

**Comprehensive Program Review**

**Self - Study**

**Bachelors of Science in Exercise Science**

**Columbus State University**

**2012 - 2013**

## **EXECUTIVE SUMMARY**

### **BACHELOR OF SCIENCE IN EXERCISE SCIENCE**

#### **Major Findings of the Program's Quality and Productivity**

The detailed self-study of the Exercise Science program provides a more in-depth analysis of quality and productivity. Overall, the self-study revealed that the B.S. in Exercise Science is a program of high quality and productivity and a valuable asset to CSU.

#### **Program's Strengths in the Area of Quality**

Listed below are the areas found to be "very strong" with respect to program quality:

- Stakeholder satisfaction with program
- Relationship of program needs to student and societal demands
- Quality of faculty
- Quality of teaching
- Quality of research and scholarship
- Quality of Service

#### **Program's Strengths in the Area of Productivity**

Listed below are the areas found to be "very strong" with respect to program productivity:

- Enrollment in Program for past 5 years
- Degrees awarded over past 5 years
- Cost effectiveness of instructional delivery

#### **List of Recommendations for Improving Program Quality**

Below are three broad recommendations to improve the quality of the Exercise Science program.

The detailed self-study provides additional sub-points under these three main areas to improve program quality:

- Additional faculty member and instructional support (new M.S. began Fall 2013)
- Continue to evaluate and improve undergraduate curriculum
- Improve Human Performance Laboratory

#### **List of Recommendations for Improving Program Productivity**

The two areas below were rated as "satisfactory" when compared to other CSU undergraduate programs. However, there is room for improvement for these two indicators, which would be consistent with current CSU and BOR initiatives.

- Improve retention rates
- Improve graduation rates

#### **Conclusion about the Program's Viability at CSU**

The Exercise Science program continues to be a very viable program at CSU. The program is cost efficient and enrollment has grown exponentially over the past 5 years. The program prepares students for a variety of career paths, many of which have been projected to increase in demand in future years. Recent graduates have been accepted to graduate schools and medical programs or have found employment other areas such as

the health and fitness industry. Program faculty are dedicated teachers, advisors, and scholars and they provide valuable service to CSU and the community.

### **Program Improvement Plan**

(to be completed by the Dean in consultation with the VPAA)

### **Summary Recommendation and Supporting Rationale**

Recommendation: Enhance or Expand the Program

The Exercise Science program has strong ratings in many areas relating quality and productivity; therefore, it is recommended efforts are continued to “enhance or expand” the program with additional investments from CSU. Continuing to expand undergraduate enrollment may not be a suitable option at this time as current faculty workload and existing resources (e.g. – laboratory space) are at capacity. Enhancing the Exercise Science program can be achieved in the following areas:

- Expand EXSC course offerings
  - o Exercise Science is a broad discipline, and there are several opportunities to enhance student knowledge and skills (e.g. – EKG, biomechanics, etc...)
  - o Will provide opportunities to students to complete their degree who may not have time to complete a 12-credit internship (e.g. - part / full-time work)
- Enhance human performance laboratory
  - o Provide adequate space for B.S and M.S. programs
  - o Ensure state of the art facilities, on-par (or better) than peer institutions or larger universities
  - o Increase undergraduate research
- New M.S. Exercise Science (implemented Fall 2013)
  - o Option for graduating seniors
  - o Graduate assistants with program may assist with undergraduate laboratory courses (improved hands-on skills) and research

## 2012 B.S. EXERCISE SCIENCE: DETAILED SELF-STUDY

### SECTION ONE – PROGRAM BACKGROUND AND OVERVIEW

#### I. BRIEF PROGRAM OVERVIEW

##### Description of the Program

The Bachelor of Science (B.S.) in Exercise Science is designed to accommodate a broad range of student interests and professional goals including careers in the health and fitness industry, medical fields such as physical and occupational therapy, graduate work in exercise science, and many others. This is accomplished by offering a thorough and rigid core of theoretical and practical Exercise Science courses balanced with flexibility through program electives. All students are required to take a common core of Exercise Science content while program electives are based on the professional goals of the student in consultation with an Exercise Science advisor.

The B.S. in Exercise Science is a growing, vigorous, diverse program that is cost-effective and valuable to students and to the region. From 2005 to 2009, the program was housed in the Department of Counseling, Leadership, and Professional Studies. The program currently resides in the Department of Health, Physical Education, and Exercise Science (HPEX). It is staffed by three full-time faculty members with assistance from a departmental faculty member (Wellness Coordinator) and adjunct instructors as needed. At the beginning of Fall 2011, 225 students were majoring in Exercise Science and the program produced 2015 student credit hours of instruction during AY 2011 – 2012.

##### Program Mission and Its Relation to CSU Mission

The stated mission of Columbus State University is to:

1) achieve academic excellence through teaching, research, creative inquiry and student engagement, 2) achieve excellence in the student experience and prepare individuals for a life of success, leadership, and responsibility through community awareness, engagement, and service to others; and 3) achieve recognition as a leader in community development, regional economic development, and public-private partnerships. The BS degree program in Exercise Science supports the mission of the university by accommodating a broad range of student interests and professional goals. The program faculty maintain academic excellence with superior classroom teaching as well active scholarly engagement. Students enrolled in Exercise Science have the opportunity for experiential learning and community outreach with the completion of an internship at an approved external agency.

Graduates of the Exercise Science Program will:




*(note – outcomes have been modified for the Fall 2013 catalog)*

- Have an extensive base of knowledge in regard to structure and function of the human body during rest and exercise, development of programs of exercise for health purposes, and other related content areas.
- Exhibit a wide range of practical skills including exercise testing and other physical evaluations, exercise leadership in a variety of activities, and ability to develop a comprehensive fitness program for an individual or industry.
- Have developed technological competence utilizing widely-used computers and software, industry specific software, industry specific apparatus, and equipment for metabolic and body composition analysis.
- Contribute to the well-being of the community, region, and nation through advanced study and/or employment in a meaningful occupational setting.





## Stakeholder's Satisfaction with the Program

To assess stakeholder satisfaction, a survey was sent (February 2012) to senior Exercise Science majors (near graduation) and recent alumni (some active in the field or enrolled in graduate school) of the program. There was a response rate of ~32% ( $N = 26$ ) with results indicative of a high degree of stakeholder satisfaction with the Exercise Science major. Ninety-two percent of the respondents agreed or strongly agreed that the Exercise Science major was effective in preparing them for graduate studies and / or a career in the discipline (Table 1). Eighty-six percent agreed or strongly agreed that the required courses in the curriculum are relevant to the field of Exercise Science (Table 2). Finally, 85% of stakeholders were either satisfied or very satisfied with their experience as an Exercise Science major (Table 3).

