Academic year 2024-2025

BS in Exercise Science - BS-EXSC Learning Outcomes

Outcome 1: Content knowledge NOT MET

Students majoring in Exercise Science will demonstrate an understanding of and ability to apply principles of wellness, biomechanics, exercise physiology, exercise assessment and prescription. Exercise Science majors will demonstrate their knowledge of the acquisition and retention of content associated with Exercise Science profession.

Rationale: The content areas listed in objective 1 are ACSM (American College of Sports Medicine) content areas for degree programs in Exercise Science. The exam will be used to examine strengths and weaknesses in the curriculum.

| MEASURES   | RESULTS  | ACTIONS                     |
|--|--|-----------------------------|
| ACSM Acquisition exams   | NOT MET<br>Summary   | No actions have been added. |
| Biomechanics and Exercise Physiology acquisition exams will be utilized to measure this student outcome. Content areas were selected by the Exercise Science faculty to identify strengths and weaknesses within the curriculum. Program success will be a 70% pass rate. Rationale: A score of 70% or greater was chosen because that is the score necessary to achieve certification and thus is a rigorous standard for Exercise Science students.  Direct - Exam (Course)  Biomechanics: KINT 3315  Target | First Assessment: Acquisition quizzes were given in KINT 3315 Biomechanics and KINT 3330 Exercise Physiology both in the fall 2024 and spring 2025. The quiz in KINT 3315 covered Fitness, Anatomy and Biomechanics, while the quiz in KINT 3330 cover Exercise Physiology. Over 70% of students achieved a score of 70% or better on the Fitness/anatomy/biomechanics quiz, meeting the target. Only 62.5% of students achieved a score of 70% or greater on the Exercise physiology quiz falling short of the target.  |                             |
|  | Analysis   |                             |
| A successful score on each content area (10 questions each) will be a score of 70% or greater. 70% of Exercise Science students will score 70 or better on Acquisition measurements. Exam scores will be utilized to compare acquistion of knowledge to retention taken in KINT 4350.  | First Assessment: The rationale for giving the acquisition quizzes was that the same questions are repeatedly missed on the exit exam given in KINT 4350. The quizzes are to see if the knowledge is ever acquired. Findings for the acquisition quizzes reveille that the same questions missed on the exit exam are also missed on acquisition quizzes. For the fitness/biomechanics quiz questions on aerobic versus anaerobic exercise (37%), kinematic versus kinetic analysis (67%) and identifying Newton's 3 laws (48%) are consistently missed. For the exercise physiology quiz this trend continues with questions on primary fuel at low intensity exercise (69%), production of ATP aerobic exercise (59%) and calories to lose a pound (65%) as most often missed. Knowing these items are a problem area from the retention test (exit exam) additional assignments have been given, the items have been emphasized in labs, however these resolutions have not yet worked. New ways to approach the topics will need to be investigated to reverse this trend. |                             |
| ACSM Retention Content exam  | NOT MET Summary  | No actions have been added. |

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Retention Measurement - A 30 question content exam (exit exam) will be administered in KINT 4350 and will be utilized to assess the students' content knowledge in the ACSM content areas.

Direct - Exam (Course)

Exercise Prescription: KINT 4350

### Target

A passing score of 70% on the retention exam for 70% or Exercise Science majors.

Second Assessment (Obj 1): The result of the exit exam for Fitness/Biomechanics: 81% of students had a pass rate of 70% or greater, which met the target. For the Exercise Physiology portion of the exam only 25% of students scored a 70% or greater, falling short of the target. For the Measurement/Exercise Prescription portion of the exam 56% of the students successfully scored a 70% or greater, again falling short of the target. The overall average was 67.06 ± 11.72 with only 25% of students scoring a 70% or greater on the exam. These results also falls short of the target of 70% of students having an average score of 70% or greater on the exam.

#### **Analysis**

Findings: The results of the exit exam show we are still having problems with success rates on the Exercise Physiology and Measurement/Exercise Prescription portions of the exam. Efforts to change these results in Measurements (started fall 2024) have already begun and will be seen in Objective 2 "examine fitness testing knowledge". These changes should also help the prescription portion of the exam. The exercise physiology portion will need to be examined in KINT 2378 "Applied Fitness Concepts" and KINT 3330 and 3130 "Exercise Physiology" and "lab".

# **General Outcome Actions**

# **ACTIONS**

Other - [The EXSC facutly will need to meet and see the current result to decide an appropriate action plan.]

Not Started

Action plan to created.

Recommended Due Date: 08/18/2025

### Conclusion

Although there were some successful outcomes on portions of this objective, there as more that were not successful. Bringing classes back to campus should assist in improving the outcomes.

Outcome 2: Fitness Testing Kownledge MET

Students in Exercise Science will be given exercise prescription scenarios to examine their knowledge of fitness testing.

Rationale: From observations and results of assignment in various Exercise Science courses a lack of understanding fitness testing (choice of test, what is measured, when to use various test) is evident. This is a key skill for Exercise Science professionals.

| MEASURES | RESULTS | ACTIONS |
|----------|---------|---------|
|          |         |         |

### **Identifying Fitness Test and Appropriate Use**

At the beginning of KINT 3380 (Testing Procedures and Measurement) students will be asked to fill in a table identifying fitness tests and the health/fitness area being measured by the test. At the end of KINT 3380 a second survey of fitness test and there use will be administered.

Direct - Assignment

Testing Procedures & Measureme: KINT 3380

### Target

70% of Exercise Science majors will be able to appropriately identify 50% of the fitness test.

