

**Course Assessment Report
Washtenaw Community College**

Discipline	Course Number	Title
Biology	227	BIO 227 07/15/2019- Biology of Animals
Division	Department	Faculty Preparer
Math, Science and Engineering Tech	Life Sciences	David Wooten
Date of Last Filed Assessment Report		

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

Uncertain of date, but at least 5-6 years.

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

Overall outcomes and standards of success were met. We needed to add a lab outcome and change language on certain outcomes.

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

The master syllabus and assessment plan did not match the course when initially assessed several years ago. I've made changes to the master syllabus, added the lab outcome, and assessed accordingly.

II. Assessment Results per Student Learning Outcome

Outcome 1: Identify important anatomical structures within each major animal phyla.

- Assessment Plan
 - Assessment Tool: Outcome-related questions on the written final exam will be used, and an item analysis will be done for these questions for Outcome 1.
 - Assessment Date: Winter 2022
 - Course section(s)/other population: All sections
 - Number students to be assessed: All students

- How the assessment will be scored: Answer key to final exam
- Standard of success to be used for this assessment: 70% of students will score a 70% or better on the outcome-related assessment questions.
- Who will score and analyze the data: Departmental 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)
	2019, 2018, 2017, 2016	

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

# of students enrolled	# of students assessed
78	70

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.

Absence or withdrawal from course prior to 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.

All students from all sections over four years were used where applicable.

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

Five core, multiple-choice questions from the cumulative final exam were used to address this outcome. These questions directly related to animal anatomy and required a working knowledge of anatomical identification and organization. Each question was scored as either correct or incorrect. Per the Scantron analysis sheet used to record the data, the percentage of students who gave the correct answer was used. From the resulting 20-question data set (5 questions, 4 years), the percentage that scored above 70% was tallied and compared to standard of success (70% scoring 70% or better).

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

Per the outcome analysis, 100% of the scores (20 out of 20) were above 70%.

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

Overall, the students did a good job of understanding the anatomy of major animal groups. While 100% of the scores averaged were above 70% or higher, the mean for the cohort was 89.9%. Thus, I feel confident that the students are getting an appropriate understanding of anatomical structures and comparing/contrasting them between animal phyla.

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.

One area of improvement, for this outcome and outcomes 2, 3, and 4a, is the need to base the analysis on averages and not raw scores. This happened as a result of the Scantron analysis forms only providing percentages of students who got that question correct. Statistically, taking averages of averages is less accurate than using raw scores and in the future I will either have to archive all the raw scores per question or change the language of how I measure the standard of success.

Although the standard of success was met for this outcome, the 5th outcome also relates to anatomy, and there, the standard of success was not met. The 5th outcome focuses more on identification of anatomy in a lab setting and via recognition on zoological specimens/dissection. The fact that they can recognize the anatomy with images and questions on paper exams, yet seem to struggle with real specimen identification is a concern. I plan to consider ways to get more 3D images or hands-on evaluations to help students practice this skill.

Outcome 2: Specify the similarities and differences in physiological processes found within and across major animal phyla.

- Assessment Plan
 - Assessment Tool: Outcome-related questions on the written exam will be used, and an item analysis will be done for these questions for Outcome 2.
 - Assessment Date: Winter 2022
 - Course section(s)/other population: All sections
 - Number students to be assessed: All students
 - How the assessment will be scored: Answer key to final exam

- Standard of success to be used for this assessment: 70% of students will score a 70% or higher on the outcome-related assessment questions.
- Who will score and analyze the data: Departmental 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, 2017, 2016, 2019	

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

# of students enrolled	# of students assessed
78	70

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.

Absence or withdrawal from course prior to 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.

All students from all sections over four years were used where applicable.

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

Five core, multiple-choice questions from the cumulative final exam were used to address this outcome. These questions directly related to animal physiology and required a working knowledge of physiology across all major animal taxa. Each question was scored as either correct or incorrect. Per the Scantron analysis sheet used to record the data, the percentage of students who gave the correct answer was used. From the resulting 20-question data set (5 questions, 4 years), the percentage that scored above 70% was tallied and compared to standard of success (70% scoring 70% or better).

