

BS IN EXERCISE SCIENCE

In Workflow

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Approval Path

1. Tue, 16 Apr 2019 00:48:48 GMT
Rodney Imamura (rimamura): Approved for KHS Committee Chair
2. Tue, 16 Apr 2019 01:18:39 GMT
Katherine Jamieson (katherine.jamieson): Approved for KHS Chair
3. Tue, 07 May 2019 22:22:34 GMT
Kisun Nam (knam): Rollback to KHS Committee Chair for HHS College Committee Chair
4. Fri, 10 May 2019 19:16:57 GMT
Rodney Imamura (rimamura): Approved for KHS Committee Chair
5. Thu, 19 Sep 2019 21:09:23 GMT
Michael Wright (wrightm): Approved for KHS Chair
6. Fri, 27 Sep 2019 20:36:01 GMT
Kisun Nam (knam): Rollback to KHS Chair for HHS College Committee Chair
7. Tue, 01 Oct 2019 20:22:33 GMT
Michael Wright (wrightm): Approved for KHS Chair
8. Tue, 01 Oct 2019 20:42:31 GMT
Kisun Nam (knam): Approved for HHS College Committee Chair
9. Tue, 01 Oct 2019 21:38:24 GMT
Mary Maguire (maguirem): Approved for HHS Dean

New Program Proposal

Date Submitted: Tue, 16 Apr 2019 00:37:24 GMT

Viewing: BS in Exercise Science

Last edit: Tue, 01 Oct 2019 18:15:42 GMT

Changes proposed by: Harry Theodorides (101043731)

Academic Group: (College)

Health & Human Services

Academic Organization: (Department)

Kinesiology and Health Science

Catalog Year Effective:

2020-2021 Catalog

NOTE: This degree major program will be subject to program review evaluation within six years after implementation.

Individual(s) primarily responsible for drafting the proposed degree major program:

Name (First Last)	Email	Phone 999-999-9999
Rodney Imamura	rimamura@csus.edu	916-278-7477
Harry Theodorides	theodor@csus.edu	916-278-5051
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Type of Program Proposal:

Major

Is this a pilot program?

No

Is this a Fast Track program?

No

Does this major plan to include any formal options, concentrations, or special emphases?

Yes

Fully explain the formal options, concentrations, or special emphases:

Exercise Science: The major has two options: 1) Health Fitness/Strength Conditioning and 2) Clinical Exercise & Rehabilitation. The Health Fitness/Strength Conditioning option prepares students for graduate work in the areas of exercise and sport science, as well as for careers in personal training, cardiac rehabilitation, wellness, fitness consulting in business/industry and health clubs, and other paramedical and health related fields. The Clinical Exercise & Rehabilitation option provides students with in-depth science-based coursework which meets the prerequisite requirements for most Physical Therapy, Occupational Therapy, and other health related professional preparation programs. Admission to professional preparation programs is competitive and it is critical that students work closely with an assigned advisor to plan coursework.

Title of the Program:

BS in Exercise Science

Designation: (degree terminology)

Bachelor of Science

Abstract of the proposal:

To fulfill the Chancellors mandate of EO 1071, the Kinesiology and Health Science department requests to reclassify the Exercise Science concentration to a major in Exercise Science.

Briefly describe the program proposal (new or change) and provide a justification:

Kinesiology and Health Science offer two concentrations in Kinesiology. This request will put Exercise Science in compliance with EO 1071 and will also establish the second concentration in Kinesiology to be in compliance with EO 1071. This request will also position the major within the timeline to comply with the Chancellors mandate before the next program review. The request will also reclassify the CSU Degree Code and Classification of Instructional Programs Code (CIP Code) to more accurately reflect the major, which at the present time is out of date.

The Primary mission of the Exercise Science program at Sacramento State is to prepare individuals for leadership roles where they will have advanced knowledge in the field of exercise science and related allied health fields that will contribute to the growth of a healthy and productive society.

