

PROGRAM ASSESSMENT REPORT

I. Background Information

1. Program Assessed

Program name: Exercise Science

Program code: ADESCI

Division: MSH

Department: Life Sciences

Type of Award: A.A. A.S. A.A.S.
 Cert. Adv. Cert. Post-Assoc. Cert. Cert. of Completion

2. Semester assessment was administered (check one):

- Fall 20____
 Winter 2017
 Spring/Summer 20____

3. Assessment tool(s) used (check all that apply):

- Portfolio
 Standardized test
 Other external certification/licensure exam (please describe): _____
 Graduate Survey
 Employer Survey
 Advisory Committee Survey
 Transfer follow-up
 Externally evaluated performance or exhibit
 Externally evaluation of job performance (internship, co-op, placement, other)
 Capstone experience (please describe):
 Other (please describe):

4. Have any of these tools been used before?

- Yes (if yes, identify which tool)
 No

If yes, has this tool been altered since its last administration? If so, briefly describe changes made.
 N/A

5. Indicate the number of students assessed/total number of students enrolled in the course. 9

All 9 of the students enrolled in BIO 225 in Winter 2017 were assessed.

6. Describe how students were selected for the assessment.

- a. Describe your sampling method. All
 b. Describe the population assessed (e.g. graduating students, alumni, entering students, continuing students)? All students

II. Results

1. If applicable, briefly describe the changes that were implemented in the program as a result of the previous assessment.
 N/A

2. State each outcome (verbatim) from the Program Assessment Planning or Program Proposal form for the program that was assessed.

1. Demonstrate proficiency in interpreting and evaluating performance and biometric data.

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The “Final Project” consisted of 2 components, 1) a checklist of laboratory skills, and 2) a series of 4 original research papers based on data collected by the students in the laboratory. The standard of success was exceeded.

All nine students (100%) demonstrated proficiency on 100% of the skills listed in the Body Composition and Graded Exercise Test checklists with a score of at least 2.

All nine students (100%) scored above 80% on the BIO 225 final research/writing project called the “Original Research Papers”. Eight of nine students (89%) scored above 90% on the final research/writing project. The standard of success was exceeded.

2. Demonstrate competency in the knowledge, skills, and abilities required of the Certified Personal Trainer or Health/Fitness Instructor.

This outcome was evaluated by two methods. The first involved reporting by students who completed the ACSM Certified Personal Trainer exam. The second was the scoring of students on the final exam in BIO 225 which consisted of questions from ACSM’s certification review manual.

In the past ten years, five students reported that they had taken the ACSM CPT certification exam. 2 passed on the first try, 2 passed on the second try, and one failed on the first try and did not retake it. Thus 80% of the students who took the exam passed within 2 attempts. The standard of success was exceeded.

Of the nine students in BIO 225 in Winter Semester, 2017, all nine scored 80% or better on the final exam, and seven of nine (78%) scored 90% or better. The standard of success was exceeded.

3. Demonstrate success in Exercise Science coursework at 4-year institutions.

From 2012 through Winter semester of 2017, 19 students completed the ASESCI degree. 70 students successfully transferred from the Exercise Science Program to a 4-year institution. 23 students finished a bachelor’s degree by 2017. While interesting and informative, this data does not provide enough detail to evaluate whether or not the standard of success was met.

3. Briefly describe assessment results based on data collected during the program assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. ***Please attach a summary of the data collected (as a separate document).***

See item 2 above.

4. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. ***Please attach the rubric/scoring guide used for the assessment (as a separate document).***

See item 2 above.

5. Describe the areas of strength and weakness in students’ achievement of the learning outcomes shown in assessment results.

Strengths: Students met or exceeded expectations for outcomes 1 and 2.

Weaknesses: Insufficiently detailed data were obtained from institutional research to adequately evaluate this outcome.

III. Changes influenced by assessment results

1. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses.

Students exceeded expectations and no remedial action is indicated.

2. Identify any other intended changes that will be instituted based on results of this assessment activity (check all that apply). Describe changes and give rationale for change.

