

**WILLIAM CAREY UNIVERSITY MASTER OF BIOMEDICAL SCIENCE  
EFFECTIVENESS PROGRAM  
2014-2015**

EXPANDED STATEMENT OF INSTITUTIONAL PURPOSE	STUDENT LEARNING AND PROGRAM OUTCOMES	ASSESSMENT CRITERIA AND PROCEDURES	ASSESSMENT RESULTS	USE OF RESULTS
<p><b>University Mission:</b> As a Christian university which embraces its Baptist heritage and namesake, William Carey University provides quality educational programs, within a caring Christian academic community, which challenge the individual student to excel in scholarship, leadership, and service in a diverse global society.</p> <p><b>Expanded Statement of Mission:</b></p> <ol style="list-style-type: none"> <li>1. Provide academic programs to promote student learning</li> <li>2. Promote Christian development and social responsibility</li> <li>3. Strengthen ties with Baptist churches, associations, and conventions</li> <li>4. Provide an environment that supports student learning</li> <li>5. Strengthen organizational and operational effectiveness</li> <li>6. Strengthen financial resources</li> </ol> <p><b>Goal for Departmental Program/Unit:</b> The Master of Biomedical Science (MBS) program at William Carey University was established to offer postbaccalaureate students an opportunity to pursue graduate studies in the biomedical sciences in preparation for the professional study of medicine, both osteopathic (D.O.) and allopathic (M.D.), dentistry, and other health-related sciences.</p>	<p style="text-align: center;"><b>Student Learning Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Students will be able to present in writing a synopsis of the current state of an area of biomedical science and propose areas of further investigation.</li> <li>2. Students will be able to orally present a synopsis of the current state of an area of biomedical science and propose areas of further investigation.</li> <li>3. Students will demonstrate an understanding of biomedical science ethics and compliance issues.</li> </ol> <p style="text-align: center;"><b>Program Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Students will obtain entry into medical and other health professional schools, biomedical doctoral programs, or employment in the field of biomedical science.</li> <li>2. Students will demonstrate master's level competency in the areas of biomedical sciences by successful completion of the program.</li> <li>3. The MBS program will include a more diverse student body.</li> </ol>	<p style="text-align: center;"><b>Student Learning Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Students in the capstone course (MBS 620) will write an original research proposal. The proposal will be evaluated by the course director on a rating scale of fair-good-excellent. Seventy-five percent of students will receive either good or excellent.</li> <li>2. Students in the capstone course (MBS 620) will orally present an original research proposal. The oral presentation will be evaluated by the course director on a rating scale of fair-good-excellent. Seventy-five percent of students will receive either good or excellent.</li> <li>3. Students in the capstone course (MBS 620) will complete a formal online course on the responsible conduct of research in the biomedical sciences. This will be assessed on a pass/fail basis, with completion of the course required to pass. Seventy-five percent of students will successfully complete the online course.</li> </ol> <p style="text-align: center;"><b>Program Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Seventy-five percent of graduates will obtain entry into medical and other health professional schools or employment in the field of biomedical science.</li> <li>2. Seventy-five percent of matriculating students will demonstrate master's level competency in the areas of biomedical science by successful completion of the program.</li> <li>3. Twenty-five percent of the MBS student body will come from underrepresented groups.</li> </ol>	<p style="text-align: center;"><b>Student Learning Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Data not yet available.</li> <li>2. Data not yet available.</li> <li>3. Data not yet available</li> </ol> <p style="text-align: center;"><b>Program Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Data not yet available.</li> <li>2. Data not yet available.</li> <li>3. Data not yet available</li> </ol>	<p style="text-align: center;"><b>Student Learning Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Data not yet available.</li> <li>2. Data not yet available.</li> <li>3. Data not yet available</li> </ol> <p style="text-align: center;"><b>Program Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Data not yet available.</li> <li>2. Data not yet available.</li> <li>3. Data not yet available</li> </ol>

