

**BIOLOGY MAJOR
EFFECTIVENESS PROGRAM
2014-2015**

| EXPANDED STATEMENT OF INSTITUTIONAL MISSION | OBJECTIVES AND STUDENT LEARNING OUTCOMES | ASSESSMENT CRITERIA AND PROCEDURES | ASSESSMENT RESULTS | USE OF RESULTS |
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| <p>University Mission: 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>Expanded Statement of Mission:</p> <ol style="list-style-type: none"> 1. Provide academic programs to promote student learning 2. Promote Christian development and social responsibility 3. Serve Baptist churches, associations, and conventions 4. Provide an environment that supports student learning 5. Strengthen organizational and operational effectiveness 6. Strengthen financial resources <p>Goal for Departmental Program/Unit: Provide service courses in the biological sciences and undergraduate training for students planning careers in the biological sciences or as science teachers.</p> | <ol style="list-style-type: none"> 1. Senior-level students will demonstrate proficiency in giving a scientific presentation. 2. Graduates in the Biological Sciences will demonstrate knowledge and mastery of fundamental biological concepts. 3. Environmental Biology students will demonstrate mastery in understanding and explaining environmental concepts. 4. Graduates in the Biological Sciences will be prepared to be successful in the job market or in application to graduate and professional schools. | <ol style="list-style-type: none"> 1. At least 80% of the students taking Biology Capstone (BIO 498) will successfully complete (grade of 80 or better) their class presentation as quantified by a faculty-generated rubric. 2a. In the cell energetics sub-section of the Biology MFT given to graduating seniors, the mean percent correct will be maintained at 31% despite the integration of new faculty members. 2b. The department will raise the average BCKE sub-score in Genetics by introducing units involving Genetics into courses like A & P, Ecology, and Freshmen classes. 3. We will collect baseline data on the mean grade on the essay sections of Vertebrate Biology exams (BIO 326, 431, 432, 490). 4a. As documented by the Exit Interview, students will rate their job preparation favorably (4.5 or greater). | | |

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| | <p>5. Graduates in the Biological Sciences department will demonstrate their exposure to and personal enhancement of Christian values.</p> | <p>4b. We will monitor the percent of students that are successful in getting admitted into a professional school.</p> <p>5a. As documented by student grade reports, at least 62% of Biology majors will pass chapel.</p> <p>5b. As documented by the Exit Interview, Biology majors will evaluate favorably (score of at least 3.6) the 'Promotes Christian Principals' section.</p> | | |
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**BIOLOGY MAJOR
EFFECTIVENESS PROGRAM
2013-2014**

| EXPANDED STATEMENT OF INSTITUTIONAL MISSION | OBJECTIVES AND STUDENT LEARNING OUTCOMES | ASSESSMENT CRITERIA AND PROCEDURES | ASSESSMENT RESULTS | USE OF RESULTS |
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| <p>University Mission: 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>Expanded Statement of Purpose:</p> <ol style="list-style-type: none"> 1. Provide academic programs to promote student learning 2. Promote Christian development and social responsibility 3. Serve Baptist churches, associations, and conventions 4. Provide an environment that supports student learning 5. Strengthen organizational and operational effectiveness 6. Strengthen financial resources <p>Goal for Departmental Program/Unit: Provide service courses in the biological sciences and undergraduate training for students planning careers in the biological sciences or as science teachers.</p> | <ol style="list-style-type: none"> 1. Senior-level students will demonstrate proficiency in giving a scientific presentation. 2. Graduates in the Biological Sciences will demonstrate knowledge and mastery of fundamental biological concepts. 3. Environmental Biology students will demonstrate mastery in understanding and explaining environmental concepts. 4. Graduates in the Biological Sciences will be prepared to be successful in the job market or in application to graduate and professional schools. | <ol style="list-style-type: none"> 1. At least 80% of the students taking Biology Capstone (BIO 498) will successfully complete (grade of 80 or better) their class presentation as quantified by a faculty-generated rubric. 2a. In the cell energetics sub-section of the Biology MFT given to graduating seniors, the mean percent correct will be maintained at 31% despite the integration of new faculty members. 2b. The department will raise the average BCKE sub-score in Genetics by introducing units involving Genetics into courses like A & P, Ecology, and Freshmen classes. 3. We will collect baseline data on the mean grade on the essay sections of Vertebrate Biology exams (BIO 326, 431, 432, 490). 4a. As documented by the Exit Interview, students will rate their job preparation favorably (4.5 or greater). | <ol style="list-style-type: none"> 1. 80% of Capstone students (n = 20) had a grade of 80% or better on their presentation. 2a. Biology students scored an average of 35 (n = 18) on the Biology portion of the MFT exam. 2b. Baseline average Genetics sub score for Biology Seniors in 2013 was 45.3 (n = 19). 3. Environmental Biology students scored a mean grade of 89.5 (n = 12) on the essay sections of the exams. 4a. On the Exit Interview Biology Students scored 4.5 (n = 38) on the 'Provides professional Training' section of the Exit Interview. | <ol style="list-style-type: none"> 1. We will continue to collect this data to monitor the presentation proficiency of our graduates. 2a. We will continue to collect this data to see if we can maintain these numbers on the MFT exam. 2b. We will continue to monitor these numbers to develop a larger baseline of Genetics numbers. 3. We will continue to use these numbers to monitor the ability of our students to explain environmental concepts. 4a. This is a good measuring stick for successful preparation for the job market and we will continue to use it. |