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a. Outcomes/assessments from Program Assessment Planning or Program Proposal form:
 Outcome 1 will be clarified to reflect the fact that the Final Project consists of multiple components. The outcome tool was not described adequately as originally written.

Outcome 2 assessment tool will be expanded to include the performance on the final exam. The final exam captures the performance of all students on the same material that only a handful of students complete on the ACSM exam.

The Outcome 3 tool called for data on grade point averages from program graduates at 4-year institutions. Because these data are not available, the Outcome 3 tool will be modified to include only data that is obtainable.

- b. Program Curriculum:
- course sequencing
 - course deletion
 - course addition
 - changes to existing program courses (specify):
 - other (specify):
- c. Other (specify):

3. What is the timeline for implementing these actions? Immediately.

IV. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this program.

As originally written, the assessment tools were useful but can be improved.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments. Outcome language will be changed as follows:

Assessment Tool:

Assessment Tool:

Assessment Tool:

| <u>Outcome</u> | <u>Assessment Tool</u> | <u>Standard of Success</u> |
|---|--|---|
| Outcome 1: Demonstrate proficiency in interpreting and evaluating performance and biometric data. | 1) Bio 225 laboratory skill checklists 2) Average score of all original research papers required in that semester (papers not submitted receive a zero) | 1) 85% of students will obtain a score of 2 or better on each item on the Body Composition and Graded Exercise Test skills checklists 2) 70% of students will obtain a score of 75% or better on the Original Research Paper Average (an average of all the original research papers written in that semester) |
| Outcome 2: Demonstrate competency in the knowledge, skills, and abilities required of the Certified Personal Trainer or Health/Fitness Instructor. | 1) Performance on the final exam that consists of questions from the ACSM Certification Review Manual. 2) External evaluation (ACSM | 1) 70% of students who complete BIO 225 will score 75% or better on the final exam 2) 70% of students who take an ACSM certification exam will |

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| | | |
|--|--|--|
| | Certification Exam results reported by students to faculty) | successfully gain a certification credential within 2 attempts |
| Outcome 3: Demonstrate success in Exercise Science coursework at 4-year institutions. | Transfer and graduation data for Exercise Science students with or without an associate's degree | Over a 3-year period, we should expect that at least 20 students will transfer to a 4-year institution and at least 5 students will graduate from a 4-year institution |

3. Which outcomes from Program Assessment Planning or Program Proposal form have been addressed in this report?

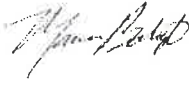

All Selected

If "All", provide the report date for the next full review: _____ Fall 2020 _____.

If "Selected", provide the report date for remaining outcomes: _____.

PROGRAM ASSESSMENT REPORT

Submitted by:

Name: Marvin Boluyt  Date: 10-20-17
Print/Signature
Department Chair: Anne Heise  Date: 10/20/17
Print/Signature
Dean: Kristygnrd Date: 11.27.17
Print/Signature

Please return completed form to the Office of Curriculum & Assessment, SC 257.

BIO 225 Tests and Measurements in Exercise Science
Winter 2017
Original Research Paper Grading Rubric
 Dr. Marvin O. Boluyt

| | | |
|---|--|----------------------------------|
| Abstract: | One page summary | (5)_____ |
| Title page: | Properly formatted? Complete? (Title, name of author, institution, Short title, address for correspondence, rationale) | (3)_____ |
| Introduction: | Background (known and unknown with references) Statement of the Problem Hypotheses | (5)_____ (5)_____ (5)_____ |
| Methods: | Subjects Design Procedures Equipment Statistics | (10)_____ |
| Results: | Did you present each finding in paragraph form? Did you do the correct statistics? Do your figures correctly illustrate the point you want to make? Did you explain your findings (without interpretation) Four hypotheses? Reliability and validity? | (25)_____ |
| Discussion: | Did you interpret each result correctly? Have you provided perspective from the literature? Have you listed the limitations of the study? Have you summarized the main conclusions? | (25)_____ |
| Acknowledgements: | | (3)_____ |
| References: | Formatted properly? (numbered, alphabetized, etc.) | (5)_____ |
| Appendix: | All raw data | (5)_____ |
| Formatting the document: | (Double-spaced, one-inch margins, 12-point font) | (4)_____ |
| Total Grade on the research paper: | | (100)_____ |

Comments:

Column Statistics

Users who are unavailable are not included in column statistics. To include them, select the check box and click **Refresh**. To view statistics for another column, select the column name and click **Go** or click the next or previous arrows to navigate sequentially.

