

Program or Department Mission:

The mission of the Department of Biology is twofold: first, we are committed to educate students in the principle tenets of biology through structured inquiry and opportunities for individualized experiential learning. Second, we are committed to teaching ethical behavior in experimental design and practice to all of our students. The Department strives to provide the best educational opportunities possible for students to attain their academic goals and to facilitate faculty in scholarship in an atmosphere that encourages free exchange of ideas.

Plan		Report	
Intended goals, outcomes, or objectives	Means of Assessment & Criteria for Success	Summary & Analysis of Assessment Evidence	Use of Results
Demonstrate knowledge of cellular and organismal biology.	<p>First means of assessment: In the evolution class (capstone class) students take the national exam, MFAT. The students' scores for organismal biology and in the cellular biology sections of the MFAT will be used for assessment. Specifically</p> <p>-30% of the students will score in the 75th percentile or better. -50 % of the students will score in the 60th percentile or better. -60% of the students will score in the 50th percentile or better.</p>	<p>First means of assessment: <u>MFAT 2007 (30 UVU students):</u> Cellular Biology ave scores: 69 ± 11 -30% of the students scored in the 75th percentile or better. -83 % of the students scored in the 60th percentile or better. -97% of the students scored in the 50th percentile or better.</p> <p>Organismal Biology ave scores: 67 ± 12 -17% of the students scored in the 75th percentile or better. -83 % of the students scored in the 60th percentile or better. -90% of the students scored in the 50th percentile or better.</p> <p><u>MFAT 2008 average scores (32 UVU students):</u> Cellular Biology ave scores: 58 ± 12 -6% of the students scored in the</p>	<p>Use of first means of assessment results: -The MFAT is only administered the evolution class in the spring of each year. In order to gain a more realistic picture of the performance of student enrolled in biology education we will make the following changes in testing: First we will essentially double the sample size by administering the MFAT in the fall as well as the spring. Secondly, the current scores are the results from the biology majors, secondary education majors and integrated studies majors, collectively. In the spring of 2009, the students from each of the three majors will be divided into separate cohorts in the reports of the MFAT test, distinguishing the scores according to majors. Hence, this will provide a more detailed picture of</p>

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	<p>Second means of assessment: 70% of students successfully completing a Bachelors of Science in biology and taking the MCAT examination will score in the 50th percentile or better on the biology portion.</p>	<p>75th percentile or better. -50 % of the students scored in the 60th percentile or better. -75% of the students scored in the 50th percentile or better.</p> <p>Organismal Biology ave scores: 62 ± 12 -6% of the students scored in the 75th percentile or better. -52 % of the students scored in the 60th percentile or better. -72% of the students scored in the 50th percentile or better.</p> <p>Second means of assessment: The MCAT does not release percentile scores. However, these are the national and the UVU students' scores for the Biological portion of the test. <u>MCAT 2007:</u> -Biology majors MCAT scores: PS: 8.57, VR: 8.14, BS: 9.33 -National MCAT scores: PS: 8.6, VR: 8.4, BS: 9.0</p>	<p>student performance according to each major and give a more accurate assessment of the biology degree. -The cumulative GPAs for the students taking the MFAT will be correlated to students taking the MFAT to better understand the results and determine if there is a cohort effect. -In an attempt to increase the number of students scoring above the 60th and 75th percentile, the number of upper division biology electives required for graduation was raised from 20 to 30 credit hours.</p> <p>This change in curriculum becomes effective fall semester of 2009. Improvements on MFAT scores due to this change are not anticipated until 2011.</p> <p>Use of second means of assessment results: -We will continue to monitor MCAT scores for UVU biology majors to assess our UVU students' performance relative to national averages and to national averages of those accepted to medical schools.</p>

