

**Course Assessment Report  
Washtenaw Community College**

Discipline	Course Number	Title
Biology	110	BIO 110 11/19/2018- Introduction to Exercise Science
Division	Department	Faculty Preparer
Math, Science and Health	Life Sciences	Marvin Boluyt
Date of Last Filed Assessment Report	06/16/2015	

**I. Review previous assessment reports submitted for this course and provide the following information.**

1. Was this course previously assessed and if so, when?

Yes  
This course was last assessed on May 12, 2015.

2. Briefly describe the results of previous assessment report(s).

For each of the four outcomes, the standard of success was exceeded.

3. Briefly describe the Action Plan/Intended Changes from the previous report(s), when and how changes were implemented.

No changes were recommended.

**II. Assessment Results per Student Learning Outcome**

Outcome 1: Identify basic principles of exercise physiology.

- Assessment Plan
  - Assessment Tool: Departmentally-designed questions
  - Assessment Date: Fall 2018
  - Course section(s)/other population: All sections (Only one section is offered in each semester.)
  - Number students to be assessed: All

- How the assessment will be scored: Assessment will be embedded in unit exam #1. Questions will be randomly chosen from a pool of questions that address outcome 1.
- Standard of success to be used for this assessment: At least 70% of the students who take exam 1 will score at least 75% on the questions from this content area.
- Who will score and analyze the data: Life Sciences Faculty

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)
2018	2018	

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

# of students enrolled	# of students assessed
42	36

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.

Several students withdrew during the Winter semester of 2018, and one student audited the course. During the Fall semester of 2018, several students either withdrew or failed to participate. Therefore, 36 of the 42 students enrolled in BIO 110 during these two semesters (W and F of 2018) 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.

Only one section of this mixed mode course is offered each semester. During Winter semester, it is at 1-4 PM on Wednesdays. During Fall semester, it is from 5:30-8:30 PM on Wednesdays.

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

The Unit 1 Exam (Exercise Physiology) score was used to evaluate the first outcome. Questions on these machine-generated exams are chosen from pools of questions on each module. We also assessed the questions that appeared on the greatest number of exams for more granular data.

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: No

The standard of success for this outcome is that 70% of students will score 75% or better on Exam 1.

During Winter semester 2018, 38% of the students (6 of 16) scored 75% or higher on Exam 1. This did not meet the standard of success. Of the eight questions that appeared on all 16 students' exams, more than 70% of students answered six of the eight questions correctly. 38% and 40% of the students answered the other two questions correctly.

During Fall semester 2018, 65% of students (13 of 20) scored 75% or higher on Exam 1. This did not meet the standard of success. Of the 16 questions that appeared on each of the 20 student's exam, more than 75% of the students answered 15 questions (94%) correctly.

For both semesters combined, 53% of students (19 of 36) scored 75% or higher. This did not meet the standard of success.

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

For the Exercise Physiology exam questions that were most commonly selected by the computer and therefore appeared on all student's exams, the students exceeded the standard of success. Since the selection of questions is random, it is not clear why students performed better on these questions than on ones selected less frequently, but the performance on these more commonly occurring questions is a strength in student achievement.

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.

Student achievement on the Exercise Physiology outcome requires improvement. Possible tactics to rectify this situation include:

1. Targeting individual question material with more time during the face-to-face discussions.
2. Rewording questions that may be "tricky".

3. Splitting the Exam 1 material into two 50-point exams to replace the current single 100-point exam.

Outcome 2: Recognize the basic principles of motor learning.

- Assessment Plan
    - Assessment Tool: Departmentally-designed questions
    - Assessment Date: Fall 2018
    - Course section(s)/other population: All sections (Only one section is offered in each semester.)
    - Number students to be assessed: All
    - How the assessment will be scored: Assessment will be embedded in unit exam #3. Questions will be randomly chosen from a pool of questions that address the motor learning outcome.
    - Standard of success to be used for this assessment: At least 70% of the students who take exam 1 will score at least 75% on the questions from this content area.
    - Who will score and analyze the data: Life Science Faculty
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)
2018	2018	

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

# of students enrolled	# of students assessed
42	33

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.