**Table 1. Satisfaction with Career Preparation**

Survey Question - The Exercise Science major was effective in preparing me for graduate studies and / or a career in the field of Exercise Science.				
#	Answer		Response	%
1	Strongly Disagree		0	0%
2	Disagree		2	8%
3	Neither Agree nor Disagree		0	0%
4	Agree		12	46%
5	Strongly Agree		12	46%

**Table 2. Satisfaction with Program Curriculum**

Survey Question - The required courses in the program curriculum are relevant to the field of Exercise Science.				
#	Answer		Response	%
1	Strongly Disagree		0	0%
2	Disagree		1	4%
3	Neither Agree nor Disagree		2	8%
4	Agree		8	32%
5	Strongly Agree		14	56%

**Table 3. Overall Satisfaction with Experience as CSU Exercise Science Major**

Survey Question - How would you rate your experience as an Exercise Science major at Columbus State University?				
#	Answer		Response	%
1	Very dissatisfied		1	4%
2	Dissatisfied		0	0%
3	Somewhat Dissatisfied		1	4%
4	Neutral		0	0%
5	Somewhat Satisfied		2	8%
6	Satisfied		9	35%
7	Very Satisfied		13	50%

Relationship of Program Needs to Student and Societal Demands

Graduates with a B.S. in Exercise Science degree can pursue numerous career opportunities. Due to its related content, the Exercise Science has become the primary conduit for CSU students planning to apply to mid-level medical programs such as physical therapy, occupational therapy, and physician’s assistant. The U.S. Department of Labor’s Bureau of Labor Statistics (BLS) projected the rate of change in employment for a 10-year timeframe between 2010 and 2020 for a broad spectrum of careers in the United States and predicated an average growth rate of 14% predicted all occupations. The BLS predicted faster than average growth in employment for physical therapy (39%), occupational therapy (33%), and physician’s assistant (30%). As such, the demand for the Exercise Science program to meet societal demands will likely increase as students continue to pursue these occupations. Graduates of the Exercise Science program may also choose careers in the health and fitness industry as well as other health-related occupations. Again, the BLS predicts faster than average growth for fitness-related jobs (24%). Moreover, a recent publication by American College of Sports Medicine (ACSM) reported that the need for “educated and experienced fitness professionals” is the top trend in the fitness industry for 2012.

**SECTION TWO – INDICATORS OF PROGRAM QUALITY**

**II. A. QUALITY OF FACULTY**

*Assessment of Indicator: Very Strong*

Appropriateness of Faculty Credentials

From 2006 to 2010 the program operated with 2 full-time faculty members. An additional full-time faculty line was added at the beginning of the Fall Semester, 2010, which brought the number of full-time faculty to three. All three faculty members have terminal degrees related to Exercise Science. Collectively, the faculty have teaching experience from institutions such as Florida State University, Lipscomb University, Central Michigan University, Louisiana State University, University of Tennessee, and Wake Forest University. Other significant and related work experiences by the faculty include cardiac rehabilitation, collegiate coaching, medical sales, and corporate wellness / fitness. Professional affiliations include the American College of Sports Medicine, Southeastern American College of Sports Medicine, and National Strength and Conditioning Association.

**Table 4. Current Program Faculty (full-time)**

Dr. Michael Mangum – Professor – Ph.D. Florida State University – Exercise Physiology

Dr. Clayton Nicks – Associate Professor (Program Coordinator) – Ph.D. Middle Tennessee State University – Human Performance (Concentration - Exercise Science)

Dr. Brian Tyo – Assistant Professor – Ph.D. University of Tennessee – Exercise Science (Cognate - Nutrition)

Use of Part-time Faculty

A strength of the Exercise Science program is that required Area G (major) courses are usually taught by full-time faculty with terminal degrees in the area. Part-time instruction has occurred only when full-time faculty are not available or have been released for some other function. Dr. Alicia Tatum Bryan is the coordinator of the Wellness program and is a full-time faculty member in the Department of Health, Physical Education, and Exercise Science (HPEX). Dr. Bryan has a Ph.D. in Exercise Science from the University of Alabama. Although her primary responsibilities are with the HPEX Wellness program, she currently teaches at least one EXSC course per term. Her expertise in the area along with full-time status the HPEX department makes her a valuable contributor to the program. Mr. Julio Llanos is an Athletic Trainer, Certified (NATA) and has previously taught an elective course for the program (EXSC 3235, Basic Principles of Athletic Training).

Diversity of Faculty

The Exercise Science Program is housed in the Department of Health, Physical Education, and Exercise Science (HPEX). The HPEX department has eleven full-time faculty (8 female; 3 male) with diverse backgrounds, experiences, and research interests (see faculty credentials). All full-time program faculty are male, with diverse background and experiences. Table 5 represents the diversity of the full-time faculty in the HPEX department.

**Table 5 Full-time HPEX Faculty (Current Department Created in 2009-2010)**

	2010	2011	2012
Male	2	3	3
Female	6	6	7
Black	3	3	4
White	5	6	7

Opportunities for Faculty Development

Over the past five years faculty members have received over \$14,000 in support for faculty development. A large portion of this funding was to support travel for presentations at national venues in the discipline. This funding was received from the Provost/VPAA Faculty Development budget, the College of Education and Health Professions, HPEX departmental funds, and other university foundational accounts. However, the COEHP may no longer be able to support travel to professional conferences unless the faculty member is presenting. Given the nature of presenting in most Exercise Science venues (e.g. - usually peer-reviewed / data-driven) this could

impede faculty development for program faculty. Attending national and regional conferences (ACSM) regardless of presentations is encouraged for professional development and sometimes necessary to earn CEC's for a discipline related certification.

**Program Improvement Plans**

- Advocate for departmental professional development funds to support faculty development and travel professional conferences
- Seek qualified part-time faculty to assist with growing enrollment
- Seek qualified graduate assistants to assist with growing enrollment

**II. B. QUALITY OF THE TEACHING**




*Assessment of Indicator: Very Strong*

Indicators of Good Teaching

Exercise Science Program stakeholders were asked questions relating to faculty competence and teaching in the survey. Results from this survey are presented in Tables 6 and 7. In addition, the CSU Social Research Center combined student evaluations results for three key Area G courses. Table 8 presents the results of three sections (a section taught by each faculty in the program) of EXSC 4131. Tables 9 and 10 present evaluation results of two sections (taught by different faculty) of EXSC 4137 and EXSC 4232, respectively.

*Note: Tables 8, 9, & 10 should be interpreted with caution (using mean scores)*

**Table 6. Stakeholder Perception of Faculty Competence**

Survey Question - Overall, the faculty members in Exercise Science were competent and knowledgeable in the courses they taught.				
#	Answer		Response	%
1	Strongly Disagree		0	0%
2	Disagree		0	0%
3	Neither Agree nor Disagree		1	4%
4	Agree		6	23%
5	Strongly Agree		19	73%
	Total		26	100%



**Table 7. Stakeholder Perception of Faculty Teaching**

Survey Question - Please rate the following as they relate to your experience as an Exercise Science major.								
#	Question	Poor 1	Fair 2	Good 3	Very Good 4	Excellent 5	Total Responses	Mean
1	Teaching – Exercise Science classes	1	0	5	8	11	25	4.12

**Table 8. Combined Student Evaluations for EXSC 4131 (N = 55)**

Course Evaluation Questions	Mean	SD
1. The instructor is well prepared.	4.65	0.67
2. The instructor effectively conveys the content area.	3.95	1.01
3. The instructor clearly communicates all assignments including tests and papers.	4.27	1.04
4. The instructor promotes a class environment conducive to learning.	4.50	0.75
5. The instructor encourages questions.	4.49	0.79
6. The instructor promotes an academic environment in which all are treated with respect.	4.64	0.73
7. Overall the instructor is effective.	4.00	1.07
8. I have progressed in my ability to think critically, to solve problems, and/or to make decisions.	3.71	1.13
9. This course was academically challenging.	4.74	0.76
10. I can articulate core concepts or content of this course.	3.74	1.10

