



**Overview**

Department: Physical Education and Human Performance

Report Preparer: Dr. David Harackiewicz

Program Name and Level: Exercise Science – Undergraduate

Program Assessment Question	Response
1) <b>URL:</b> Provide the URL where the learning outcomes (LO) can be viewed.	CCSU Department website
2) <b>LO Changes:</b> Identify any changes to the LO and briefly describe why they were changed (e.g., LO more discrete, LO aligned with findings)	No changes in the five learning outcomes
3) <b>Strengths:</b> What about your assessment process is working well?	<p>We focus on three areas of assessment in our total academic program and this includes (1) our EXS 470 site supervisor student evaluations, (2) our culminating student evaluation of our exercise science program, and (3) our student results of the national ACSM Exercise Physiologist certification (EP-C).</p> <p>EXS 470 Site Supervisor Student Evaluation</p> <ul style="list-style-type: none"> <li>• We receive site supervisor evaluations at the completion of the student internship. The number of students evaluated over the academic years 2011-12, 2012-13 and 2013-14 total 76 and this includes students in the fall, spring and summer of each academic year. The total number of students evaluated in 2014-15 was 30. Supervisors responded to questions in seven areas: (1) Skills and abilities, (2) Relationships with clients/patients, (3) Relationship with staff, (4) Relationship with supervisor, (5) Professional competencies, (6) Computer skills, and (7) Personal traits and attitudes. In addition the supervisor was asked to give a professional assessment on whether the student was a good candidate for employment.</li> <li>• Comparing last academic year 2014-15 with the past three years: <ul style="list-style-type: none"> <li>○ Total mean score in the category of Skills and abilities was 4.55 compared with 4.43 indicating that our students were between highly satisfactory (4) and outstanding (5).</li> <li>○ Total mean score in the category of Relationships with clients/patients was 4.67 compared with 4.63 indicating that our students interacted well with their clients/patients.</li> <li>○ Total mean score in the category of Relationship with staff was 4.67 compared with 4.67 indicating a good working relationship with other part-time and full-time staff members.</li> <li>○ Total mean score in the category of Relationship with supervisor was 4.82 compared with 4.73</li> </ul> </li> </ul>

	<p>indicating that our students had excellent rapport with their supervisor and their ability to work under their potential boss.</p> <ul style="list-style-type: none"> <li>○ Total mean score in the category of Professional competencies was 4.53 compared with 4.65 which indicates that the coursework and practical experiences they gained while attending school was very beneficial to their internship placement and the job tasks that they were assigned. This is an important category for our program because it reflects the sequencing of coursework that we provide and indicates that we are teaching the proper techniques and educational content important in the exercise science field.</li> <li>○ Total mean score in the category of Computer skills was 4.78 compared with 4.70 indicating that our students have a very good knowledge of computer software such as Microsoft office or other related programs. This is to be expected as most students excel in this area based on their consistent use of computers as part of their daily lives.</li> <li>○ Total mean score in the category of Personal traits and attitudes was 4.73 compared with 4.61 indicating that our students have very good dispositions in the profession. They represent themselves and the university with high character and accountability.</li> <li>○ Total mean score for the Professional assessment was 2.71 compared with 2.90 with a 3 rating meaning that our student would be a good candidate for employment. Our students are well-prepared for the field that they choose and would be consummate professionals.</li> </ul> <p>Student Final Evaluation of the Exercise Science Program</p> <ul style="list-style-type: none"> <li>● Students completed a survey that asks seven questions about the quality of our program. The students respond using a 5 point Likert Scale with 1 being Strongly Disagree and 5 being Strongly Agree. Mean score in academic year 2014-15 was 4.81 compared to a mean score in academic year 2013-14 of 4.59 indicating a high degree of satisfaction with our program for the past two years. In addition students are able to respond to the following open-ended questions such as: (1) What do you feel were the strengths of the program? (2)What do you feel were the weaknesses of the program? (3) If you could make changes in the program, what would you change? and (4) What portions of the program would you keep and why?</li> </ul> <p>EP-C Results (See Table 1)</p> <ul style="list-style-type: none"> <li>● Our pass rate on the American College of Sports Medicine Certified Exercise Physiologist exam is 75% compared to the national pass rate of 43% meaning that our students have a good conceptual understanding of the knowledge and skills related to this profession. Allowing our students to take this certification exam after all coursework has been completed and preparing them through our practicum seminar class has helped us maintain a high pass rate. We could not compare pass rates from previous years because the content of the exam was changed this past year.</li> </ul>
<p>4) <b>Improvements:</b> What about your assessment process needs to improve? (a brief summary of changes to</p>	<p>Assessments focusing on student performance are going to be conducted in the 2015-2016 year in specific classes that relate to our learning outcomes. This will include an updated rubric that assesses student's practical skills of fitness testing, an updated rubric that evaluates student exercise testing and exercise</p>