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		<p>MCAT 2008: -Biology majors MCAT scores: PS: 8.5, VR: 7.75, BS: 9.44 -National MCAT scores: PS: 8.8, VR: 8.3, BS: 9.7</p>	
<p>Demonstrate knowledge of the principles of ecology emphasizing organisms' interdependency for survival and for quality of life in the biosphere.</p>	<p>First means of assessment: In the evolution class (capstone class) students take the national exam, MFAT. The students' scores for population biology and ecology sections of the MFAT will be used for assessment. Specifically,</p> <p>-30% of the students will score in the 75th percentile or better. -50 % of the students will score in the 60th percentile or better. -60% of the students will score in the 50th percentile or better.</p>	<p>First means of assessment: MFAT 2007 (30 students): Population biology and ecology ave scores: 65 ± 12 -13% of the students scored in the 75th percentile or better. -67 % of the students scored in the 60th percentile or better. -97% of the students scored in the 50th percentile or better.</p> <p>MFAT 2008 (32 students): Population biology and ecology ave scores: 59 ± 10 -3% of the students scored in the 75th percentile or better. -47 % of the students scored in the 60th percentile or better. -81% of the students scored in the 50th percentile or better.</p>	<p>Use of first means of assessment results: - The MFAT is only administered the evolution class in the spring of each year. In order to gain a more realistic picture of the performance of student enrolled in biology education we will make the following changes in testing: First we will essentially double the sample size by administering the MFAT in the fall as well as the spring. Secondly, the current scores are the results from the biology majors, secondary education majors and integrated studies majors, collectively. In the spring of 2009, the students from each of the three majors will be divided into separate cohorts in the reports of the MFAT test, distinguishing the scores according to majors. Hence, this will provide a more detailed picture of student performance according to each major and give a more accurate assessment of the biology degree. -The cumulative GPAs for the students taking the MFAT will be correlated to students taking the MFAT to better understand the results</p>

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			<p>and determine if there is a cohort effect.</p> <p>-In an attempt to increase the number of students scoring above the 60th and 75th percentile, the number of upper division biology electives required for graduation was raised from 20 to 30 credit hours.</p> <p>This change in curriculum becomes effective fall semester of 2009. Improvements on MFAT scores due to this change are not anticipated until 2011.</p> <p>-Current educational studies demonstrate that the development of critical thinking and problem solving skills, result in increased student performance on assessments. Our department plans to send a few faculty to science education conferences to attend presentations on these topics and then share this information with the rest of the department.</p>
<p>Recognize evolution as the unifying theory within biology and demonstrate a knowledge of the role of mutation and natural selection in the evolutionary process.</p>	<p>First means of assessment: In the evolution class (capstone class) students take the national exam, MFAT. The students' scores for ecology and evolution sections of the MFAT will be used for assessment. Specifically,</p> <p>-30% of the students will score in the 75th percentile or better. -50 % of the students will score in the 60th percentile or better. -60% of the students will score in</p>	<p>First means of assessment: MFAT 2007 (30 students): Population biology and ecology ave scores: 65 ± 12 -13% of the students scored in the 75th percentile or better. -67 % of the students scored in the 60th percentile or better. -97% of the students scored in the 50th percentile or better.</p> <p>MFAT 2008 (32 students): Population biology and ecology ave</p>	<p>Use of first means of assessment results:</p> <p>- The MFAT is only administered the evolution class in the spring of each year. In order to gain a more realistic picture of the performance of student enrolled in biology education we will make the following changes in testing:</p> <p>First we will essentially double the sample size by administering the MFAT in the fall as well as the spring. Secondly, the current scores are the</p>

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	the 50 th percentile or better.	<p>scores: 59 ± 10</p> <p>-3% of the students scored in the 75th percentile or better.</p> <p>-47 % of the students scored in the 60th percentile or better.</p> <p>-81% of the students scored in the 50th percentile or better.</p>	<p>results from the biology majors, secondary education majors and integrated studies majors, collectively. In the spring of 2009, the students from each of the three majors will be divided into separate cohorts in the reports of the MFAT test, distinguishing the scores according to majors. Hence, this will provide a more detailed picture of student performance according to each major and give a more accurate assessment of the biology degree.</p> <p>-The cumulative GPAs for the students taking the MFAT will be correlated to students taking the MFAT to better understand the results and determine if there is a cohort effect.</p> <p>-In an attempt to increase the number of students scoring above the 60th and 75th percentile, the number of upper division biology electives required for graduation was raised from 20 to 30 credit hours.</p> <p>This change in curriculum becomes effective fall semester of 2009. Improvements on MFAT scores due to this change are not anticipated until 2011.</p> <p>-Current educational studies demonstrate that the development of critical thinking and problem solving skills, result in increased student performance on assessments. Our department plans to send a few faculty to science education conferences to attend presentations on</p>