**Table 9. Combined Student Evaluations for EXSC 4137 (N = 58)**

Course Evaluation Questions	Mean	SD
1. The instructor is well prepared.	4.69	0.60
2. The instructor effectively conveys the content area.	4.26	1.00
3. The instructor clearly communicates all assignments including tests and papers.	4.60	0.65
4. The instructor promotes a class environment conducive to learning.	4.67	0.51
5. The instructor encourages questions.	4.74	0.58
6. The instructor promotes an academic environment in which all are treated with respect.	4.78	0.50
7. Overall the instructor is effective.	4.52	0.73
8. I have progressed in my ability to think critically, to solve problems, and/or to make decisions.	4.28	0.99
9. This course was academically challenging.	4.50	0.80
10. I can articulate core concepts or content of this course.	4.27	0.89




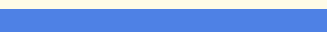
**Table 10. Combined Student Evaluations for EXSC 4232 (N = 38)**

<b>Course Evaluation Questions</b>	<b>Mean</b>	<b>SD</b>
1. The instructor is well prepared.	4.71	0.57
2. The instructor effectively conveys the content area.	4.42	0.79
3. The instructor clearly communicates all assignments including tests and papers.	4.58	0.72
4. The instructor promotes a class environment conducive to learning.	4.84	0.37
5. The instructor encourages questions.	4.73	0.51
6. The instructor promotes an academic environment in which all are treated with respect.	4.79	0.47
7. Overall the instructor is effective.	4.58	0.72
8. I have progressed in my ability to think critically, to solve problems, and/or to make decisions.	4.45	0.72
9. This course was academically challenging.	4.50	0.65
10. I can articulate core concepts or content of this course.	4.27	0.89


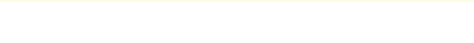
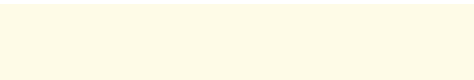
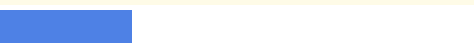
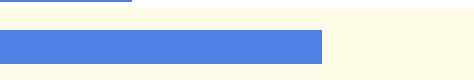
Indicators of Good Advising

Exercise Science faculty have continued to provide formal advising to students enrolled in the program. The stakeholder perception of faculty advising and availability is presented in Tables 11 – 13.

**Table 11. Stakeholder Perception of Faculty Advising**

Survey Question - I received timely and meaningful academic advising from Exercise Science faculty.				
#	Answer		Response	%
1	Strongly Disagree		0	0%
2	Disagree		1	4%
3	Neither Agree nor Disagree		1	4%
4	Agree		6	23%
5	Strongly Agree		18	69%
	Total		26	100%

**Table 12. Stakeholder Perception of Faculty Availability**

Survey Question - Overall, the faculty members of Exercise Science were consistently available to students outside of class.				
#	Answer		Response	%
1	Strongly Disagree		1	4%
2	Disagree		0	0%
3	Neither Agree nor Disagree		0	0%
4	Agree		7	28%
5	Strongly Agree		17	68%
	Total		25	100%

**Table 13. Faculty Advising and Availability**

Survey Question - Please rate the following as they relate to your experience as an Exercise Science major.								
#	Question	Poor	Fair	Good	Very Good	Excellent	Total Responses	Mean
		1	2	3	4	5		
2	<b>Advising – Exercise Science faculty</b>	1	2	3	9	10	25	4.00
3	<b>Availability – Exercise Science faculty</b>	1	0	1	9	15	26	4.42

Departmental Reward System

Faculty members are evaluated on an annual basis by the Department Chair with regards to teaching and overall performance. Based on these evaluations, recommendations for merit raises and promotion / tenure serve as a measure of progress each year. However, in recent years, there have been no funds to reward excellence in classroom teaching and overall performance. A considerable monetary reward system is available to faculty based on the mode of which they offer their course. Departmental faculty who want to increase compensation (or a reward for effective work) must place their courses in a 95% - 100% online to receive any extra compensation. This reward system can be quite lucrative as faculty can potentially earn up to 10% (or more) of their annual salary in one semester without having to demonstrate any evidence of superior performance.

### Program Improvement Plans

- Freshmen and sophomores Exercise Science majors continue to be advised by Academic Center for Excellence (ACE)
  - o Allows for “intrusive” advising and interventions using MAPWorks
  - o Allows for program faculty to focus on junior and senior majors
- Provide compensation to program faculty for advising or hire additional personnel (consistent with COEHP practice)

## **II C. QUALITY OF RESEARCH AND SCHOLARSHIP**

***Assessment of Indicator: Very Strong***

### Opportunity for Student Research Projects

“Research projects” can be defined differently. Research, when described as a systematic process of solving problems which contribute knowledge to the discipline, has not been a core mission of the Exercise Science program for individual students. Research, when described as an individual student reviewing literature for an assignment or paper, is common practice in many of the EXSC classes. Also, students have had the opportunity to take EXSC 4131, Exercise Physiology Laboratory, to learn techniques for the measurement of human performance and a basic introduction to technical and scientific writing. Students with an interest in pursuing research projects may also take EXSC 4899 – Independent Study with approval from a cooperating program faculty member. Several students have taken this course in recent years with at least two students co-presenting (with faculty) at national venues.

### Faculty Publications, Presentations, and Grants

Assessment of this indicator should always be taken in the context of the teaching / advising loads and resources available to faculty. The Exercise Science program faculty have demonstrated a consistent record of scholarly achievement since 2006. Despite full teaching loads, the faculty have published abstracts, journal articles, and presented at national / international and regional venues such as the American College of Sports Medicine (ACSM) and the National Strength and Conditioning Association (NSCA).

**Table 14. Scholarship of Program Faculty**

#### **Peer-Reviewed Published Abstracts and Journal Articles (2007 – 2012)**

- Tyo, B.,** Bassett, D., Coe, D., Feito, Y., Thompson, D. (2013). The Effect of BMI on Waist-Mounted Pedometers Worn by Early Adolescents in a Free-Living Environment. *Medicine and Science in Sports and Exercise* , 45(3): 569-573.
- Nicks, C. R.** and Henry, R. (2012). Reproducibility of maximal inspiratory and expiratory pressures. *Journal of Strength and Conditioning Research*, 26(1): S124
- Feito, Y., Bassett, D., Thompson, D. **Tyo, B.** (2012) Effects of Body Mass Index on Step Count Accuracy of Physical Activity Monitors. *Journal of Physical Activity and Health* 9 (4) 594-600.
- Feito, Y., **Tyo, B.**, Bassett, D., Thompson, D (2011) Effects of BMI and Tilt Angle on Output of Two Wearable Activity Monitors. *Medicine and Science in Sports and Exercise*, 43 (5) 861-866.
- Tyo, B.**, Fitzhugh, E., Bassett, D., John, D., Feito, Y., Thompson, D. (2011) Effects of BMI and step rate on pedometer error in the free-living environment. *Medicine and Science in Sports and Exercise*, 43 (2) 350-356.
- Steeves, J., **Tyo, B.**, Connelly, C., Gregory, D., Stark, N., Bassett, D. (2011) Validity and Reliability of a Tri-Axial Accelerometer-Based Pedometer. *Journal of Physical Activity and Health*, 8 (7) 1014-1020.