assessment plan should be reported here)	prescription, a rubric that addresses student’s ability to evaluate case studies of special populations and a rubric that evaluates program design of performance fitness. We have also started to use Taskstream as our database which will help in putting all student work and test results in one place.
<b>For Each Learning Outcome (LO) complete questions 5, 6 and 7 (you may add more rows if you have more than 5 LOs):</b> <b>LO #1) Students will demonstrate the ability to acquire knowledge and skills in health screening procedures and conducting health-related physical fitness assessments including (a) cardiorespiratory, (b) muscular strength, endurance and flexibility, and (c) anthropometric and body composition measurements for healthy participants and those with controlled disease.</b>	
5) <b>Assessment Instruments:</b> For each LO, what is the source of the data/evidence, other than GPA, that is used to assess the stated outcomes? (e.g., capstone course, portfolio review and scoring rubric, licensure examination, , etc.)	EXS 415 Fitness Assessment and Exercise Prescription (Practical Examination) See Table 2, 3 and 4 for Scoring Rubric that was developed (Rubric 1-2-3-4-5 Poor, Fair, Average, Good, Excellent)
6) <b>Interpretation:</b> Who interprets the evidence? (e.g., faculty, Admn. assistant, etc.). If this differs by LO, provide information by LO.	Exercise Science Program Coordinator
7) <b>Results:</b> Since the most recent full report, state the conclusion(s) drawn, what evidence or supporting data led to the conclusion(s), and what changes have been made as a result of the conclusion(s).	<b>Conclusion:</b> Based on the rubric provided in Tables 2, 3 and 4 students averaged between a 3.9 and 4.4 on their practical exam
	<b>Evidence</b> (e.g., conclusion based on data in table x): See Table 8; Students scored between good and excellent on their practical skills of administering the ACSM fitness tests
	<b>Changes:</b> More emphasis has been given to student practicing their skills outside of the regular classroom. Using videos and demonstrations have added to the accuracy of students’ testing skills.
<b>LO #2) Students with demonstrate the ability to acquire knowledge and skills to interpret health-related physical fitness assessment including (a) cardiorespiratory, (b) muscular strength, endurance and flexibility, and (c) anthropometric and body composition measurements for healthy participants and those with controlled disease.</b>	
5) <b>Assessment Instruments:</b> For each LO, what is the source of the data/evidence, other than GPA, that is used to assess the stated outcomes? (e.g., capstone course, portfolio review, licensure examination, etc.)	American College of Sports Medicine Certified Exercise Physiologist Examination (Certification examination – Health and Fitness Assessment section analysis)
6) <b>Interpretation:</b> Who interprets	Exercise Science Program Coordinator