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	<p>Second means of assessment: 70% of students successfully completing a Bachelors of Science in Biology and taking the MCAT examination will score in the 50th percentile or better on the biology portion.</p>	<p>Second means of assessment: The MCAT does not release percentile scores. However, these are the national and the UVU students' scores for the Biological portion of the test. MCAT 2007: -Biology majors MCAT scores: PS: 8.57, VR: 8.14, BS: 9.33 -National MCAT scores: PS: 8.6, VR: 8.4, BS: 9.0 MCAT 2008: -Biology majors MCAT scores: PS: 8.5, VR: 7.75, BS: 9.44 -National MCAT scores: PS: 8.8, VR: 8.3, BS: 9.7</p>	<p>these topics and then share this information with the rest of the department. Use of second means of assessment results: -We will continue to monitor MCAT scores for UVU biology majors to assess our UVU students' performance relative to national averages and to national averages of those accepted to medical schools.</p>
<p>Demonstrate a knowledge of molecular genetics and principles of inheritance.</p>	<p>First means of assessment: In the evolution class (capstone class) students take the national exam, MFAT. The students' scores for molecular biology and genetics sections of the MFAT will be used for assessment. Specifically, -30% of the students will score in the 75th percentile or better. -50 % of the students will score in the 60th percentile or better. -60% of the students will score in the 50th percentile or better.</p>	<p>First means of assessment: MFAT 2007 (30 students): Molecular Biology and Genetics ave scores: 65 ± 13 -17% of the students scored in the 75th percentile or better. -73 % of the students scored in the 60th percentile or better. -87% of the students scored in the 50th percentile or better. MFAT 2008 (32 students): Molecular Biology and Genetics ave scores: 55 ± 12 -6% of the students scored in the 75th percentile or better.</p>	<p>Use of first means of assessment results: - The MFAT is only administered the evolution class in the spring of each year. In order to gain a more realistic picture of the performance of student enrolled in biology education we will make the following changes in testing: First we will essentially double the sample size by administering the MFAT in the fall as well as the spring. Secondly, the current scores are the results from the biology majors, secondary education majors and integrated studies majors,</p>

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		<p>-37 % of the students scored in the 60th percentile or better.</p> <p>-59% of the students scored in the 50th percentile or better.</p>	<p>collectively. In the spring of 2009, the students from each of the three majors will be divided into separate cohorts in the reports of the MFAT test, distinguishing the scores according to majors. Hence, this will provide a more detailed picture of student performance according to each major and give a more accurate assessment of the biology degree.</p> <p>-The cumulative GPAs for the students taking the MFAT will be correlated to students taking the MFAT to better understand the results and determine if there is a cohort effect.</p> <p>-In an attempt to increase the number of students scoring above the 60th and 75th percentile, the number of upper division biology electives required for graduation was raised from 20 to 30 credit hours.</p> <p>Again, this change in curriculum becomes effective fall semester of 2009. Improvements on MFAT scores due to this change are not anticipated until 2011.</p> <p>-Current educational studies demonstrate that the development of critical thinking and problem solving skills, result in increased student performance on assessments. Our department plans to send a few faculty to science education conferences to attend presentations on these topics and then share this information with the rest of the department.</p>
	<p>Second means of assessment:</p>	<p>Second means of assessment:</p>	<p>Use of second means of</p>

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	70% of the students successfully completing a Bachelors of Science in Biology and taking the MCAT examination will score in the 50 th percentile or better.	<p>The MCAT does not release percentile scores. However, these are the national and the UVU students' scores for the Biological portion of the test.</p> <p>MCAT 2007: -Biology majors MCAT scores: PS: 8.57, VR: 8.14, BS: 9.33 -National MCAT scores: PS: 8.6, VR: 8.4, BS: 9.0</p> <p>MCAT 2008: -Biology majors MCAT scores: PS: 8.5, VR: 7.75, BS: 9.44 -National MCAT scores: PS: 8.8, VR: 8.3, BS: 9.7</p>	<p>assessment results: -We will continue to monitor MCAT scores for UVU biology majors to assess our UVU students' performance relative to national averages and to national averages of those accepted to medical schools.</p>
Biology graduates applying to post-graduate studies will be accepted into graduate, medical or dental schools.	<p>First means of assessment: 70% of students successfully completing a Bachelors of Science Degree in Biology who are applying to graduate schools will be accepted.</p> <p>Second means of assessment: 50% of UVSC students successful in pursuing a Bachelors of Science Degree in Biology and applying to medical schools will be accepted for matriculation.</p> <p>Third means of assessment: 50% of UVSC students successful in pursuing a Bachelors of Science Degree in Biology and applying to dental schools will be accepted for matriculation.</p>	<p>First means of assessment: Fall 2006-Spring 2008: 100 % acceptance, n=4</p> <p>Second means of assessment: 2007: 64% accepted 2008: 58% accepted</p> <p>Third means of assessment: 2007: 44% accepted 2008: 42% accepted</p>	<p>Use of first, second, third means of assessment results: -In an attempt to improve the MCAT scores of UVU students applying to medical school thus improving the number of UVU students accepted to medical and dental schools, the required biology electives were raised from 20 to 30 credit hours, and -Current educational studies demonstrate that the development of critical thinking and problem solving skills, result in increased student performance on assessments. Our department plans to send a few faculty to science education conferences to attend presentations on these topics and then share this information with the rest of the department.</p>

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