- Palevo, G. and **Nicks C. R.** (2011). Clinical outcomes of isotonic resistance training for a female with stable chronic heart failure. *Journal of Strength & Conditioning Research*. 25(3):64-65.
- John, D., **Tyo, B.**, Bassett, D. R. (2010). Comparison of output from four Actigraph accelerometers during walking and running. *Medicine and Science in Sports and Exercise*, 42 (2) 368-374.
- Nicks, C. R.** and **Mangum, M.** (2010). Influence of prior exercise on skill and fitness measurements in female collegiate athletes. *Journal of Strength and Conditioning*, 24,(S1)
- Nicks, C. R.**, Morgan, D. W., Fuller, D. K, & Caputo, J.L. (2009). The influence of respiratory muscle training on intermittent exercise performance. *International Journal of Sports Medicine*, 30(1), 16-21.
- Nicks, C. R.** and **Mangum, M.** (2009). Evaluation of yo-yo intermittent recovery and Hoff tests in female collegiate athletes. *Medicine and Science in Sports and Exercise*, 41(5), S426.
- Nicks, C. R.** & **Mangum, M.** (2008). Profile and Fitness Testing of NCAA Division II Female Soccer Athletes. *Journal of Strength and Conditioning*, 22(6), S29.
- Nicks, C.R.** & **Mangum, M.** (2008). Influence of baseline respiratory muscle strength on respiratory muscle fatigue following exhaustive intermittent exercise. *Medicine and Science in Sports and Exercise*, 40(5), S305
- Mangum, M.** & **Nicks, C. R.** (2007). Knowledge obsolescence in an on-line medical terminology course: A case study. *Perspectives in Learning: A Journal of the College of Education at Columbus State University* 8: 38-41.

#### **National / International and Regional Presentations (2006 – 2012)**

- Conger, S., Scott, S., Flynn, J., **Tyo, B.**, Bassett, Jr., B. Validity and Accuracy of Physical Activity Monitors for Estimating Energy Expenditure During Wheelchair Locomotion. *Presented at the 2012 American College of Sports Medicine (San Francisco, California)*.
- Tyo, B.**, Bassett, Jr., B., Coe, D., Feito, Y., Thompson, D.L. The Effect of BMI on Waist-Mounted Pedometers Worn by Early Adolescents Under Free-Living Conditions. *Presented at the 2011 American College of Sports Medicine (Denver, Colorado)*
- Nicks, C. R.** (July 2012). Effect of exercise modality on inspiratory muscles in female athletes. *Presented at the 2012 Annual Conference of the National Strength and Conditioning Association (Providence, Rhode Island)*.
- Nicks, C. R.** & Henry, R. (July 2011). Reproducibility of maximal inspiratory and expiratory pressures. *Presented at the 2011 Annual Conference of the National Strength and Conditioning Association (Las Vegas, Nevada)*.
- Palevo, G. & **Nicks, C. R.** (July 2010). Clinical Outcomes of Isotonic Resistance Training for a Female with Stable Chronic Heart Failure. *Presented at the 2010 Annual Conference of the National Strength and Conditioning Association (Orlando, Florida)*.
- Nicks, C. R.** & **Mangum, M.** (July 2009). Influence of prior exercise on skill and fitness measurements in female collegiate athletes. *Presented at the 2009 Annual Conference of the National Strength and Conditioning Association (Las Vegas, Nevada)*.

**Nicks, C. R. & Mangum, M.** (May, 2009). Evaluation of Yo-Yo Intermittent Recovery and Hoff Tests in Female Collegiate Athletes. *Presented at the 2009 Annual Meeting of the American College of Sports Medicine (Seattle, Washington).*

**Nicks, C. R. & Mangum, M.** (July, 2008). Profile and Fitness Testing of NCAA Division II Female Soccer Athletes. *Presented at the 2008 Annual Conference of the National Strength and Conditioning Association (Las Vegas, Nevada).*

**Nicks, C.R. & Mangum, M.** (May, 2008). Influence of baseline respiratory muscle strength on respiratory muscle fatigue following exhaustive intermittent exercise. *Presented at the 2008 Annual Meeting of the American College of Sports Medicine (Indianapolis, Indiana).*

**Mangum, M. & Nicks, C. R.** (February, 2007). "Resting energy expenditure (REE) and substrate utilization revisited". *Presented at the 2007 Annual Meeting of the Southeast Chapter of the American College of Sports Medicine (Charlotte, NC).*

**Nicks, C. R.** Farley, R. S., Fuller, D. K., Morgan, D. W., & Caputo, J. L. (May, 2006). "The effects of respiratory muscle training on performance, dyspnea, and respiratory muscle fatigue in trained intermittent sprint athletes." *Presented at the 2006 Annual Meeting of the American College of Sports Medicine (Denver, CO).*

#### Program Improvement Plans

Assuming appropriate resources are in place, it is anticipated that the addition of the M.S. Exercise Science (Fall 2013) should further enhance faculty and student scholarship. The M.S. program was approved to include at least three graduate assistants who will be instrumental in assisting faculty with teaching, data collection, and research. Undergraduate students may also benefit from the graduate program the addition of the graduate assistants will allow for more availability (with supervision) to the human performance laboratory. However, a reduction in faculty teaching loads is critical if scholarship productivity is expected increase in any meaningful way.

- Continue to encourage and support undergraduate student participation at regional conferences and workshops with various program faculty members.
- Continue to advocate for graduate assistants to help with faculty and student research (increase graduate student enrollment)
- Continue and increase collaborative research opportunities with colleagues in the program, community, Southeast and beyond.

#### **II D. QUALITY OF SERVICE**

##### ***Assessment of Indicator: Very Strong***

##### Activities to Enhance Programs, Department, College, Institution, Community and/or Region

Exercise Science faculty members have served on numerous committees, often in leadership roles (see Table 15). Many service activities are often not documented by faculty members given the large number of students in the program. Informal advising / meeting with students, providing references, webpage design and upkeep, laboratory upkeep and supervision, attendance to student orientations are all examples of extra service activities.

**Table 15. Service Activities of Program Faculty**

<u>Sample of Service Activities to HPEX Department, College of Education and Health Professions, and Columbus State University:</u>	<u>Sample of Service Activities to Columbus Community and Beyond:</u>
<ul style="list-style-type: none"> <li>- Assessment System and Unit Evaluation Committee, COEHP</li> <li>- Athletics Committee, CSU</li> <li>- Auxiliary Enterprises Committee*</li> <li>- COE “WALK” Program</li> <li>- CSU Admissions Policy</li> <li>- Curriculum Committee, COEHP *</li> <li>- Curriculum Committee, HPEX*</li> <li>- Diversity Committee, COEHP</li> <li>- Exercise is Medicine Committee</li> <li>- Faculty Performance and Engagement Task Force</li> <li>- Faculty Qualifications, Performance, and Development, COEHP</li> <li>- Graduate Council, COEHP</li> <li>- Health and Physical Education Program Advisory Committee</li> <li>- Honor Scholarship Committee*</li> <li>- Human Subjects Review Committee</li> <li>- Institutional Review Board Development Task Force</li> <li>- Institutional Review Board*</li> <li>- Personnel Committee, HPEX*</li> <li>- Personnel Committee, College of Education and Health Professions*</li> <li>- Post-Tenure Review Committee, COEHP</li> <li>- Search Committee, COEHP</li> <li>- Search Committee, CSU</li> <li>- Search Committee, HPEX*</li> <li>- Standards of Excellence Task Force (COEHP)\</li> </ul>	<ul style="list-style-type: none"> <li>- COEHP TV Guest Speaker</li> <li>- Columbus Regional Science and Engineering Fair, Judge and/or Lead Judge</li> <li>- Exercise is Medicine</li> <li>- Fitness Friday – Collaboration with Hughston Hospital &amp; Muscogee County</li> <li>- Muscogee County School District</li> <li>- Regional Science Olympiad, Activity Coordinator</li> <li>- Regional Wrestler Body Composition Testing</li> <li>- Upson Regional Medical Center, Wellness Initiative, 2007</li> </ul>
<p><i>* Faculty member(s) chaired committee or task force</i></p>	

Program Improvement Plans

Faculty members are encouraged to balance teaching, scholarship, and service. It is assumed that teaching should count for the majority of workload, assuming the faculty member does not receive a course reduction for a

specific service activity (e.g. coordinator). Program faculty should work with the department chair to ensure service loads are not detrimental to current program needs.