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Seventy-five percent of matriculating students will demonstrate master's level competency in the areas of biomedical science by successful completion of the program.</li> <li>3. Twenty-five percent of the MBS student body will come from underrepresented groups.</li> </ol>	<p style="text-align: center;"><b>Student Learning Outcomes</b></p> <ol style="list-style-type: none"> <li>1. MBS 620 is being taught for the first time in the spring of 2013.</li> <li>2. MBS 620 is being taught for the first time in the spring of 2013.</li> <li>3. MBS 620 is being taught for the first time in the spring of 2013.</li> </ol> <p style="text-align: center;"><b>Program Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Of the 39 MBS graduates over the first four years of the program, 33 (85%) were accepted into medical and other health professional schools.</li> <li>2. For the 2012-13 AY, 17 out of 19 (89%) successfully completed the program and graduated.</li> <li>3. The 2012-13 MBS cohort had 3 (16%) underrepresented students. The 2013-14 MBS matriculating cohort had two out of twenty-one (10%) underrepresented students.</li> </ol>	<p style="text-align: center;"><b>Student Learning Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Students completed a written synopsis of a current area of biomedical research and the proposed a research project.</li> <li>2. Students presented their projects orally current topics class and they presented at the WCU Research symposium.</li> <li>3. Students demonstrate an understanding of biomedical science ethics and compliance issues through written test.</li> </ol> <p style="text-align: center;"><b>Program Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Criterion met. Continuous improvement by implementation of application and interview workshops in fall of 2012.</li> <li>2. Criterion met. Continuous improvement by more closely monitoring students in difficulty.</li> <li>3. Criterion not met. Recruiting at minority universities will be increased and the MBS committee will consider additional measures to increase underrepresented students.</li> </ol>

**WILLIAM CAREY UNIVERSITY MASTER OF BIOMEDICAL SCIENCE  
EFFECTIVENESS PROGRAM  
2012-2013**

EXPANDED STATEMENT OF INSTITUTIONAL PURPOSE	STUDENT LEARNING AND PROGRAM OUTCOMES	ASSESSMENT CRITERIA AND PROCEDURES	ASSESSMENT RESULTS	USE OF RESULTS
<p><b>University Mission:</b> As a Christian university which embraces its Baptist heritage and namesake, William Carey University provides quality educational programs, within a caring Christian academic community, which challenge the individual student to excel in scholarship, leadership, and service in a diverse global society.</p> <p><b>Expanded Statement of Mission:</b></p> <ol style="list-style-type: none"> <li>1. Provide academic programs to promote student learning</li> <li>2. Promote Christian development and social responsibility</li> <li>3. Strengthen ties with Baptist churches, associations, and conventions</li> <li>4. Provide an environment that supports student learning</li> <li>5. Strengthen organizational and operational effectiveness</li> <li>6. 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Students in the capstone course (MBS 620) will orally present an original research proposal. The oral presentation will be evaluated by the course director on a rating scale of fair-good-excellent. Seventy-five percent of students will receive either good or excellent.</li> <li>3. Students in the capstone course (MBS 620) will complete a formal online course on the responsible conduct of research in the biomedical sciences. This will be assessed on a pass/fail basis, with completion of the course required to pass. Seventy-five percent of students will successfully complete the online course.</li> </ol> <p style="text-align: center;"><b>Program Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Seventy-five percent of graduates will obtain entry into medical and other health professional schools or employment in the field of biomedical science.</li> <li>2. Seventy-five percent of matriculating students will demonstrate master's level competency in the areas of biomedical science by successful completion of the program.</li> <li>3. Twenty-five percent of the MBS student body will come from underrepresented groups.</li> </ol>	<p style="text-align: center;"><b>Student Learning Outcomes</b></p> <ol style="list-style-type: none"> <li>1. MBS 620 is being taught for the first time in the spring of 2013.</li> <li>2. MBS 620 is being taught for the first time in the spring of 2013.</li> <li>3. MBS 620 is being taught for the first time in the spring of 2013.</li> </ol> <p style="text-align: center;"><b>Program Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Of the 22 MBS graduates over the first three years of the program, 18 (82%) were accepted into medical and other health professional schools.</li> <li>2. For the 2011-12 AY, three out of five (60%) successfully completed the program and graduated.</li> <li>3. The 2011-12 MBS cohort had no underrepresented students. The 2012-13 MBS matriculating cohort had two out of twenty (10%) underrepresented students.</li> </ol>	<p style="text-align: center;"><b>Student Learning Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Students completed a written synopsis of a current area of biomedical research and the proposed a research project.</li> <li>2. Students presented their projects orally current topics class</li> <li>3. Students demonstrate an understanding of biomedical science ethics and compliance issues through test.</li> </ol> <p style="text-align: center;"><b>Program Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Criterion met. Continuous improvement by implementation of application and interview workshops in fall of 2012.</li> <li>2. Criterion not met. Student progress during the 2012-13 AY more closely monitored and students in difficulty counseled about receiving assistance.</li> <li>3. Criterion not met. Recruiting at minority universities will be increased and the MBS committee will consider additional measures to increase underrepresented students.</li> </ol>

