



Deer Valley Unified School District No. 97

SANDRA DAY O'CONNOR HIGH SCHOOL
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Course: National Academy of Sports Medicine-NASM

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Prep Hour: 1 Web Page/Canvas Site: dvusd.instructure.com

Tutoring Hours: Monday, Tuesday- 6:30-7:30am, Wednesday 2:17-3:00pm

Course Title Essentials of Personal Fitness Training

Course Description

Students will learn about the essentials to personal fitness training. Students will be introduced to the human movement system, the Optimum Performance Training (OPT) model and other domains of basic exercise science; assessment; exercise technique and training instruction; program design; considerations in nutrition; client relations and behavioral coaching; and professional development, practice, and responsibility.

Learning Objectives

1. Define the components of the human movement system.
2. Describe the structure and function of the cardiovascular and respiratory systems.
3. Understand the essential methods of how the body produces energy.
4. Understand biomechanics and have knowledge of biomechanical terminology.
5. Define and comprehend the rationality of an integrated fitness assessment.
6. Define and describe the components associated with cardiorespiratory training.
7. Understand the importance of core training, balance training, resistance, reactive training, and speed, agility, and quickness training.
8. Define and describe the cause and symptoms of selected chronic health conditions.
9. Understand the importance of macronutrients and supplementation and their functions.
10. Describe the characteristics of a positive client experience and customer service.

Occupational Competencies

Demonstrate proficiency in the following performance domains:

- Basic exercise science
- Assessment
- Exercise technique and training instruction
- Program design
- Considerations in nutrition
- Client Relations and behavioral coaching
- Professional development, practice, and responsibility

Instructional Materials and References

[NASM Essentials of Personal Fitness Training, 6th Edition](#) 978-1-284-16008-6 Jones & Bartlett Learning

Instructional Methods

Lecture, lab, and independent study

**Topical
Outline**

- The Scientific Rationale for Integrated Training
- Basic Exercise Science
- The Cardiorespiratory System
- Exercise Metabolism and Bioenergetics
- Human Movement Science
- Fitness Assessment
- Flexibility Training Concepts
- Cardiorespiratory Fitness Training
- Core Training Concepts
- Balance Training Concepts
- Plyometric (Reactive) Training Concepts
- Speed, Agility, and Quickness Training
- Resistance Training Concepts
- Integrated Program Design and the Optimum Performance Training™ (OPT™) Model
- Introduction to Exercise Modalities
- Chronic Health Conditions and Physical or Functional Limitations
- Nutrition
- Supplementation
- Lifestyle Modification and Behavioral Coaching
- Developing a Successful Personal Training Business

**Assessment
Criteria and
Methods
of Evaluating
Students**

Basis for determination of final grade, along with grading scale if different from what is published in the catalog.

Class Participation	20%	90–100	A
Quizzes/ Projects/ Term Paper/ Presentation/	60%	80–89	B
		70–79	C
		60–69	D
		Below 60	F
Final Exam	20%		
	100%		

Learning Resource	Learning Objectives
Chapter 1	<ul style="list-style-type: none"> • Explain the history of the profession of personal training. • Identify common characteristics of personal training clients. • Demonstrate an understanding of the principles of integrated exercise program design. • Describe the Optimum Performance Training (OPT™) model.
Chapter 2	<ul style="list-style-type: none"> • Define the components of the human movement system (kinetic chain). • Explain the basic structure and function of: <ul style="list-style-type: none"> o the nervous system o the skeletal system o the muscular system o the endocrine system • Describe how these systems respond and adapt to exercise.
Chapter 3	<ul style="list-style-type: none"> • Describe the structure and function of the cardiovascular and respiratory systems. • Explain how each of these systems relates to human movement. • Describe how the cardiovascular and respiratory systems work in unison. • Explain the influence that dysfunctional breathing can have on the human movement system.
Chapter 4	<ul style="list-style-type: none"> • Describe the primary methods of how the body produces energy for exercise. • Differentiate between aerobic and anaerobic metabolism. • Distinguish which energy pathways predominate for various intensities and durations of exercise. • Understand the interaction of carbohydrate, fat, and protein as fuels for exercise. • State the differences in the energy use during steady state and exhaustive exercise. • Discriminate between the energy requirements of steady state versus intermittent exercise. • Describe basic training-induced adaptations in energy production.
Chapter 5	<ul style="list-style-type: none"> • Explain the concept of functional multiplanar biomechanics including basic biomechanical terminology. • Describe how muscle actions and outside forces relate to human movement. • Explain the concepts of motor learning and motor control as they relate to exercise training
Chapter 6	<ul style="list-style-type: none"> • Explain the components of and rationale for an integrated fitness assessment. • Understand how to administer a health history questionnaire and then from that be able to stratify a client's overall risk for fitness assessment. • Understand the importance of posture, how it relates to movement observation, and how to assess it. • Understand how to perform a comprehensive health-related fitness assessment, obtain subjective and objective information about clients, and how to use the information collected to help design an exercise program.
Chapter 7	<ul style="list-style-type: none"> • Explain the effects of muscle imbalances on the human movement system (kinetic chain). • Provide a scientific rationale for the use of an integrated flexibility training program. • Differentiate between the various types of flexibility techniques. • Perform and instruct appropriate flexibility techniques for given situations.