## II E. QUALITY OF FACULTY AND STUDENT ACHEIVEMENTS

*Assessment of Indicator: Satisfactory*

### Faculty Honors

Program faculty have been nominated or have received various awards or recognitions for their achievements over the past five years (Table 16).

**Table 16. Faculty and Student Achievements**

<u>Exercise Science Faculty – Selected Honors &amp; Awards:</u>	<u>Student Honors</u>
- Faculty Appreciation Award, Soccer Team - 2008	Annual Exercise Science Major Award Winners:
- Faculty Appreciation Award, Soccer Team - 2009	- 2008 Chris Kendrick
- Faculty Appreciation Award, Soccer Team - 2012	- 2009 Brandy Thomas
- Finalist, Scholar of the Year, Columbus State University - 2010	- 2010 Jana Bass
- Induction to Phi Kappa Phi - 2006	- 2011 Quinard Webb
- Scholar of the Year, College of Education - 2009	- 2012 Peter Blickhahn
- Senior Faculty and Staff Recognition, CSU Athletics - 2012	Number of Students Graduating with Honors since Fall 2008 (~17% of graduates)
	- Magna Cum Laude = 10
	- Summa Cum Laude = 4
	- Cum Laude = 9

### Graduate Achievements (Licensure, Certification, Admission to Graduate School, Job Offers, etc..)

Table 17 a list of known career paths for graduates from the Exercise Science program since the Fall of 2008 (does not include all graduates). Known certifications obtained prior to graduation are also listed.

**Table 17. Career Paths and Certifications of Program Graduates**

<u>Career Paths: Fall 2008 – Sumer 2012 (N =43)</u>	<u>Number of Graduates</u>
Commissioned Officer, United States Military	8
Hospital and/or Rehabilitation Industry	5
Physical Therapy School	5
Graduate School	5
Health & Fitness Industry	4
Physical Therapy Assistant School	3
Coaching	2
Medical Sales	2



Firefighter / Police Officer	2
Nursing School	2
Occupational Therapy School	2
Medical School (M.D)	1
Physician Assistant School	1
Recreation	1
<b><u>Certifications (ACSM, NSCA, etc...)</u></b>	<b><u>Number of Certifications</u></b>
Spring 2011	3
Summer 2011	1
Fall 2011	2
Spring 2012	1
Summer 2012	1

## **II. F. QUALITY OF CURRICULUM**

*Assessment of Indicator: Above Average*

### Relationship Between Program's Curriculum and Its Outcomes

The Exercise Science program is required to submit a "Program Review and Improvement Report" on an annual basis. A major portion of this report is to measure how majors are meeting the specific learning outcomes of the program. As such, this report provides adequate accountability to ensure that curriculum and outcomes are closely linked. Comprehensive final examinations, final projects, and laboratory skills tests from required courses are all used to gauge the program curriculum to its outcomes. One notable modification to the curriculum (2011) was the addition of laboratory time to EXSC 4232 (Exercise Testing and Prescription). This change provides students with more hand-on skills in the classroom and provides faculty the opportunity to measure these skills which are a critical part of most Exercise Science programs. In addition, a small number of students in the program have passed national certification examinations (ACSM and NSCA) providing more evidence that the curriculum is tightly related to outcomes.

Additional modifications to the EXSC curriculum have been made (begin catalog year 2013). As a result, program learning outcomes have been modified to reflect the changes in the curriculum.

### Incorporation of Technology

Faculty have access to computer and printing resources, as well as to the most recent developments in technology including interactive boards, personal response systems (clickers), and classroom management software. Campus support services provide extensive library and technology support services. Faculty have access to orientations and seminars in teaching and learning and technology. Campus support services provide technological support for distance learning and online course delivery systems.

In addition, industry-specific software and hardware is integrated into many courses, e.g., EXSC 2105 (Weight Control), EXSC 4331 (Exercise Physiology Lab), EXSC 4337 (Nutritional Bases of Human Performance Lab),

and EXSC 4232 (Exercise Testing and Prescription). Opportunities to reinforce and extend basic computer/presentation skills are found in virtually every course.

#### Utilization of Multidisciplinary Approaches

The University's core curriculum ensures a minimal exposure to other disciplines. However, experience teaches that exposure does not necessarily ensure that students will learn to appreciate the contribution that other disciplines make to their chosen field of study. Exercise Science is truly a multi-disciplinary program of study. Biology, chemistry, medicine, health education, physics, mathematics, psychology, and other disciplines all make immeasurable contributions to the field. The multi-dimensional nature of the discipline is evident and emphasized in courses such as EXSC 3135 (Kinesiology) and EXSC 4131 (Basic Exercise Physiology).

#### Utilization of Multicultural Perspectives

There are courses in the curriculum use guidelines from the American College of Sports Medicine (ACSM) as a foundation for the learning outcomes. The ACSM is truly an international (world-leading) organization in the area of exercise science. Contributions to its publications are made from countries around the world. Data from AY 2011 – '12 showed that program enrollment consisted of 60% White, 32.8% Black, and 4% Hispanic. 55.5% and 45.5% of the students were female and male, respectively. As such, class discussions are more likely to have a multicultural perspective from students.

#### Program Improvement Plans

- Continue to evaluate undergraduate curriculum
- Explore adding a major field test to assess program learning outcomes with graduating seniors
- Add new courses to curriculum as necessary
- Add laboratory equipment as necessary to meet demands of expanding curriculum
- Explore study abroad / international course offerings

## **II G QUALITY OF FACILITIES AND EQUIPMENT**

### ***Assessment of Indicator: Satisfactory***

#### Availability of Classroom and Laboratory Space

The program is currently housed in the Health and Wellness Building and has priority for classroom 204 (which seats approximately 27 students) with the adjacent Human Performance Laboratory (210). The Human Performance Laboratory is approximately 1900 square feet and will accommodate both the BS and MS programs. Laboratory space and availability may indeed become an issue as program enrollment has increased and the addition of the MS program in 2013.

#### Availability of Equipment

Laboratory equipment has become more available since the program merged with Health and Physical Education (Spring 2009) and Health science (Fall 2009). Funds from the COEHP and fees from the HPEX department have enable us to enhance the laboratory significantly. A sample of equipment available (as of Fall 2012) is listed below:

- Body composition analysis equipment (BODPOD, COSMED and others)
- Ergomedic 894E Peak Bike (Monark)
- Excalibur Sport Anaerobic Power System (LODEBV)
- Monark 828E cycle ergometers

- Moxus Modular VO<sub>2</sub> System (AEI Technologies)
- Quinton Q4500 Stress Test System that includes a clinical treadmill
- True-One 2410 Metabolic Measurement System (ParvoMedic)

**Table 18. Stakeholder Perception of Facilities**

#	Question	Poor 1	Fair 2	Good 3	Very Good 4	Excellent 5	Total Responses	Mean
5	Facilities (classroom, laboratories, etc...)	0	1	6	9	10	26	4.08

Program Improvement Plans:

- Additional laboratory space to meet demands of growing program
- Continued / annual upgrades to laboratory equipment to provide students an optimal learning environment, meet growing demands, and competitive with peer institutions

### **SECTION THREE – INDICATORS OF PROGRAM PRODUCTIVITY**

#### **III A. Enrollment in Program for Past 5 Years**

*Assessment of Indicator: Very Strong*

The number of Exercise Science majors increased by 65.4% (from Fall 2007 to Fall 2011) while total baccalaureate enrollment at CSU has increased by ~7.7%. Therefore, the number of Exercise Science majors increased at a rate of just 8 times greater than overall growth of CSU. It is one of the largest programs at CSU (top 10) with enrollment higher than many full departments on the campus.