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| | <p>5. Graduates in the Biological Sciences department will demonstrate their exposure to and personal enhancement of Christian values.</p> | <p>4b. As documented by the Graduate Follow-up Survey, 70% or greater of graduates will report employment in a Biology-related field.</p> <p>5a. As documented by student grade reports, at least 62% of Biology majors will pass chapel.</p> <p>5b. As documented by the Exit Interview, Biology majors will evaluate favorably (score of at least 3.6) the 'Promotes Christian Principals' section.</p> | <p>4b. 73.3% of biology students (n = 15) reported employment in a Biology-related field.</p> <p>5a. 93.3% of Biology Majors (n = 117) passed Chapel.</p> <p>5b. Biology Majors scored an average of 4.5 (n = 38) on the 'Promotes Christian Principals' section of the Exit Interview.</p> | <p>4b. As a new measurement of successful preparation for the job market we will monitor the percent of students that are successful in getting admitted into a professional school.</p> <p>5a. We will continue to collect this data as a measure of Christian values.</p> <p>5b. We will continue to collect this data as a measure of Christian values.</p> |
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BIOLOGY MAJOR EFFECTIVENESS PROGRAM 2012-2013

| EXPANDED STATEMENT OF INSTITUTIONAL MISSION | OBJECTIVES AND STUDENT LEARNING OUTCOMES | ASSESSMENT CRITERIA AND PROCEDURES | ASSESSMENT RESULTS | USE OF RESULTS |
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| <p>University Mission: 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>Expanded Statement of Purpose:</p> <ol style="list-style-type: none"> 1. Provide academic programs to promote student learning 2. Promote Christian development and social responsibility 3. Strengthen ties with Baptist churches, associations, and conventions 4. Provide an environment that supports student learning 5. Strengthen organizational and operational effectiveness 6. Strengthen financial resources <p>Goal for Departmental Program/Unit: Provide service courses in the biological sciences and undergraduate training for students planning careers in the biological sciences or as science teachers.</p> | <ol style="list-style-type: none"> 1. Senior-level students will demonstrate proficiency in giving a scientific presentation. 2. Graduates in the Biological Sciences will demonstrate knowledge and mastery of fundamental biological concepts. 3. Environmental Biology students will demonstrate mastery in understanding and explaining environmental concepts. 4. Graduates in the Biological Sciences will be prepared to be successful in the job market or in application to graduate and professional schools. | <ol style="list-style-type: none"> 1. At least 80% of the students taking Biology Capstone (BIO 498) will successfully complete (grade of 80 or better) their class presentation as quantified by a faculty-generated rubric. 2a. In the cell energetics sub-section of the Biology MFT given to graduating seniors, the mean percent correct will be maintained at 31% despite the integration of new faculty members. 2b. The department will raise the average BCKE sub-score in Genetics by introducing units involving Genetics into courses like A & P, Ecology, and Freshmen classes. 3. We will collect baseline data on the mean grade on the essay sections of Vertebrate Biology exams (BIO 326, 431, 432, 490). 4a. As documented by the Exit Interview, students will rate their job preparation favorably (4.5 or greater). 4b. As documented by the Graduate Follow-up Survey, 70% or greater of graduates will report employment in a Biology-related field. | <ol style="list-style-type: none"> 1. In BIO 498 32 of 40 students earned a grade of 80% or higher in their class presentations. 2a. Students scored an average 46.5% (n = 20) on the cell energetics sub-section of the Biology MFT. 2b. The average score on the BCKE (for Genetics questions was 46.6% correct (n = 21). 3. This year Environmental Biology majors scored an average of 88.9% (n = 11) on the essay sections of their exams. 4a. BIO students rated the Job Preparation an average of 4.0 on the Exit Interview (n = 32). 4b. On the Graduate Follow-up Survey 80% of graduates (n = 5) reported employment in a Biology-related field. | <ol style="list-style-type: none"> 1. We will continue to monitor this benchmark and work towards better class presentation results. 2a. These results were higher than expected and we will continue to monitor this data and attempt to maintain these levels. 2b. We will continue to collect this data to judge the effectiveness of including Genetics in lower level courses. 3. We will collect baseline data for another year. 4a. We will continue to collect this data and work with new faculty on strategies to increase our results. 4b. Few students respond to Graduate Follow-up Surveys. We will begin collecting data on the number of Pre-Professional Students gaining admission into Professional Schools. |

