**Sinclair Community College - Continuous Improvement Annual Update 2010-11**

**Program:** AAS in Biotechnology (BIOLOGY)

**Section I: Trend Data**

1. **Program Trend Data**

From BTN 130 in Fall 2009 (second year students) we have retained 15 of the origional 27 students.

Grades in BTN 130 (our gateway course) have increased 7% in winter 2011 from winter 2010.

 BTN 210 had 5 students in 2009 and increased to 16 students and had a class average of 81%

Enrollment trends seem to indicate an upward momentum and that trend will be supported with the awarding of the Bioscience DOL grant (2010).

With community partnerships, the program has seen an increase in internship opportunities.

1. **Interpretation and Analysis of Trend Data** *Suggestions of questions that might be addressed in this section: What trends do you see in the above data? Are there internal or external factors that account for these trends? What are the implications for the program or department? What actions have the department taken that have influenced these trends? What strategies will the department implement as a result of this data?*

To increase success in BTN 130 in Winter 2011 the department initiated 5 required math homework assignments. If a student misses more than 2 points on the homework they are given a second assignment to further help in that chapter where they can earn some of their missed points back (incentive to do the extra practice) and grades have improved 7% overall.

Starting in Spring 2010 the department initiated remedial math review for student getting a C or D in BTN 130 to help improve their math skills and increase retention. Those with a C tended to participate voluntarily and have been retained, those with a D tended not to participate in the remedial math and have been lost. In Spring 2011 more pressure will be put on those students with a D to participate in the remedial math program.

In regards to the internships, the department continues to work with Terry Maiwurm in order to obtain quality internships. We also recently developed contacts at UES labs to provide internships and possible employment upon degree completion.

To meet the demands placed upon the institution by displaced workforce, the department has worked with workforce development at SCC to advertise available grant opportunities for displaced workers to complete an AAS in biotechnology or the biomanufacturing certification course.

**Section II: Progress Since the Most Recent Review**

1. What was the fiscal year of the most recent Program Review for this program? 2005-2006
2. Briefly summarize the goals that were listed in Section IV part E of the most recent Program Review Self-Study (this section of the Self-Study asks “What are the department’s/program’s goals and rationale for expanding and improving student learning, including new courses, programs, delivery formats and locations”)?

\*As our administration continues to define the goals for Sinclair at the

YMCA and Warren County sites, the Biology department is committed to providing course offerings that support these efforts.

At this time, our primary goal is to meet the growing enrollment demand

for Top 45 biology courses that are now called “gatekeeper” courses, namely BIO 107 Human Biology, BIO 141-143 Human Anatomy and Physiology I- III, BIO 111-113 General Biology I-III (for non-majors). No new courses are planned at this time.\* \*As stated in the review\*

1. What progress has been made toward meeting these goals in the past year?

As of the last review, the department has developed online classes for Bio 107/108, Bio 111/117, Bio 112/118, Bio 121/127, and Bio 122/128. The department has developed stategic plans for student success issues in a variety of "gatekeeper" classes. Bio 141/147 has increase student success in the past 4 years 10-15%. Bio 171 has also shown a similar increase. We continue to work on BTN 130, as referenced above.

1. What Recommendations for Action were made by the review team to the most recent Program Review? What progress has been made towards meeting these recommendations in the past year?

• Ensure appropriate developmental course prerequisites are in place in order to help students succeed. Action was staus quo, but the nursing department requested the biology department to remove the prereq of chemistry when semester conversion occurs (2012).

• Continue to ensure consistent learning outcomes among all sections. Action included self analysis during the Q to S conversion process.

• Continue collaboration with ALH departments to ensure consistent instruction and learning outcomes across sections, per ALH accreditation requirements. Action included multiple planning sessions concerning curriculumn with the newly formed "life and Health Sciences" division.

• Work with the Grants office to develop additional resources for labs. Action included work with BioOhio grant office, as well as other grant avenues.

• Continue to monitor enrollment demand and proactively offer adequate sections. Action included the hiring replacement of one tenure track faculty member and the hiring of multiple new adjunct and ACF faculty.

• Monitor emerging best practices in distance learning labs and determine options for offering high interest BIO classes in different modalities. Action included development of multiple online classes.