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
Per the outcome analysis, 70% of the scores (14 out of 20) were 70% or better.

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

Physiology is one of the more difficult aspects of zoology to teach. Therefore, I'm not surprised to see the scores/percentages drop on this outcome. Although lower, 70% of the cohort scores were 70% or higher with a mean of 76.8%. The standard of success was met, but just barely.

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.

*See comments on percentages for Outcome 1 under this section of report.

Although the standard of success was met, I would like to see a better understanding of physiology overall. Discussing physiology and showing videos is easy, but demonstrating physiological mechanisms in real-time is difficult and expensive. Quizzes in this class are short essays and would allow me to give case study scenarios where students would need to transfer and apply their understanding of physiological responses and may help to increase their understanding and application.

Outcome 3: Recognize the relationships and mechanisms involved in animal evolution and biodiversity.

- Assessment Plan
 - Assessment Tool: Outcome-related questions on the written final exam will be used, and an item analysis will be done for these questions for Outcome 3.
 - Assessment Date: Winter 2022
 - Course section(s)/other population: All sections
 - Number students to be assessed: All students
 - How the assessment will be scored: Answer key to final exam
 - Standard of success to be used for this assessment: 70% of students will score a 70% or higher on the outcome-related assessment questions.
 - Who will score and analyze the data: Departmental 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)
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	2019, 2018, 2017, 2016	
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2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
78	70

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.

Absence or withdrawal from course prior to 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.

All students from all sections over four years were used where applicable.

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

Five core, multiple-choice questions from the cumulative final exam were used to address this outcome. These questions directly related to animal ecology and required a working knowledge of ecological relationships and how they impact and/or relate to biodiversity. Each question was scored as either correct or incorrect. Per the Scantron analysis sheet used to record the data, the percentage of students who gave the correct answer was used. From the resulting 20-question data set (5 questions, 4 years), the percentage that scored above 70% was tallied and compared to standard of success (70% scoring 70% or better).

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
Per the outcome analysis, 95% of the scores (19 out of 20) were 70% or better.

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

Evolution and its relationship to animal biodiversity can be challenging for students. I was pleased to see 95% of cohort scores above 70% with a mean of 84%. I spend a significant amount of time on evolutionary processes and relationships with each animal phyla and students appear to be meeting the expected level of understanding.

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.

*See comments on percentages for Outcome 1 under this section of report.

At this time, I have no immediate plans to change the way this outcome is addressed. As always, I will continue to look for ways to continuously improve. One important aspect, especially with regards to this outcome, is to stay current with the changes in taxonomy and evolutionary relationships per current research, and change the course material accordingly.

Outcome 4: Identify and describe the ecological relationships between animals and their environment.

- Assessment Plan
 - Assessment Tool: Outcome-related questions on the written final exam will be used, and an item analysis will be done for these questions for Outcome 4.
 - Assessment Date: Winter 2022
 - Course section(s)/other population: All sections
 - Number students to be assessed: All students
 - How the assessment will be scored: Answer key to final exam
 - Standard of success to be used for this assessment: 70% of students will score a 70% or higher on the outcome-related assessment questions.
 - Who will score and analyze the data: Departmental 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)
	2019, 2018, 2017, 2016	

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

# of students enrolled	# of students assessed
78	70

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.

Absence or withdrawal from course prior to 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.

All students from all sections over four years were used where applicable.

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

Five core, multiple-choice questions from the cumulative final exam were used to address this outcome. These questions directly related to animal ecology and required a working knowledge of the interactions between animals and their environment. Each question was scored as either correct or incorrect. Per the Scantron analysis sheet used to record the data, the percentage of students who gave the correct answer was used. From the resulting 20-question data set (5 questions, 4 years), the percentage that scored above 70% was tallied and compared to standard of success (70% scoring 70% or better).

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

Per the outcome analysis, 90% of the scores (18 out of 20) were 70% or higher.

