

## Program Efficacy Report Spring 2013

**Name of Department:** Biology

**Efficacy Team:** Andee Alsip, Joseph Notarangelo, Edward Millican

**Overall Recommendation (include rationale):** Continuation

**Recommendation: continuation.** The program is exemplary in meeting the needs of the college. They are very connected to a national community of science. They articulate; they transfer; they are innovative. Biology demonstrates a 3 mission program beyond general ed: Allied Health careers, Biology Major transfer course sequence and Biotechnology careers. SLO are being discussed at the Division level and reflect course content integrated at the laboratory level. The process has been uneven, but productive. They exemplify a “diverse community of learners” and provide services that support...the students with its connection to Science Learning Center-related activities. The program is developing a mission statement and a philosophy statement. Science rocks.

Strategic Initiative	Institutional Expectations	
	Does Not Meet	Meets
<b>Part I: Access</b>		
<b>Demographics</b>	<i>The program does not provide an appropriate analysis regarding identified differences in the program’s population compared to that of the general population</i>	<i>The program provides an <u>analysis</u> of the demographic data and provides an interpretation in response to any identified variance.  If warranted, discuss the plans or activities that are in place to recruit and retain underserved populations.</i>
<p><b>Efficacy Team Analysis and Feedback: meets.</b></p> <p>The program provides an analysis and interpretation of the demographic data. Females dominate followed by Hispanics. There is a 5 increase in Asian students. Biology is the gateway of pre-requisites for allied health professions. Its’ numbers contracted with the economy. FTEF for 2012 is 29.94 and WSCH per FTEF is 563. Actions to address the changing demographic characteristics are tutoring, study skills workshops and supplemental workshops for Biology majors and Pre-Allied Health areas.</p>		
<b>Pattern of Service</b>	<i>The program’s pattern of service is not related to the needs of students.</i>	<i>The program provides <u>evidence</u> that the pattern of service or instruction meets student needs.  If warranted, plans or activities are in place to meet a broader range of needs.</i>

**Efficacy Team Analysis and Feedback: meets.**

The patterns of service are equitable. Course opportunities encompass mornings, afternoons, evenings and Saturdays. There are 2 online-hybrid sections of Human Anatomy for the pre-Allied Health Students. The program has 3 component missions to serve 1) general education students; 2) pre-Allied Health students and 3) a new 3 semester Biology major.

**Part II: Student Success**

**Data demonstrating achievement of instructional or service success**

*Program does not provide an adequate analysis of the data provided with respect to relevant program data.*

*Program provides an analysis of the data which indicates progress on departmental goals.*

*If applicable, supplemental data is analyzed.*

**Efficacy Team Analysis and Feedback: meets.**

Student retention is at 76% and success at 57% for 2012. This reflects a 5% increase. STEM grants have a positive impact here. Despite the program contraction, lab classes cap at 28 students for safety reasons. Improvement may reflect, in part, the recent addition of pre-requisite preparation for GE transfer and pre-Allied Health students. Better ED Planning and STEM counseling tie in here also. Looking at Master Plan initiatives: 1) a new Biology 155 course is up and running. 2) The new 3 semester biology major will be rolled out fall 2013. 3) The biology Native Planters have matured. Pride is demonstrated.

**Student Learning Outcomes and/or Student Achievement Outcomes**

*Program has not demonstrated that they have made progress on Student Learning Outcomes (SLOs) and/or Service Area Outcomes (SAOs) based on the plans of the college since their last program efficacy.*

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**Efficacy Team Analysis and Feedback: meets.**

A division wide conversation was initiated, in the Fall of 2012; concerning aspects of course level and program level SLO assessment and functionality. The conversation identified the need to move toward an annual SLO assessment process. The science demands a tighter feedback loop between results, change process and teaching a living science. The bulk of SLO assessment integration happened at the laboratory level. Much was illuminated and modified in the pacing of concept to experiment and scientific writing for lecture and lab. Program level SLO were developed to assess the preparation of biology major students for transfer.

**Part III: Institutional Effectiveness**

**Mission and Purpose**

*The program does not have a mission, or it does not clearly link with the institutional mission.*

*The program has a mission, and it links clearly with the institutional mission.*

**Efficacy Team Analysis and Feedback: meets.**

The mission is obvious, but a formal statement is in development. There is diversity and quality of education. The statement will include foundational college functions related to the sound academic and intellectual preparation in a stimulating and student focuses environment. The diverse academic and career goals that are associated with the Biology Programs ethnically diverse population exemplify "...a diverse community of learners."