**MASTER OF BIOLOGICAL SCIENCES  
EFFECTIVENESS PROGRAM  
2011-2012**

EXPANDED STATEMENT OF INSTITUTIONAL PURPOSE	OBJECTIVES AND STUDENT LEARNING OUTCOMES	ASSESSMENT CRITERIA AND PROCEDURES	ASSESSMENT RESULTS	USE OF RESULTS
<p><b>University Mission:</b> As a Christian university which embraces its Baptist heritage and namesake, William Carey University provides quality educational programs, within a caring Christian academic community, which challenge the individual student to excel in scholarship, leadership, and service in a diverse global society.</p> <p><b>Expanded Statement of Purpose:</b></p> <ol style="list-style-type: none"> <li>1. Provide academic programs to promote student learning</li> <li>2. Promote Christian development and social responsibility</li> <li>3. Strengthen ties with Baptist churches, associations, and conventions</li> <li>4. Provide an environment that supports student learning</li> <li>5. Strengthen organizational and operational effectiveness</li> <li>6. Strengthen financial resources</li> </ol> <p><b>Goal for Departmental Program/Unit:</b> Provide graduate training in the biological sciences for students preparing for careers in science teaching</p>	<ol style="list-style-type: none"> <li>1. Graduate Students will perform well on projects and presentations in graduate lab science courses.</li> <li>2. Graduate Students will be able to demonstrate a mastery of biological concepts.</li> <li>3. Graduate students will be required to gather and analyze scientific data.</li> <li>4. Graduate students will demonstrate an understanding of and proficiency in writing research proposals.</li> <li>5. Graduate Students will graduate with the perception that that they developed to their highest potential</li> </ol>	<ol style="list-style-type: none"> <li>1. As documented by grading rubrics Graduate Students will earn grades of above 82% on class projects.</li> <li>2. Graduates will score above 3.7 on their Comprehensive Exam.</li> <li>3. Collection and analysis of data in BIO 640 was evaluated using a rubric and students must score above 87%.</li> <li>4. In BIO 601 students will score greater than 86% according to a rubric designed by the instructor</li> <li>5. In the Master Graduate Exit Interview, student's perceptions of the "Develops talent and recognizes achievement" will be ranked at 4.0 out of 5.0 (Likert Scale).</li> </ol>	<ol style="list-style-type: none"> <li>1. Biology Graduate Students earned an average grade of 95% on their class projects (n=2).</li> <li>2. Graduates scored a mean of 3.2 on their comprehensive exams (n=7).</li> <li>3. BIO 640 students scored a 90.1 (N=8) on the evaluation rubric.</li> <li>4. Students averaged 94% on the faculty generated rubric.</li> <li>5. Students perception of 'Develops talent and recognizes achievement' scored a 5 (n=1).</li> </ol>	<ol style="list-style-type: none"> <li>1. This section will continue to be monitored to involve a greater number of students.</li> <li>2. We will adjust this section to collect scores on highest three questions for students. This data will continue to be collected.</li> <li>3. Data from this course will continue to be collected to give a better picture of their data analysis skills.</li> <li>4. We will continue to monitor this rubric for proficiency in writing research proposals.</li> <li>5. This data will have to be collected for several years to give us a suitable number of respondents.</li> </ol>