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| | <p>5. Graduates in the Biological Sciences department will demonstrate their exposure to and personal enhancement of Christian values.</p> | <p>5a. As documented by student grade reports, at least 62% of Biology majors will pass chapel.</p> <p>5b. As documented by the Exit Interview, Biology majors will evaluate favorably (score of at least 3.6) the 'Promotes Christian Principals' section.</p> | <p>5a. Grade reports indicated that 95.7 % (N = 117) of Biology Majors passed Chapel.</p> <p>5b. On the Exit Interview Biology Majors rated Promotes Christian Principals' as 4.2 (n = 30).</p> | <p>5a. We will continue to monitor this indicator of Christian values.</p> <p>5b. We will continue to monitor these results to insure continued success in promoting Christian Principals.</p> |
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BIOLOGY MAJOR EFFECTIVENESS PROGRAM 2011-2012

| EXPANDED STATEMENT OF INSTITUTIONAL MISSION | OBJECTIVES AND STUDENT LEARNING OUTCOMES | ASSESSMENT CRITERIA AND PROCEDURES | ASSESSMENT RESULTS | USE OF RESULTS |
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| <p>University Mission: 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>Expanded Statement of Purpose:</p> <ol style="list-style-type: none"> 1. Provide academic programs to promote student learning 2. Promote Christian development and social responsibility 3. Strengthen ties with Baptist churches, associations, and conventions 4. Provide an environment that supports student learning 5. Strengthen organizational and operational effectiveness 6. Strengthen financial resources <p>Goal for Departmental Program/Unit: Provide service courses in the biological sciences and undergraduate training for students planning careers in the biological sciences or as science teachers.</p> | <ol style="list-style-type: none"> 1. Senior-level students will demonstrate proficiency in giving a scientific presentation. 2. Graduates in the Biological Sciences will demonstrate knowledge and mastery of fundamental biological concepts. 3. Environmental Biology students will demonstrate mastery in understanding and explaining environmental concepts. 4. Graduates in the Biological Sciences will be prepared to be successful in the job market or in application to graduate and professional schools. | <ol style="list-style-type: none"> 1. At least 80% of the students taking Biology Capstone (BIO 498) will successfully complete (grade of 80 or better) their class presentation as quantified by a faculty-generated rubric. 2a. In the cell energetics sub-section of the Biology MFT given to graduating seniors, the mean percent correct will be maintained at 31% despite the integration of new faculty members. 2b. The department will raise the average BCKE sub-score in Genetics by introducing units involving Genetics into courses like A & P and Ecology. . 3. We will collect baseline data on the mean grade on the essay sections of Vertebrate Biology exams (BIO 326, 431, 432, 490). 4a. As documented by the Exit Interview, students will rate their job preparation favorably (4.5 or greater). 4b. As documented by the Graduate Follow-up Survey, 70% or greater of graduates will report employment in a Biology-related field. | <ol style="list-style-type: none"> 1. For Biology majors, 75% received a grade of 80 or above. (n=32). 2a. The mean sub-score for cell energetics was 36% correct (n=24). 2b. for the first year of this section, 42.9% of the Genetics questions were answered correctly. 3. The mean grade was 86% (n=5) on vertebrate Biology exams. 4a. Job preparation was rated at a 4.3(n=30) by Biology students. 4b. In the follow-up survey 66% (n=3) reported employment in a biology related field. | <ol style="list-style-type: none"> 1. Greater emphasis on scientific presentation will put into lower level classes and we will continue to collect this data. 2a. We will continue to collect this data and attempt to maintain this level in cell energetics. 2b. Genetics will continue to be emphasized in lower level courses and we will continue to monitor the results for graduating seniors. 3. We will collect another year of data before setting a goal for improvement. 4a. We will collect another year of data to monitor these results. 4b. We will continue to collect this data to obtain a bigger pool of respondents. |