• Research and pilot alternative hybrid delivery modes in order meet student demand and maximize utilization of labs. Action included work with DL and book publishing companies to deliver such modes.

**Section III: Assessment of Outcomes**

The Program Outcomes for this program are listed below. **At least one-third of your program outcomes must be assessed as part of this Annual Update, and across the next three years all of these program outcomes must be assessed at least once**.

|  |  |  |  |
| --- | --- | --- | --- |
| **Accounting** Program Outcomes | In which courses are these program outcomes addressed? | Which of these program outcomes were assessed during the last fiscal year?  | Assessment MethodsUsed |
| **1) Effective verbal communication** Demonstrate effective verbal and communication in a business setting. | BTN 210, BTN 201, BTN 110 | [x]  | * graded presentations & mock inteview
 |
| **2) Mathematical skills** Apply mathematical skills to formulate and solve problems. | BTN 130/131, BTN 211, BTN 140/141, BTN 230/231  | [x]  | * graded homework, conventional testing, graded lab notebooks & lab exams
 |
| **3) General business knowledge** Describe and apply general business knowledge and skills. | BTN 201 | [x]  | * resume & cover letter, mock interivew & workplace behavior
 |
| **4) Human creativity** Develop an understanding of human creativity and its relation to society. | ?  | [ ]  | *
 |
| **5) Financial accounting, managerial accounting, etc.** Apply the principles of financial accounting, managerial accounting, cost accounting, and tax accounting. | none | [ ]  | *
 |
| **6) Interpret financial statements** Prepare and interpret financial statements. | none | [ ]  | *
 |
| **7) Personal computer operations** Demonstrate proficiency in personal computer operations and applications. | BTN 110, BTN 211, BTN 141, BTN 240/241 | [x]  | * powerpoint, word & excel used for reports.Bioinformatics teaches software used
 |
| **8) Analytical problem-solving methods** Demonstrate ability to use analytical problem-solving methods. | BTN 141, BTN 211, BTN 230  | [x]  | * students are given problems in the lab and have to find the answers themselves. Lab notebooks are graded on responses.
 |

a) How were the program outcomes assessed as part of this Annual Update? What were the results? What changes are planned as a result of the data? How will you determine whether those changes had an impact?

Outcomes were assessed by a variety of ways. Oral presentations of data, written reports, regular acedemic tests, laboratory tests, laboratory notebooks, and homework assignments. Student retention within our department is increasing across the board. Continued monitoring of enrollment and student success rates over the course of many years will ensure that the changes have made an impact.

b) What other changes have been made in past years as a result of assessment of program outcomes? What evidence is there that these changes have had an impact?

Increased work with mathematical concepts in BTN 130/131indicate increased overall grades in this course

Intergated lecture/laboratory in Bio 171 has had the highest success rate comparing data trends over the last five years.

Bio 141/147 has had its highest overall success rate at over 60% success, which is to be directly related to student success programs set up with the department

c) Describe general education changes/improvements in your program/department during this past academic year (09-10).

Integrated lecture/laboratory in Bio 171-173. Increased online classes and offerings within the department.

**Section IV: Goals for the Fiscal Year**

1. **FY 09-10:** Please describe the goals of the department that were addressed in FY 09-10. What efforts were made to meet these goals? How successful was the department in meeting these goals? What further efforts need to be made?

 Realign the BTN courses for Q2S conversion.

Expand curriculumn in the BTN program to meet the needs of industry partners.

Increase the number of internships.

Continue development of the biomanufacturing short term certificate with Workforce Development.

Involve HS teachers with curriculum changes based on Q2S conversions.

Continue to guide and support the tech-prep pathway.

1. **FY 10-11:** What are the department’s goals for FY 10-11? What efforts are going to be made to meet these goals? How will you know whether you have been successful?

Increase student success with a variety of additional pedagogical techniques.

Continue to hire qualified full time and part time faculty within the department.

Offer new and additional biology classes online.

Offer additional classes in the summer.

Continue involvement in various grants.

Questions regarding completion of the Annual Update? Please contact the Director of Curriculum and Assessment at 512-2789 to schedule a time to review the template and ask any questions.