



Exercise Science

School of Kinesiology Recreation & Sport

EXS 223 - Introduction to Exercise Science

Instructor:	Kaylee Woodard, PhD, CSCS
Office:	Smith Stadium 1060
Office Hours:	Mon, Wed, Fri: 8:00-10:15 AM; 12:30-1:30 PM Mon: 12:30-3:00 PM <i>I'm also <u>happy</u> to meet with you at alternate times. Please email to make an appointment.</i>
Email:	kaylee.woodard@wku.edu
Phone:	270-745-4046
Class Meetings:	MWF 10:20 am – 11:15 am Smith Stadium 1068

Course Description: Investigation of the important interplay between disease prevention and physical activity. Introduction to the application of exercise science to fitness, health, and disease, along with field and laboratory measurement techniques used by practitioners and researchers. Students will learn to be more informed consumers of research by understanding the components of research articles and the origins of evidence-based practices.

Natural and Physical Sciences Colonnade Learning Outcomes:

1. Demonstrate an understanding of the methods of science inquiry.
2. Explain basic concepts and principles in one or more of the sciences.
3. Apply scientific principles to interpret and make predictions in one or more of the sciences.
4. Explain how scientific principles relate to issues of personal and/or public importance.

Additional Learning Outcomes:

Students who successfully complete this course will be able to:

1. Describe the health-related components of fitness and explain how an exercise scientist may evaluate each.
2. Recognize healthy lifestyle behaviors that promote wellness and evaluate risk for chronic disease using health screening techniques.
3. Explain the basic anatomy and physiology of the musculoskeletal and cardiorespiratory systems.
4. Describe acute responses and chronic adaptations to exercise.

Natural and Physical Sciences Colonnade Artifact

Colonnade courses will be assessed at the end of each semester using an “Artifact” (an assignment) to ensure that students enrolled in the courses are learning what the learning outcomes say they should learn (the Natural and Physical Sciences CLO’s are listed above). For this course, the Artifact is a hands-on activity and application question that will assess students’ ability to explain physiological responses to exercise. Instructions for the assignment are included at the end of this syllabus.

Kentucky Graduate Profile Academy Competencies

As part of a CPE initiative, WKU is participating in the Kentucky Graduate Profile Academy which has identified 10 competencies that all Kentucky college graduates should have. This Colonnade course (Explorations – Social and Behavioral Sciences) offers students a chance to develop the following competencies:

1. Think critically to solve problems
2. Apply quantitative reasoning
3. Collaborate and work in teams
4. Use information for decision making

Required Text:

Garver & Stone. *Practical Content for Beginning Kinesiologists*. This is an online only text. Access instructions are provided later in this document.

Grading: Grades will be assigned based on the following components. Note that the percentages listed below are approximate and subject to change.

45% Exams:

You’ll have four exams throughout the semester.

35% Quizzes, Guided Learnings, & Other Assignments:

Quizzes and Guided Learning activities will be provided throughout the semester to enhance your engagement with the course content and help you prepare for class.

20% Group Project and Presentation:

Toward the end of the semester, you and a small group of your peers will complete an application project. The project will give you the opportunity to analyze a real-world situation and develop strategies to help a hypothetical client. It is meant to help you apply the concepts we learn in class and prepare you to use these principles in your future career path. At the end of the semester, you and your group will present your final project to the class.

Grading Scale:

≥ 90.00% = A 80.00-89.99% = B 70.00-79.99% = C 60.00-69.00% = D ≤ 59.99% = F

Attendance, Participation & Missing Work Policies

Attendance: In order to earn attendance and participation credit, you must attend the class meetings, respectfully contribute to class discussions, and complete the day’s activities, assignments, etc. You will have **four** “free” absences for the semester. The fifth

unexcused absence will result in a **5% drop** in your final grade at the end of the semester. Each additional absence will result in a **10% drop** in your final grade.

*If it is determined that your absence is officially excused, it will not be counted against your attendance grade. Absences may be excused if the student makes arrangements with the professor *prior* to the date of absence and/or a verifiable emergency occurs. Please note that athletes must provide travel letters BEFORE missing class.

What qualifies as an excused absence? Reasons for excused absence include illness or injury with a doctor's note, death in the family, religious holidays, etc.

