**Unit Strategic Plan**

**2017 - 2019**

**Department: Biology Department Shelby Campus**

**Mission Statement**

The mission of the Biology Department is consistent with the mission of Jefferson State Community College. The department provides biology courses appropriate for students majoring in both science and non-science disciplines. Our teaching aims to help prepare students for their future professions both inside and outside of the scientific field and also to be a more informed member of their community, able to make responsible decisions in biological matters.

**Summary of Access, Productivity, and Effectiveness**

The Biology Department offers a wide array of courses that serve as degree requirements and foundational prerequisites for non-science majors, biology majors, and students pursuing careers in Nursing and allied health at the college and other four-year institutions. These courses include a two-course biology sequence for non-science majors (Introduction to Biology I & II), science majors (Principles of Biology I & II) and Anatomy and Physiology (Anatomy and Physiology I & II). The department also offers a one-semester course in Microbiology (Biology 220), and Human Biology (Biology 111). Four of these courses serve as degree requirements for two-year career programs **(Table 1)** offered at the college.

**Table 1: Two-year Career Program Biology Courses**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Biology 103** | **Biology 111** | **Biology 201** | **Biology 202** | **Biology 220** |
| Clinical Laboratory Technology | Funeral Services | Clinical Laboratory Technology | Nursing | Nursing |
| Emergency Medical Service (Paramedic) |  | Biomedical Equipment Technology | Physical Therapy Assistant |  |
| Biomedical Equipment Technology |  | Nursing | Radiologic Technology |  |
| Veterinary Technology |  | Physical Therapy Assistant |  |  |
| Transfer Students |  | Radiologic Technology |  |  |

**Internal Conditions:**

1. **Technology**

* Every instructor is assigned Blackboard course management shell for each course they teach. Over 60% of the faculty utilizes the Blackboard course management system within their courses. Minimal use includes the posting of the course syllabus, grades, and class communications. Instructors that maximize Blackboard in the class not only use it for the posting of course materials but also provide links to outside resources that are valuable to student success.

Additionally, several instructors utilize the technology options provided by the textbook companies. Assessments and ancillary resources are utilized to improve student learning.

* All lecture classrooms in the Health Sciences Building are equipped with a computer and projector for instructor use. This equipment allows instructors to present lecture material to the students using alternative formats such as PowerPoint, animations, and videos. Four of the five biology laboratories contain 9-10 desktop computers that are used to complete virtual biological and physiological simulations.

1. **Budget**

* The academic budget for the office and classroom supplies have met the needs of the department.

1. **Staffing**

* The department employs five full-time faculty, an office manager, and a lab coordinator. On average, the department employs seventeen adjunct instructors during the fall and spring semesters and nine during the summer. A full-time instructor from the Jefferson campus currently teaches at the Shelby campus to help maintain full-time part-time ratios.

**Table 2. Fall 2016 – Summer 2017 Credit Hour Production by Faculty Status**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Full-Time*** | | | | **Part-Time** | | | | **Total** | |
| ***Sections*** | ***Enrolled*** | ***Credit Hr. Production*** | ***Credit Hr, %*** | **Sections** | **Enrolled** | **Credit Hr. Production** | **Credit Hr. %** | **Total Number of Sections** | **Total Credit Hr. Production** |
| ***51*** | ***1,287*** | ***5172*** | ***52.4%*** | **47** | **1,180** | **4768** | **48.3%** | **98** | **9,868** |

1. **Resources**

* Several resources are available to faculty members for professional development. These resources include professional science and teacher organizations, publisher-supported seminars/webinars, Alabama Community College System sponsored events, and library-supported resources.

1. **Enrollment**

* Students pursuing degrees in Nursing and allied health programs contribute significantly to steady enrollment in Anatomy and Physiology and Microbiology courses. Enrollment in non-majors science sequence (Introduction to Biology I & II) remains constant because these courses are chosen to meet general science requirements for both the AS and AAS degrees. Additionally, the online and hybrid courses provide accessibility and flexibility to another cohort of students that may not be able to enroll in the traditional campus course offering.
* Overall enrollment patterns show an increase of 6% when comparing 2015-2016 to 2016-2017 results. All courses showed an increase in enrollment with the exception of Biology 201 which decreased slightly (.3 %). Although online courses are still very popular with students, there was a decrease in enrollment when comparing 2016-2017 to the prior year. However, hybrid enrollment increased by 9%, comparatively.

