**Unit Strategic Plan**

**2021 - 2023**

**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 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 Survey of 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 |   |   |
|  |  | Respiratory Therapy | Respiratory Therapy |  |

**Internal Conditions:**

1. **Technology**
* Every instructor is assigned Blackboard course management shells for each course they teach. 100% of faculty (Full-Time & Adjunct) were required to utilize the Blackboard course management system within their courses.; due to required Full-Online Instruction during the Mid-Spring 2020 semester, through Summer 2021. Starting with Fall 2021, there was a ‘return’ to Full, On-campus instruction (where applicable), but over 60% of the combined Faculty continue to utilize online resources, including Blackboard. 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, which include virtual assignments and laboratory exercises. Assessments and ancillary resources are utilized to improve student learning.
* All lecture classrooms in the former, Health Sciences Building (JMB) 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 have been recently upgraded by the I.T. department and are used to complete virtual biological and physiological simulations.
1. **Budget**
* The academic budget for the office and classroom supplies recently met the needs of the department. Due to the subsequent, forced transition to online instruction in relation to the COVID-19 pandemic, and the ‘return’ to Full, on-site instruction there is a continuing need to increase equipment, computers, scientific models and other tools so there was/is a need for increased funds to ensure social distancing and safety, Covid-protocols mandated by the system office and the college.
1. **Staffing**
* The department employs four full-time faculty (one anticipated for the Spring 2022 semester, for a total of five), an office manager, and a lab coordinator. Due to recent pandemic effects, the average adjunct roster for the department has diminished, from seventeen instructors during the Fall and Spring semesters and nine during the Summer to less than half of expected. There is a continued advertisement drive to build the adjunct pool; the decrease has helped to maintain full-time part-time ratios.

|  |  |  |
| --- | --- | --- |
|  |  |  |
| ***Full-Time*** | **Part-Time** | **Total** |
| ***Enrolled*** | ***Credit Hr. Production*** | ***Credit Hr, %*** | **Sections** | **Enrolled** | **Credit Hr. Production** | **Credit Hr. %** | **Total Number of Sections** | **Total Credit Hr. Production** |
| ***928*** | ***3,712*** | ***41.4%*** | **36** | **1,314** | **5,256** | **58.6%** | **89** | **8,968** |

Table 3. Fall 2019-Summer 2020(Department/Discipline Campus)

|  |  |  |
| --- | --- | --- |
| ***Full-Time*** | **Part-Time** | **Total** |
| ***Enrolled*** | ***Credit Hr. Production*** | ***Credit Hr, %*** | **Sections** | **Enrolled** | **Credit Hr. Production** | **Credit Hr. %** | **Total Number of Sections** | **Total Credit Hr. Production** |
| ***33*** | ***132*** | ***32.7%*** | **3** | **68** | **272** | **67.3%** | **8** | **404** |

Table 4. Fall 2020-Summer 2021

1. **Resources**
* With the Spring 2020 push to Full-online instruction, there was a quick transitional period and the Two-Year college system and its’ allies, helped to develop and provide several online/virtual resources that were/are available to faculty members for professional development. These resources include professional science and teacher organizations, publisher-supported seminars/webinars, support/wellness groups, Alabama Community College System sponsored events, and continued, library-supported resources.
1. **Enrollment**
* Since Summer 2021, there has been a steady push to work to normalize the student experience and ease/assist transition back to Full, on-site/on-campus instruction; perhaps due to a strong standing and deficiency in needed, First-Responders, there seems to remain, students pursuing degrees in Nursing and allied health programs, including Respiratory Therapy, contribute significantly to steady enrollment in Anatomy and Physiology and Microbiology courses. Despite a steep decline in the 2019-2021 Enrollment in majors and non-majors science sequences (Introduction to Biology I & II) in comparison to 2018-2019 data (most likely related to mandated Full Online-Instruction from 2020-2021(Spring-Summer), it is anticipated that the data from Fall 2021 will show a rebound/resurge in student enrollment. As these courses are chosen to meet general science requirements for both the AS and AAS degrees. Additionally, the online and hybrid courses continue to provide accessibility and flexibility to another cohort of students that may not be able to enroll in the traditional campus course offerings; or for those who may still have hesitation to return to on-site courses.
* The enrollment pattern for Two-Year Colleges system-wide showed a decline due to pandemic-related issues; the overall enrollment patterns for Jefferson State, Shelby, showed a slight decrease for 2019-2020(<10%) compared to 2018-2019, as most likely all sites, due to the mid-Spring semester shift to Full, Online-Instruction. However, the 2020-2021 data showed a significant decrease in enrollment patterns, compared to both 2018-2019 and 2019-2020 results(over a 99 fold deduction). Although online courses are still very popular with students, there was a drastic increase in enrollment when comparing 2019-2020 to the prior year. Of course, there was no hybrid enrollment to evaluate.

