

**Course Assessment Report
Washtenaw Community College**

Discipline	Course Number	Title
Biology	225	BIO 225 01/09/2015-Tests and Measurements in Exercise Science
Division	Department	Faculty Preparer
Math, Science and Engineering Tech	Life Sciences	Marvin Boluyt
Date of Last Filed Assessment Report		

I. Assessment Results per Student Learning Outcome

Outcome 1: Data analysis and interpretation: Conducts appropriate statistical tests of exercise performance and biometric data and interprets the data. Evaluates scientific literature.

- Assessment Plan
 - Assessment Tool: Final Project (Assessment Rubrick Attached)
 - Assessment Date: Winter 2010
 - Course section(s)/other population: All
 - Number students to be assessed: All
 - How the assessment will be scored:
 - Standard of success to be used for this assessment:
 - Who will score and analyze the data:

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2015	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
8	8

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

8 of 8 students enrolled were assessed.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

8 of 8 students were selected for assessment.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

Final Project (Original Research Paper) was evaluated with a grading rubric. The original rubric used a scoring system of 1, 2 or 3. I modified the rubric to create percentages. A score of 75% on the new rubric is equivalent to a 2 on the original rubric.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

7 of the 8 students 87.5% completing the course scored at least 75% on the final project (Original Research Paper). Scores ranged from 53.5% to 93.5%.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Students demonstrated acceptable levels of competence in meeting the goals of outcome #1. This is likely because they practice these skills throughout the course using multiple experimental paradigms. They also have an opportunity to revise their final project if it exhibits deficiencies in the outcome measures.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Throughout the semester, we practice the skills identified in outcome #1 and we observed marked improvement. The more practice we can fit into the course meeting times, the more improvement in these skills can be expected.

Outcome 2: Physiological Tests: Conducts tests to ascertain maximal oxygen uptake, strength, and body composition of human subjects.

- Assessment Plan
 - Assessment Tool: Performance in Laboratory (Mastery Checklists Attached)
 - Assessment Date: Winter 2010
 - Course section(s)/other population: All
 - Number students to be assessed: All
 - How the assessment will be scored:
 - Standard of success to be used for this assessment:
 - Who will score and analyze the data:

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2015	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
8	8

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

8 of 8 students enrolled were assessed.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

8 of the 8 students, all of those that completed the course, were assessed.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

Mastery Checklists

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this

learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: <u>Yes</u>
100% of the 8 students who completed the course scored 100% mastery on the aerobic capacity assessment checklist. 7 of 8 students (87.5%) scored a 100% on the mastery checklist for body composition.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Students performed well on the mastery skills. Only one student failed to master one of the checklists. He was absent on the evaluations day and was provided an opportunity to complete it on a later day, but did not avail himself of the opportunity.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Students performed well on the mastery skills. No improvement is possible here.

Outcome 3: Personal Training Skills: Demonstrates competence in the comparison of knowledge, skills, and abilities required for the Certified Personal Trainer as listed in the current edition of ACSM's Guidelines for Exercise Testing and Prescription.

- Assessment Plan
 - Assessment Tool: External: ACSM Certification Exam for either Personal Trainer or Health/Fitness Instructor.
 - Assessment Date: Winter 2010
 - Course section(s)/other population: All
 - Number students to be assessed: All
 - How the assessment will be scored:
 - Standard of success to be used for this assessment:
 - Who will score and analyze the data:

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2015	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
8	8

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

All students took the final exam that contained ASCM-derived questions. Scores ranged from 71.1 to 97%. One student took the external ACSM exam and passed it.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

Only one of the students in this cohort chose to take the voluntary ACSM Personal Training Exam.

All students took the final exam containing ACSM-derived questions.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

One of the students in this cohort chose to take the voluntary ACSM Personal Training Exam.

This student passed the ACSM personal training exam.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

One of the students in this cohort chose to take the voluntary ACSM Personal Training Exam. This student passed the ACSM personal training exam.

7 of the 8 (or 87.5%) students scored at least 75% on the final exam that included representative questions from the ACSM Certification exam material. Thus, we would predict that 7 of 8 students would have passed the ACSM certification exam.

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Despite meeting the goals of this outcome, the performance on the final exam that covers some of the material evaluated in the ACSM Certification exam indicates that improvement in more effectively teaching these objectives is possible and desirable.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

We will plan to spend more time in class on some of the more problematic questions that students struggle with on the exam. We will perform an item analysis on the final exam to identify the problem areas that could benefit most from more attention.

II. Course Summary and Action Plans Based on Assessment Results

1. Describe your overall impression of how this course is meeting the needs of students. Did the assessment process bring to light anything about student achievement of learning outcomes that surprised you?

Overall, the data suggest that the Bio 225 course is meeting the needs of the students very well. In terms of the scientific skills described in outcome one, students demonstrate a high level of competence that exceeds the outcome goals substantially. Anecdotally, I can also add that students appear to make very large improvements in these skills from the beginning to the end of this course.

In terms of the mastery skills outcome, the students typically get so much practice at these skills during the prerequisite courses and the 225 course that they all perform at the mastery level. The data indicate that there is no room for improvement on this outcome.

According to the data in this assessment, the most room for improvement exists in outcome 3. It is a goal of the program to have students that complete BIO 225 be adequately prepared to pass the ACSM Personal Training Certification exam. In addition to the single student from this semester who took the ACSM external exam, at least two students from other semesters have taken the ACSM Personal Training Certification exam, and each of those students passed on the first try and reported that they were well prepared by BIO 225 and by the Exercise Science program overall.

- Describe when and how this information, including the action plan, was or will be shared with Departmental Faculty.

Information will be shared at a regular departmental meeting.

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Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Assessment Tool	Outcome 3 will be tested in two ways instead of one. Instead of just assessing how many students passed the external optional ACSM exam, we will also assess their performance on the final exam questions that deal with this outcome.	This change will allow us to gather data on all students who complete the course rather than just those that choose to take the voluntary external ACSM exam.	2018

- Is there anything that you would like to mention that was not already captured?

5.

III. Attached Files

[Final Project Grading Rubric](#)

[Aerobic Capacity and Body Composition Mastery Checklist](#)

Faculty/Preparer: Marvin Boluyt **Date:** 05/13/2015

Department Chair: Anne Heise **Date:** 05/13/2015

Dean: Kristin Good **Date:** 05/14/2015

Assessment Committee Chair: Michelle Garey **Date:** 06/15/2015