**Table 3. 2015-2016 Enrollment by Class Offering Format**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **Traditional** | | | **Method** | **Internet** | | | **Method** | **Hybrid** | | | **Method** | **Yearly Total** |
| **F** | **SP** | **SU** | **Total** | **F** | **SP** | **SU** | **Total** | **F** | **SP** | **SU** | **Total** |
| **BIO 101** | **153** | **137** | **65** | **355** | **60** | **50** | **25** | **135** | **0** | **0** | **0** | **0** | **490** |
| **BIO 102** | **18** | **31** | **17** | **66** | **31** | **26** | **31** | **88** | **0** | **0** | **0** | **0** | **154** |
| **BIO 103** | **89** | **87** | **0** | **176** | **0** | **0** | **53** | **53** | **24** | **33** | **0** | **57** | **286** |
| **BIO 104S** | **0** | **29** | **30** | **59** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **59** |
| **BIO 201** | **333** | **209** | **108** | **650** | **0** | **0** | **0** | **0** | **27** | **15** | **0** | **42** | **692** |
| **BIO 202** | **116** | **201** | **58** | **375** | **0** | **0** | **0** | **0** | **18** | **28** | **26** | **72** | **447** |
| **BIO 220** | **100** | **86** | **80** | **266** | **0** | **0** | **0** | **0** | **17** | **23** | **0** | **40** | **306** |
| **TOTAL** | **809** | **780** | **358** | **1947** | **91** | **76** | **109** | **276** | **0** | **0** | **0** | **211** | **2434** |

**Chart 1. 2015-2016 Enrollment Percentage Based**

**Table 4. 2016 -2017 Enrollment by Class Offering Format**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **Traditional** | | | **Method** | **Internet** | | | **Method** | **Hybrid** | | | **Method** | **Yearly Total** |
| **F** | **SP** | **SU** | **Total** | **F** | **SP** | **SU** | **Total** | **F** | **SP** | **SU** | **Total** |
| **BIO 101** | **148** | **146** | **67** | **361** | **65** | **63** | **30** | **158** | **0** | **0** | **0** | **0** | **519** |
| **BIO 102** | **28** | **33** | **11** | **72** | **31** | **36** | **25** | **92** | **0** | **0** | **0** | **0** | **164** |
| **BIO 103** | **117** | **86** | **44** | **247** | **0** | **0** | **0** | **0** | **33** | **26** | **0** | **59** | **306** |
| **BIO 104S** | **0** | **34** | **31** | **65** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **65** |
| **BIO 201** | **333** | **219** | **98** | **650** | **0** | **0** | **0** | **0** | **27** | **13** | **0** | **40** | **690** |
| **BIO 202** | **157** | **203** | **62** | **422** | **0** | **0** | **0** | **0** | **26** | **28** | **33** | **87** | **509** |
| **BIO 220** | **92** | **103** | **91** | **286** | **0** | **0** | **0** | **0** | **23** | **23** | **0** | **46** | **332** |
| **TOTAL** | **875** | **824** | **404** | **2103** | **96** | **99** | **55** | **250** | **109** | **90** | **33** | **232** | **2585** |

**Chart 2: 2016-2017 Enrollment Percentage**

1. **Facilities**

* The facilities at the Shelby campus adequately support the classes offered by the department. Classes are taught in various classrooms in the Health Science Building and each course with more than two-course offerings a semester has a designated laboratory. Two courses, Principles of Biology II (Bio 104) and Introduction to Biology II (Biology 102) float between available lab spaces.
* The biology department is located on the second floor of the Health Science Building. All faculty members are housed in Suite 200, and the lab coordinator is in room 207. Office space reserved for adjunct instructors is in room 203.

1. **Equipment**

* The biology department has adequate equipment to support faculty, lecture, and laboratory classes. Routinely, equipment is ordered to maintain the faculty offices and the laboratory.

**External Conditions**

All Biology courses are regulated by the Department of Postsecondary Education. A statewide syllabus and competencies are established for every course. The competencies are reviewed and updated as changes occur.

**2015-2016 Accomplishments:**

**The Biology Department continues to examine ways in which to diversify student learning and improve instruction. The following items reflect ways by which the department and individuals have made strides:**

* **Julie Maharrey** - During the summer 2015 academic semester Dr. Parker attended the Gross Anatomy Teacher Education (GATE) program at the University of Alabama at Birmingham. This professional development course will include complete dissection of the thorax, abdomen, and pelvis. It will also cover strategies on how to utilize team-based learning to teach anatomy. She also was a lecturer at UAB and informed other faculty on how Yoga can be beneficial to the physiology of practitioners. The lecture was entitled, “Yoga for Healing” and it took place on November 17, 2016. Dr. Maharrey also took advantage of professional developmental opportunities provided by Pearson Publishing. On September 20, 2016, Dr. Maharrey participated in an online workshop, The Art of Teaching Anatomy and Physiology. The webinar featured teachers who have investigated how students interact with textbook art diagrams.
* **Stephanie Miller** – Ms. Miller serves as the lead Microbiology instructor for the Shelby Biology Department. As such, she routinely assists and mentor’s adjunct faculty members who are new to the college. Ms. Miller also had the opportunity to represent Jefferson State Community College at the 2015 Alabama Community College System Human Resource Management Association Diversity Conference.
* **Nakia R. Robinson -** Dr. Robinson continues to serve in dual roles as the Division Chairperson of the Biology and MEP and the Associate Director of Developmental Education. Her duties include serving as the System liaison to the Developmental Education Task Force, system representative at state and national meetings, and assisting colleges in developing and implementing educational programs that prepare students for success. In April 2016, Dr. Robinson assumed the duties of Interim Director of Academic Affairs for the Alabama Community College System.

