Department of Kinesiology
San Jose State University
Instructor: Craig J. Cisar, Ph.D., FACSM, ACSM ETT, CSCS, NSCA-CPT
Office: SPX 105 Telephone: 924-3018 E-mail: cisar@kin.sjsu.edu
Office Hours: Posted outside of SPX 105 and by appointment
Webpage: http://www.sjsu.edu/people/craig.cisar/courses/kin162/

Fall, 2009

KIN 162 – Advanced Fitness Assessment and Exercise Prescritpion

Course Description

In-depth study and analysis of the principles and techniques used in the assessment of physical fitness and health as well as the design of conditioning programs and physical activities.

Prerequisites

KIN 70 - Introduction to Kinesiology and KIN 155 - Exercise Physiology or equivalents. Enrollment in the course indicates that you have completed or are concurrently enrolled in the pre-requisite coursework. Misrepresentation of completion or concurrent enrollment in the prerequisite coursework will be considered a direct violation of the University's Academic Integrity Policy.

Course Objectives

Upon successful completion of this course, students will be able to:

1. identify and explain the basic principles involved in the development and maintenance of cardiorespiratory fitness, muscular strength and endurance, flexibility, body composition, anaerobic power and capacity, speed, agility, and balance.
2. design and apply individualized programs to improve cardiorespiratory fitness, muscular strength and endurance, flexibility, body composition, anaerobic power and capacity, speed, agility, and balance.
3. explain and utilize the basic components of program design for a variety of sport skills and physical activities.
4. apply the concept of periodization to training in various sport skills and physical activities.
5. perform appropriate techniques for participant screening and health appraisal including risk factors which may require medical consultation prior to participation in exercise programs.
6. perform cardiorespiratory, muscular strength and endurance, flexibility, body composition, anaerobic power and capacity, speed, agility, and balance exercise tests as well as utilize the information obtained from these tests in exercise program design.
7. describe and perform different types of training programs such as programs for cardiorespiratory endurance, interval training, hypertrophy, strength, high force production and/or explosive power, speed and agility, plyometrics, muscular endurance, circuit training, flexibility, and balance.
8. compare and contrast the impact of various modes of exercise on body composition and their use in weight control programs.
9. sensitively identify and explain age, sex, and other individual differences which should be taken into consideration when designing exercise programs to improve cardiorespiratory fitness, flexibility, body composition, muscular strength and endurance, anaerobic power and capacity, speed, agility, and balance.
10. identify and demonstrate the proper biomechanics and techniques of training which are necessary to optimize training results and minimize the risk of musculoskeletal injuries.
11. describe controversial exercises and appropriate exercise precautions.
12. identify and explain the issues and principles underlying exercise compliance and motivation as well as other basic concepts related to exercise psychology.
13. compare, contrast, and critically analyze fitness programs and exercise equipment.
14. identify and explain the affects of environmental extremes on performance and exercise prescription.
15. develop a comprehensive conditioning program based on needs analysis and fitness assessment.
16. demonstrate effective communication skills necessary for fitness assessment and evaluation, exercise prescription, and program leadership.

Textbooks and Course Reader

1. Cisar, C.J., Christensen, C.L., & Cisar, R.B. (2007). Advanced fitness assessment and exercise prescription notebook. San Jose, CA: Maple Press.
2. Earle, R.W., & Baechle, T.R. (Eds.) (2004). NSCA's essentials of personal training. Champaign, IL: Human Kinetics.

Course Requirements

A. Active participation as well as completion of the reading assignments, written tests, class project, and physical performance tests is considered essential to the attainment of the course objectives.
B. ACADEMIC INTEGRITY (from Office of Judicial Affairs). "Your own commitment to learning, as evidenced by your enrollment at San Jose State University, and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty are required to report all infractions to the office of Judicial Affairs. The policy on academic integrity can be found at http://www2.sjsu.edu/senate/S04-12.htm.
C. AMERICANS WITH DISABILITIES ACT COMPLIANCE. "If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with The Disability Resource Center (924-6000, located in Adm 110) as soon as possible. Presidential Directive 97-03 requires that students with disabilities register with DRC to establish a record of their disability."

Written Examinations

The first examination will be given in October and the second examination will be given at the end of the semester. The examinations will consist of objective questions (i.e., multiple choice, true-false, and matching questions). **EXAMINATIONS WILL BE GIVEN AT THE SCHEDULED TIME ONLY AND NO MAKE-UP EXAMINATIONS WILL BE GIVEN,** except for documented serious and compelling reasons..

Fitness Screening and Testing

Fitness screening and testing will be conducted during the course. Students will complete assessments and evaluations of health screening and exercise readiness, muscular strength and endurance, cardiorespiratory fitness, flexibility, anaerobic power and capacity, speed, agility, and balance. The fitness assessments and evaluations will be briefly summarized in a report, which will be submitted for grading on a credit/no credit basis. Reports will not be accepted late. The performance test protocols and evaluation standards are in the course reader textbook, and/or other supplemental course materials.

Class Project

Students will be required to complete a class project during the semester that involves the development of a comprehensive 12-week conditioning program. Each student will develop the conditioning program for herself/himself based on a needs analysis as well as assessments and evaluations of muscular strength and endurance, cardiorespiratory fitness, flexibility, body composition, anaerobic power and capacity, speed, agility and balance. Instructions for the class project are included in the course reader and/or other supplemental course materials. The class project is due on or before November 24, 2009. **CLASS PROJECTS WILL NOT BE ACCEPTED LATE,** except for documented serious and compelling reasons.