**Table 5. Enrollment by Class Offering, Shelby Campus 2019-2020**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **Traditional** | **Method** | **Internet** | **Method** | **Hybrid** | **Method** | **Yearly Total** |
| **F** | **SP** | **SU** | **Total** | **F** | **SP** | **SU** | **Total** | **F** | **SP** | **SU** | **Total** |
| **BIO 101** | **166** | **148** | **0** | **314** | **0** | **0** | **40** | **40** | **0** | **0** | **0** | **0** | **354** |
| **BIO 102** | **22** | **39** | **0** | **61** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **61** |
| **BIO 103** | **190** | **107** | **0** | **297** | **0** | **0** | **46** | **46** | **0** | **0** | **0** | **0** | **343** |
| **BIO 104S** | **0** | **72** | **0** | **72** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **72** |
| **BIO 111** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **BIO 201** | **342** | **249** | **0** | **591** | **0** | **0** | **89** | **89** | **0** | **0** | **0** | **0** | **680** |
| **BIO 202** | **148** | **201** | **0** | **349** | **0** | **0** | **73** | **73** | **0** | **0** | **0** | **0** | **422** |
| **BIO 220** | **101** | **120** | **0** | **221** | **0** | **0** | **64** | **64** | **0** | **0** | **0** | **0** | **285** |
| **TOTAL** | **969** | **936** | **0** | **1905** | **0** | **0** | **312** | **312** | **0** | **0** | **0** | **0** | **2217** |

**Table 6. Enrollment by Class Offering, Shelby Campus 2020-2021**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Course** | **Traditional** | **Method** | **Internet** | **Method** | **Hybrid** | **Method** | **Yearly Total** |
| **F** | **SP** | **SU** | **Total** | **F** | **SP** | **SU** | **Total** | **F** | **SP** | **SU** | **Total** |
| **BIO 101** | **21** | **0** | **13** | **34** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **34** |
| **BIO 102** | **0** | **17** | **0** | **17** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **17** |
| **BIO 103** | **10** | **0** | **0** | **10** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **10** |
| **BIO 104S** | **0** | **7** | **0** | **7** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **7** |
| **BIO 111** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **BIO 201** | **0** | **0** | **17** | **17** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **17** |
| **BIO 202** | **0** | **0** | **8** | **8** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **8** |
| **BIO 220** | **0** | **0** | **8** | **8** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **8** |
| **TOTAL** | **31** | **24** | **46** | **101** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **101** |

1. **Facilities**
* The facilities at the Shelby campus adequately support the classes offered by the department. Classes are taught in various classrooms, using the Covid-Protocol for Safety and Social Distancing related to the pandemic issues in the Health Science Building; 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 formerly named, Health Science Building (JMB). 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 increased their supply of equipment to support faculty in regulated guidelines/protocols related to safe practices for Covid-related exposure potential, for both the lecture and laboratory components for courses. 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, with a few recent changes made for the non-science BIO 101 course in relation to the competencies statewide. As competencies are reviewed and updated as changes occur.

**2019-2021 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 Mid-Spring 2020 semester Dr. Maharry was able to successfully pivot to a full-online, virtual learning environment; aided by the fact that she is an avid proponent of online-resources and training for her students. She completed the required, online/virtual training offered by our Two-year system for online learning and ADA (OLC Workshops). During the 2020-2021 sessions, she participated in the ILA-academy (6/2020-3/2021); She attended the virtual training provided by the textbook publisher for the Intro Biology and Anatomy & Physiology courses (McGraw Hill Reverse Classroom Biology Lab March/2021); Virtually attended the May 11 Blackboard (BB) Webinar on Collaborate-Beyond the Basics & the May 25 BB Webinar: Managing Collaborate Groups. Additionally, in May participated in the Independent Applying the QM Rubric: Quality Matters Training and in June 2021, was a continued participant in the UAB R-GATE program. Julie took advantage of the Virtual/Online platform seminars/training for online lab assignments (Sept 30, 2021). **HHMI BioInteractive Workshop: Exploring the Biology of Skin Color - and Discussions about Race - Using BioInteractive Resources.** Lastly, Dr. Maharrey continues to graciously participate in the hiring/interview process for needed Full-time faculty fillings (July and expected, October: Interview Committee for full-time bio faculty).