**Table 19. Number of Declared Majors - Fall Semester**

Student Status	2007	2008	2009	2010	2011	5-Year Avg
Full-Time	101	115	123	146	173	132
Part-Time	35	34	35	36	52	38
<i>Total</i>	<i>136</i>	<i>149</i>	<i>158</i>	<i>182</i>	<i>225</i>	<i>170</i>

#### **III B. Degrees Awarded Over Past 5 Years**

*Assessment of Indicator: Very Strong*

Table 20 shows the number of degrees conferred since 2007. The five-year average of 30 per year indicates a productive program.

**Table 20. Number of Degrees Conferred – Fiscal Year**

2007/08	2008-09	2009-10	2010-11	2011-12	5-Year Avg
27	22	39	37	25	30

**III. Comparison with CSU and University Programs**

*Assessment of Indicator: Above Average*

Comparing baccalaureate degrees awarded at CSU to other USG State Universities is challenging given that our program is a specific B.S. in Exercise Science. Other universities often report B.S in Kinesiology, perhaps with an emphasis or concentration in Exercise Science. Using data provided by the CSU Office of Institutional Research, Table 21 shows data for CSU, Kennesaw State University (KSU), and Augusta State University. KSU offers a combined Health & Exercise Science degree, a double major, which makes true comparison between the two universities problematic. Nonetheless, given the large undergraduate enrollment at KSU (~22,000) compared to CSU (~7000) the BS Exercise Science program appears to be outperforming its peer in this indicator (this assumes an absolute number of graduates is a satisfactory outcome). Our graduation number is also higher than Augusta State University (now Georgia Regents University), but that appears to be a new program.

**Table 21. Baccalaureate Degrees Awarded in Exercise Science Programs at USG State Universities**

USG Institution	2006-07	2007-08	2008-09	2009-10	2010-11	5-Year Avg
Albany State University	0	0	0	0	0	0
Armstrong Atlantic State University	0	0	0	0	0	0
Augusta State University	0	0	0	12	26	8
Clayton College & State University	0	0	0	0	0	0
<b>Columbus State University</b>	<b>28</b>	<b>27</b>	<b>22</b>	<b>39</b>	<b>37</b>	<b>31</b>
Fort Valley State university	0	0	0	0	0	0
Georgia College & State University	0	0	0	0	0	0
Georgia Southwestern State University	0	0	0	0	0	0
Kennesaw State University	64	74	89	90	96	83
North Georgia College & State University	0	0	0	0	0	0
Savannah State University	0	0	0	0	0	0
Southern Polytechnic State University	0	0	0	0	0	0
State University of West Georgia	0	0	0	0	0	0
<b>Total</b>	<b>92</b>	<b>101</b>	<b>111</b>	<b>141</b>	<b>159</b>	<b>121</b>

### III D. RETENTION RATES

*Assessment of Indicator: Satisfactory*

**Table 22. Retention Rates by Baccalaureate Program**

<b>Art Education</b>	100.0%	50.0%	50.0%	0.0%	66.7%
Biology	69.9%	72.9%	71.7%	69.8%	68.5%
Business Programs	69.0%	64.0%	67.3%	72.4%	72.7%
Chemistry	78.3%	92.3%	83.9%	70.0%	84.6%
Communication	60.9%	61.5%	80.0%	92.3%	84.2%
Computer Science/Info Technology	66.7%	75.0%	57.7%	59.5%	75.6%
Criminal Justice	70.0%	75.0%	57.9%	63.6%	57.6%
Early Childhood Education	66.7%	81.0%	80.0%	72.5%	78.4%
Earth & Space Science/Geology	100.0%	50.0%		33.3%	66.7%
English Language	95.5%	80.0%	77.8%	85.2%	64.0%
Exercise Science	80.0%	66.7%	72.7%	57.1%	73.3%
Health & Physical Education	66.7%	75.0%	33.3%	66.7%	50.0%
Health Science	100.0%	50.0%	77.8%	86.7%	80.0%
History	80.0%	50.0%	44.4%	83.3%	60.0%
History & Secondary Education	87.5%	85.7%	40.0%	66.7%	62.5%
Mathematics	80.0%	55.6%	56.3%	76.5%	66.7%
Middle Grades Education	100.0%	40.0%	66.7%	85.7%	87.5%
Modern Language & Culture	71.4%	100.0%		85.7%	100.0%
Music Performance	68.4%	85.7%	72.7%	78.6%	84.4%
Music Education	100.0%	78.6%	80.0%	86.4%	80.0%
Music, General	66.7%	66.7%	62.5%	50.0%	75.0%
Nursing	81.3%	77.4%	63.0%	74.7%	65.7%
Political Science	58.8%	44.4%	66.7%	70.0%	78.6%
Psychology	81.0%	70.6%	61.5%	72.1%	51.1%
Sociology	100.0%	60.0%	71.4%	80.0%	50.0%
Spec Ed - General Curriculum	0.0%	100.0%	66.7%	66.7%	50.0%
Theatre Arts	86.8%	85.2%	73.1%	75.5%	81.1%
Theatre Education	72.7%	88.9%	76.5%	80.0%	
Total Baccalaureate	75.1%	72.3%	68.5%	72.5%	71.0%

### III E. STUDENT LEARNING INDICATORS (using a variety of data sources)

*Assessment of Indicator: Satisfactory*

Student learning indicators are measured on an annual basis. In recent years (2010) an attempt has been made to quantify program outcomes using data from EXSC courses. A variety of assessments are used such as comprehensive final examinations, final practical skills tests, productive grades (“C” or better”) in a specific course, portfolios, and final class projects. Learning outcomes, assessments, and results of assessments between 2010 – 2012 are in Table 23. *Note - A comprehensive laboratory skills test is now given in EXSC 4232 and results are reported annually (not listed below).*

**Table 23. Student Learning Indicators, 2010 - 2012**

Learning Outcomes (note – these have been modified beginning 2013)	Assessment
Have an extensive base of knowledge in regard to structure and function of the human body during rest and exercise, development of programs of exercise for health purposes, and other related content areas.	<ul style="list-style-type: none"> <li>- Comprehensive final examination in EXSC 3135 <b>75% scored 70% or higher</b></li> <li>- Comprehensive final examination in EXSC 4131 <b>71% scored 70% or higher</b></li> </ul>
Exhibit a wide range of practical skills including exercise testing and other physical evaluations, exercise leadership in a variety of activities, and ability to develop a comprehensive fitness program for an individual or industry.	<ul style="list-style-type: none"> <li>- Practical laboratory skills tests given in EXSC 2107 to assess group exercise leadership. <b>95% passed (scored 70% or higher)</b></li> <li>- Successful completion of EXSC 4232 (Exercise Testing and Prescription) <b>94% met this criteria</b></li> <li>- Comprehensive final project EXSC 5135 (Program Design in Exercise Science) <b>100% scored 70% or higher</b></li> </ul>
Have developed technological competence utilizing widely-used computers and software, industry specific software, industry specific apparatus, and equipment for metabolic and body composition analysis.	<ul style="list-style-type: none"> <li>- Successful completion of EXSC 4232 and EXSC 4337 (Nutritional Bases of Human Performance Lab) <b>87% completed EXSC 4337</b> <b>94% completed EXSC 4232</b></li> </ul>
Contribute to the well-being of the community, region, and nation through advanced study and/or employment in a meaningful occupational setting.	<ul style="list-style-type: none"> <li>- Evaluations from internship supervisors (EXSC 4698) and student portfolios. <b>&gt;98% received a least a satisfactory score from agency supervisor</b></li> </ul>

### III F. GRADUATION RATE OF PROGRAM

#### *Assessment of Indicator: Satisfactory*

The six-year graduate rate of Exercise Science program compared to other CSU baccalaureate programs is presented in Table 23. Unfortunately, the problem with following a freshman cohort is that any change in major is interpreted as a failure of the program, when in fact it may represent good advising or reflect normal adjustments made by students for personal reasons. Results reveal a yearly variation in this indicator (as expected), but a five-year review (46.4%) indicates that program graduation rates were higher than the CSU average.

