

**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.

<b>Plan</b>		<b>Report</b>	
<b>Intended goals, outcomes, or objectives</b>	<b>Means of Assessment &amp; Criteria for Success</b>	<b>Summary &amp; Analysis of Assessment Evidence</b>	<b>Use of Results</b>
<p>It is important to our department to obtain a detailed report of student performance. Because the theoretical basis of the biotechnology degree is founded in biology, the nationally standardized MFAT examination will be used to assess the theoretical knowledge of the students completing this degree. Since this degree is relatively new, and was first offered on UVU's Orem campus fall 2008, we are not anticipating a significant number of graduates until the Spring of 2011. This degree also has a capstone course, <u>Molecular evolution and Bioinformatics</u>, that is required the senior year. At the completion of this course BTECH majors will be required to take the MFAT exam.</p>			

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<p>1. We plan to administer the MFAT both fall and spring.</p> <p>2. Students from each of the four majors (biology, integrated biology and secondary education biology and Biotechnology) will be divided into separate cohorts in the reports of the MFAT test, distinguishing the scores according to majors.</p> <p>3. 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>The department's goals are in the following rows:</p>			
<p>Demonstrate knowledge of cellular biology.</p>	<p><b>First means of assessment:</b> In the Molecular Evolution and Bioinformatics class (capstone class) Biotechnology students will take the national exam, MFAT. The students' scores for the <b>cellular biology sections</b> of the MFAT will be used for assessment. Specifically</p> <ul style="list-style-type: none"> <li>-30% of the students will score in the 75<sup>th</sup> percentile or better.</li> <li>-50 % of the students will score in the 60<sup>th</sup> percentile or better.</li> <li>-60% of the students will score in the 50<sup>th</sup> percentile or better.</li> </ul>		

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	<p><b>Second means of assessment:</b> 70% of Biotechnology students successfully completing a Bachelor of Science in biology and taking the MCAT examination will score in the 50<sup>th</sup> percentile or better on the biology portion.</p> <p><b>Third Means of Assessment:</b> 70% of students successfully completing a Bachelor of Science in biology and taking the DAT examination will score in the 50<sup>th</sup> percentile or better on the biology portion.</p>		
Demonstrate a knowledge of molecular genetics and principles of inheritance.	<p><b>First means of assessment:</b> In the Molecular Evolution and Bioinformatics class (capstone class) Biotechnology students will take the national exam, MFAT. The students' scores for <b>molecular biology and genetics sections</b> of the MFAT will be used for assessment. Specifically, -30% of the students will score in the 75<sup>th</sup> percentile or better. -50 % of the students will score in the 60<sup>th</sup> percentile or better. -60% of the students will score in the 50<sup>th</sup> percentile or better.</p> <p><b>Second means of assessment:</b> 70% of the students successfully completing a Bachelors of Science</p>		

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	<p>in Biology and taking the MCAT examination will score in the 50<sup>th</sup> percentile or better.</p> <p><b>Third Means of Assessment:</b> 70% of students successfully completing a Bachelor of Science in biology and taking the DAT examination will score in the 50<sup>th</sup> percentile or better on the biology portion.</p>		
<p>Biotechnology graduates applying to post-graduate studies will be accepted into graduate, medical or dental schools.</p>	<p><b>First means of assessment:</b> 70% of students successfully completing a Bachelors of Science Degree in Biology who are applying to graduate schools will be accepted.</p> <p><b>Second means of assessment:</b> 50% of UVU students successful in pursuing a Bachelors of Science Degree in Biology and applying to medical schools will be accepted for matriculation.</p> <p><b>Third means of assessment:</b> 50% of UVU students successful in pursuing a Bachelors of Science Degree in Biology and applying to dental schools will be accepted for matriculation.</p>		
<p>90% of UVU students completing a Bachelors of Science Degree in Biotechnology and who apply for employment in the biotechnology industry will successfully gain employment within one year.</p>	<p>The advisor for biotechnology will track the students who graduate in biotechnology who apply for employment in the biotechnology industry and keep records of the number of student who were</p>		

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	successfully employed and the company they were employed by.		
<p><b>Independence:</b> One of the primary goals of the biotechnology degree program is to provide a workforce for the biotechnology industry with enough wet lab and bench experience to become independently competent within their job description within a few months of employment. Traditionally new employees in the industry have taken up to one year to become independently competent.</p> <p><i>Our goal is; 80% of UVU students successfully completing a Bachelors of Science Degree in Biotechnology and who are successful in obtaining employment in the biotechnology industry will become independently competent in their duties within 4 months after employment.</i></p>	<p>One year after a student who has successfully complete a B.S. degree in biotechnology and been employed in the industry, the biotechnology advisor will send a survey to the employer of graduate. The survey will be completed by the employee's immediate supervisor and returned to the department of biology's assessment coordinator. The survey will be designed to determined employer's satisfaction with the UVU graduates performance, progress, and time to independence.</p>		
<p><b>Student Portfolio:</b> The department of biology is developing a student portfolio for students who are enrolled as biotechnology majors. This portfolio will contain a list of all</p>	<p>Each students matriculating into the biotechnology B.S. degree program will be given an electronic portfolio which will be visible to the student, and accessible by each faculty member</p>		

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<p>the laboratory procedures offered throughout the curriculum of the biotechnology program. Each student will be ranked by the instructor who teaches each procedure into one of three categories.</p> <ol style="list-style-type: none"> <li>1. Not mastered</li> <li>2. Competent</li> <li>3. Very competent</li> </ol> <p>The objective is to provide a portfolio for students to present to potential employers or graduate programs as evidence of the skills they have acquired in the biotechnology program.</p> <p><i>Goal:</i> 90% of the students who successfully complete a B.S. degree in biotechnology will achieve a competent or very competent rating in all of the biological procedures they have been taught in the Biotechnology program.</p>	<p>who teaches a particular course that requires the student to learn biochemical, molecular, or biological procedures. At the end of the course the instructor will rank the students mastery of the procedure into the three categories mentioned before. At the end of the program, each student will have a portfolio of all of the procedures that he or she has mastered.</p> <p>The Biotechnology Advisor tracks each biotechnology student's progress to graduation. During the last semester, when the student has applied for graduation, will review each potential graduate's portfolio and tabulate the ranking of all the procedures that student has learned.</p> <p>The advisor will then record percent of graduating students who have achieved a competent or better ranking of their mastery of the procedures they have learned.</p>		
<p>Plan submission date: December 2, 2009</p> <p>Submitted by: Heather Wilson-Ashworth</p>		<p>Report submission date:</p> <p>Submitted by:</p>	