the evidence? (e.g., faculty, Admn. assistant, etc.). If this differs by LO, provide information by LO.	
7) <b>Results:</b> Since the most recent full report, state the conclusion(s) drawn, what evidence or supporting data led to the conclusion(s), and what changes have been made as a result of the conclusion(s).	<b>Conclusion:</b> On the section of the exam that measures this learning outcome students had 78% of the questions correct.
	<b>Evidence</b> (e.g., conclusion based on data in table x): See Table 5
	<b>Changes:</b> In EXS 450 Practicum seminar students are given a simulated exam and each question is reviewed for student understanding at the end of the course. In addition students are given more case studies out of the ACSM's Certification Review book with multiple choice questions that might be typical on the national exam. The seminar will begin to review the job task analysis domains which serve as a blueprint for the job of an ACSM Certified Exercise Physiologist. Exam questions are based on the performance domains and associated job task analysis.
<b>LO #3) Students will demonstrate the ability to acquire knowledge and skills to determine safe and effective strength and conditioning programs in achieving desired outcomes and goals for improving sport performance.</b>	
5) <b>Assessment Instruments:</b> For each LO, what is the source of the data/evidence, other than GPA, that is used to assess the stated outcomes? (e.g., capstone course, portfolio review, licensure examination, etc.)	EXS 275 Training for Sport Performance EXS 376 Theories of Strength and Conditioning (Case Study) Rubric is being developed
6) <b>Interpretation:</b> Who interprets the evidence? (e.g., faculty, Admn. assistant, etc.). If this differs by LO, provide information by LO.	Exercise Science Faculty
7) <b>Results:</b> Since the most recent full report, state the conclusion(s) drawn, what evidence or supporting data led to the conclusion(s), and what changes have been made as a result of the conclusion(s).	<b>Conclusion:</b> Rubric will be developed and implemented
	<b>Evidence</b> (e.g., conclusion based on data in table x): Rubric will be developed and implemented
	<b>Changes</b> Rubric will be developed and implemented

**LO #4) Students will demonstrate the knowledge and skills to implement cardiorespiratory and musculoskeletal exercise prescriptions using the frequency, intensity, time and type (FITT) principle and weight management programs for the apparently healthy participants based on current health status, fitness goals and availability of time.**

<p>5) <b>Assessment Instruments:</b> For each LO, what is the source of the data/evidence, other than GPA, that is used to assess the stated outcomes? (e.g., capstone course, portfolio review, licensure examination, etc.)</p>	<p>EXS 415 Fitness Assessment and Exercise Prescription (Final Project on Program Design) See Table 6 for Scoring Rubric that is developed for use this year (Rubric 0-1-2-3 Missing, Unacceptable, Acceptable, Exceeds) American College of Sports Medicine Certified Exercise Physiologist Examination (Certification examination – Exercise Prescription and Implementation section analysis)</p>
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<p>6) <b>Interpretation:</b> Who interprets the evidence? (e.g., faculty, Admn. assistant, etc.). If this differs by LO, provide information by LO.</p>	<p>Exercise Science Program Coordinator</p>
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<p>7) <b>Results:</b> Since the most recent full report, state the conclusion(s) drawn, what evidence or supporting data led to the conclusion(s), and what changes have been made as a result of the conclusion(s).</p>	<p><b>Conclusion:</b> Final Project: Based on the rubric in Table 6 students averaged between a 2.3 and 2.8 on their final Program Design project ACSM EP-C Exam: On the section of the exam that measures this learning outcome students had 72% of the questions correct</p>
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	<p><b>Evidence</b>(e.g., conclusion based on data in table x): Final Project: See Table 7; Students have a good understanding of program design in all components of fitness ACSM EP-C: See Table 5; Students have a good understanding of exercise prescription concepts as measured by the national exam</p>
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	<p><b>Changes:</b> In EXS 415 class more emphasis has been placed on understanding program design in weight management as students scored the lowest on that part of their project. In EXS 450 Practicum seminar students are given a simulated exam and each question is reviewed for student understanding at the end of the course. In addition students are given more case studies out of the ACSM's Certification Review book with multiple choice questions that might be typical on the national exam. The seminar will begin to review the job task analysis domains which serve as a blueprint for the job of an ACSM Certified Exercise Physiologist. Exam questions are based on the performance domains and associated job task analysis.</p>
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**LO #5) Students will demonstrate the knowledge and skills to prescribe and implement exercise programs for participants with controlled cardiovascular, pulmonary and metabolic disease and healthy special populations (i.e. older adults, youth, pregnant women).**