What does not qualify as an excused absence? Pre-scheduled events such as work, family vacations, non-emergency doctor's appointments, job interviews, etc. are not considered "excused" absences. If you have a question about a potential absence, please don't hesitate to ask!

Participation: Contributions to group discussions and completion of activities/assignments are crucial for earning attendance credit. **Being in class without participating or completing activities/assignments may be counted as an unexcused absence for that day.**

Late Work & Make Up Policy: Except under special circumstances and with approval of the instructor, late assignments and quizzes will not be eligible for grading (exception: see coupon explanation below). No make-up exams/quizzes are possible, unless arrangements are made **prior** to exam/quiz dates and/or a **verifiable** medical emergency or university travel excuse is provided. Athletes must provide travel letters to Dr. Woodard **BEFORE** missing class.

Coupons: Every student has the opportunity to earn up to two "coupons" during the semester. The coupon can be redeemed to either retake or make up a late assignment or quiz of the student's choice (**not** good for an exam – sorry! ☺). To earn a coupon, you may:

1. Volunteer for an exercise science related research study
2. Volunteer for selected service opportunities on campus (be sure to ask Dr. Woodard about specific opportunities to be sure they'll count)

Class Environment

Creating a Healthy Learning Environment: It is vitally important to me that we work as a team to create a healthy, interactive, and supportive learning environment. The following expectations of myself and of you are designed to support this goal.

As the instructor, I will help to reconstruct important principles in the text, providing details and examples to enhance your understanding. I will invite you to share your perspectives and questions in order to encourage a deeper understanding of the course content. I will facilitate a collaborative environment where we can work together toward understanding and effectively applying principles. I genuinely care about you as my students, and I will work with you to help you succeed in this course and move toward your future career goals.

As the student, your investment in this course and in your education will be crucial to your own success. I will expect you to come to each class prepared for the lecture by reviewing the assigned chapter, bringing the necessary tools for note-taking, and preparing to actively engage

in discussions and activities. I will expect you to complete all assignments according to your highest capability. You are NOT expected to be perfect, but you are expected to challenge yourself and put forth your best effort. Finally, I expect you to interact with me and with your peers in a respectful manner, remembering that we are all growing together.

What to Bring to Class: Please bring the following items to each class period. These items will allow you to fully participate in class activities.

- Internet-capable device (e.g., laptop, phone).
 - Note: If you need help securing an internet capable device, please contact Dr. Woodard or the library prior to the first day of class.
- Note-taking materials (your choice)
- A great attitude! ☺
- Occasionally, you may be asked to dress appropriately for movement-based activities. You'll be notified ahead of time when athletic clothing and/or shoes are necessary.

Electronic Devices: The instructor reserves the right to require students to put away ANY electronic device if they are seen as a distraction to other students in the class. Recording of course lectures may be permitted but must be discussed with the instructor prior to doing so.

Communication: All course announcements, materials, and due dates can be found on Blackboard. I will also use email communication to remind you of important dates, upcoming activities, etc. Please check Blackboard and your email OFTEN.

Email is the best form of communication should you wish to contact me. After you have checked the syllabus and Blackboard for a potential answer to your inquiry, I highly encourage you to email me with questions, comments, etc. You are never a bother to me! I check my email regularly and typically respond within 24 hours during regular business hours (Mon - Fri, 8:00 am - 5:00 pm).

When using email communication, please abide by the following:

1. Write in complete sentences, using appropriate punctuation. Do not use SMS shorthand or abbreviations.
2. Include the course number (EXS 223) in the subject line.
3. Include your full name in the email.
4. Be specific and concise with your questions, so I'll know how to best help you.
5. Include a greeting and a signature.
6. Use respectful language.
7. Proofread your email before sending! Remember, emailing your instructor is an opportunity to practice professional communication – a skill that will serve you well in the future.

General Policies

Academic Misconduct: All acts of dishonesty in any work constitute academic misconduct. In the event of academic misconduct, the student(s) will receive a failing grade ("F") for the course, and may be reported to the University Disciplinary Committee.

Code of Student Conduct: Following the procedures of due process, if the WKU Code of Student Conduct is violated, the responsible parties will go through the University's disciplinary process, which is intended to be a fair and educational experience. Any WKU student may be expelled, suspended, placed on probation or given a lesser sanction for one or more of the following causes:

Dishonesty. Plagiarism or cheating as described in the student handbook and in this course syllabus.