Objectives of the degree program:

Exercise Science program provides students with knowledge, skills, and expertise required for advanced training in many areas such as physical therapy, occupational therapy, medicine, osteopathic medicine, physician assistant, orthotics, prosthetics, and exercise physiology/biomechanics.

The major in Exercise Science also qualifies an individual for career possibilities in cardiac rehabilitation, sports medicine, chiropractic, athletic training, geriatrics, health related fitness programming (fitness and corporate), and further scientific training in graduate school.

The Clinical Exercise and Rehabilitation Specialist emphasis is designed for students who want to develop the knowledge, skills, and expertise required to work in a clinical rehabilitation setting. Students who complete this emphasis are prepared for careers in cardiac rehabilitation, clinical exercise physiology, electrophysiology, and clinical graduate programs such as Physical Therapy, Occupational Therapy, and other health related professional preparation programs.

The Health Fitness/Strength Conditioning Specialist emphasis is designed for students who are interested in advanced scientific knowledge of how physical activity, exercise and sport alter health and human performance. Many students from this option pursue careers in fitness and corporate wellness, strength conditioning, and further their scientific training in graduate school.

In order to ensure that its mission is fulfilled, the Exercise Science Program commits itself to periodic reviews of the program philosophy, goals, design. Furthermore, the program commits itself to continually align the program with national and state standards as well as the continual implementation of effective and efficient teaching practices.

Program Learning Outcomes are as follows:

Exercise Science Learning Outcomes

Human Movement: To examine and analyze physical activity and motor skill performance as they relate to the physiological, behavioral, and environmental responses and adaptations to exercise, health promotion, and disease prevention

Application: To demonstrate knowledge of the basic sciences and application to Exercise Science and develop the skills necessary to collect, analyze, interpret, and present data.

Exercise testing and prescription: To demonstrate the ability to measure physiological outcomes and exercise prescriptive techniques related to the skeletal, neuromuscular, metabolic, and/or cardio-respiratory systems. To be able to perform exercise testing and exercise prescription and programming for primary and secondary prevention and rehabilitation of chronic disease or sport injury

Health Management: To understand the importance of regular physical activity in preventing disease and in the management of chronic disease such as cardiovascular disease, diabetes, obesity, and osteo-arthritis.

Integrative Learning: To demonstrate the ability to integrate learned competencies and skills as part of prescribed integrative learning activities and experiences throughout the curriculum.

University Learning Goals

Undergraduate Learning Goals:

Competence in the disciplines

Knowledge of human cultures and the physical and natural world

Integrative learning

Personal and social responsibility

Intellectual and practical skills

Will this program be required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?

No

Please attach the Smart Planner roadmap:

Exercise Science.pdf

Catalog Description:

Units required for Major: 60

Units required for Health Fitness/Strength Conditioning Specialist Option: 60

Units required for Clinical Exercise & Rehabilitation Specialist Option: 60

Total units required for BS: 120

Program Description

Exercise Science program mission is to study the scientific basis of how the human body functions across the lifespan in response to physical activity, exercise and sport. Exercise Science curriculum integrates knowledge from such science disciplines as biology, chemistry, and physiology so that students will gain a deep integrative understanding of human body functions at the mechanical, cellular, organ, and systems levels.

The major in Exercise Science qualifies an individual for career possibilities in cardiac rehabilitation, sports medicine, chiropractic, athletic training, geriatrics, health related fitness programming (fitness and corporate), and further scientific training in graduate school. The major has two options: 1) Health Fitness/Strength Conditioning and 2) Clinical Exercise & Rehabilitation

The Health Fitness/Strength Conditioning Specialist emphasis is designed for students who are interested in advanced scientific knowledge of how physical activity, exercise and sport alter health and human performance. Many students from this option pursue careers in fitness and corporate wellness, strength conditioning, and further their scientific training in graduate school.

The Clinical Exercise and Rehabilitation Specialist emphasis is designed for students who want to develop the knowledge, skills, and expertise required to work in a clinical rehabilitation setting. Students who complete this emphasis are prepared for careers in cardiac rehabilitation, clinical exercise physiology, electrophysiology, and clinical graduate programs such as Physical Therapy, Occupational Therapy, and other health related professional preparation programs.