**Table 23. Six-year Graduation Rates by Baccalaureate Program**

<b>Major Program</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Baccalaureate</b>					
Accounting	61.9%	27.6%	39.1%	42.1%	43.5%
Art	20.0%	38.5%	27.3%	21.4%	22.2%
Art Education	50.0%	0.0%	50.0%	50.0%	0.0%
Biology	27.3%	36.7%	29.5%	37.6%	39.8%
Chemistry	22.2%	30.8%	45.5%	37.5%	26.1%
Communication	37.5%	30.8%	25.0%	47.4%	34.8%
Computer Science	16.7%	29.7%	6.9%	34.5%	29.2%
Criminal Justice	40.0%	30.4%	36.7%	27.5%	45.0%
Early Childhood Education	42.4%	50.9%	44.4%	44.6%	45.1%
Earth & Space Science/Geology		100.0%	50.0%	0.0%	50.0%
English Language	52.6%	36.0%	35.0%	34.8%	50.0%
<b>Exercise Science</b>	<b>40.0%</b>	<b>25.0%</b>	<b>53.3%</b>	<b>38.9%</b>	<b>70.0%</b>
Finance	33.3%	66.7%	50.0%	58.3%	36.4%
General Business	25.9%	35.1%	37.8%	42.1%	25.0%
Health & Physical Education	100.0%	16.7%	11.1%	0.0%	66.7%
Health Science	20.0%	10.0%	45.5%	46.2%	12.5%
History	40.0%	50.0%	20.0%	27.3%	30.0%
History & Secondary Education	33.3%	27.3%	23.1%	0.0%	62.5%
Management	18.8%	20.0%	27.3%	42.5%	35.3%
Management Information Systems	44.4%	42.1%	44.4%	25.0%	23.1%
Marketing	5.9%	33.3%	37.5%	25.0%	31.3%
Mathematics	50.0%	63.6%	42.9%	27.3%	33.3%
Middle Grades Education	40.0%	33.3%	0.0%	50.0%	100.0%
Modern Language & Culture			0.0%	50.0%	28.6%
Music Performance	43.8%	56.0%	61.5%	52.4%	52.6%
Music Education	34.6%	55.9%	68.8%	65.0%	90.9%
Music, General	46.7%	50.0%	40.0%	50.0%	66.7%
Nursing	47.0%	47.4%	53.7%	32.2%	42.7%
Political Science	46.7%	26.9%	28.6%	39.1%	17.6%
Psychology	20.7%	32.0%	25.0%	27.8%	35.7%
Sociology	50.0%	0.0%	66.7%	33.3%	33.3%
Spec Ed - General Curriculum	66.7%	50.0%	0.0%	50.0%	0.0%
Theatre	42.9%	25.0%	35.7%	34.8%	47.4%
Theatre Education	20.0%	33.3%	55.6%	62.5%	54.5%
<i>Total Baccalaureate</i>	<i>34.6%</i>	<i>37.5%</i>	<i>37.1%</i>	<i>37.1%</i>	<i>40.3%</i>

**III G. COST EFFECTIVENESS OF INSTRUCTIONAL DELIVERY**

*Assessment of Indicator: Very Strong*

Table 24 presents a comparison of instructional costs between CSU and the Exercise Science program. The five-year average indicates the Exercise Science program is efficient, operating at a cost of approximately 50% less than the CSU average.

**Table 24 Instructional Costs: CSU and Exercise Science Program**

<b>Total Instructional Costs per Credit Hour CSU and Exercise Science Program</b>					
<b>Fiscal Year</b>	<b>Total Credit Hours Generated (CSU)</b>	<b>Cost per Credit Hour (CSU)</b>	<b>EXSC Total Credit Hours Generated</b>	<b>EXSC Instructional Costs</b>	<b>Cost per Credit Hour</b>
2008	164,732	\$193	1,790	\$145,360	<b>\$81</b>
2009	171,280	\$182	1,998	\$147,137	<b>\$74</b>
2010	178,470	\$194	1,790	\$178,607	<b>\$100</b>
2011	178,078	\$208	2,015	\$242,488	<b>\$120</b>
Average	173,140	\$194	1,898	\$178,398	<b>\$94</b>

**SECTION FOUR – PROGRAM VIABILITY**

**IV A. SUMMARY OF PROGRAM’S VIABILITY**

Reference supporting information previously presented in this report

The B.S. Exercise Science Program at CSU is very viable and could function as department. Viability is strengthened further with our cooperative relationships with the Health & Physical Education and Wellness programs in the HPEX program. Exercise Science is a growing, vigorous, diverse program that is cost-effective and valuable to the students, university, and region. Graduates of the program are well-prepared to be successful in a number of career paths, most notably medical programs (e.g. -physical therapy) and the health and fitness industry. Stakeholders of the Exercise Science program provided valuable feedback about their experiences as students in the program. Eighty-six percent “agreed” or “strongly agreed” that the Exercise Science major was effective in preparing them for graduate studies or a career in the field. Eighty-five percent were “satisfied” or “very satisfied” with their experience as an Exercise Science major.

Student demand for Exercise Science at CSU has continued to increase. As such, enrollment in the Exercise Science program, compared to overall CSU enrollment, has grown at an exponential rate over the past few years. The B.S. in Exercise Science is the primary conduit for students pursuing graduate medical programs such as physical therapy and occupational therapy. The BLS predicts faster than average growth for these occupations over the next few years. There is also predicted job growth with physician assistants and “fitness-related jobs.” Again, Exercise Science is often the appropriate and preferred pathway to pursue these occupations indicating a strong student and societal demand for the program.

We have a dedicated team of faculty with diverse backgrounds committed to student learning and achievement. Graduates of the program are accepted to medical programs on an annual basis. In addition to medical programs, graduates have been accepted to other graduate program and / or found employment in a number of other career paths (e.g. – hospital / rehabilitation, U.S. military, health& fitness industry, etc...). Ninety-six percent of the



stakeholders “agreed” or “strongly agreed” program faculty were competent and knowledgeable in the courses they taught. Seventy-six percent found teaching to be “very good” or “excellent”. Program faculty maintain regular availability and have continued to formally advise students in addition to normal teaching responsibilities. Ninety-six percent of stakeholders ranked faculty availability as “very good” or “excellent” while 92% “agreed” or “strongly agreed” that they received timely and meaningful advice from Exercise Science faculty. Program faculty are active professionally and have presented research at least 9 times from 2008 to 2012 at national and international venues such as the American College of Sports Medicine and the National Strength and Conditioning Association. Peer-reviewed articles and abstracts have been published in *Medicine and Science in Sports and Exercise* and *International Journal of Sports Medicine*. Finally, Exercise Science faculty are active in service, participating (and often chairing) numerous departmental, college, university committees.