Column: Show Statistics For:

Column **ORIG RES AVG ()**

COLUMN DETAILS

| | |
|-----------------|--|
| Column | ORIG RES AVG () |
| Points Possible | 100 (may vary by student) |
| Description | Original Research Papers. Average of grades on 4 original research papers. |

STATISTICS

| | |
|--------------------|--------|
| Count | 9 |
| Minimum Value | 86.80 |
| Maximum Value | 100.00 |
| Range | 13.20 |
| Average | 93.44 |
| Median | 93.60 |
| Standard Deviation | 3.76 |
| Variance | 14.17 |

STATUS DISTRIBUTION

| | |
|---------------|---|
| Null | 0 |
| In Progress | 0 |
| Needs Grading | 0 |
| Exempt | 0 |

GRADE DISTRIBUTION

| | |
|------------------|---|
| Greater than 100 | 0 |
| 90 - 100 | 8 |
| 80 - 89 | 1 |
| 70 - 79 | 0 |
| 60 - 69 | 0 |
| 50 - 59 | 0 |
| 40 - 49 | 0 |
| 30 - 39 | 0 |
| 20 - 29 | 0 |
| 10 - 19 | 0 |
| 0 - 9 | 0 |
| Less than 0 | 0 |

← OK

Column Statistics

Users who are unavailable are not included in column statistics. To include them, select the check box and click **Refresh**. To view statistics for another column, select the column name and click **Go** or click the next or previous arrows to navigate sequentially.

Column: Show Statistics For:
 Available Users only

Column **Final Exam (Test)**

COLUMN DETAILS

| | |
|-----------------|-------------------|
| Column | Final Exam (Test) |
| Points Possible | 100 |
| Description | |

STATISTICS

| | |
|--------------------|--------|
| Count | 9 |
| Minimum Value | 89.00 |
| Maximum Value | 100.00 |
| Range | 11.00 |
| Average | 93.42 |
| Median | 94.00 |
| Standard Deviation | 3.26 |
| Variance | 10.61 |

STATUS DISTRIBUTION

| | |
|---------------|---|
| Null | 0 |
| In Progress | 0 |
| Needs Grading | 0 |
| Exempt | 0 |

GRADE DISTRIBUTION

| | |
|------------------|---|
| Greater than 100 | 0 |
| 90 - 100 | 7 |
| 80 - 89 | 2 |
| 70 - 79 | 0 |
| 60 - 69 | 0 |
| 50 - 59 | 0 |
| 40 - 49 | 0 |
| 30 - 39 | 0 |
| 20 - 29 | 0 |
| 10 - 19 | 0 |
| 0 - 9 | 0 |
| Less than 0 | 0 |

← OK

Column Statistics

Users who are unavailable are not included in column statistics. To include them, select the check box and click **Refresh**. To view statistics for another column, select the column name and click **Go** or click the next or previous arrows to navigate sequentially.

Column: Show Statistics For:
 Available Users only

Column **Lab Evaluation GXT (Lab Evaluations)** [<] [>]

COLUMN DETAILS

| | |
|-----------------|--------------------------------------|
| Column | Lab Evaluation GXT (Lab Evaluations) |
| Points Possible | 100 |
| Description | |

STATISTICS

| | |
|--------------------|--------|
| Count | 9 |
| Minimum Value | 100.00 |
| Maximum Value | 100.00 |
| Range | 0 |
| Average | 100.00 |
| Median | 100.00 |
| Standard Deviation | 0 |
| Variance | 0 |

STATUS DISTRIBUTION

| | |
|---------------|---|
| Null | 0 |
| In Progress | 0 |
| Needs Grading | 0 |
| Exempt | 0 |