### **MET**

#### Summary

First Assessment (Obj 2): After examining the Pre and Post fitness testing surveys the following observations were made:

- 1. Aerobic fitness: Students struggle distinguishing aerobic and anaerobic exercise and testing. On items like a GXT, like the Bruce protocol or YMCA bike test only 60% of students correctly identified them as aerobic fitness measurements on the post survey which was an improvement from the pre survey results of 48%. 74% of the students correctly identified field-based test like the 1 mile walk and 1.5 mile run as aerobic fitness measures.
- 2. Risk factor measurements: Only 46% of students correctly identified BMI and waist to hip ratio as health risk factor measurements. Students most often chose body composition which these measures can be utilized for, however there are better measurement for composition. The 46% is a 14% improvement over the pre survey scores.
- Body Composition: 76% of students correctly identified Bioelectrical impedance and skinfold measures and body composition measurements.
- 4. Strength: 88% of students correctly identified a 1RM and pushup test as forms or strength measurements.
- 5. Power: 88% of students correctly identified the Vertical Jump as a power measurement, while 64% correctly identified the 40-yard dash as a power assessment. More concerning was that 28% of students identified the 40-yard dash as an aerobic fitness measurement, again highlighting the issue of aerobic versus anaerobic activities.

Overall, at least 70% of the students did appropriately identify over 50% of the fitness test correctly, meeting the target for this objective.

### **Analysis**

Findings: Although the objective was meet several areas of concern were exposed when examining this outcome; first a better understanding of aerobic and anaerobic exercise must be taught throughout the program, second a better understanding of health risk factor measurements and their purpose need to be taught.

No actions have been added.

No actions have been added.

### Scenario based test

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Students will be given five scenario-based exercise prescriptions and will be asked to identify the appropriate test(s) to be utilized in several specified fitness areas.

Direct - Exam (Course)

Testing Procedures & Measureme: KINT 3380

### Target

70% of Exercise Science majors will be able to correctly apply the correct fitness tests in each of five scenario- based client profiles provided.

#### Summary

Second Assessment (Obj 2): Over 90% of the students chose appropriate test on the 5 scenario-based client profiles, surpassing the target for this assessment.

#### **Analysis**

**Findings:** By the end of the KINT 3380 "Testing Procedures" course, students were able to correctly identify and match the right fitness test with the client's goals based on the exercise prescriptions given for each of the scenario.

#### Conclusion

Though additional improvements are needed for this objective, the initial measurement 2024-25 has revealed where content focus needs to be added in fitness testing. Aerobic versus anaerobic fitness and testing needs further explanation as well as risk factor measurements and there use.

## Outcome 3: Overall Program Effectiveness NOT MET

Students Majoring in Exercise Science will demonstrate the ability to show both content knowledge growth (written exam) and application in a field base setting (Preceptorship).

Rationale: Entry level measurements on Exercise Science majors will be compared to Exit level knowledge to show growth in content level proficiency. The preceptorship is conducted in a professional setting where students are asked to apply the content knowledge in Exercise Science curriculum, which will be vital for the students' professional development and future success. The student Portfolio and professional evaluation will be utilized to examine the application of knowledge and communication skills of the student.

| MEASURES  | RESULTS  | ACTIONS                     |
|---|--|-----------------------------|
| Entry/Exit Content Knowledge Change   | NOT MET Summary  | No actions have been added. |
| Exercise Science majors will demonstrate their knowledge of the content associated with Exercise Science profession. Rationale: The test utilized will provide information on entry level knowledge of Exercise Science majors and content knowledge changes (exit exam). The results will be utilized to examine the effectiveness of the Exercise Science curriculum. Baseline (entry level) knowledge in Exercise Science content will be gathered in KINT 2378 "Fitness Concepts". Exit level knowledge will be gathered in KINT 4350 "Exercise Prescription". The data will be compared to examine the impact of the program has on Exercise Science majors.  Direct - Exam (Course) | First Assessment (Obj 3): The entry level exam was given in KINT 2378 both in the fall 24 and spring 25 with an average score of 58%, the exit quiz was given in the fall KINT 4350 (not offered spring 2025) with an average score of 67% an increase of 9 points of 13.43%.  Analysis  Findings: Although there was improvement from baseline 13.43%, as a program an improvement over 20% is desired. As courses continue to move back on campus hopefully additional improvement will occur. |                             |
| Exercise Prescription: KINT 4350 Target   |  |                             |
| Content growth (improvement) is a minimum of 20% between content scores on the Entry exam (KINT 2378) and the Exit exam (KINT 4350).  |  |                             |

# **Preceptorship Portfolio**

Students in KINT 4630 (Preceptorship) will construct a portfolio demonstrating the utilization of Exercise Science content in a field-based setting. The portfolio will consist of assignments, reports and data gathering to assess the student's application of professional knowledge. A successful score will be a portfolio grade of 70% or greater. The criterion of 70% is the minimum acceptable score for a student in KINT 4630.

Direct - Portfolio

ESFM Preceptorship: KINT 4630

Target

The program criterion for this objective is a success rate of at least 70% of students.

### **MET**

#### Summary

Second Assessment (Obj 3): Over 90% of students in KINT 4630 "Preceptorship" achieved a grade of 70% or greater, meeting the target for this objective.

#### Analysis

Findings: The portfolio includes items graded by the instructor as well as two mentor evaluations of the students. Though these assessments the professional preparation of students within the Exercise Science degree program continues to be strong.

No actions have been added.

# **General Outcome Actions**

#### **ACTIONS**

Other - [The EXSC faculty will have to review the results of the entry/exit exams to create a plan.]

Not Started

Plan to be created.

Recommended Due Date: 08/18/2025

# Conclusion

The Exit scores for Exercise Science majors should improve as more classes move back on campus and labs connected to each are available. The program has met the 20% increase from entry to post scores in the past and should be able to regain that status again.