<p>5) <b>Assessment Instruments:</b> For each LO, what is the source of the data/evidence, other than GPA, that is used to assess the stated outcomes? (e.g., capstone course,</p>	<p>EXS 409 Clinical Exercise Physiology</p>
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portfolio review, licensure examination, etc.)	
6) <b>Interpretation:</b> Who interprets the evidence? (e.g., faculty, Admn. assistant, etc.). If this differs by LO, provide information by LO.	Exercise Science Faculty
7) <b>Results:</b> Since the most recent full report, state the conclusion(s) drawn, what evidence or supporting data led to the conclusion(s), and what changes have been made as a result of the conclusion(s).	<b>Conclusion:</b> Rubric is developed and being implemented in AY 2015-16 See Table 9
	<b>Evidence</b> (e.g., conclusion based on data in table x): Evidence being collected in AY 2015-16
	<b>Changes:</b> Based on evidence being collected in AY 2015-16

Interim reports: append clearly labeled supporting data tables, organized by LO

# APPENDIX

**Table 1 (Assessment Strength)**

ACSM Exercise Physiologist Certification

National and CCSU Pass Rates

	National Pass Rates	CCSU Pass Rates	CCSU Ave Score
2011	60% (N=2537)	76% (N = 29)	576
2012	59% (N=2307)	42% (N = 38)	546
2013	57% (N=1720)	80% (N = 30)	563
2014	43% (N=2752)	75% (N = 24)	591

## Table 2 (Learning Outcome 1)

EXS 415: Exercise Testing & Prescription - Practical Examination – Cardiorespiratory Fitness Assessment

Rubric Scores: 1=Poor, 2= Fair, 3= Average, 4= Good, 5= Excellent

Exercise & Grading Criteria	Score	Comments
<b><i>Resting Blood Pressure</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	
<b><i>Resting Heart Rate</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	
<b><i>Use of RPE Scale</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	
<b><i>YMCA Submaximal Bike Test Protocol</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	
<b><i>Exercise Blood Pressure</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	



### Table 3 (Learning Outcome 1)

EXS 415: Exercise Testing & Prescription - Practical Examination - Body Composition Assessment

Rubric Scores: 0=Missing, 1= Fair, 3= Average, 4= Good, 5= Excellent

Exercise & Grading Criteria	Score	Comments
<b><i>Skinfold Site Markings</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	
<b><i>Skinfold Site Measurements</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	
<b><i>Waist Circumference</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	
<b><i>Height and Weight</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	
<b><i>Bioelectrical Impedance Analysis</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	

## Table 4 (Learning Outcome 1)

EXS 415: Exercise Testing & Prescription - Practical Examination - Musculoskeletal Fitness Assessment

Rubric Scores: 1=Poor, 2= Fair, 3= Average, 4= Good, 5= Excellent

Exercise & Grading Criteria	Score	Comments
<b><i>Push-up</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	
<b><i>Curl-up</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	
<b><i>Handgrip dynamometer</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	
<b><i>Sit and Reach Test</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	
<b><i>Functional Movement Screen</i></b>		
Explained assessment's value/reasons for the assessment	1 2 3 4 5	
Demonstrated and instructed clearly	1 2 3 4 5	
Positioned and cued client correctly	1 2 3 4 5	
Assessed with confidence and competence	1 2 3 4 5	

## Table 5 (Learning Outcome 2)

ACSM Exercise Physiologist Certification (N = 20)

