

San José State University
Department of Kinesiology
KIN 162 - Advanced Fitness Assessment and Exercise Prescription
Lecture Section 01 and Activity Section 02

Course and Contact Information

Instructor:	Dr. Craig J. Cisar, Ph.D., FACSM, ACSM ETT, CSCS, NSCA-CPT
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Office Hours:	TTH 09:45-11:15 and by appointment
Class Days/Time:	Lecture TTH 12:30-13:20; Activity TTH 13:30-14:20
Classroom:	Lecture YuH 233; Activity YuH 233, YuH 126, and SPX 107B
Prerequisites:	KIN 155 - Exercise Physiology and KIN 70 - Introduction to Kinesiology

Course Format

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.

Course Goals

Undergraduate Degree Program Learning Outcomes (PLO)

At the end of a Bachelor of Science degree program in the Department of Kinesiology students will be able to:

1. explain, identify, and/or demonstrate the theoretical and/or scientific principles that can be used to address issues or problems in the sub-disciplines in kinesiology.
2. effectively communicate in writing (clear, concise and coherent) on topics in kinesiology.
3. effectively communicate through an oral presentation (clear, concise and coherent) on topics in kinesiology.
4. utilize their experiences across a variety of health related and skill-based activities to inform their scholarship and practice in the sub disciplines in kinesiology.
5. Students will be able to identify and analyze social justice and equity issues related to kinesiology for diverse populations.

Course Learning Outcomes

Upon successful completion of this course, students will be able to do the following.

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 (PLO #1).

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 (PLO #1 and #4).
3. Explain and utilize the basic components of program design for a variety of sport skills and physical activities (PLO #1 and #4).
4. Apply the concept of periodization to training in various sport skills and physical activities (PLO #1 and #2).
5. Perform appropriate techniques for participant screening and health appraisal including risk factors, which may require medical consultation prior to participation in exercise programs (PLO #1 and #2).
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 (PLO #1, #2, and #4).
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 (PLO #1).
8. Compare and contrast the impact of various modes of exercise on body composition and their use in weight control programs (PLO #1).
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 (PLO #5).
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 (PLO #1 and #4).
11. Describe controversial exercises and appropriate exercise precautions (PLO #1).
12. Identify and explain the issues and principles underlying exercise compliance and motivation as well as other basic concepts related to exercise psychology (PLO #1).
13. Compare, contrast, and critically analyze fitness programs, exercise equipment, and training facilities (PLO #1 and #4).
14. Identify and explain the affects of environmental extremes on performance and exercise prescription (PLO #1).
15. Develop a comprehensive conditioning program based on needs analysis and fitness assessment (PLO #1 and #2).
16. Demonstrate effective communication skills necessary for fitness assessment and evaluation, exercise prescription, and program leadership (PLO #2).

Required Texts/Readings (Required)

Textbook

Cisar, C.J., Christensen, C.L., & Cisar, R.B. (2016). *Advanced fitness assessment and exercise prescription notebook*. San Jose, CA: Maple Press.

Other Readings

Coburn, J.W., & Malek, M.H. (Eds.) (2012). *NSCA's essentials of personal training* (2nd ed.). Champaign, IL: Human Kinetics (Recommended Textbook, available from publisher, NSCA, or online).

Course Requirements and Assignments (Required)

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 course that involves the development of a comprehensive 12-week conditioning program. Each student will develop a conditioning program for herself/himself based on a needs analysis from screening and assessment of muscular strength and endurance, cardiorespiratory fitness, flexibility, body composition, anaerobic power and capacity, speed, agility and balance. The program will be developed for one of these assessed components and will be graded on the following criteria: grammar and spelling, needs analysis completed, programs goals outlined, comprehensive 12-week mesocycle (i.e., types of training, identified microcycles, variations between microcycles, variations between microcycles, detailed workouts, and scientific principles used), and nutritional and/or weight control guidelines. 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 December 4th**. Please submit the project electronically as a PDF or Microsoft Word document to craig.cisar@sjsu.edu. **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.

“Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.”

Final Examination or Evaluation

The final examination in the course will be held on Tuesday, December 18th 2018 from 12:15-14:30.

Grading Information

Determination of Grades

Method of Evaluation

	<u>Points</u>
Two Lecture Examinations - 25 points Each Exam (PLO #1 and #5)	50
Completion of Fitness Screenings and Testing (PLO #1, #2, #4, and #5)	20
Completion of Class Project (PLO #1, #2, and #5)	20
Completion of In-Class Workouts (PLO #1, #2 and #4)	<u>10</u>
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		

Classroom Protocol

1. Students are responsible for information presented in lectures and laboratory sessions, whether present or not. In addition, students are responsible for material presented in the assigned readings.
2. Active participation and completion of the reading assignments, written tests, class project, physical performance tests, class activities are considered essential to the attainment of the course objectives.

University Policies

1. **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>.
2. **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.