GRADE DISTRIBUTION

| | |
|------------------|---|
| Greater than 100 | 0 |
| 90 - 100 | 9 |
| 80 - 89 | 0 |
| 70 - 79 | 0 |
| 60 - 69 | 0 |
| 50 - 59 | 0 |
| 40 - 49 | 0 |
| 30 - 39 | 0 |
| 20 - 29 | 0 |
| 10 - 19 | 0 |
| 0 - 9 | 0 |
| Less than 0 | 0 |

← OK

Column Statistics

Users who are unavailable are not included in column statistics. To include them, select the check box and click **Refresh**. To view statistics for another column, select the column name and click **Go** or click the next or previous arrows to navigate sequentially.

Column: Show Statistics For:
 Available Users only

Column **Lab Evaluation Body Comp (Lab Evaluations)**

COLUMN DETAILS

| | |
|-----------------|--|
| Column | Lab Evaluation Body Comp (Lab Evaluations) |
| Points Possible | 100 |
| Description | |

| STATISTICS | | STATUS DISTRIBUTION | | GRADE DISTRIBUTION | |
|--------------------|--------|---------------------|---|--------------------|---|
| Count | 9 | Null | 0 | Greater than 100 | 0 |
| Minimum Value | 100.00 | In Progress | 0 | 90 - 100 | 9 |
| Maximum Value | 100.00 | Needs Grading | 0 | 80 - 89 | 0 |
| Range | 0 | Exempt | 0 | 70 - 79 | 0 |
| Average | 100.00 | | | 60 - 69 | 0 |
| Median | 100.00 | | | 50 - 59 | 0 |
| Standard Deviation | 0 | | | 40 - 49 | 0 |
| Variance | 0 | | | 30 - 39 | 0 |
| | | | | 20 - 29 | 0 |
| | | | | 10 - 19 | 0 |
| | | | | 0 - 9 | 0 |
| | | | | Less than 0 | 0 |

← OK

Life Sciences Department

Program Review Databook

August, 2017

Institutional Research Department
Washtenaw Community College

Intro: Awards, Persistence, Course Enrollments and Success Rate

This section consists of the following.

Number of Awards: Number of degrees and certificates by Program, for the last 5 academic years.

Note: 2016-17 does not include August 2017 awards.

Persistence of Majors, last 5 years

- Fall to Winter: The number of students with the declared Major who were enrolled in a Fall term, and the percentage of that number who were enrolled in the subsequent Winter term.

- Fall to Fall: The number of students with the declared Major who were enrolled in a Fall term , and the percentage of that number who were enrolled in the subsequent Fall term. Last 5 years.

Enrollment and Success Rate: The number of course enrollments (number of transcript grades) by Discipline, for the last 5 academic years.

- The number of enrollments includes AU and FW grades.

- The success rate is the percentage of all grades that were successful grades. The success rate calculation excludes AU and W grades that are the result of FW.

Success: A,A-,B+,B,B-,C+,C,C-,P,S Non-Success: D+,D,D-,F,N,NP,U,W,DF,I Excluded: AU,FW

Liberal arts department reports also include enrollment and success data on dual enrolled students.

Fall to Winter Persistence by Department and Major

| | | | | AcadYr | | | | |
|-------------------------|------|--------|--------------------|---------|---------|---------|---------|---------|
| Dept | Maj | Prog | Data | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 |
| LIFD | ESCI | ASESCI | Enrollment | 112 | 97 | 100 | 79 | 81 |
| | | | Persistence F to W | 75.0% | 75.3% | 72.0% | 72.2% | 72.8% |
| LIFD Enrollment | | | | 112 | 97 | 100 | 79 | 81 |
| LIFD Persistence F to W | | | | 75.0% | 75.3% | 72.0% | 72.2% | 72.8% |