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| | <p>5. Graduates in the Biological Sciences department will demonstrate their exposure to and personal enhancement of Christian values.</p> | <p>5a. As documented by student grade reports, at least 62% of Biology majors will pass chapel.</p> <p>5b. As documented by the Exit Interview, Biology majors will evaluate favorably (score of at least 3.6) the 'Promotes Christian Principals' section.</p> | <p>5a. 84.6% of biology majors passed chapel (n=97).</p> <p>5b. Biology majors evaluated 'Promotes Christian Principals' with a score of 4.2 (n=33).</p> | <p>We will continue to monitor this data and increase our target to 65%.</p> <p>5b. These results were higher than expected and we will continue to monitor this for consistency.</p> |
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**BIOLOGY MAJOR
EFFECTIVENESS PROGRAM
2010-2011**

| EXPANDED STATEMENT OF INSTITUTIONAL MISSION | OBJECTIVES AND STUDENT LEARNING OUTCOMES | ASSESSMENT CRITERIA AND PROCEDURES | ASSESSMENT RESULTS | USE OF RESULTS |
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| <p>University Mission: 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>Expanded Statement of Purpose:</p> <ol style="list-style-type: none"> 1. Provide academic programs to promote student learning 2. Promote Christian development and social responsibility 3. Strengthen ties with Baptist churches, associations, and conventions 4. Provide an environment that supports student learning 5. Strengthen organizational and operational effectiveness 6. Strengthen financial resources <p>Goal for Departmental Program/Unit: Provide service courses in the biological sciences and undergraduate training for students planning careers in the biological sciences or as science teachers.</p> | <ol style="list-style-type: none"> 1. Senior-level students will demonstrate proficiency in giving a scientific presentation. 2. Graduates in the Biological Sciences will demonstrate knowledge and mastery of fundamental biological concepts. 3. Teacher-licensure Biology majors will demonstrate an understanding and mastery of the fundamentals of teaching biology at the secondary level. (Environmental Biology students will demonstrate a mastery in understanding and explaining environmental concepts. 4. Graduates in the Biological Sciences will be prepared to be successful in the job market or in application to graduate and professional schools. | <ol style="list-style-type: none"> 1. At least 80% of the students taking Biology Capstone (BIO 498) will successfully complete (grade of 80 or better) their class presentation as quantified by a faculty-generated rubric. 2a. In the cell energetics sub-section of the Biology MFT given to graduating seniors, the mean percent correct will be maintained at 31% despite the integration of new faculty members. 2b. The department will raise the average BCKE sub-score in Genetics by introducing units involving Genetics into courses like A & P and Ecology. 3. As documented by a rubric-based analysis of teaching portfolios from the Teaching Biology in the Secondary School class, at least 80% of students will receive a grade of C or higher on their portfolio. (The mean grade on the essay sections of Vertebrate Biology exams will be 80%) 4a. As documented by the Exit Interview, students will rate their job preparation favorably (4.5 or greater). 4b. As documented by the Graduate Follow-up Survey, 70% or greater of graduates will report employment in a Biology-related field. | <ol style="list-style-type: none"> 1. 52% of Capstone students completed their presentations with an average of 80 or better. 2a. Biology students scored a mean of 42 on the cell energetics sub-section of the MFT. 2b. The average score for students in the sub-section of Genetics was 45%. This will serve as our baseline. 3. Three out of four students (75%) in BIO 340 earned a grade of 'C' or higher on their portfolio. 4a. The question 'Provides Professional Training' results for the Exit Interview again had an average of 4.6. 4b. 67% (n = 3) of graduated reported employment in a Biology-related field. | <p>We will continue to use this benchmark and introduce new units to enhance student performance. Next year we hope to have a greater number of students with an average in presentations above 80%.</p> <p>This is a higher score than we expected and we will continue to monitor this data to see if we can keep student performance at this level.</p> <p>We will continue to collect this data to find how successful our genetics strategy is.</p> <p>This program has been moved into the Education Department. We will collect data from a different program in our department.</p> <p>We will continue to use this data to monitor our preparation of students for job markets or professional schools.</p> <p>We will continue to collect this data to increase our sample size.</p> |