**2016-2017 Accomplishments:**

* **Meena Bej –** Dr. Bej stays abreast of current research in the biological sciences and medicine through literature searches and attending seminars at the University of Alabama at Birmingham.
* **Julie Maharrey-** Dr. Maharrey participated in several professional development activities during the 2016-2017 academic year. **(1)** Dr. Parker attended the Gross Anatomy Teacher Education **(GATE)** program at the University of Alabama at Birmingham. This was Dr. Parker’s year third year in attendance. (2) Workshop: What is Fascia. (3) Pearson New Product Seminar. Additionally, Dr. Maharrey was elected Vice-President of the Jefferson State Community College AEA chapter.
* **Stephanie Miller –** Ms. Miller represented Jefferson State Community College at the 2016 Alabama Community College System Human Resource Management Association Diversity Conference. She also was selected to become a member of Jefferson State’s Selection Committee for the college’s inaugural Leadership Academy.
* **Nakia R. Robinson –** Dr. Robinson continues to serve in dual roles as the Division Chairperson of the Biology and MEP and the Interim Director of Academic Affairs and the Associate Director of Developmental Education for the Alabama Community College System.
* The Shelby Biology Department along with the Jefferson, Pell City, and Clanton campuses continue to partner successfully with one another to collect, analyze and review student learning outcome data.

**Unit Goals - 2017-2018:**

**Goal 1: Purchase overhead projector**

1. Objectives

* Replace projector in room 234

1. Method of Assessment

* N/A

1. Additional Funds Requested

$869.00- Diversified company quote.

**Goal 2: Upgrade of dissection models for the Anatomy and Physiology laboratory.**

* + - 1. Objectives
* To add additional models for Biology 201 laboratory
  + Increase the number ocular system models
* To add additional models for the Biology 202 laboratory
  + Increase the number of heart models
    - 1. Method of Assessment
* New models will be included on laboratory exams
* Informal feedback and conversation between students and instructors
* End of the semester course evaluation forms

1. Additional Funding requests- Funds are requested used to purchase the following laboratory specimen/items.

* Biology 201 – 3 Eye Models (Fisher/S17118B) @ $562.00 each
* Biology 202 - 4 Heart Models (Fisher/S171572) @ $561.80 each

**Goal 3: Replace autoclave in Microbiology lab**

**Objective**

* The current autoclave was purchased during 2003 academic year. More recently, the twelve year old unit has undergone a number of repairs. When it is inoperable, there is a lag in the laboratory schedule, equipment is not sterilized in a timely fashion, and the lab coordinator, instructors, and students have difficulties completing task on schedule. Therefore, it is necessary to take the appropriate steps to order a new autoclave to make certain that there is a reliable and functioning piece of equipment that will serve the needs of the department.
  + - 1. **Method of Assessment**
* The autoclave will be monitored by the both the lab coordinator and microbiology lead microbiology instructor, Ms. Stephanie Miller.
  + - 1. **Additional Funding Request**
* $38,712.00 - Primus Sterilizer Company Quote

**Goal 4: Introduce innovative lab experiences to increase and improve the number of STEAM activities for students enrolled in high demand Workforce fields.**

1. Objective
   * Utilize grant funds awarded through the Alabama Community College System’s Workforce Development Division to align laboratory activities with regional workforce development strategies and priorities.
2. Method of Assessment
   * The biology department will purchase equipment to conduct the following activities:
     + DNA Fingerprinting – Exploring Electrophoresis and Forensics
     + Backyard Brains – Neurobiology lab kits that can be used in both General Biology and Anatomy Courses.
     + Cellular Respiration – Fermentation tubes will allow student to complete several different activities related to fermentation.
     + Classroom Polymerase Chain Reaction Laboratory Station - Experiments include but are not limited to gene cloning, genotyping, PCR- testing of water contaminants, and mitochondrial DNA analysis.

Students will be assessed via laboratory test and surveys. Instructors will provide feedback based on their experiences.

1. Additional Funding Request

* No funds required, goal will be funded by grant award.

**Goal 5: Hire new faculty member to fill vacancy due to anticipated retirement of current faculty member**

1. Objective
   * Maintain the full-time/part-time ratio of faculty within the department.
2. Method of Assessment
   * The new faculty member will be formally evaluated annually by department chairperson
   * The new faculty member will be evaluated formally by students at the end of each semester.
3. Additional Funding Request
   * Education and experience will determine the salary of the new faculty according to the D-1 salary scales.

**Unit Goals 2017 – 2018**

**Goal 1: Introduce peer instructor evaluations to improve faculty instruction.**

1. Objective

* Implement peer instructor evaluations 1-2 times during an academic year to allow partnering instructors an opportunity to evaluate each other’s online resources, in-class experiences, resources, and assessment results. The peer review process will allow instructors to share ideas and identify best practices.

1. Method of Assessment

* Participant feedback

1. Additional Funding Requests

* No funding resources requested.