Several students withdrew during the Winter semester of 2018, and one student audited the course. During the Fall semester of 2018, several students either withdrew, or failed to participate in the Motor Learning exam. Over both semesters, 33 of the 42 students originally enrolled in BIO 110 participated in the Motor Learning exam.

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 section of this mixed mode course is offered each semester. During Winter semester, it is at 1-4 PM on Wednesdays. During Fall semester, it is from 5:30-8:30 PM on Wednesdays.

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

The Motor Learning exam score was used to evaluate the second outcome (Motor Learning). Questions on these machine-generated exams are chosen from pools of questions on each module. We also assessed the questions that appeared on the greatest number of exams for more granular data.

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

During Winter semester 2018, 62% of the students (8/13) scored 75% or higher on the Motor Learning exam. This did not meet the standard of success. Of 13 questions that appeared on at least eight of the exams, 10 questions were answered correctly by at least 75% of the students, and three were answered correctly by fewer than 75% of the students.

During Fall semester 2018, 80% of students (16/20) scored 75% or higher on the Motor Learning exam. This exceeded the standard of success. Of the 21 most frequently occurring questions, 18 of 21 or 86% were answered correctly by at least 75% of the students.

If both sections are combined, 73% or 24 of 33 students scored 75% or higher on the Motor Learning Exam. This exceeded the standard of success.

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

Students performed very well on this exam topic (Motor Learning). One reason may be that it was a 50-point exam, whereas the other exams assessed were 100 points. Another reason may be that the Motor Learning area is slightly more conceptual with a slightly lower volume of detailed facts.

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.

Individual questions should be analyzed to strengthen the presentation of material represented by questions on which students struggled.

Outcome 3: Identify the basic principles of biomechanics.

- Assessment Plan
  - Assessment Tool: Departmentally-designed questions
  - Assessment Date: Fall 2018
  - Course section(s)/other population: All sections (Only one section is offered in each semester.)
  - Number students to be assessed: All
  - How the assessment will be scored: Assessment will be embedded in unit exam #2. Questions will be randomly selected from a pool of questions that address the biomechanics outcome.
  - Standard of success to be used for this assessment: At least 70% of the students who take exam 2 will score at least 75% on the questions from this content area.
  - Who will score and analyze the data: Life Science Faculty

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)
2018	2018	

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

# of students enrolled	# of students assessed
42	34

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.

Several students withdrew during the Winter semester of 2018, and one student audited the course. During the Fall semester of 2018, several students either withdrew, or failed to participate. A total of 34 of the 42 students originally

enrolled in BIO 110 during these two semesters participated in the Biomechanics Exam.

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 section of this mixed mode course is offered each semester. During Winter semester, it is at 1-4 PM on Wednesdays. During Fall semester, it is from 5:30-8:30 PM on Wednesdays.

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

The Unit 3 Exam score was used to evaluate the third outcome (Biomechanics). Questions on these machine-generated exams are chosen from pools of questions on each module. We also assessed the questions that appeared on the greatest number of exams for more granular data.

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: No

During Winter semester 2018, 67% (10 of 15) students scored at least 75% on the Biomechanics Exam. This did not meet the standard of success. Item analysis revealed that on the 24 questions that were common among at least 11 students, more than 75% of the students answered 15 of these correctly while less than 75% of the students answered nine of these questions correctly.

During Fall semester 2018, 68% or 13 of 19 students scored at least 75% on Exam 3 (Biomechanics). This did not meet the standard of success. More than 75% of students answered 8 of the 12 most frequently occurring questions (67%) correctly.

When both sections are combined, a total of 68% or 23 of 34 students scored at least 75% on the Biomechanics Exam. This did not meet the standard of success.

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

For some of the Biomechanics Exam questions that were most commonly selected by the computer and therefore appeared on all student's exams, the students exceeded the standard of success.

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.

Student achievement on the Biomechanics outcome requires improvement. Possible tactics to rectify this situation include:

1. Targeting individual question material with more time during the face-to-face discussions.
2. Rewording questions that may be "tricky".
3. Splitting the Biomechanics Exam Material into two 50-point exams to replace the current single 100-point exam.

Outcome 4: Create a career plan with multiple endpoints by identifying career options.