Note: Students graduating with a **BS in Exercise Science** will not be subject to the University's Foreign Language Graduation Requirement. Students who change major may be subject to the University's Foreign Language Graduation Requirement.

Admission Requirements: Course prerequisites and other criteria for admission of students to the degree major program, and for their continuation in it.

Pre-Major Requirements

Freshman or transfer students interested in the BS in Exercise Science are admitted as Pre-Exercise Science Major students.

To change to a BS in Exercise Science, Pre-major students are required to complete the following grade and course requirements and submit a Declaration of Major/Concentration to the Kinesiology Department Office along with transcript copies.

1. An overall GPA of 2.0.
2. Completion of the **Pre-Major required courses** with a "C-" or better. Only first and second attempts will be considered.

Minimum Grade Requirement

All courses counted for the Exercise Science major must be completed with a "C-" or better.

Program Requirements: (If new courses are being created as part of a new program, it will be useful to propose courses first.)

Program Requirements

Code	Title	Units
Pre-Major Required Courses (17 Units)		
BIO 10	Basic Biological Concepts ¹	3
BIO 22	Introductory Human Anatomy	4
CHEM 1A or CHEM 6A	General Chemistry I ¹ Introduction to General Chemistry	5
CHEM 1B or CHEM 6B	General Chemistry II Introduction to Organic and Biological Chemistry	5
Required Upper Division (30 Units)		
BIO 131	Systemic Physiology	4
KINS 151	Kinesiology	3
KINS 151A	Biomechanics	3
KINS 152	Physiology Of Exercise	3
KINS 152A	Fundamentals of Exercise Programs	3
KINS 152S	Energy Production & Sports Performance	3
KINS 144	Analysis of Weight Training & Muscular Fitness	2
KINS 153	Cardiovascular Testing and Exercise Prescription	3
KINS 156	Care Of Athletic Injuries	3
KINS 158	Motor Learning and Control	3
Specialist Options (13 Units)		
Select one of the following specialist options:		13
Health Fitness/Strength Conditioning Specialist Option		
Clinical Exercise & Rehabilitation Specialist Option		
Total Units		60

¹ Course also satisfies General Education (GE)/Graduation Requirement.

Health Fitness/Strength Conditioning Specialist Option

In prior consultation with an exercise science advisor, a minimal of 13 units from the recommended list of courses below are required **in addition to the core courses above**:

Code	Title	Units
Select a minimum of 13 units from the following:		13
FACS 10	Course FACS 10 Not Found ¹	
FACS 113	Course FACS 113 Not Found ¹	
KINS 120	Strength and Conditioning	
KINS 122B	Cardiopulmonary Resuscitation	
KINS 132	Planning, Designing and Managing a Fitness Center	
KINS 136	Sport And Aging	
KINS 151B	Biomechanics II	
KINS 152B	Exercise Physiology of Women	
KINS 152C	Prolonged Exercise	
KINS 152D	Blood Lactate and Exercise	
KINS 160	Sport and Exercise Psychology	
PHYS 5A	General Physics: Mechanics, Heat, Sound ¹	
STAT 1	Introduction to Statistics ¹	
Total Units		13

¹ Course also satisfies General Education (GE)/Graduation Requirement.

Clinical Exercise & Rehabilitation Specialist Option

In prior consultation with an exercise science advisor, a minimal of 13 units from the recommended list of courses below are required **in addition to the core courses above**:

Code	Title	Units
Select a minimum of 13 units from the following:		13
BIO 39	Microbiology for Allied Health Students	
BIO 106	Genetics: From Mendel to Molecules	
BIO 122	Advanced Human Anatomy	
BIO 123	Neuroanatomy	
BIO 130	Histology	
BIO 132	Neurophysiology	
BIO 133	Cardiovascular, Respiratory and Renal Physiology	
CHEM 20	Organic Chemistry Lecture–Brief Course	
CHEM 161	General Biochemistry	
FACS 10	Course FACS 10 Not Found ¹	
FACS 113	Course FACS 113 Not Found ¹	
KINS 122B	Cardiopulmonary Resuscitation	
KINS 151B	Biomechanics II	
KINS 153C	Cardiac Rehabilitation & Exercise Electrocardiography	
KINS 154A	Principles and Techniques in a Clinical Setting	
NURS 14	Pharmacology	
PT 130	Course PT 130 Not Found	
PHYS 5A	General Physics: Mechanics, Heat, Sound ¹	
PHYS 5B	General Physics: Light, Electricity and Magnetism, Modern Physics	
PSYC 150	Psychological Aspects of Aging	
or PSYC 168	Abnormal Psychology	
STAT 1	Introduction to Statistics ¹	
Total Units		13

¹ Course also satisfies General Education (GE)/Graduation Requirement.

General Education Requirements¹

Code	Title	Units
Area A: Basic Subjects (9 Units)		
A1	Oral Communication	3
A2	Written Communication	3
A3	Critical Thinking	3
Area B: Physical Universe and Its Life Forms (0-6 Units)		
B1	Physical Science ²	0
B2	Life Forms ²	0
B3	Lab (Note: Lab experience to be taken with one of the following: B1, B2 or B5) ²	0
B4	Math Concepts ³	0 - 3
B5	Additional Course (Any B to reach 12 units) - Take upper-division course to complete Area & upper division requirements. ⁴	0 - 3
Area C: Arts and Humanities (12 Units)		
C1	Arts	3
C2	Humanities	3
C1/C2	Area C Course	3
C1/C2	Area C Course - Take upper-division course to complete Area & upper division requirements.	3
Area D: The Individual and Society (12 Units)		
Area D Course		3
Area D Course		3
Area D Course		3
Area D Course	- Take upper-division course to complete Area & upper division requirements.	3
Area E: Understanding Personal Development (0-3 Units)		
Area E Course ⁵		0 - 3
Total Units		33-42

¹ To help you complete your degree in a timely manner and not take more units than absolutely necessary, there are ways to use single courses to meet more than one requirement (overlap). For further information, please visit the General Education page (<http://catalog.csus.edu/colleges/academic-affairs/general-education/>).

Note: There is no way to list all possible overlaps so please consult with a professional advisor. The Academic Advising Center can be visited online (<http://www.csus.edu/acad/>), by phone (916) 278-1000, or email (advising@csus.edu).

- 2 Required in Major; also satisfies GE.
- 3 Department offers students a "select from the following option" within the Specialist Options:
 • If student chooses to take STAT 1, they will meet Area B4.
- 4 Department offers students a "select from the following option" within the Specialist Options:
 • If student chooses to take FACS 113, they will meet Area B5.
- 5 Department offers students a "select from the following option" within the Specialist Options:
 • If student chooses to take FACS 10, they will meet Area E.

Graduation Requirements ¹

Code	Title	Units
Graduation Requirements (required by CSU) (9 Units)		
American Institutions: U.S. History		3
American Institutions: U.S. Constitution & CA Government		3
Writing Intensive (WI)		3
Graduation Requirements (required by Sacramento State) (6 Units)		
English Composition II		3
Race and Ethnicity in American Society (RE)		3
Foreign Language Proficiency Requirement ²		0

¹ To help you complete your degree in a timely manner and not take more units than absolutely necessary, there are ways to use single courses to meet more than one requirement (overlap). For further information, please visit the General Education page (<http://catalog.csus.edu/colleges/academic-affairs/general-education/>).

Note: There is no way to list all possible overlaps so please consult with a professional advisor. The Academic Advising Center can be visited online (<http://www.csus.edu/acad/>), by phone (916) 278-1000, or email (advising@csus.edu).