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

Given the inherent complexities when discussing ecology, I wanted to assess this topic with multiple assessment tools. Per the core question assessment, 90% of the cohort scored 70% or higher with a mean of 90.1%. We spend a significant amount of time discussing the ecology of each and every animal phyla and I was pleased to see this level of comprehension.

The second assessment tool was a term paper that asked the students to pick an animal, research and compose a natural history paper that highlights the ecology of the animal, and complete a 60 minute animal observation analysis (ethogram) at the Toledo Zoo. This behavioral analysis is included in the paper and often relates to the ecology of the animal. Here, I was able to use raw scores from all students and had 94% of students scoring a 70% or higher of the final paper. Given our focus on this topic, the preliminary work they put in the paper, and the real-life application they get to include in their research, I'm pleased to see this level of understanding.

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.

*See comments on percentages for Outcome 1 in this section of report.

*No major changes to how this outcome is approached at this time. However, given the measureable effects of climate change and how it alters animal ecology, I will continue to update examples to not only keep current but to keep this relevant to students at a time of needed conservation and ecological understanding.

Outcome 4: Identify and describe the ecological relationships between animals and their environment.

- Assessment Plan
 - Assessment Tool: Term paper that focuses on the natural history, behavior and ecology of a specific animal species.
 - Assessment Date: Winter 2022
 - Course section(s)/other population: All sections
 - Number students to be assessed: All students
 - How the assessment will be scored: Departmentally-developed rubric
 - Standard of success to be used for this assessment: 70% of students will score a 70% or better on the final term paper.
 - Who will score and analyze the data: Departmental 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)
	2019, 2018, 2017, 2016	

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

# of students enrolled	# of students assessed
78	70

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.

Absence or withdrawal from course prior to 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.

All students from all sections over four years were used where applicable.

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

Student term papers were used to analyze this part of the outcome (Assessment 2). These papers directly relate to the taxonomy, ecology, biology, and natural history of various animals. Papers are worth 60 (2016) or 70 (all other years) points and were scored with a rubric by instructor. Unlike the Scantron Analysis sheets, these scores came direct from Bb gradebook and are therefore not averages.

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

Per the outcome analysis, 94% of students (66 out of 70) scored a 70% or higher.

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

Given the inherent complexities when discussing ecology, I wanted to assess this topic with multiple assessment tools. Per the core question assessment, 90% of the cohort scored 70% or higher with a mean of 90.1%. We spend a significant amount of time discussing the ecology of each and every animal phyla and I was pleased to see this level of comprehension.

The second assessment tool was a term paper that asked the students to pick an animal, research and compose a natural history paper that highlights the ecology of the animal, and complete a 60 minute animal observation analysis (ethogram) at the Toledo Zoo. This behavioral analysis is included in the paper and often relates to the ecology of the animal. Here, I was able to use raw scores from all students and had 94% of students scoring a 70% or higher of the final paper. Given our focus on this topic, the preliminary work they put in the paper, and the real-life application they get to include in their research, I'm pleased to see this level of understanding.

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.

*See comments on percentages for Outcome 1 in this section of report.

*No major changes to how this outcome is approached at this time. However, given the measureable effects of climate change and how it alters animal ecology, I will continue to update examples to not only keep current but to keep this relevant to students at a time of needed conservation and ecological understanding.

Outcome 5: Demonstrate a working knowledge of animal specimen dissection, anatomy, and classification in a laboratory setting.

- Assessment Plan
 - Assessment Tool: Laboratory practical exam
 - Assessment Date: Winter 2022
 - Course section(s)/other population: All sections
 - Number students to be assessed: All students
 - How the assessment will be scored: Answer key to exam
 - Standard of success to be used for this assessment: 70% of students will score a 70% or higher on the final lab practical exam.
 - Who will score and analyze the data: Departmental 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)
	2019, 2018, 2017, 2016	

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

# of students enrolled	# of students assessed
78	70

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.

Absence or withdrawal from course prior to 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.

All students from all sections over four years were used where applicable.