Tentative Course Schedule

<u>Date</u>	<u>Day</u>	<u>Lecture Topic/Activity</u>	<u>Assigned Readings</u>
8-21	T	Course Introduction General Principles of Fitness and Wellness	CM-15 CR-3, 4, 37
8-23	TH	Evaluation of Health, Lifestyle, and Exercise Readiness	CM-9, 15 CR-5, 36, 37
8-28	T	Measurement of Heart Rate, Blood Pressure, and Rating of Perceived Exertion During Exercise General Warm-Up and Cool-Down Guidelines	CM-11, 12, 16 CR-6, 7, 37
8-30	TH	Review of Muscle Anatomy and Biomechanics Choice of Resistance Training Exercises Muscular Strength and Endurance Assessment	CM-4, 11, 13, 15 CR-2, 8, 11, 12, 13, 14, 37
9-4	T	General Review of Exercise Testing and Evaluation Safety Factors Muscular Strength and Endurance Assessment	CM-10, 11, 13 CR-2, 8, 9, 10, 11, 37
9-6	TH	Review of Specific Exercise Test Protocols Resistance Training Workout	CM-11 CR-2, 15, 37
9-11	T	Review of Exercise Physiology Resistance Training Workout	CM-1, 2, 3, 13, 15 CR-2, 15, 37
9-13	TH	Resistance Training Program Design Resistance Training Workout	CM-13, 15, 23 CR-2, 16, 17, 37
9-18	T	Resistance Training Program Design Resistance Training Workout	CM-13, 15, 23 CR-2, 16, 17, 18, 37
9-20	TH	Resistance Training Program Design Resistance Training Workout	CM-13, 15, 23 CR-2, 16, 17, 18, 37
9-25	T	Systems of Resistance Training Resistance Training Workout	CM-13, 15, 23 CR-2, 19, 21, 37
9-27	TH	Cardiorespiratory Fitness Assessment	CM-10, 11; CR-9, 20
10-2	T	Cardiorespiratory Fitness Program Design Endurance and/or Resistance Training Workout	CM-13, 14, 15, 16 CR-2, 21, 37
10-4	TH	Cardiorespiratory Fitness Program Design Review for Examination Endurance and/or Resistance Training Workout	CM-13, 14, 15, 16 CR-2, 21, 37
10-9	T	Tentative First Lecture Examination	
10-11	TH	Flexibility Assessment	CM-11, 12; CR-22, 35, 37
10-16	T	Flexibility Program Design	CM-11, 12; CR-22, 37
10-28	TH	Body Composition Assessment and Program	CM-7, 11, 19

Date	Day	Lecture Topic/Activity	Assigned Readings
10-23	T	Body Composition Program Design for Weight Control Endurance and/or Resistance Training Workout	CM-7, 19 CR-2, 21, 24, 37
10-25	TH	Muscle Endurance Programs Resistance Training for Endurance Athletes Endurance and/or Resistance Training Workout	CM-13, 15 CR-2, 21, 25, 37
10-30	T	Interval Training Programs for Muscle Endurance and Speed Development Power, Speed, Agility, and Balance Assessment	CM-13, 15, 16, 17 CR-2, 10, 25, 26, 35, 37
11-1	TH	Power and Speed Programs Power, Speed, and Agility Assessment	CM-13, 15, 17, 23 CR-2, 10, 26, 35, 37
11-6	T	Plyometric Training Plyometric Workout	CM-17 CR-2, 26, 37
11-8	TH	Functional Training – Overview Functional Training Workout	CM-12 CR-27, 37
11-13	T	Functional and Power Dumbbell Training Functional Training Workout	CM-12 CR-27, 37
11-15	TH	Special Populations (Sex and Age Considerations) Contraindicated Hazardous Exercises Power, Speed, Agility, and/or Balance Workout	CM-13, 14, 15, 16, 18, 21 CR-2, 21, 28, 29, 37
11-20	T	Effects of Nutrition and Performance Enhancing Substances on Performance and Exercise Prescription Power, Speed, Agility, and/or Balance Workout	CM-7, 13, 14, 15, 16, 17 CR-2, 21, 30, 37
11-24	TH	No Class - Thanksgiving	
11-27	T	Environmental Effects on Human Performance Power, Speed, Endurance and/or Resistance Training Workout	CM-2, 13, 14, 15, 16, 17 CR-2, 21, 31, 37
11-29	TH	Exercise Psychology Endurance and/or Resistance Training Workout	CM-8, 13, 15, 16 CR-2, 21, 32, 37
12-4	T	Class Project Due Strength Training and Conditioning Facilities Legal Issues Review of Training Adaptations Personal Training	CM-24; CR-37 CM-25; CR-37 CM-5, 6; CR-33, 37 CR-34, 37
12-6		Catch-up Day and Review of Course	
12-18		Second Lecture Exam from 12:15 – 14:30	

Note: CM and number refer to the chapter in the Coburn & Malek textbook and CR and number refer to the section in the course reader.

KIN 162 – Evaluation Summary Form for Class Project

Purpose _____

Organization _____

Grammar and Spelling _____

Creativity and Clarity of Project _____

Needs Analysis Completed _____

Programs Goals Outlined _____

Comprehensive 12-Week Mesocycle

Types of Training _____

Identified Microcycles _____

Variations between Microcycles _____

Variations within Microcycles _____

Detailed Workouts (e.g., choice & order of exercises, intensity & volume of training, rest intervals, warm-up/cool-down guidelines, etc.) _____

Scientific Principles Used _____

Nutritional and/or Weight Control Guidelines _____

Overall Content and Depth _____

Key: “+” = Above Average, “x” = Average,
“-” = Below Average.

Points Earned

Grade

≥ 18	A
16-17.9	B
14-15.9	C
12-13.9	D
≤ 11.9	F

