures and integrate this knowledge with a physiological understanding of the systems covered in this course.

Completion of Human Anatomy and Physiology II (BIOL 125) may be required for transfer of credits. The Honors Option is available for this course.

III. Statement of Course Need

A. This course serves as a prerequisite for nursing RN/PN/AD programs and the Occupational Therapy Assistant program. It is a required course in the Exercise Science and is a general education lab science elective. Students who complete this course and the subsequent course in the sequence, Human Anatomy and Physiology II, will have a firm foundation of understanding of the structure and function of the human body.

B. This course requires a lab component so that students have the time and proper equipment for studying anatomical models, histology slides and specimens, and for performing physiological experiments and procedures. The programs for which it is a prerequisite/requirement require a laboratory component and having the lab increases the transferability of the course.

C. This course generally transfers as a program requirement or a free elective.

IV. Place of Course in College Curriculum

A. Free elective.
B. This course serves as a General Education course in Science with Lab.
C. This course meets a pre-requisite requirement for the Nursing RN/PN/AD programs
D. This course meets a program requirement for Exercise Science, Health Science, AS; Dance, AFA; Exercise Science - Option in Sports Management, AS; and Exercise Science - Option in Sports Medicine and Rehabilitation, AS.
E. To see course transferability: a) for New Jersey schools, go to the NJ Transfer website, www.njtransfer.org; b) for all other colleges and universities, go to the individual websites.

V. Outline of Course Content

A. Introduction
    1. Anatomical Terminology
    2. Body Cavities
    3. Organ Systems overview
B. Chemistry
C. Cells
D. Tissues
E. The Integumentary System
F. The Skeletal System Gross Anatomy
    1. Bone tissue structure and physiology
    2. Anatomy of the Skeleton
G. Joints
H. The Muscular System

1. Muscle tissue structure and physiology
2. Anatomy of Muscular System with Muscle Function

I. The Nervous System
1. Nervous tissue Structure and Physiology
2. Anatomy and Physiology of the Central Nervous System
3. The Peripheral Nervous System
    a. Anatomy of Spinal and Cranial Nerves
    b. Spinal Reflexes
4. The Autonomic Nervous System Anatomy and Physiology

VI. General Education and Course Learning Outcomes

A. General Education Learning Outcomes:

At the completion of the course, students will be able to:

1. Use working vocabulary of appropriate terminology in the systems covered (Core SLO)
2. Identify structure of the systems covered (Core SLO)
3. Differentiate among various histological body tissue samples (Core SLO)
4. Explain the function of the organs within a particular system and their importance to that system's function and to maintaining homeostasis (Core SLO)
5. Correlate structure and function relationships within a particular system (Core SLO)
6. Integrate knowledge of anatomical and physiological functions of the entire body* (Core SLO)
7. Utilize concepts of the scientific method investigating laboratory/clinical data* (Core SLO)

(*embedded critical thinking)

B. Course Learning Outcomes:

At the completion of the course, students will be able to:

1. Identify important anatomical structures of cells and tissues and of the Integumentary, Skeletal, Muscular and Nervous System.
2. Demonstrate understanding of physiological mechanisms involved in cell, tissue and organ function.
3. Use traditional laboratory and technological tools to examine anatomical features, study physiological processes and acquire, and interpret physiological data.

C. Assessment Instruments

A. Theoretical Exams
B. Practical Exams

C. Group lab work/projects
D. Laboratory Simulations
E. Online programs

VII. Grade Determinants

A. Lecture exams and quizzes
B. Laboratory exams and quizzes
C. Individual lecture and laboratory assignments
D. Research projects and/or collaborative projects in or out of class
E. Class participation and/or preparation
F. Discussion questions

Primary formats, modes, and methods for teaching and learning that may be used in the course:

A. lecture/discussion
B. small-group work
C. computer-assisted instruction
D. laboratory
E. student oral presentations
F. student collaboration
G. independent study
H. service learning

VIII. Texts and Materials

A. suggested textbook
   - *Human Anatomy and Physiology,* E.N. Marieb, K. Hoehn (most recent edition, Pearson.
   - *Human Anatomy and Physiology Laboratory Manual: Fetal Pig Version*, E.N. Mareib and S.J. Mitchell (most recent edition)
B. primary resources
C. web sources: Mastering Anatomy and Physiology (Pearson)
D. computer-based sources: Physio-Ex, simulation software, Interactive Physiology, PAL (Pearson)
E. other (at discretion of instructor)

Please Note: The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline. The RVCC Bookstore is the sole resource for the most up-to-date information about textbooks.

IX. Resources

A. Anatomy laboratory with computers and equipment
B. School computer labs for access to web resources