

Course Outline of Record

1. Course Code: KINE-096A
2.
  - a. Long Course Title: Biomechanics of Strength Training
  - b. Short Course Title: BIO OF STRENGTH TR
3.
  - a. Catalog Course Description:  
This course provides the advanced application of strength training principles. Includes safety and personal health issues, advanced strength and conditioning principles, testing and evaluation, exercise techniques, and program design.
  - b. Class Schedule Course Description:  
Advanced application of training principles utilizing resistance machinery, free weight apparatus and other selected physical conditioning methods.
  - c. Semester Cycle (if applicable): N/A
  - d. Name of Approved Program(s):
4. Total Units: 1.00      Total Semester Hrs: 36.00  
 Lecture Units: 0.5      Semester Lecture Hrs: 9.00  
 Lab Units: 0.5      Semester Lab Hrs: 27.00  
 Class Size Maximum: 75      Allow Audit: No  
 Repeatability No Repeats Allowed  
 Justification 0
5. Prerequisite or Corequisite Courses or Advisories:  
*Course with requisite(s) and/or advisory is required to complete Content Review Matrix (CCForm I-A)*  
*N/A*
6. Textbooks, Required Reading or Software: (List in APA or MLA format.) *N/A*
7. Entrance Skills: *Before entering the course students must be able:*
8. Course Content and Scope:

Lecture:

1. Safety and Personal Health Issues
  1. Health and exercise history
  2. Rules and etiquette
2. Biomechanics of Strength Training Principles
  1. Cardiovascular and respiratory anatomy and physiology
  2. General adaptations to resistance and endurance training programs
  3. Individual differences and their implications to training programs
3. Testing and Evaluation
  1. Selecting appropriate tests
  2. Organizing testing procedures
  3. Testing protocols and procedures
  4. Evaluating test data
4. Exercise Techniques
  1. Warm-up and cool-down
  2. Speed and agility development and plyometric training
  3. Strength training techniques
  4. Dynamic flexibility
5. Program Design
  1. Training methods and modes
  2. Exercise selection
  3. Muscle balance
  4. Exercise order

6. Load assignment
7. Training volume
8. Rest periods
9. Training frequency
10. Periodization: concepts and application
11. Functional strength exercises
  1. Ground based
  2. Multiple joint
  3. Three dimensional
12. Biomechanics
  1. Form, technique, and history
    1. Powerlifting
      1. squat, bench press, deadlift
    2. Olympic lifting
      1. Clean, jerk, snatch
    3. Bodybuilding
  2. Neuromuscular adaptations to resistance training
    1. Muscle and neurological recruitment
  3. Nutritional factors in resistance training, fitness, and performance
  4. Physiological benefits of resistance training
  5. TRX training
    1. Benefits, techniques, and core strength

Lab: (if the "Lab Hours" is greater than zero this is required)

1. Application of proper exercise techniques
  - Warm-up and cool-down
  - Speed and agility development and plyometric training
  - Strength training techniques
  - Dynamic flexibility
2. Design an individualized program including proper
  - Training methods and modes
  - Exercise selection
  - Muscle balance
  - Exercise order
  - Load assignment

## 9. Course Student Learning Outcomes:

1.  
Recognize the biomechanics of strength training.
2.  
Design and implement an advanced strength training program by the end of the semester.
3.  
Evaluate the strength training program and methods of peers.

## 10. Course Objectives: Upon completion of this course, students will be able to:

- a. Design and implement a safe and effective conditioning program.
- b. Describe advanced strength and conditioning principles.
- c. Select, organize, and implement testing procedures which will give reliable evaluation results.
- d. Explain what proper exercise techniques are with regards to dynamic flexibility, speed, agility and strength training.

# KINE 096A-Biomechanics of Strength Training

11. Methods of Instruction: *(Integration: Elements should validate parallel course outline elements)*

- a. Activity
- b. Demonstration, Repetition/Practice
- c. Discussion
- d. Individualized Study

12. Assignments: *(List samples of specific activities/assignments students are expected to complete both in and outside of class.)*

In Class Hours: 36.00

Outside Class Hours: 9.00

a. In-class Assignments

1. Students will practice the biomechanics of strength training as approved by the instructor
2. Students will design an individualized strength training program

b. Out-of-class Assignments

1. Students will study the assigned reading material on the principles learned in class
2. Students will study the biomechanics of strength training

13. Methods of Evaluating Student Progress: *The student will demonstrate proficiency by:*

- Written homework
- Critiques
- Student participation/contribution

14. Methods of Evaluating: Additional Assesment Information:

15. Need/Purpose/Rationale -- *All courses must meet one or more CCC missions.*

IO - Personal and Professional Development

Self-evaluate knowledge, skills, and abilities.

Develop realistic goals.

Display habits of intellectual exploration, personal responsibility, and physical well being.

16. Comparable Transfer Course

University System	Campus	Course Number	Course Title	Catalog Year
CSU	CSU East Bay	KINE 2010	Intermediate Weight Training	

17. Special Materials and/or Equipment Required of Students:

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18. Materials Fees:  Required Material?

**Material or Item**

**Cost Per Unit**

**Total Cost**

19. Provide Reasons for the Substantial Modifications or New Course:

This course will accompany other courses related in content for the Kinesiology program and will provide an additional opportunity for students to improve their health and knowledge.

20. a. Cross-Listed Course *(Enter Course Code):* *N/A*
- b. Replacement Course *(Enter original Course Code):* *N/A*

21. Grading Method *(choose one):* Letter Grade Only

22. MIS Course Data Elements

- a. Course Control Number [CB00]: CCC000554180

# KINE 096A-Biomechanics of Strength Training

- b. T.O.P. Code [CB03]: 83500.00 - Physical Education
- c. Credit Status [CB04]: D - Credit - Degree Applicable
- d. Course Transfer Status [CB05]: B = Transfer CSU
- e. Basic Skills Status [CB08]: 2N = Not basic skills course
- f. Vocational Status [CB09]: Not Occupational
- g. Course Classification [CB11]: Y - Credit Course
- h. Special Class Status [CB13]: N - Not Special
- i. Course CAN Code [CB14]: N/A
- j. Course Prior to College Level [CB21]: Y = Not Applicable
- k. Course Noncredit Category [CB22]: Y - Not Applicable
- l. Funding Agency Category [CB23]: Y = Not Applicable
- m. Program Status [CB24]: 2 = Stand-alone

Name of Approved Program (if program-applicable): N/A

Attach listings of Degree and/or Certificate Programs showing this course as a required or a restricted elective.)

## 23. Enrollment - Estimate Enrollment

First Year: 50

Third Year: 60

## 24. Resources - Faculty - Discipline and Other Qualifications:

a. Sufficient Faculty Resources: Yes

b. If No, list number of FTE needed to offer this course: N/A

## 25. Additional Equipment and/or Supplies Needed and Source of Funding.

N/A

## 26. Additional Construction or Modification of Existing Classroom Space Needed. (Explain:)

N/A

## 27. FOR NEW OR SUBSTANTIALLY MODIFIED COURSES

Library and/or Learning Resources Present in the Collection are Sufficient to Meet the Need of the Students Enrolled in the Course: Yes

28. Originator Courtney Doussett Origination Date 01/10/14