² If not satisfied before entering Sacramento State, it may be satisfied in General Education Area C2 (Humanities). "C- or better required." The alternative methods for satisfying the Foreign Language Proficiency Requirement are described here: <https://www.csus.edu/wll/flgr/>

Note: Students with a declared major of BS in Kinesiology (Exercise Science) are exempt from the Foreign Language Graduation Requirement.

Explanation of special characteristics of the proposed degree major program; e.g., in terminology, units of credit required, types of course work, etc.:

n/a

For undergraduate programs, provisions for articulation of the proposed major with community college programs:

A fully developed Exercise Program currently exists. The program is being reclassified in order to comply with the Chancellors Mandate EO 1071. Courses that have been articulated to the community colleges will continue. For existing articulation agreements please see www.assist.org.

Will this program require specialized accreditation?

Will this program require accreditation?

No

Need for the Proposed Degree Major Program

Is the proposed degree program offered at any California State University campus or any neighboring institutions?

Yes

List of other California State University campuses currently offering or projecting the proposed degree major program; list of neighboring institutions, public and private, current offering the proposed degree major program:

Either a BA or BS in Exercise Science have been identified.

CSU - Bakersfield
 CSU - Chico
 CSU - Fresno
 CSU - Fullerton
 CSU - Humboldt
 CSU - Long Beach
 CSU - Los Angeles
 CSU - Monterey Bay
 CSU - Northridge
 CSU - San Bernardino
 CSU - San Diego
 CSU - San Luis Obispo

CSU – Sonoma
 CSU – Stanislaus

Differences between the proposed program and the programs listed above:

Currently, 16 programs display Exercise Science in the title of the program name, yet only 11 have the Exercise Science designated code from the Chancellors office. Other programs that do not have the Exercise Science code but use the Exercise Science name appear to not offer the rigor of the current concentration at Sac State.

List of other curricula currently offered by Sac State which are closely related to the proposed program:

None

Attach the results of a formal survey in the geographical area to be served indicating demand for individuals who have earned the proposed degree and evidence of serious student interest in majoring in the proposed program:

Table 5.pdf
 Figure 1.pdf

Provide justification for any discrepancies between national/statewide/professional manpower surveys and local findings:

A fully developed Exercise Science Program already exists with data from the fact book showing interest with an approximate increase of 22% from 2012-2016 in enrollment. We currently have approximately 824 total students with enrollment being reduced by administration suggested enrollment management strategies that include no spring admissions and only regional students' acceptance in the fall. According to IPEDS data Exercise Science appears at the top of Figure 1 (Attached) with the most increase in changes of degrees awarded.

For graduate programs, the number of declared undergraduate major and the degree production over the preceding years of the corresponding baccalaureate program:

n/a

Professional uses of the proposed degree major program:

After Graduation Options

After graduation from the Exercise Science Program, many students continue on to graduate school in the following disciplines:

1. Exercise Physiology
2. Biomechanics
3. Strength & Conditioning
4. Physical Therapy
5. Nursing
6. Occupational Therapy
7. Physician Assistant Programs
8. Medical School
9. Prosthetics and Orthotics
10. Cardiovascular Clinical Programs (cardiovascular technician, echocardiogram, electrophysiology or pacemaker)

Some Exercise Science students enter the workforce directly after graduating with a BS degree. Possible careers include:

1. Cardiac Rehabilitation
2. Personal Training
3. Strength and Conditioning
4. Corporate Wellness
5. Cardiovascular Clinician

The expected number of majors in:

1st Year Enrollment:

922

3rd Year Enrollment:

1155

5th Year Enrollment:

1448

1st Year Graduates:

195

3rd Year Graduates:

245

5th Year Graduates:

307

Existing Support Resources for the Proposed Degree Major Program

List faculty members, with rank, appointment status, highest degree earned, date and field of highest degree, and professional experience (including publications if the proposal is for a graduate degree), who would teach in the proposed program:

Name	Rank	Appointment Status	Highest Degree Earned	Year of Highest Degree Earned (YYYY)	Publications/Professional Experience
Roberto Quintana	Professor	Full Time	Doctorate	1998	20 years' experience as a professor of exercise physiology at Sacramento State.
Daryl Parker	Professor	Full Time	Doctorate	2001	19 years' experience as a professor of exercise physiology at Sacramento State
Rodney Imamura	Professor	Full Time	Doctorate	2002	Full-time faculty at CSUS for 16 years. Specialty in biomechanics of sport and exercise. Research interests include the biomechanics of judo throwing techniques, football placekicking, gait, and rehabilitation exercises.
Harry Theodorides	Associate Professor	Full Time	Doctorate	2006	Certified Strength and Conditioning Specialist 20+ yrs.; United States Weightlifting Coach 20+ yrs., Instructor at the University 20+yrs.
Paolo Taboga	Assistant Professor	Full Time	Doctorate	2013	7 years experience
Gwenaelle Begue	Assistant Professor	Full Time	Doctorate	2013	11 years of experience in molecular biology of exercise.
Matt Brown	Assistant Professor	Full Time	Doctorate	2015	1.5 years teaching Motor Learning (and Motor Control) at Sac State. Over 11 years of research and mentoring experience

Space and facilities that would be used in support of the proposed program: Show how this space is currently used and what alternate arrangements, if any, will be made for the current occupants.

The BS in Kinesiology with a concentration in Exercise Science presently uses classrooms, labs, and offices in Solano Hall and Yosemite and other lecture rooms across campus. No other space of facilities will be needed outside what is currently being used.

Library resources to support the program, specified by subject areas, volume count, periodical holdings, etc.:

Faculty already teaching in courses with current allocation resources. The program is being reclassified in order to comply with the Chancellors Mandate EO 1071

Equipment and other specialized materials currently available:

Equipment located in the laboratory settings available to faculty and students currently used in the program as well as outdoor fields and indoor classrooms are already being utilized in the current program.

Additional Support Resources Required

Enrollment and faculty positions should be shown for all discipline categories which will increase because of the new program and for all discipline categories which will decrease because of the new program. If faculty positions are to be transferred into the new program from other areas, the reductions in faculty positions should be shown on the appropriate discipline category or categories:

Faculty already teaching in courses with current allocation resources. The program is being reclassified in order to comply with the Chancellors Mandate EO 1071.

Any special characteristics of the additional faculty or staff support positions needed to implement the proposed program:

Seven Full Time Faculty already teaching in courses with current allocation resources. The program is being reclassified in order to comply with the Chancellors Mandate EO 1071.

The amount of additional lecture and/or laboratory space required to initiate and sustain the program over the next five years: Indicate any additional special facilities that will be required. If the space is under construction, what is the projected occupancy date? If the space is planned, indicate campus wide priority of the facility, capital outlay program priority, and projected date of occupancy.

N/A. Faculty already teaching in courses with current allocation resources. The program is being reclassified in order to comply with the Chancellors Mandate EO 1071.

Additional library resources needed: Indicate the commitment of the campus to purchase or borrow through interlibrary loan these additional resources.

N/A. Faculty already teaching in courses with current allocation resources. The program is being reclassified in order to comply with the Chancellors Mandate EO 1071.

Additional equipment or specialized materials that will be 1) needed to implement the program and 2) needed during the first two years after initiation: Indicate source of funds and priority to secure these resource needs.

N/A. Faculty already teaching in courses with current allocation resources. The program is being reclassified in order to comply with the Chancellors Mandate EO 1071.

Please attach any additional files not requested above:

2019 EXERCISE SCIENCE FINAL DOCUMENT elevatingoptions.pdf

Reviewer Comments:

Kisun Nam (knam) (Tue, 07 May 2019 22:22:34 GMT):Rollback: Committee approved the form with pending changes. Please refer to the discussion during meeting. Committee members from the department will provide the detailed changes to the chair/author. Once re-submitted, the chair may approve the proposal immediately.

Kisun Nam (knam) (Fri, 27 Sep 2019 20:36:01 GMT):Rollback: Rolled back per request.

Key: 452