- Assessment Plan
  - Assessment Tool: Career Plan
  - Assessment Date: Fall 2018
  - Course section(s)/other population: All sections (Only one section is offered in each semester.)
  - Number students to be assessed: All submitted career plans
  - How the assessment will be scored: Career Plans are graded based on a rubric (attached).
  - Standard of success to be used for this assessment: At least 70% of students will score above 75% on the career plan assignment.
  - Who will score and analyze the data: Life Science Faculty

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)
2018	2018	

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

# of students enrolled	# of students assessed
42	35



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.

Several students withdrew during the Winter semester of 2018, and one student audited the course. During the Fall semester of 2018, several students either withdrew or failed to participate. Over both semesters, 35 of the 42 students originally enrolled in BIO 110 completed the Career Plan Assignment.

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 section of this mixed mode course is offered each semester. During Winter semester, it is at 1-4 PM on Wednesdays. During Fall semester, it is from 5:30-8:30 PM on Wednesdays.

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

The Career Plan is a major paper that represents 25% of the overall course grade. It is graded with a rubric that is content-oriented, so that only about 20% or less of the grade is based on writing, organization, grammar, and formatting.

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

During Winter semester of 2018, 87% (13/15) of students scored 75% or better on the career plan assignment. This exceeded the standard of success. During Fall semester of 2018, 95% (19/20) of students scored 75% or better. Overall, 32 of 35 students (91%) scored 75% or better on the Career Plan Assignment. This exceeded the standard of success.

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

Students exceeded the standard of success by a large margin on the Career Plan Assignment. The papers were overwhelmingly well written, well organized, and showed signs of significant scholarship. This is likely due to the number of assignments that were turned in periodically that became part of the final paper. Other factors that likely contributed to the success of students on this outcome include the detailed instructions, examples, and template; the weekly reminders and tips, the availability of the writing center and the instructor's office

hours for help, and the interesting and individualized nature of the assignment. Finally, the opportunity to revise the paper after the initial grading definitely improves grades on this assignment.

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.

Despite the high rate of success on this outcome, efforts to remind, assist, clarify, and inspire students will continually be made to achieve an even higher level of success.

### III. Course Summary and Intended Changes Based on Assessment Results

1. Based on the previous report's Intended Change(s) identified in Section I above, please discuss how effective the changes were in improving student learning.

No changes were intended.

2. 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?

I was surprised that students did not meet the standard of success on two of the outcomes, as they did on the last assessment. I hypothesize that they may do better if the two large exams on which they fell short on are broken into smaller exams.

Therefore I propose that we:

1) Change the course to have 6 exams instead of 4. This way, all 6 exams would have 50 questions and be more consistent in size and cover a more manageable amount of material.

2) More time will be spent in face-to-face discussions of the lecture material on problematic areas.

3. Problematic questions on the exam will be examined for clarity and reworded if necessary.

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

This assessment report will be shared with the department faculty at one of the regular fall 2019 meetings.

4.

Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Assessment Tool	<p>Exams for outcomes 1 and 2 are currently larger (100 points) than the other exams for other outcomes. I will split the material for outcomes 1 and 2 into 2 sections each and split the 100 point exams into two 50 point exams so that the course now has 6 exams instead of 4.</p> <p>I will also check for questions that may have ambiguous wording and clarify them.</p>	<p>During this assessment period, the students performed less well on the material that was covered in 100-point exams and they performed better on material covered in 50-point exams. Increasing the number of exams by decreasing the material on each exam may improve their performance.</p> <p>Improving the clarity of questions may help students perform better.</p>	2019

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

6.
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**III. Attached Files**

[Assessment Data Bio 110 Fall 2018 Boluyt V5](#)  
[BIO 110 Career Planning Grading Rubric](#)

**Faculty/Preparer:** Marvin Boluyt **Date:** 09/24/2019  
**Department Chair:** Anne Heise **Date:** 09/25/2019  
**Dean:** Victor Vega **Date:** 09/26/2019  
**Assessment Committee Chair:** Shawn Deron **Date:** 10/18/2019

**Course Assessment Report  
Washtenaw Community College**

Discipline	Course Number	Title
Biology	110	BIO 110 05/12/2015- Introduction to 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: Identify basic principles of exercise physiology

- Assessment Plan
  - Assessment Tool: Departmentally designed questions
  - Assessment Date: Winter 2009
  - 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
15	12

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.