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

Student scores on the final lab practical exam were used to measure this outcome. These exams are worth 50 pts and require a working knowledge of animal anatomy, physiology, dissection, taxonomy, and evolution. Students move between stations, have written answers on a blank sheet of paper, and responses are hand-graded by instructor. Scores used for outcome assessment were taken directly from Bb gradebook.

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

Per the outcome analysis, 60% of the scores (42 out of 70) were 70% or higher.

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

Overall, I thought that this area was strong in the course. We discuss anatomy, we show images, they draw images, they dissect, they draw more images, we show specimens (preserved and live), and we look at anatomy on both a micro and macro scale. I feel that the manner in which we present animal anatomy to students is diverse and thorough. I was also more confident in this analysis as it used raw scores and not percentages.

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 did not meet the standard of success for this outcome. A significant difference between this outcome and the other four outcomes (where success was met) is that this outcome is based on a hands-on lab practical. Students are presented with pinned specimens and questions, they rotate between stations after one minute, and they are not allowed to go back and recheck their answers. Therefore, I do think that some part of this outcome not being met is an artifact of how they're being tested. Anyone who has taken a biology class knows that lab practicals are difficult and very stressful. That stated, I do want students to do better at transferring and applying what they know/recognize on paper to real-life specimens and structures. Lab is designed to give students a more realistic, hands-

on understanding of content and is often retained more long-term than visual or acoustic learning.

To improve in this area, I am going to consider ways in which I can give students more study time with specimens. I previously put a "review cart" of specimens in the Math/Science Resource Room for students to study prior to practicals. I may also reorganize how labs are structured, so I can give students more time to go over their specimens and self-quiz/review.

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.

Overall the changes were effective, especially since much of the course was in place prior to the previous assessment and the assessment plan being outdated. The new master syllabus and assessment plan is a more accurate reflection of the course, although I still need to modify either my data collection or my standard of success to effectively use the Scantron summary reports for useful data.

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 think overall the course is definitely meeting the students' needs and they are learning general zoology appropriate for a 200-level college course. There are several other additional assignments within the course that are not utilized in the assessment and these give further confidence in the efficacy of the course.

The current assessment helped elucidate a possible disconnect between recognizing structure and anatomy/taxonomy on paper, as compared to transferring and applying that knowledge to real-life specimens. The lab outcome standard of success was not met, and although I outlined some possible reasons as to why this might be beyond simply students not knowing the content, it does motivate me to take a closer look at how those skills/content are taught, practiced, and evaluated.

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

I will share the findings of this assessment with the C&A committee, my dean, and my VPI through the appropriate submission. I will also give a summary of these findings to my department at our next departmental meeting.

4.

Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Assessment Tool	Given that the current assessment tool uses raw data and my data collection uses percentages (% of students who got a certain question correct), I want to reexamine my assessment tool and options that will allow me to be both accurate and efficient.	*See above comments.	2020
Other: Lab evaluation	I plan to reexamine how I am teaching and evaluating students on animal anatomy in both lecture and lab. There appears to be a disconnect between them being able to recognize specific structures on a paper exam and transferring/applying that knowledge to real-life specimens in a lab setting. I also plan on looking at how students are evaluated for this content in lab (i.e. a practicum that is times, at stations, etc.).	*See above comments.	2020

	Possible steps include reorganizing how I structure the lab time, review materials, and how practical exams are given.		
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5. Is there anything that you would like to mention that was not already captured?

No additional information at this time, just a thank you to all the committee members for your hard work and time. Good biology, David W.

III. Attached Files

[BIO227 Assessment Data](#)

Faculty/Preparer: David Wooten **Date:** 08/18/2019
Department Chair: Anne Heise **Date:** 08/19/2019
Dean: Victor Vega **Date:** 09/26/2019
Assessment Committee Chair: Shawn Deron **Date:** 11/22/2019

COURSE ASSESSMENT REPORT

I. Background Information

1. Course assessed:
 Course Discipline Code and Number: BIO 227
 Course Title: Biology of Animals
 Division/Department Codes: LIFD

2. Semester assessment was conducted (check one):
 Fall 20__
 Winter 2008
 Spring/Summer 20__

3. Assessment tool(s) used: check all that apply.
 Portfolio
 Standardized test
 Other external certification/licensure exam (specify):
 Survey
 Prompt
 Departmental exam
 Capstone experience (specify):
 Other (specify): statistical analysis of exam scores

4. Have these tools been used before?
 Yes
 No

If yes, have the tools been altered since its last administration? If so, briefly describe changes made.