**MASTER OF BIOMEDICAL SCIENCE  
EFFECTIVENESS PROGRAM  
2010-2011**

EXPANDED STATEMENT OF INSTITUTIONAL MISSION	STUDENT LEARNING OUTCOMES AND OBJECTIVES OF PROGRAM	ASSESSMENT CRITERIA AND PROCEDURES	ASSESSMENT RESULTS	USE OF RESULTS
<p><b>University Mission:</b> As a Christian university which embraces its Baptist heritage and namesake, William Carey University provides quality educational programs, within a caring Christian academic community, which challenge the individual student to excel in scholarship, leadership, and service in a diverse global society.</p> <p><b>Expanded Statement of Mission:</b></p> <ol style="list-style-type: none"> <li>1. Provide academic programs to promote student learning</li> <li>2. Promote Christian development and social responsibility</li> <li>3. Strengthen ties with Baptist churches, associations, and conventions</li> <li>4. Provide an environment that supports student learning</li> <li>5. Strengthen organizational and operational effectiveness</li> <li>6. Strengthen financial resources</li> </ol> <p><b>Goal for Departmental Program/Unit:</b></p> <p>The goals of the MBS program are to provide a high quality post-baccalaureate experience in biomedical sciences and to develop a solid foundation for further study or career. This experience will allow the student to:</p> <ol style="list-style-type: none"> <li>1. pursue a professional degree</li> <li>2. pursue a doctoral degree</li> <li>3. seek employment in other healthcare related fields</li> </ol>	<ol style="list-style-type: none"> <li>1. Students will be adequately prepared for a future in the healthcare professions, a related human service field, advanced graduate study, or pursuit of a professional degree.</li> <li>2. Students will gain a sufficient knowledge base in the following core areas of biomedical science: Anatomy, Biochemistry, Histology / Embryology, Physiology, Biostatistics &amp; Epidemiology, and Issues in Clinical Medicine.</li> </ol>	<ol style="list-style-type: none"> <li>1. Of the MBS graduates seeking employment or continued graduate / professional education, 70% will report employment in a healthcare or related field, acceptance to a advanced graduate degree program (e.g., PhD, EdD, PharmD), or acceptance to a professional degree program (e.g. MD, DO, DDS, DMD).</li> <li>2a. Students will demonstrate mastery of course materials as evidenced by achieving a minimum score of 75% on course examinations developed by program faculty for each course based on standardized examination question format of the medical licensing examinations (COMLEX and USMLE). Exam results will be utilized to identify areas of improvement within the curriculum.</li> <li>2b. Graduates will report a high level of satisfaction with the instruction and overall quality of the MBS degree program as evidenced by an average rating of "4" on a 5-point scale for question 29 and 35, respectively, of the Graduate Follow-up Survey.</li> </ol>	<ol style="list-style-type: none"> <li>1. 50% of graduates reported employment in a healthcare or related field, acceptance to an advanced graduate degree program (e.g., PhD, EdD, PharmD), or acceptance to a professional degree program (e.g. MD, DO, DDS, DMD).</li> <li>2a. MBS students achieved an average of 77% on comprehensive examinations administered at regular intervals within each course.</li> <li>2b. Graduates of the MBS program responding to the Graduate Follow-Up Survey rated their satisfaction with the instruction and with the overall degree program at levels of 4 and 3.5, respectively.</li> </ol>	<ol style="list-style-type: none"> <li>1. The Student Learning Outcome was not met. However, it is important to note that of the three graduates of the program did not respond to the request for information. 100% of graduates who responded to the survey reported acceptance to a professional school. The learning outcome will continue to be monitored and increased efforts to garner student feedback will be implemented.</li> <li>2a. The Student Learning Outcome was exceeded. The program faculty will evaluate the utilization of this this outcome and may augment to reflect the graduation rate of acceptance students for the upcoming academic year.</li> <li>2b. The Student Learning Outcome was met for question 29 (instruction) but not question 35 (overall program quality). A possible explanation for the lower rating on program quality is the changing curriculum and integration with selected biomedical science courses of the medical schools. MBS students may have experienced</li> </ol>

	<p style="text-align: center;"><b>Program Outcomes</b></p> <p>3. The curriculum will be revised to expose students to biomedical science courses delivered in health science professional degree programs.</p>	<p>2c. Graduates will evaluate the MBS program's ability to stimulate critical thinking, maintain a high level of scholarship and develop responsible leaders at a level "4.2" as measured by questions 22, 23, and 27, respectively, on the Graduate Student Exit Interview.</p> <p style="text-align: center;"><b>Program Outcomes</b></p> <p>3. The MBS curriculum will be revised with the goal of integrating MBS students into selected biomedical science courses delivered to first-year students in the College of Osteopathic Medicine.</p>	<p>2c. MBS Graduates responding to the Graduate Student Exit Interview rated the program's ability to stimulate critical thinking, maintain a high level of scholarship and develop responsible leaders at a level 3.7, 3.7, and 4.1, respectively.</p> <p style="text-align: center;"><b>Program Outcomes</b></p> <p>3. The MBS curriculum underwent significant changes that resulted in second cohort of MBS students enrolling in required cross-listed MBS and medical school courses as well as a statistic course for the biomedical scientist.</p>	<p>frustration at the reality of competing with medical students for instructor feedback/guidance outside the classroom. The program faculty will consider the augmentation of this outcome to more closely reflect program goals.</p> <p>2c. The Student Learning Outcome was not met. The curriculum changes implemented throughout the year may have led to the lower ratings. Program faculty will evaluate how curriculum can be structured to increase ratings on critical thinking, maintaining a high level of scholarship, and develop leadership. The outcome may be augmented during the next academic year.</p> <p style="text-align: center;"><b>Program Outcomes</b></p> <p>3. The outcome was met. Program curriculum review and revision will continue to be implemented.</p>
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