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| | <p>5. Graduates in the Biological Sciences department will demonstrate their exposure to and personal enhancement of Christian values.</p> | <p>5a. As documented by student grade reports, at least 62% of Biology majors will pass chapel.</p> <p>5b. As documented by the Exit Interview, Biology majors will evaluate favorably (score of at least 3.6) the 'Promotes Christian Principals' section.</p> | <p>5a. Among Biology Majors 73% passed chapel.</p> <p>5b. Biology majors averaged 4.5 on the Christian Principles question in the Exit Interview.</p> | <p>We will continue to use this as an indicator of the Christian values of Biology Students.</p> <p>We will continue to use the Christian Principals question on the Exit Interview and attempt to raise our score above 4.5.</p> |
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**BIOLOGY MAJOR
EFFECTIVENESS PROGRAM
2009-2010**

| EXPANDED STATEMENT OF INSTITUTIONAL MISSION | OBJECTIVES AND STUDENT LEARNING OUTCOMES | ASSESSMENT CRITERIA AND PROCEDURES | ASSESSMENT RESULTS | USE OF RESULTS |
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| <p>University Mission: The mission of William Carey University is to provide liberal arts and professional education programs within a caring Christian academic community. The individual student is encouraged to develop his or her highest potential in scholarship, leadership, and service. The university collaborates with churches, organizations, and individuals to affirm its Baptist heritage and namesake – William Carey.</p> <p>Expanded Statement of Mission:</p> <ol style="list-style-type: none"> 1. Provide academic programs to promote student learning 2. Promote Christian development and social responsibility 3. Serve Baptist churches, associations, and conventions 4. Provide an environment that supports student learning 5. Strengthen organizational and operational effectiveness 6. Strengthen financial resources <p>Goal for Departmental Program/Unit: Provide service courses in the biological sciences and undergraduate training for students planning careers in the biological sciences or as science teachers.</p> | <ol style="list-style-type: none"> 1. Senior-level students will demonstrate proficiency in giving a scientific presentation. 2. Graduates in the Biological Sciences will demonstrate knowledge and mastery of fundamental biological concepts. 3.. Teacher-licensure Biology majors will demonstrate an understanding and mastery of the fundamentals of teaching biology at the secondary level. 4. Graduates in the Biological Sciences will be prepared to be successful in the job market or in application to graduate and professional schools. | <ol style="list-style-type: none"> 1. At least 87% of the students taking Biology Capstone (BIO 498) will successfully complete their class presentation as quantified by a faculty-generated rubric. 2a. In the cell energetics sub-section of the Biology MFT given to graduating seniors, the mean percent correct will increase to 31%. 3. As documented by a rubric-based analysis of teaching portfolios from the Teaching Biology in the Secondary School class, at least 80% of students will receive a grade of C or higher on the portfolio 4a. As documented by the Exit Interview, students will rate their job preparation favorably (4.5 or greater). 4b. As documented by the Graduate Follow-up Survey, 70% or greater of graduates will report employment in a Biology-related field. | <ol style="list-style-type: none"> 1. 80% of Capstone students completed their presentations with an average of 80 or better. 2a. Biology students scored a mean of 31 on the cell energetics sub-section of the MFT. 3. Seven out of seven students (100%) in BIO 340 earned a grade of ‘C’ or higher. 4a. Provides Professional Training results for the Exit Interview had an average of 4.6. 4b. Two graduates reported employment in a Biology-related field (n = 2). | <ol style="list-style-type: none"> 1. We will continue to use this benchmark and introduce new units to enhance student performance. Next year we hope to have a greater number of students with an average in presentations above 80%. 2. We will have new faculty members teaching these courses so we will try to maintain a cell energetics sub-section score of 31 next year. 3. Because of the low number of students (n = 7) we will continue to collect this data to obtain a larger data set. We will begin catching data from our BCKE in the Genetics section. 4a. We will continue to use this data to monitor our preparation of students for job markets or professional schools. 4b. Too little data from this section so we will change to using the Graduate Follow-up survey for this data. |

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| | <p>5. Graduates in the Biological Sciences department will demonstrate their exposure to and personal enhancement of Christian values.</p> | <p>5a. As documented by student grade reports, at least 62% of Biology majors will pass chapel.</p> <p>5b. As documented by the Exit Interview, Biology majors will evaluate favorably (score of at least 3.6) the Christian atmosphere and values exemplified in the curriculum and personnel of the University.</p> | <p>5a. Among Biology Majors 68% passed chapel.</p> <p>5b. Biology majors averaged 4.9 on the Christian Principles question in the Exit Interview.</p> | <p>5a. We will continue to use this as an indicator of the Christian values of Biology Students.</p> <p>5b. We will continue to use the Christian Principles question on the Exit Interview to monitor our success in exposing students to Christian values.</p> |
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