12 students completed the exam 1 assessment of the knowledge for the outcome on exercise physiology (Outcome #1). 2 students withdrew, and one student audited. These three students did not take the exam 1 assessment.

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.

There is only one section offered this semester in the afternoon (1-4 PM).

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

Questions for exam 1 were randomly drawn from pools of questions that address the outcome on exercise physiology and its objectives. Students were assessed on their performance on these questions. Item analysis was performed.

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

92% of students (11 of 12) scored more than 70% on the questions for this outcome. In a subset of 10 questions selected from exam 1, more than 70% of students answered each of the ten questions correctly. This exceeds the standard of success.

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

Students performed very well on the outcome dealing with exercise physiology. This is likely because they are exposed to the material on multiple occasions in different settings (online lectures, in-person lab experiences, and in-person discussions) and they practice their mastery of this knowledge using practice quizzes that randomly choose questions from pools of questions on these topics from each module in the unit. They also take graded quizzes on each module in the unit.

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.

After performing item analysis on all questions from the unit exam that addresses this outcome, it is clear that there are a small number of questions on which somewhat fewer than 70% of students answered the question correctly. To

diagnose the problem, additional item analyses will be performed on students from past semesters. From this research, questions will be judged as:

1. poor questions (solution: rewrite or discard the question)
2. good, but difficult questions (solution: emphasize these topics during the in-class discussion)

## Outcome 2: Recognize the basic principles of motor learning

- Assessment Plan
  - Assessment Tool: Departmentally designed questions
  - Assessment Date: Winter 2009
  - 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
15	11

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.

Only 11 students completed exam 4. Two students withdrew from the course, one decided to audit, and one failed to complete the exam and received a zero on the exam and an F in the course (although she continued to attend all semester).

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 section was offered in the afternoon. All students in that section who took exam 4 were assessed.

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

Exam 4 randomly chooses questions from pools of questions in the motor learning unit. Students were assessed on their performance on these questions. Item analysis was performed.

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

91% of students (10 of 11) scored at least 70% on exam 4 (motor learning unit). In a subset of 10 questions, more than 70% of students answered correctly on each of the ten questions. This exceeds the standard of success.

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

Students performed very well on the outcome dealing with motor learning. This is likely because they are exposed to the material on multiple occasions in different settings (online lectures, in-person lab experiences, and in-person discussions) and they practice their mastery of this knowledge using practice quizzes that randomly choose questions from pools of questions on these topics from each module in the unit. They also take graded quizzes on each module in the unit.

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.

After performing item analysis on all questions from the unit exam that addresses this outcome, it is clear that there are a small number of questions on which somewhat fewer than 70% of students answered the question correctly. To diagnose the problem, additional item analyses will be performed on students from past semesters. From this research questions will be judged as:

1. poor questions (solution: rewrite or discard the question)

2. good, but difficult questions (solution: emphasize these topics during the in-class discussion)

### Outcome 3: Identify the basic principles of biomechanics

- Assessment Plan
  - Assessment Tool: Departmentally designed questions
  - Assessment Date: Winter 2009
  - 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
15	11

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.

11 students took exam 3 (biomechanics unit). 2 students withdrew, 1 student chose audit status and did not take exam 3, and one student failed to take exam 3 and received a zero on the exam and an F in the course (although the student continued to attend all semester).

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 section is offered (afternoon) during the winter semester. All students who took exam 3 (biomechanics unit) were assessed.



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

Biomechanics questions were randomly drawn from pools of biomechanics questions and included in exam 3. Item analysis was performed.

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

11 students completed exam 3 that included questions from the biomechanics unit. 100% of these students (11 of 11) scored at least 70% on the questions covering biomechanics. On a subset of 10 questions from the biomechanics unit exam, more than 70% of students who took the exam answered each of the 10 questions correctly.

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

Students performed very well on the outcome dealing with biomechanics. This is likely because they are exposed to the material on multiple occasions in different settings (online lectures, in-person lab experiences, and in-person discussions) and they practice their mastery of this knowledge using practice quizzes that randomly choose questions from pools of questions on these topics from each module in the unit. They also take graded quizzes on each module in the unit.