Chapter 8	<ul style="list-style-type: none"> • Define and describe the components associated with cardiorespiratory training. • Describe how various physiologic systems respond and adapt to cardiorespiratory training. • Describe the health-related benefits associated with cardiorespiratory fitness. • Describe current guidelines and recommendations for prescribing safe and effective cardiorespiratory exercise to apparently healthy individuals. • Describe how to design and implement cardiorespiratory training programs to a variety of clients using an individualized approach. • Instruct clients on how to perform safe and effective cardiorespiratory exercise.
Chapter 9	<ul style="list-style-type: none"> • Understand the importance of the core musculature. • Differentiate between the stabilization system and the movement system. • Discuss the importance of core training. • Design a core training program for clients at any level of training. • Perform, describe, and instruct various core training exercises.
Chapter 10	<ul style="list-style-type: none"> • Define balance and describe its role in performance and injury risk. • Discuss the importance of balance training. • Design a progressive balance training program for clients in any level of training. • Understand and incorporate the principles of selected research outcomes when designing a balance training program. • Perform, describe, and instruct various balance training exercises.
Chapter 11	<ul style="list-style-type: none"> • Define plyometric (reactive) training and describe its uses. • Discuss the importance of plyometric training. • Design a plyometric training program for clients at various levels of fitness. • Perform and instruct various plyometric training exercises.
Chapter 12	<ul style="list-style-type: none"> • Define and describe speed, agility, and quickness training and its purpose. • Discuss the importance of speed, agility, and quickness training for a variety of populations. • Design a speed, agility, and quickness training program for clients at any level of training. • Perform, describe, and instruct various speed, agility, and quickness training exercises.
Chapter 13	<ul style="list-style-type: none"> • Describe the stages of the general adaptation syndrome. • Define and describe the principle of adaptation and specificity. • Define stability, muscular endurance, muscular hypertrophy, strength, and power. • List and define the various stages of strength and training systems.
Chapter 14	<ul style="list-style-type: none"> • Define and describe the acute training variables within the Optimum Performance Training (OPT™) model. • Describe the phases within the OPT model. • Design programs for each phase of training.
Chapter 15	<ul style="list-style-type: none"> • Define and describe the safe and effective use of selected exercise training methods, including various forms of resistance and proprioceptive modalities. • Describe how these exercise training modalities can safely and effectively be incorporated into a training program for a variety of clients. • Describe how these exercise training modalities can be systematically used within the Optimum Performance Training (OPT™) Model
Chapter 16	<ul style="list-style-type: none"> • Define and describe the cause and symptoms of selected chronic health conditions.

	<ul style="list-style-type: none"> • Describe the characteristics of selected health and age-related physical and functional limitations to exercise. • Recognize how the conditions discussed in this chapter affect exercise training variables within the OPT™ model. • Recognize how acute and chronic responses to exercise vary in clients with chronic health conditions or physical or functional limitations compared with apparently healthy clients. • Describe how to modify program design for clients with chronic health and physical or functional limitations.
Chapter 17	<ul style="list-style-type: none"> • Describe the macronutrients and their functions. • Describe how the macronutrient composition of an individual's food intake can affect satiety, compliance, daily energy expenditure, and weight control. • Provide basic nutritional recommendations for optimizing health. • Answer questions, handle issues, and dispel myths regarding the relationship of macronutrients to the successful alteration of body composition.
Chapter 18	<ul style="list-style-type: none"> • Define what dietary supplements are and describe the various classes and uses of them. • Understand basic supplemental recommendations for optimizing health. • Respond to questions about dietary supplements based on objective, scientific facts. • Define the term ergogenic and common substances used to enhance performance.
Chapter 19	<ul style="list-style-type: none"> • Describe the characteristics of a positive client experience. • Understand the stages of change model. • Describe characteristics of what effective communication skills are. • Describe the elements of effective SMART goal-setting techniques.
Chapter 20	<ul style="list-style-type: none"> • Describe the qualities and characteristics of uncompromising customer service. • Describe strategies for finding an ideal workplace. • Understand the process for writing a resume. • Understand the four Ps of marketing. • Understand basic membership sales techniques, including strategies for solicitation of new sales and how to close sales.
Appendix E	<ul style="list-style-type: none"> • Review fitness assessment considerations. • Review concepts for program design. • Describe hydration concepts. • Identify fitness technologies and trends. • Describe behavior change strategies for client results. • Describe exam taking best practices and preparation.

The Deer Valley Unified School District does not discriminate on the basis of race, color, national origin, sex, disability, or age in its programs and activities. For any inquiries regarding nondiscrimination policies contact the Superintendent's Department, 20402 N. 15th Avenue, Phoenix, AZ 85027. 623.445.5000.