

# RARITAN VALLEY COMMUNITY COLLEGE ACADEMIC COURSE OUTLINE

## EXSC 201 Kinesiology

### I. Basic Course Information

A. Course Number and Title: EXSC 201 Kinesiology

B. New or Modified Course: **MODIFIED**

C. Date of Proposal: Semester: **FALL** Year: **2024**

**D. Effective Term: Fall 2025**

E. Sponsoring Department: **Health Science Education**

F. Semester Credit Hours: **3**

G. Weekly Contact Hours: **4**                      Lecture: 2  
   Laboratory: 2  
   Out of class student work per week: 5

H. ☒ Prerequisite (s): BIOL 124 Human Anatomy & Physiology I  
☐ Corequisite (s):

I. Additional Fees: NONE

### II. Catalog Description

Pre-requisite: BIOL124 Human Anatomy & Physiology I

Kinesiology is the study of human movement, including the study of muscles, bones and joints, as they are involved in the science of movement. The physiological and mechanical principles are addressed to enhance the understanding of the structures discussed. Emphasis will be placed on learning how movement is analyzed along with the underlying principles so that the student can see how improvements can be made in human performance.

### III. Statement of Course Need

A. This course is designed to introduce the student, both theoretically through lecture and practically in lab exercises, to all aspects of the study of human movement and analysis of that movement in an attempt to improve human performance. It is a

required course to enable the student to successfully complete the Associate Degree in Exercise Science; Associate Degree in Exercise Science -Option in Sports Management and the Associate in Applied Science, Occupational Therapy Assistant degrees.

- B. The lab component of this course helps the student to understand the theoretical components taught in lecture through application of the principles learned.
- C. This course generally transfers as a free elective or as a Fitness/Physical Education/Exercise Science program elective or program requirement.

#### **IV. Place of Course in College Curriculum**

- A. Free Elective
- B. This course meets a program requirement for Associate of Science Degree in Exercise Science, and the Associate of Applied Science, Occupational Therapy Assistant.
- C. To see course transferability: a) for New Jersey schools, go to the NJ Transfer website, [www.njtransfer.org](http://www.njtransfer.org); b) for all other colleges and universities, go to the individual websites.

#### **V. Outline of Course Content**

- A. Anatomical and Physiological Fundamentals of Human Movement
  1. The Musculoskeletal System
  2. Skeletal Framework and its Movements
  3. The Musculature
  4. The Neuromuscular Basis of Human Movement
  5. The Shoulder Region
  6. The Elbow, Forearm, Wrist and Hand
  7. The Hip Region
  8. The Knee, Ankle and Foot
  9. The Spinal Column and the Thorax
- B. Fundamentals of Biomechanics
  1. Terminology and Measurement in Biomechanics
  2. The Description of Human Movement
  3. The Conditions of Linear Movement
  4. The Conditions of Rotary Motion
  5. The Center of Gravity and Stability
- C. Motor Skill Principles and Applications
  1. The Standing Posture
  2. Kinesiology of Fitness and Exercise
  3. Moving Objects: Pushing and Pulling
  4. Throwing, Striking and Kicking

## **VI. A. Course Learning Outcomes:**

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

1. Use various types of motion software to analyze the kinesthetic principles of a sports related movement. (GE-3, 4 )\*
2. Research, write and present a paper analyzing a sports related movement or a movement of daily living. (GE-1, IL)\*
3. Use scientific method to identify factors that can improve safety, effectiveness and efficiency in performance, and present conclusions orally and in writing (graphs). (GE-3)\*
4. Produce accurate lab reports. (GE-1, 3)
5. Evaluate and synthesize information gathered on the internet and through the library data base to analyze the safety, efficiency and effectiveness of specific sports related movements, and present this information in a research paper. (GE-1, IL)\*

**\*embedded critical thinking**

### **B. Assessment Instruments**

1. laboratory products
2. research papers
3. oral presentations
4. case analysis
5. examinations

## **VII. Grade Determinants**

- A. research papers
- B. lab reports
- C. exams and quizzes
- D. presentations
- E. class attendance & participation

Given the goals and outcomes described above, LIST the primary formats, modes, and methods for teaching and learning that may be used in the course:

- A. lecture/discussion
- B. small-group work
- C. use of relevant software
- D. laboratory
- E. student oral presentations

## **VIII. Texts and Materials**

- A. Hamilton, Weimar & Luttgens, Kinesiology, Scientific Basis of Human Motion, 12th ed., McGraw Hill, 2012.

B. Floyd, Manual of Structural Kinesiology, 21st Ed., McGraw Hill, 2021

***(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. RVCC Fitness Center
- B. RVCC Exercise Science Lab
- C. RVCC Library
- D. Computer Software

**X. Check One:** ☐ Honors Course ☐ Honors Options ☒ N/A