Tools are the same, but master syllabus and content organization of the course has been changed since last assessment.

5. Indicate the number of students assessed/total number of students enrolled in the course.
 19/27

6. Describe how students were selected for the assessment.
 These students represent roughly 70% of the class that took the final exam; all were used in assessment.

II. Results

1. Briefly describe the changes that were implemented in the course as a result of the previous assessment.
 Course was recently revised and a new master syllabus submitted. No past assessment has been performed on this course since these revisions; thus, this report represents the initial assessment.

2. List each outcome that was assessed for this report exactly as it is stated on the course master syllabus.
 01 – Recognize similarities and differences in form throughout the animal kingdom.
 02 – Identify basic similarities and differences in physiological processes throughout the animal kingdom.
 03 – Recognize relationships between evolution and biodiversity throughout the animal kingdom.
 04 – Identify relationships between animals and their environment.

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

For outcomes 01-04, analyzing the averages for all questions (16 total) the average score is **87.7%**. This value is greater than the 70% standard indicated in the master syllabus and thus implies the outcomes for this course are being achieved at an acceptable level.

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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.*

The average score for these four questions representing **outcome 01 is 88%**, thus indicating that this outcome assessment was successful according to the 70% or better standard indicated on the master syllabus.

The average score for these four questions representing **outcome 02 is 84%**, thus indicating that this outcome assessment was successful according to the 70% or better standard indicated on the master syllabus.

The average score for these four questions representing **outcome 03 is 90%**, thus indicating that this outcome assessment was successful according to the 70% or better standard indicated on the master syllabus.

The average score for these four questions representing **outcome 04 is 89%**, thus indicating that this outcome assessment was successful according to the 70% or better standard indicated on the master syllabus.

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

Strengths: Average exam scores greater than minimal acceptable scores, as well as several exam questions where the number of students choosing the correct answer was 100%. Looking at the course overall, 18/27 (66%) students received a final grade of 80% or higher.

Weaknesses: Assessment was based on scores on a cumulative final exam, as directed by the master syllabus, and not individual chapter exams. Future assessment could include the use of chapter exams and perhaps provide a different assessment outcome, although general comparison indicates no significant difference in success rates.

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.

As indicated above, master syllabus language will be altered to include chapter exams in assessment. No further weaknesses noted.

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

a. Outcomes/Assessments on the Master Syllabus
Change/rationale: NA

b. Objectives/Evaluation on the Master Syllabus
Change/rationale: NA

c. Course pre-requisites on the Master Syllabus
Change/rationale: NA

d. 1st Day Handouts
Change/rationale: NA

e. Course assignments
Change/rationale: NA

f. Course materials (check all that apply)
 Textbook
 Handouts
 Other:

g. Instructional methods

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Change/rationale: NA

- h. Individual lessons & activities
Change/rationale: NA

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

IV. Future plans

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

Assessment tools were successful and can be used in future assessment.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.
NA

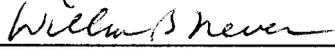
3. Which outcomes from the master syllabus have been addressed in this report?

All Selected

If "All", provide the report date for the next full review: Winter 2011.

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

Submitted by:

Print: <u>DAVID A. WOOTEN</u> Faculty/Preparer	Signature: <u></u>	Date: <u>12/17/08</u>
Print: <u>William B Nevers</u> Department Chair	Signature: <u></u>	Date: <u>12/18/08</u>
Print: <u>M. Showalter</u> Dean/Administrator	Signature: <u></u>	Date: <u>12/18/08</u>