Destruction of property. Any act of vandalism, malicious or unwarranted damage or destruction to any institutionally owned or controlled property.

Disrupting the academic process. Interference or disruptive activity which impedes, impairs or obstructs teaching, research ...which inhibits full exercise of rights by others.

Unruly conduct. Disorderly conduct or lewd, indecent or obscene conduct or expression.

Academic Freedom, Offenses, and Dishonesty: The University desires that every student experiences freedom in academic pursuits. Academic freedom, however, is not irresponsibility – it is the opportunity to pursue truth. The maintenance of academic integrity is of fundamental importance to the University. Thus, **it should be clearly understood that acts of plagiarism or any other form of cheating will not be tolerated and that anyone committing such acts risks punishment of a serious nature.** Students who commit any act of academic dishonesty may receive from the instructor a failing grade in the course without possibility of withdrawal. The faculty member may also present the case to the Office of Student Life for disciplinary sanctions. A student who believes a faculty member has dealt unfairly with him/her in a course involving academic dishonesty may seek relief through the Student Complaint Procedure.

Plagiarism – To represent written work taken from another source as one's own is plagiarism. Plagiarism is a serious offense. The academic work of a student must be his/her own. One must give any author credit for source material borrowed from him/her. To lift content directly from a source without giving credit is a flagrant act. To present a borrowed passage without reference to the source after having changed a few words is also plagiarism.

Cheating – No student shall receive or give assistance not authorized by the instructor in taking an examination or quiz or in the preparation of any assignment or other project which is submitted for purposes of grade determination.

Disciplinary Actions: The following list describes University sanctions that may be administered as a result of violating the WKU Code of Conduct: warning and/or reprimand, creative discipline, disciplinary probation, suspension, expulsion.

UNIVERSITY ATTENDANCE POLICY:

Registration in a course obligates the student to be regular and punctual in class attendance. Students who, without previous arrangement with the instructor or department, fail to attend

the first two class meetings of a course meeting multiple times per week or the first meeting of a class that meets one time per week MAY be dropped from the course. Nonattendance for a web-based course shall be defined as failure to perform meaningful academically-related activity (including, but not limited to, the following: submitting an academic assignment, taking an exam, participating in an online discussion about academic matters) within one week of the course start date without previous arrangements with the instructor or department. Nonattendance does NOT release students from the responsibility to officially drop any course for which they have enrolled and choose not to complete.

Withdrawal deadlines are published each semester in the schedule bulletin. Excessive absenteeism frequently contributes to poor academic achievement. An instructor who determines that a student's absenteeism is inconsistent with the instructor's stated policy should either counsel with the student or request that the Academic Advising and Retention Center arrange a counseling session with the student. Excessive absenteeism may result in the instructor's dismissing the student from the class and recording a failing grade, unless the student officially withdraws from the class before the withdrawal deadline. If the student withdraws from the University after the end of the official withdrawal period, excessive absenteeism may be one of the considerations in the instructor's deciding whether circumstances justify a "W" or an "F" in the course. The normal appeal process is available to the student who wants to appeal the decision of the instructor. When a student is absent from class because of illness, death in the family, or other justifiable reasons, it is the student's responsibility to consult the instructor at the earliest possible time. If personal emergencies arise, written notification of absences must be supplied through the Academic Advising and Retention Center.

THE LEARNING CENTER

Website: www.wku.edu/tlc

Phone: (270) 745-5065

Email: tlc@wku.edu

Should you require academic assistance with your WKU courses, The Learning Center (located in the Downing Student Union, 2141) provides free supplemental education programs for all currently enrolled WKU students. TLC @ Downing Student Union offers certified, one-on-one tutoring in over 200 subjects and eight academic skill areas by appointment or walk in. Online tutoring is offered to distance learners. TLC is also a quiet study area (with side rooms designated for peer-to-peer tutoring) and offers a computer lab to complete academic coursework.

WKU Center for Literacy Assistance

The WKU Center for Literacy is located in Gary A. Ransdell Hall 2066. At the Center for Literacy, students can receive assistance in developing strategies to help **reading/studying to learn** and writing for evidence and argument. The Center for Literacy offers both individual and small group sessions throughout the semester. More information about the WKU Center for Literacy can be found on the website: <http://www.wku.edu/literacycenter/>

Student Accessibility Resource Center (SARC):

In compliance with University policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Student Accessibility Resource Center located in Downing Student Union, 1074. SARC can be reached by phone number at 270-

745-5004 [270-745-3030 TTY] or via email at sarc.connect@wku.edu. Please do not request accommodations directly from the professor or instructor without a faculty notification letter (FNL) from The Student Accessibility Resource Center."