Enrollment and Success Rate

| | | | AcadYr | | | | |
|-------------------|------|--------------|---------|---------|---------|---------|---------|
| Dept | Disc | Data | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 |
| LIFD | BIO | Enrollment | 3721 | 3672 | 3666 | 3772 | 3777 |
| | | Success Rate | 79.1% | 77.8% | 78.6% | 79.0% | 79.3% |
| | PEA | Enrollment | 3184 | 2871 | 2278 | 2031 | 1925 |
| | | Success Rate | 46.7% | 42.8% | 51.3% | 45.2% | 50.5% |
| LIFD Enrollment | | | 6905 | 6543 | 5944 | 5803 | 5702 |
| LIFD Success Rate | | | 64.1% | 62.4% | 68.1% | 67.1% | 69.6% |

| | | | | | | | |
|--------------------|-----|--------------|--------------|--------|-------|-------|--------|
| | PEA | 102 | Enrollment | 1 | | | 1 |
| | | | Success Rate | 100.0% | | | 100.0% |
| | 115 | Enrollment | 6 | 7 | 6 | 19 | |
| | | Success Rate | 83.3% | 71.4% | 50.0% | 68.4% | |
| PEA Enrollment | | | 7 | 7 | 6 | 20 | |
| PEA Success Rate | | | 85.7% | 71.4% | 50.0% | 70.0% | |
| LIFD Enrollment | | | 260 | 251 | 274 | 785 | |
| LIFD Success Rate | | | 88.8% | 91.6% | 94.5% | 91.7% | |
| Total Enrollment | | | 260 | 251 | 274 | 785 | |
| Total Success Rate | | | 88.8% | 91.6% | 94.5% | 91.7% | |

| LIFD | | First term at WCC (Fall or Winter) | # Transfer Students | # Students with Bachelor degree |
|------|------------------|---------------------------------------|---------------------|------------------------------------|
| ESCI | Exercise Science | 200609 thru 201501 | 70 | 23 |
| | | LIFD Total | 70 | 23 |

Note: Includes WCC graduates and non-graduates. Some students transferred in to WCC with prior enrollment at a 4-year university, and then transferred out to a 4-year university.

Employment data and Program Feedback from WCC Graduates

This section consists of data from the WCC Graduate Follow-up Survey (GFU), which is administered to all graduates approximately 6 months after graduation (data is self-reported). The data reported here consists of responses from students graduating from WCC in the last 5 complete academic years (through 2015-16). Response rate varies by program.

Two reports from the GFU are included here as follows.

- Responses to the question, "To what extent has the WCC program that you recently completed made a positive difference for you in your current occupation?"
- Responses to the question, "Based on your experiences, what weaknesses exist in the WCC program that you recently completed, if any? Please be specific and provide details."

Response to the Open-Ended question, "Based on your experiences, what weaknesses exist in the WCC program that you recently completed, if any? Please be specific and provide details."

Math-Science-Engineering Tech

LIFD

ESCI: Exercise Science (AS)

2011-12

26189 The program was thorough in covering concepts like anatomy and physiology, exercise physiology, and some of the biomechanics related to the subject. The exercise physiology class exposed me to test protocols such as the Wingate test, VO2 max testing, anthropometric measurements, etc, and the BIO 225 test & measurements class provided me with even more advanced, hands on experience in those specific test protocols. I was also exposed to original source research early in the program and performing experiments and writing classroom versions of original source research by completion of the core classes. All of that being said, I believe at least some opportunity to gain practical, field experience would be beneficial. "Lack of experience" came up during an interview that I had this summer, which otherwise went quite well. I am aware of trade programs such as automotive technologies and electrical engineering in which some kind of apprenticeship or on the job training is gained. It is my opinion that, although the program which I completed was very strong in most areas, each degree program should involve some field work component. That is the main reason I chose to pursue the B.S. degree at EMU, for the practicum and internship experience. I am over half way through my first semester at EMU, and I have experienced very little new information in my classes. I believe WCC has generally prepared me to work in my field baring the program flexibility to explore practical, hands on experience.

2012-13

97919 Adequate physics tutors/help

2014-15

20768 I wish my advisor at the counseling office was a little more knowledgeable about my program. The lack delayed my graduation. By the way Dr. Marvin Boluyt is the best!