Cardiovascular PBL

Project Overview:
Throughout this unit, students study the key components of cardiovascular fitness and how these concepts contribute to overall health, performance, injury prevention. Students learned about heart rate zones, energy systems, cardiovascular training methods and how to incorporate the FITT principles into exercise program design.

To show their understanding, students become fitness consultants. Each student receives a client profile listing a fictional person's fitness goals, limitations, and needs. Using the information taught in this unit, students design a 1-2 week cardiovascular program for their assigned client.

For the project, students must include the training methods used, target heart rate zones, and FITT components, and provide clear reasons for their choices using unit concepts and vocabulary.

Students will create a presentation using Word, Google Slides, PowerPoint, or Canva that explains their client and outlines their training program.

The purpose of this project is to apply real world fitness knowledge and critical thinking to the development of an effective exercise plan.

Learning Standards:
QSI Health and Fitness 1: Essential Unit 4 (Cardiovascular)
The student will:

1. Describe the health benefits of cardiovascular endurance.
2. Describe and perform a cardiovascular assessment.
3. Demonstrate ways to obtain resting, exercise, and maximal heart rate.
4. Explain the various energy systems in the body and provide examples for each.

InTASC Standards:

InTASC Standard 4- Content Knowledge
Students apply cardiovascular concepts such as heart rate zones, training methods, energy systems, and FITT principles within a real-world training plan

InTASC Standard 5- Application of Content
Students use critical thinking and problem solving to design a personalized cardiovascular training program based on an authentic client profile.

Learning Objective:
By the end of this project students will be able to examine a client's fitness needs and design a safe, and effective training program designed to support cardiovascular concepts taught over this unit. Students will apply the FITT principles, heart rate zones 1-5, training methods, to create a personalized 1-2 week plan. They will justify their training decision using correct vocabulary and scientific reasoning. Students will communicate their plan clearly in a visual presentation and reflect on what they would improve in future versions of their program. The project will incorporate real world application of cardiovascular knowledge.

Outcomes
By the end of this project the student will:

- Be able to explain how cardiovascular fitness contributes to overall health and performance
- Identify appropriate training methods for a particular clients goals
- Select the correct heart rate zone and explain their purpose in a training plan
- Analyze a client profile to determine goals, limitations, and fitness needs.
- Design a 1-2 week cardiovascular training program
- Use FITT principles to structure each workout day

Project Task:

In this project students are fitness consultants. At the start of the lesson they will select a client profile they are given to design a 1-2 week cardiovascular training program based on what they have learned during the unit.

The program must include:

- FITT components for each training day
- The training method used (steady-state, interval training, circuit training)
- The targeted heart rate zone
- What energy system was used
- A clear explanation for why they chose each part of the plan

What should be turned in?:
A document or presentation (Google Slides, PowerPoint, Word Document, or Canva) which includes:

- The client's profile
- The full training plan
- Justification of choices made

Support for Students:

1. Client Profile Analysis: Students will receive a form with clients goals, limitations, and fitness needs.
2. Workout Design Template:Students will structure their cardiovascular program using examples of FITT principles, heart rate zone, and selected training methods.

3. Training methods: Students will receive examples of steady state, interval, and circuit training to help determine what method fits the clients
4. Reflection: Students discuss what worked well and what they might change in the future.

Assessment rubric of the Unit:

Cardiovascular PBL Project Rubric

	A	B	D	P
Cardiovascular Concepts	Cardiovascular Concepts are accurate and detailed. Student clearly explains Heart Rate Zones, Methods, and Energy Systems	Concepts are mostly accurate with minor errors. Student show general understanding but lack depth	Cardiovascular Concepts are incomplete or inaccurate. The student has limited understanding of Heart Rate Zones, methods, or energy systems	Work is missing, incomplete or not enough evidence has been shown to assess.
FITT Application	FITT concept are applied correctly for each workout, and the choices match the clients needs and goals clearly and safely	FITT concepts are mostly applied correctly; some mismatching or missing detail has taken place, but the project is generally appropriate.	The FITT concepts are incomplete or inaccurate. The student has limited understanding of Heart Rate zones, methods, or energy systems.	Not submitted or insufficient
Program Design	Training plan is fully tailored to client goals, limitations and level; balanced, safe, and realistic	The plan is mostly appropriate for a client with minor issues generally balanced and safe.	The plan does not match the client needs or does not includes safety concerns	Work is missing or incomplete
Reasoning	All choices are justified with reasoning and	Most choices explained with general	Little to no reasoning, or the explanation is	Not enough work to judge

	uses unit vocabulary	reasoning some vagueness is noticed or incomplete responses	missing	
Presentation	The presentation is clear and organized. The student speaks clearly with minimal reading	The presentation is mostly clear, some reading or weak organization	The presentation is unclear or disorganized	Not presented or incomplete

Implementation:
This project will be completed by students during a 45-minute class. Students will select a client profile, design a cardiovascular training program, and prepare to justify their decisions using unit vocabulary.