Faculty/Staff that would like additional information about the SARC can visit our FAQ and Faculty/Staff Resources pages. Faculty may also contact the SARC directly for testing information at sarc.testing@wku.edu. For students that request note-taking accommodations at sarc.notetaking@wku.edu or our general email account listed above. If you have any questions or concerns, please should contact our office by email or phone.

COVID-19 - Statement from the University

All students are strongly encouraged to [get the COVID-19 vaccine](#). In accordance with WKU policy, all students must call the WKU COVID-19 Assistance Line at 270-745-2019 within 4 hours of testing positive for COVID-19 or being identified as a close contact to someone who has tested positive. The COVID Assistance Line is available to answer questions regarding any COVID-19 related issue. This guidance is subject to change based on requirements set forth by federal, state, and local public health entities. Please refer to the Healthy on the Hill website for the most current information. www.wku.edu/healthyonthehill

Title IX Misconduct/Assault Statement

Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding WKU's Title IX Sexual Misconduct/Assault Policy (#0.2070) at <https://wku.edu/eoo/documents/titleix/wkutitleixpolicyandgrievanceprocedure.pdf> and

Discrimination and Harassment Policy (#0.2040) at

https://wku.edu/policies/hr_policies/2040_discrimination_harassment_policy.pdf.

Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Title IX Coordinator, Andrea Anderson, 270-745-5398 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121.

Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are "Responsible Employees" of the University and **MUST** report what you share to WKU's Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU's Counseling and Testing Center at 270-745-3159.

ADA Accommodation Statement

In compliance with University policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Student Accessibility Resource Center located in Downing Student Union, 1074. SARC can be reached by phone number at 270-745-5004 [270-745-3030 TTY] or via email at sarc.connect@wku.edu. Please do not request accommodations directly from the professor or instructor without a faculty notification letter (FNL) from The Student Accessibility Resource Center.

Course Plan

Date	What Are We Covering?	Things to Remember
Mon Aug 22	Syllabus Day & Getting to Know Each Other	Syllabus Quiz Due Friday by 11:59 PM
Wed Aug 24	Benefits of Physical Activity and Exercise & PA Recommendations	
Fri Aug 26	Independent Learning Day	Pre-Activity Screening Worksheet Due Monday by 10:20 AM
Mon Aug 29	Finish PA Recommendations Begin Pre-Activity Screening	
Wed Aug 31	Continue Pre-Activity Screening	
Fri Sept 2	Review Day	
Mon Sept 5	LABOR DAY! No Class Today	
Wed Sept 7	EXAM 1	
Fri Sept 9	Perceivant Chapter: Bones, Nerves, & Skeletal Muscle <i>Independent Learning Day</i>	Bones, Nerves, & Skeletal Muscle Guided Learning Due Monday by 10:20 AM
Mon Sept 12	Continued	
Wed Sept 14	Continued	
Fri Sept 16	Continued	Musculoskeletal Fitness Guided Learning Due Monday by 10:20 AM
Mon Sept 19	Perceivant Chapter: Musculoskeletal Fitness	
Wed Sept 21	Continued	
Fri Sept 23	Continued	Quizzes Due Mon by 10:20 AM : Bones, Nerves, & Skeletal Muscle & Musculoskeletal Fitness
Mon Sept 26	Review Day for Exam 2	
Wed Sept 28	EXAM 2	Heart, Lungs, & Blood Vessels Guided Learning Due Friday by 10:20 AM
Fri Sept 30	Perceivant Chapter: Heart, Lungs, Blood Vessels	
Mon Oct 3	Continued	