**Productivity**

*The data does not show an acceptable level of productivity for the program, or the issue of productivity is not adequately addressed.*

*The data shows the program is productive at an acceptable level.*

**Efficacy Team Analysis and Feedback: meets.**

Biology is very productive and very connected in the course work and in outreach In spite of the mandatory limits placed upon the number of students able to register for each lab course; the programs WSCH/FTEF has been consistently above the 525 goal (established by the College).

<b>Relevance, Currency, Articulation</b>	<p><i>The program does not provide evidence that it is relevant, current, and that courses articulate with CSU/UC, if appropriate.</i></p> <p><i>Out of date course(s) that are not launched into Curricunet by Oct. 1 may result in an overall recommendation no higher than Conditional.</i></p>	<p><i>The program provides evidence that the curriculum review process is up to date. Courses are relevant and current to the mission of the program. Appropriate courses have been articulated or transfer with UC/CSU, or plans are in place to articulate appropriate courses.</i></p>
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**Efficacy Team Analysis and Feedback: meets.**

Courses are up to date in content review. Bio 123 and Bio 204 are being modernized or retired. The department is current.

**Part IV: Planning**

<b>Trends</b>	<p><i>The program does not identify major trends, or the plans are not supported by the data and information provided.</i></p>	<p><i>The program <u>identifies and describes</u> major trends in the field. Program addresses how trends will affect enrollment and planning. Provide data or research from the field for support.</i></p>
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**Efficacy Team Analysis and Feedback: meets.**

There are trends at the local, regional, state and national level. Biology programs are impacted by Genomic information impacting cellular biology to ecological studies. Patient Protection and Affordable Health Care Act of 2010 will affect the training of Allied Health Care Workers. Educational reforms advanced by accrediting bodies on all matters related to SLOs. State economic and educational reforms will hopefully help us grow. Regionally there is a new medical school. Big relationship to grow. State Employment Development Dept. suggests an large employment outlook. (See page 18 of the self-review). Making best use if the student success center and building mentorships.

<b>Accomplishments</b>	<p><i>The program does not incorporate accomplishments and strengths into planning.</i></p>	<p><i>The program incorporates substantial accomplishments and strengths into planning.</i></p>
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**Efficacy Team Analysis and Feedback: meets.**

Can you hear them tooting their horns? They should. Increased success and retention. They have grown the program; a new major, biotech program, best use of STEM grants, cooperative learning and field projects. The Biology planters initiatives are meaningful. They are meeting their course related goals (page 2 of the self-assessment).

<b>Weaknesses/challenges</b>	<p><i>The program does not incorporate weaknesses and challenges into planning.</i></p>	<p><i>The program incorporates weaknesses and challenges into planning.</i></p>
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**Efficacy Team Analysis and Feedback: meets.**

SLO development; course level research and finalizing the mission statement. They are planning a philosophy statement as well. The web of biology has many weavers. They will integrate and create a synergy of science.

**Part V: Technology, Partnerships & Campus Climate**

	<p><i>Program does not demonstrate that it incorporates the strategic initiatives of Technology, Partnerships, or Campus Climate.</i></p> <p><i>Program does not have plans to implement the strategic initiatives of Technology, Partnerships, or Campus Climate.</i></p>	<p><i>Program demonstrates that it incorporates the strategic initiatives of Technology, Partnerships and/or Campus Climate.</i></p> <p><i>Program has plans to further implement the strategic initiatives of Technology, Partnerships and/or Campus Climate.</i></p>
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**Efficacy Team Analysis and Feedback: meets.**

It is a race to keep up with the significant changes in knowledge, equipment and the science. For example: GPS units in field research; statistical analysis software for use in cellular and molecular biology; I pad Human anatomical apps; BioPac human physiological data acquisition analytical hard and software; Digital Microscopy in A&P labs.

Partnerships are a diverse set of informal and formal partnerships with entities outside the college: National Science Foundation, Dept. of Agriculture, Rocky Mountain Biological Laboratory, and Mentornet.

The landscape Planter Initiative is in its' fourth year. It is beautiful and scientific.

**Part VI: Previous Does Not Meets Categories**

*Program does not show that previous deficiencies have been adequately remedied.*

*Program describes how previous deficiencies have been adequately remedied.*

**Efficacy Team Analysis and Feedback (N/A if there were no “Does not Meets” in the previous efficacy review):**