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.

After performing item analysis on all questions from the unit exam that address this outcome, it is clear that there are a small number of questions on which somewhat fewer than 70% of students answered the question correctly. To diagnose the problem, additional item analyses will be performed on students from past semesters. From this research questions will be judged as:

1. poor questions (solution: rewrite or discard the question)
2. good, but difficult questions (solution: emphasize these topics during the in-class discussion)

Outcome 4: Create a career plan with multiple endpoints by identifying career options.

- Assessment Plan
  - Assessment Tool: Career Plan
  - Assessment Date: Winter 2009
  - Course section(s)/other population: all
  - Number students to be assessed: random subset of 10 career plans
  - 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
15	11

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.

11 students completed the career plan assignment. 2 students withdrew, 1 student changed to audit status and did not complete the assignment, and 1 student failed to complete the assignment and received a zero on the assignment and an F in the course (although this student continued to attend all semester).

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 afternoon section of BIO 110 was offered in winter semester. All students in this section were assessed.

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

Students were evaluated using a grading rubric (attached).

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

10 of 11 (91%) students that completed the career plan earned a grade of 75% or better. The one student who did not earned a grade of 73%. This student was given an opportunity to revise the career plan, but did not.

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

Students find this assignment to require a great deal of effort. They often turn in a paper that has several glaring deficiencies. They are given an opportunity to resubmit a revised version. If the revised version rectifies the deficiencies, their grades are adjusted accordingly. Therefore, this assignment is a learning experience on multiple occasions. First they learn about their target careers as they prepare the assignment. Then they learn about writing, organization, attention to detail, and additional information as they revise the paper. Finally, they learn from others when each of them presents a summary of their Career Plan to the class.

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.

The instructions for the assignment are very explicit. Any student who completes the assignment will necessarily learn much about the three careers they investigate. Because they choose the careers, the career plan is of interest to them and is useful to them beyond this course. This is likely one reason that the success rate of this project is high. My experience anecdotally from the many semesters that I have given this assignment, is that the more often I discuss aspects of it in class, give examples, and give them strong encouragement to get various parts started, the more successful they are. I believe that I have maximized the affect of using class time to explain and prod. One thing that could be added to improve this aspect to a greater extent would be to employ more reminder emails to encourage their progress on this very involved assignment.

## 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?

In my view, the most important need that students in exercise science have is the need to understand the challenging job market for exercise science students. I believe (and the data herein support this belief) that the career plan assignment meets this need in crucial ways. First, it familiarizes them with the types of jobs are accessible to an exercise science student. Secondly, it asks them to investigate the academic, licensing, certification, and other requirements for the job. Third, it asks them to compare the lifestyle associated with the careers they investigate with the lifestyle they aspire to. Fourth, it provides them with practice in writing clearly and analytically, in organizing information, in documenting the sources of the information, and in producing an attractively formatted document. Finally, it asks them to examine various scenarios that are feasible if their chosen path becomes unavailable.

Another extremely important need that students have is to understand the process of science and how to evaluate information and judge how likely it is to be true. Embedded in each of the content areas are exercises that have them grapple with original research on that topic so that they appreciate the difficulties in ascertaining truth, and they begin to develop a strategy to evaluate the available information on a given topic. So while the knowledge imparted in each of the first three outcomes is important, it is secondary to the overall goal of teaching the process of science. The data contained herein suggests that we are successfully imparting knowledge in each of the three main content areas of exercise science. It is more difficult to judge how successful we are at teaching the process of science. Discussion board responses suggest that progress on this goal is made during the course of the semester, but it will be a continuing challenge to find ways to improve this ability and to better evaluate the success of our approaches.

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

This data will be shared with the department full-time faculty at a regular departmental meeting.

3. Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
No changes intended.			

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

5.

### III. Attached Files

[Career Plan Grading Rubric](#)

**Faculty/Preparer:** Marvin Boluyt **Date:** 05/14/2015  
**Department Chair:** Anne Heise **Date:** 05/18/2015  
**Dean:** Kristin Good **Date:** 05/19/2015  
**Assessment Committee Chair:** Michelle Garey **Date:** 06/15/2015