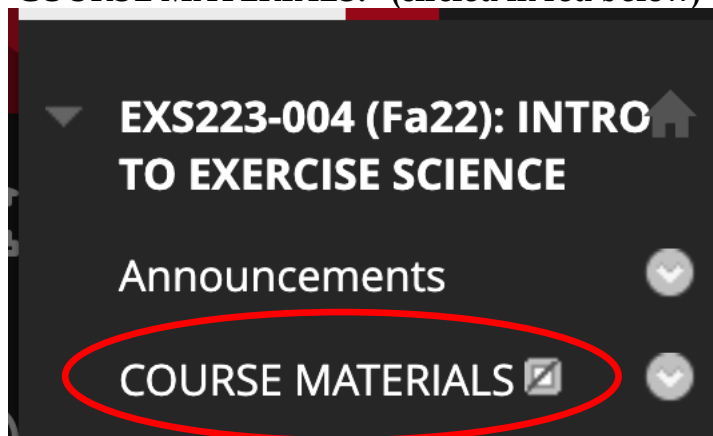
Wed Oct 5	Continued	Exercise Physiology Guided Learning Due Friday by 10:20 AM
Fri Oct 7	Perceivant Chapter: Exercise Physiology	
Mon Oct 10	Continued	
Wed Oct 12	Continued	
Fri Oct 14	FALL BREAK!	
Mon Oct 17	Perceivant Chapter: Cardiorespiratory Fitness	Cardiorespiratory Fitness Guided Learning Due Wednesday by 10:20 AM
Wed Oct 19	Real World Physiology Assignment	Due Tonight by 11:59 PM
Fri Oct 21	Continued	Quizzes Due Mon by 10:20 AM: Heart, Lungs, Blood Vessels & Cardiorespiratory Fitness
Mon Oct 24	Review Day	
Wed Oct 26	EXAM 3	
Fri Oct 28	Perceivant Chapter: Body Mass Index and Body Composition	Body Mass Index and Body Composition Guided Learning Due Monday by 10:20 AM
Mon Oct 31	Continued	
Wed Nov 2	Continued	
Fri Nov 4	Perceivant Chapter: Macronutrients & Micronutrients	Macro & Micronutrients Guided Learning Due Monday by 10:20 AM
Mon Nov 7	Continued	
Wed Nov 9	Continued	Food Log Assignment Due Fri by 10:20 AM
Fri Nov 11	Perceivant Chapter: Bioenergetics	
Mon Nov 14	Continued	
Wed Nov 16	Continued	Quizzes Due Fri by 10:20 AM: Body Mass Index & Body Composition & Macronutrients and Micronutrients

Fri Nov 18	Review Day	
Mon Nov 21	EXAM 4	
Wed Nov 23	THANKSGIVING BREAK!	
Fri Nov 25		
Mon Nov 28	Work on Final Projects	
Wed Nov 30	Work on Final Projects	
Fri Dec 2	Work on Final Projects	Turn in Final Project by Tonight at 11:59 pm
Dec 5-9: Final Exam Week Present Final Projects		

Accessing the Textbook

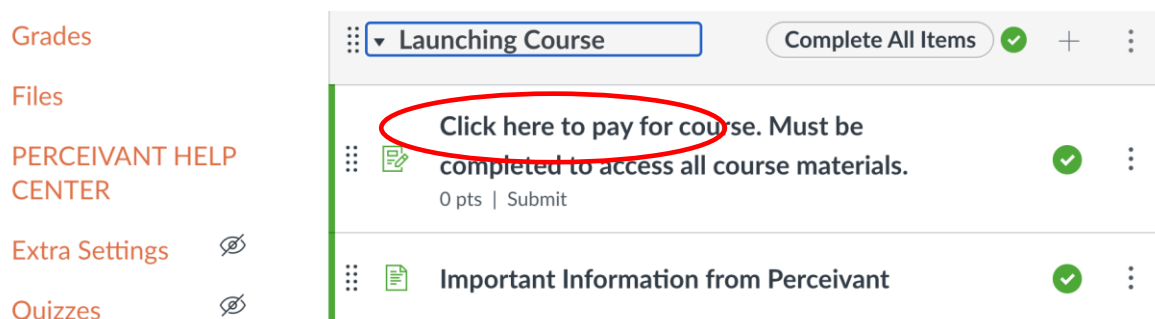
Step 1: Log into our course on Blackboard.

Step 2: Look at the panel on the left-hand side of the course site. Click the link called "COURSE MATERIALS." (circled in red below)



Step 3: Click the link that says, "Click Here to Access Course Materials."

Step 4: This link should direct you to a screen that looks like this:



Step 5: Click on "Click here to pay for course." (circled in red above)

Step 6: You should see a payment screen (pictured on next page). You may choose to pay with a card, PayPal, or purchase an access code from the bookstore on campus (note that this option *may* be more expensive).