Class Workouts

Students are expected to complete the in-class workouts as indicated in the tentative course schedule. The workouts need to be completed during the class period and they cannot be completed outside of class. Missed workouts cannot be made-up.

Method of Evaluation

	Points
Two Lecture Examinations (25 points for each examination)	50
Completion of Fitness Assessments and Evaluations	20
Completion of Class Project	20
Completion of In-Class Workouts	10
Total Points	100

Assignment of Final Course Grade

Final course grades will be assigned according to the following scale based on the accumulated total points during the semester.

A+	98-100	B+	88-89	C+	78-79	D+	68-69	F	≤ 59
A	92-97	B	82-87	C	72-77	D	62-67		

A- 90-91 B- 80-81 C- 70-71 D- 60-61

Tentative Course Schedule

Date	Day	Lecture Topic/Activity	Assigned Readings
8-25	T	Course Introduction	EB-15
		General Principles of Fitness and Wellness	CR-3, 4
8-27	TR	Evaluation of Health, Lifestyle, and Exercise	EB-9, 15
		Readiness	CR-5
9-1	T	Measurement of Heart Rate, Blood Pressure, and	EB-11, 12, 16
		Rating of Perceived Exertion During Exercise	CR-6, 7
		General Warm-Up and Cool-Down Guidelines	
9-3	TR	Review of Muscle Anatomy and Biomechanics	EB-4, 11, 13, 15
		Choice of Resistance Training Exercises	CR-2, 8, 11, 12, 13, 14
		Muscular Strength and Endurance Assessment	
9-8	T	General Review of Exercise Testing and Evaluation	EB-10, 11, 13
		Safety Factors	CR-2, 8, 9, 10, 11
		Muscular Strength and Endurance Assessment	
9-10	TR	Review of Specific Exercise Test Protocols	EB-11
		Resistance Training Workout	CR-2, 15
9-15	T	Review of Exercise Physiology	EB-1, 2, 3, 13, 15
		Resistance Training Workout	CR-2, 15
9-17	TR	Resistance Training Program Design	EB-13, 15, 23
		Resistance Training Workout	CR-2, 16, 17
9-22	T	**No Class**	
9-24	TR	Resistance Training Program Design	EB-13, 15, 23
		Resistance Training Workout	CR-2, 16, 17, 18
9-29	T	Resistance Training Program Design	EB-13, 15, 23
		Systems of Resistance Training	CR-19
		Resistance Training Workout	CR-2, 16, 17, 18
10-1	TR	Cardiorespiratory Fitness Assessment	EB-10, 11; CR-9, 20
10-6	T	Cardiorespiratory Fitness Program Design	EB-13, 14, 15, 16
		Endurance and/or Resistance Training Workout	CR-2, 21
10-8	TR	**Tentative First Lecture Examination**	

Date	Day	Lecture Topic/Activity	Assigned Readings
10-13	T	Flexibility Assessment and Program Design	EB-11, 12; CR-22
10-15	TR	Body Composition Assessment and Program	EB-7, 11, 19
		Design for Weight Control	CR-23, 24
10-20	T	Body Composition Program Design for Weight Control	EB-7, 19
		Endurance and/or Resistance Training Workout	CR-2, 21, 24
10-22	TR	Muscle Endurance Programs	EB-13, 15
		Resistance Training for Endurance Athletes	CR-2, 21, 25
		Endurance and/or Resistance Training Workout	
10-27	T	Interval Training Programs for Muscle	EB-13, 15, 16, 17
		Endurance and Speed Development	CR-2, 25
		Power, Speed, Agility, and Balance Assessment	
10-29	TR	**No Class**	
11-3	T	Power and Speed Programs	EB-13, 15, 17, 23
		Power, Speed, and Agility Assessment	CR-2, 26
11-5	TR	Plyometric Training	EB-17
		Plyometric Workout	CR-2, 26

11-10	TR	Functional Training – Overview	EB-12
		Functional Training Workout	CR-27
11-12	TR	Functional and Power Dumbbell Training	EB-12
		Functional Training Workout	CR-27
11-17	T	Special Populations (Sex and Age Considerations)	EB-13, 14, 15, 16, 18, 21
		Contraindicated Hazardous Exercises	CR-2, 21, 28, 29
		Power, Speed, Agility, and/or Balance Workout	
11-19	TR	Effects of Nutrition and Performance Enhancing	EB-7, 13, 14, 15, 16, 17
		Substances on Performance and Exercise Prescription	CR-2, 21, 30
		Power, Speed, Agility, and/or Balance Workout	
11-24	T	**Class Project Due**	
		Environmental Effects on Human Performance	EB-2, 13, 14, 15, 16, 17
		Power, Speed, Endurance and/or Resistance Training Workout	CR-2, 21, 31
11-26	TR	**No Class**	
12-1	**T**	Exercise Psychology	EB-8, 13, 15, 16
		Endurance and/or Resistance Training Workout	CR-2, 21, 32
12-3	TR	Strength Training and Conditioning Facilities	EB-24, 25
		Legal Issues	
		Endurance and/or Resistance Training Workout	CR-2, 21
12-8	T	Review of Training Adaptations	EB-5, 6; CR-33
		Personal Training	CR-34
		Endurance and/or Resistance Training Workout	CR-2, 21
12-11	**F**	**Second Lecture Exam from 12:15 – 14:30**	

Note: EB and number refers to the chapter in the Earle and Baechle textbook and CR and number refers to the section in the course reader.