The Exercise Science curriculum is reviewed by the program coordinator and faculty on a regular basis. We have added several courses to the undergraduate curriculum as well as proposing a new M.S. of Exercise Science degree (approved by the BOR Fall 2012). Faculty incorporate technology into the classroom as needed and students are exposed to multidisciplinary and multicultural perspectives. In 2011 we moved to a renovated space in the Health and Wellness building that includes a Human Performance Laboratory with an adjacent classroom. Seventy-three percent of stakeholders ranked our facilities as “very good” or “excellent”. Curriculum learning outcomes are measured on an annual basis using a number of different assessments. Significant modifications to the B.S curriculum will be implemented in Fall 2013.

The number of declared Exercise Science majors increased from 136 to 225 (Fall 2007 to Fall 2011; 65.4% increase). The program graduated an average of 30 students per year during that time, a number on par or higher than peer institutions. Program enrollment is now higher than many departments at CSU. Instructional costs for the program have been ~ 50% lower than the CSU average making Exercise Science a cost-effective, highly productive program.

#### Summarize recommendations for the future of the program

It is clear the Exercise Science program is a valuable option for a number of CSU students. Program faculty have worked hard to meet student needs during a time of rapid enrollment growth over the past few years. The program has continued to progress by adding a new M.S. Exercise Science degree (final BOR approval Fall 2012). The new MS degree should be a great asset or option for graduating students as well as students in the region. As such, there are a number of recommendations to ensure the future success of the program in addition to meeting current demands.

A priority for the program is to add full-time tenure track faculty member. The undergraduate program enrollment has continued to increase and there is a need to add more relative courses to the curriculum. In addition, the new 36-hour M.S. degree begins Fall 2013 and a new faculty line is critical to ensure its success. In addition to a full-time line, we need to identify qualified part-time faculty to assist with the growing demand. Graduate assistants are also necessary to assist with teaching (laboratories), research, and other program demands. Faculty workloads should be examined to ensure consistency with COEHP and CSU faculty and / or reallocated as necessary to meet service and scholarship goals or requirements.

We recommend continued upgrades to the Human Performance Laboratory. We have begun to outgrow our existing space and we expect enrollment to increase. Increasing undergraduate enrollment combined with a new M.S. degree may demand more equipment and additional space.

There is a need to add more courses to the undergraduate curriculum. In the past, a 12-hour internship was a required of all students. However, an increase in students limited internship opportunities in the area. Several students hold part-time or full-time jobs and may not be able to devote several hours per week to an unpaid internship. Additional courses (e.g. Biomechanics, EKG, etc...) would provide valuable, marketable skills and better prepare them for graduate programs.

Include a timetable for program change.

<b>Future Recommendations</b>	<b>Projected Timeline</b>
Hire a full-time faculty member to begin Fall 2014	Fall 2013 – Spring 2014
Identify and hire qualified part-time faculty	ongoing
Additional laboratory equipment	Equipment should be purchased on an annual basis
Additional laboratory space <i>Possible COEHP move downtown may impact this recommendation</i>	Discuss with HPEX Chair & COEHP Dean during 2013 – '14 year.
Add courses to augment undergraduate curriculum	Fall 2014 (contingent on new hires)

#### **IV B. SUMMARY OF PROGRAM IMPROVEMENT PLAN**

The program improvement plan is similar to the future recommendations noted above (Section IV A.).

##### Reference Recommendations Previously Made in this Report

1. Additional faculty and instructional support
  - a. Add full-time (tenure-track) faculty member
  - b. Add graduate assistants to assist with teaching, research, and other program needs
  - c. Seek qualified part-time faculty to assist with growing enrollment
  - d. Compensate program faculty for formal advising
  - e. Discuss and define workload expectations to be consistent with department and the COEHP faculty and / or to allow for meaningful research initiatives
  - f. Increase professional development funds to support program faculty development and travel to professional conferences
  - g. Increase departmental faculty compensation to reward performance
  
2. Continue to evaluate and improve undergraduate curriculum
  - a. Increase the number of EXSC course offerings
  - b. Explore adding a major field test to assess program learning outcomes
  - c. Add more required laboratory time to curriculum (EXSC 4131, EKG, etc...)
  - d. Seek ways to increase to increase undergraduate research
  - e. Explore study abroad / international course offerings

3. Improve Human Performance Laboratory
  - a. Add space to Human Performance Laboratory
  - b. Add equipment to Human Performance Laboratory (e.g.- metabolic measuring system, treadmills, equipment for biomechanics courses, etc...)
  
4. Improve graduation rates - *Note - rated satisfactory in report when compared to other CSU programs; improvement in this area is critical to all CSU programs*
  - a. Explore ways to use Introduction to Exercise Science (EXSC 1105)
  - b. Other initiatives below can improve program quality – which may have a positive impact on graduation rates
  
5. Improve retention rates *Note - rated satisfactory in report when compared to other CSU programs; improvement in this area is critical to all CSU programs*
  - a. Explore ways to use Introduction to Exercise Science (EXSC 1105)
  - b. Other initiatives below can improve program quality – which may have a positive impact on retention rates

Specific initiatives / actions to be implemented

<b>INITIATIVES / ACTIONS</b>	<b>TIMETABLE</b>	<b>NEW OR REALLOCATED RESOURCES</b>
Add full-time (tenure-track) faculty member	Fall 2013	New faculty line funded from Provost office or COEHP
Add graduate assistants to assist with teaching, research, and other program needs	Summer 2013 - ongoing	Funded by COEHP or Departmental summer revenues
Seek qualified part-time faculty to assist with growing enrollment	Ongoing	Part-time budget
Compensate program faculty for formal advising	Fall 2015	Funds redirected from Departmental or COEHP Budget
Discuss and define workload expectations to be consistent with department and the COEHP faculty and / or to allow for meaningful research initiatives	Fall 2014	Any change (reduction) in workload would require a reallocation of resources from HPEX and / or COEHP budgets.
Increase professional development funds to support program faculty development and travel to professional conferences	Ongoing	Contingent upon Departmental and / or COEHP support.
Increase departmental faculty compensation to reward performance	Ongoing	Contingent upon Departmental, COEHP, and University policies and available funds.

Increase the number of EXSC course offerings	Ongoing	Contingent upon new faculty hire and qualified part-time faculty.
Explore adding a major field test to assess program learning outcomes	Ongoing	Redirection of faculty workloads. Development of major field test would be completed by program faculty. Implementation of test would be the responsibility of the program coordinator.
Add more required laboratory time to curriculum (EXSC 4131, EKG, etc...)	Fall 2014	Contingent upon new faculty and /or graduate assistants funded by COEHP. Graduate assistants necessary to assist with laboratory instruction.
Seek ways to increase to increase undergraduate research	Ongoing	None. Contingent upon faculty workloads per semester and interests of undergraduate students.
Explore study abroad / international course offerings	Ongoing	Contingent upon interests of program faculty and appropriateness of courses in international setting.
Add space to Human Performance Laboratory	Fall 2015	Contingent upon possible move to downtown campus. If program does not move, other options will need to be discussed (including limiting enrollment or expanding current space).
Add equipment to Human Performance Laboratory (e.g.- metabolic measuring system, treadmills, equipment for biomechanics courses, etc...)	Ongoing / Annual (As needed)	Contingent upon Departmental and COEHP funds. Major purchases may need more COEHP assistance
Require EXSC 1105 (Introduction to Exercise Science) to improve retention and graduation rates	Completed (new catalog F'13)	None
Explore adding freshmen learning community with EXSC 1105	Ongoing	None