See below for instructions associated with each payment method.

Click here to pay for course. Must be completed to access all course materials.



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Need Help? Email help@perceivant.com for assistance.



If you choose the access code option, click within the “Use Key” textbox, enter the key exactly as it looks (including the dash marks), and then click “Use Key”.

This should bring you back to the modules page and show a green checkmark next to the payment assignment, showing that you have completed the payment process.

If you choose the PayPal option, click “PayPal Checkout” to be taken to the PayPal website via a new browser window.

Once all information on the screen has been filled out and the payment has been submitted, you will be taken back to the payment page where their payment will process. If the payment is successful, you will be brought back to the modules page and a green checkmark will be shown next to the payment assignment, showing that you have completed the payment process.

If you choose the “Pay with Card” Option, click “Pay with Credit Card,” and a screen will appear prompting you to enter your information.

Once all information on the screen has been filled out and the payment has been submitted, if successful, you will be brought back to the modules page and a green checkmark will be shown next to the payment assignment, showing that you have completed the payment process.

EXS 223 Colonnade Artifact: “Real World Physiology”

Introduction

Exercise Physiology focuses on how anatomy and physiology are impacted by physical activity, exercise, and global influences like genetics, nutrition, disease, and environment. For this activity, you will have the opportunity to see how your physiology is impacted by physical activity and explore how exercise may influence physiological adaptations.

Purpose

To connect content from the chapter reading to physiological responses and adaptations to exercise.

Please gather a group of at least four individuals. All group members should complete steps 1-4 and then answer the questions below.

1. Watch the short tutorial on how to measure your heart rate.
(<https://youtu.be/AHHR8qNU9QY>)
2. Measure your own resting heart rate for 30 seconds, then multiply by two.
3. Choose an activity that all group members can maintain for the duration of the assessment (e.g., walking, jumping jacks, squats).
4. After two minutes of movement, stop and immediately find your heart rate after physical activity.

Please fill in the chart below for each member of your group and then answer prompts A-I to complete the assignment.

Group Members' Initials	Resting Heart Rate (RHR) in beats per min (BPM)	Is RHR considered “normal” according to your chapter?	Post-exercise HR in BPM	HR Response (Difference between RHR and Post-exercise HR in BPM)

RHR: resting heart rate; BPM: beats per minute

- A. What *general trend* do you observe in your group's post-exercise HR compared to RHR (increase, decrease, or no change)?
- B. Why does the HR respond the way it does after starting physical activity? Answer from the perspective of physiology.
- C. Did all group members experience *identical* HR responses after exercising?
- D. Please identify the range in **HR responses** among your group members.
- Smallest HR response:
 - Largest HR response:
 - Range (largest– smallest):
- E. Please identify two factors that may have affected the group members' HR responses.
- F. How *and* why do you think each of the factors listed above (answer E) influenced HR responses?
- G. Suppose you and your group completed an 8-week aerobic training program and then performed this assignment again. How would you expect average HR responses to change from pre-training (today) to post-training?
- H. Identify one adaptation to the cardiorespiratory system that would support your prediction above (answer G) and explain how this adaptation influences HR responses to exercise.
- I. Finally, describe two positive health-related impacts of regular aerobic exercise.

Artifact Rubric

Points Possible: 25

	Poor	Fair	Good	Points Earned
HR Table	Answer is missing or inaccurate. (0 points)	Table is partially complete (1 point)	Table is fully complete (2 points)	
Item A			Accurately identifies trend. (2 points)	
Item B		Answer is reasonable but is not explained from physiological perspective. (2 points)	Answer is accurate, thorough, and explained from physiological perspective. (4 points)	
Item C			Answer is accurate. (1 point)	
Item D		1 or 2 parts are accurate. (1 point)	All parts of answer are accurate. (2 points)	
Item E		Correctly identifies one factor. (1 point)	Correctly identifies two factors. (2 points)	
Item F		Provides reasonable explanation for one factor. (2 points)	Provides reasonable explanations for both factors. (4 points)	
Item G			Provides reasonable prediction. (2 points)	
Item H		Correctly identifies one adaptation. (2 point)	Correctly identifies one adaptation and explains how it impacts HR response (4 points)	
Item I		Correctly describes one health-related impact. (1 point)	Correctly describes two health-related impacts. (2 points)	