<b>Section Analysis</b>	<b>Percent Correct</b>
Health and Fitness Assessment	Ave. = 78%
Exercise Prescription and Implementation	Ave. = 72%
Exercise Counseling and Behavioral Strategies	Ave. = 79%
Legal/Professional	Ave. = 79%
Management	Ave. = 79%

## Table 6 (Learning Outcome 4)

EXS 415: Exercise Testing & Prescription – Final Project - Program Design

Student: \_\_\_\_\_

Client: \_\_\_\_\_

Evaluator: \_\_\_\_\_

Date: \_\_\_\_\_

**Rubric Scores: 0=Missing, 1= Unacceptable, 2= Acceptable, 3= Exceeds**

Exercise & Grading Criteria	Score	Comments
<b><i>Cardiorespiratory Program</i></b>		
Correct use of Frequency	0 1 2 3	
Correct use of Intensity	0 1 2 3	
Correct use of Time	0 1 2 3	
Correct use of Type	0 1 2 3	
Correct use of Progression	0 1 2 3	
<b><i>Muscular Fitness Program</i></b>		
Correct use of Frequency	0 1 2 3	
Correct use of Intensity	0 1 2 3	
Correct use of Time	0 1 2 3	
Correct use of Type	0 1 2 3	
Correct use of Progression	0 1 2 3	
<b><i>Flexibility Program</i></b>		
Correct use of Frequency	0 1 2 3	
Correct use of Intensity	0 1 2 3	
Correct use of Time	0 1 2 3	
Correct use of Type	0 1 2 3	
Correct use of Progression	0 1 2 3	
<b><i>Weight Management Program</i></b>		
Correct use of Frequency	0 1 2 3	
Correct use of Intensity	0 1 2 3	
Correct use of Time	0 1 2 3	
Correct use of Type	0 1 2 3	
Correct use of Progression	0 1 2 3	

## Table 7 (Learning Outcome 2)

Program Design Final Project (N = 15)

<u>Program Design Components</u>	<u>Average Score</u>
Cardiorespiratory Fitness Program Design	2.5
Muscular Fitness Program Design	2.5
Flexibility Program Design	2.8
Weight Management Program Design	2.3

## Table 8 (Learning Outcome 1)

EXS 415: Exercise Testing & Prescription - Practical Examination (N = 15)

<u>Fitness Assessment Category</u>	<u>Average Score</u>
Cardiorespiratory	3.9
Body Composition	4.1
Musculoskeletal	4.4

## Table 9 (Learning Outcome 5)

### EXS 409 Clinical Exercise Physiology CASE STUDY Rubric

1: Demonstrates exceptional understanding of FITTVP for particular clinical population

2: Demonstrates satisfactory knowledge of FITTVP for particular clinical population

3: Demonstrates unsatisfactory knowledge of FITTVP for particular clinical population

F\_\_\_\_ I\_\_\_\_ T\_\_\_\_ T\_\_\_\_ V\_\_\_\_ P\_\_\_\_

1: Demonstrates exceptional understanding of medications for particular clinical population

2: Demonstrates satisfactory knowledge of medications for particular clinical population

3: Demonstrates unsatisfactory knowledge of medications for particular clinical population

Medications\_\_\_\_\_

1: Demonstrates exceptional understanding of lifestyle factors for particular clinical population

2: Demonstrates satisfactory knowledge of lifestyle factors for particular clinical population

3: Demonstrates unsatisfactory knowledge of lifestyle factors for particular clinical population

Lifestyle Factors\_\_\_\_\_

1: Demonstrates exceptional understanding of exercise adherence principles for particular clinical population

2: Demonstrates satisfactory knowledge of exercise adherence principles for particular clinical population

3: Demonstrates unsatisfactory knowledge of exercise adherence principles for particular clinical population

Exercise Adherence Principles\_\_\_\_\_