* **Stephanie Miller** – Ms. Miller continues to serve 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. Attended the most recent Alabama Community College System Human Resource Management Association Diversity Conference held @ the Clanton site. Attended several online/virtual platform seminars and trainings for virtual assignments and laboratories offered by a variety of textbook publishers, the system office or sister universities. /successfully completed the virtual, self-paced training/webinars for Online Instruction and ADA via the OLC Workshops system. Continued member of Jefferson States’ Leadership Academy Committee and the ILA committee.
* **Dr. Meena Bej -** Attended some of the online/virtual platform seminars and trainings for online laboratories offered by adopted textbook publishers, or the system office. Successfully completed the virtual, self-paced training/webinars for Online Instruction and ADA via the OLC Workshops system. Dr. Bej also participated in the 2020-2021 ILA program offered by the system office. 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. Dr. Bej will/has retired from the College, effective October 01, 2021.
* **Zareen Dodwad-khan –** Dr. Dodwad-Khan stays abreast of current research in the biological sciences and medicine through literature searches and attending online seminars. She successfully completed the required virtual training for online instruction and ADA (OLC self-paced workshops). As well, she attended the 2020 Diversity conference, held @ the Clanton site and offered by … She participated in the Course Hero Virtual Education Summit 2021; as well, successfully transitioned to the fully-online-instruction platform due to forced Covid restrictions. Lastly, Zareen Created a Blackboard course shell that provides a platform for biology instructors to share their resources with each other.
* **Amanda Swindall-** Amanda attended **the 18th Annual ACCSHRMA Diversity Conference,** Feb 2020**.** She is the proud recipient of the **2020-2021 JSCC Outstanding Faculty Award.** Dr. Swindall participated in several professional development activities offered virtually during the 2020-2021online academic year.She took advantage of online,virtual training opportunities, or stays current with discipline literature publishing, such as: **Continued learning in Science Teaching Pedagogy by following several STEM publications and newletters focused on STEM education:**National Institute for Science Teaching; EdSurge: Higher Ed & Tomorrow’s Professor. Additionally, she has attended online seminars, like Scientific Institute Happy Hour Webinar: Helping students navigate emotional trauma (COVID-19). 06/12/2020 and CourseSource Seminar: Evidence-based teaching resources for undergraduate biology education.12/20/2019.

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 – Achieved/Continuing 2021-2022:**

**Goal 1: Purchase/Update overhead projectors that are outdated**

1. Objectives
* Replace projector in room 234 & 230
1. Method of Assessment
* N/A
1. Additional Funds Requested

$869.00 x 2- Previous 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 to continue with Covid-Safety Protocols and Social Distancing
	+ Increase the number ocular system models
* To add additional models for the Biology 202 laboratory to continue with Covid-Safety Protocols and Social Distancing
	+ 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: Table-Top incubator for the Principles and General Biology lab**

**Objective**

* In order to add more cellular growth observation and molecular reaction assignments/laboratory experiments for the non-major and major science courses, instructors need to have access to a table-top incubator for named practices. It also assists with required social distancing for instructor and students, so they won’t be reqired to share those in other science labs. We will need to order a new table-top incubator 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 incubator will be monitored by the both the lab coordinator and full-time department instructors and the chair, Ms. Stephanie Miller.
	+ - 1. **Additional Funding Request**
* ~$1000 - Requesting Comparable Quotes

**Goal 4: 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.

**Goal 5: Maintain an informed and professional faculty to preserve the ability to offer courses that help students meet their educational and transfer goals.**

**1. Objectives:**

 1A. Provide support for professional development

 \*Encourage faculty to attend local, in-state and out-of-state conferences

2A. Continue to review Student Learning Outcome and assessments, course competencies and requirements for every course

3A. Hire additional adjunct instructors/faculty as needed

**2. Methods of Assessment**

**Objective 1A assessment**

1. Administer a faculty survey to determine faculty areas of interest for professional development
2. Review faculty Individual Action Plans for meaningful professional development needs
3. Ask faculty who have attended conferences to share their knowledge with other faculty members
4. Encourage faculty members to present at conferences/workshops.

**Objective 2A assessment**

1. Study SLO data to determine how courses can be improved
2. Implement changes to SLO and assessments
3. Continue to review annual assessment results

**Objective 3A assessment**

1. Evaluate enrollment numbers to determine if additional faculty are needed
2. Review applications and conduct interviews for additional part-time instructors as needed

**Funding requests:**$3,000 to support conference attendance for full time faculty. Requests will be on a first come basis until funds are exhausted

$2,500 to continue to provide $500 per instructor for IAP funds

**Unit Goals 2022 – 2023**

**Goal 1: ReVamp 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.

**Goal 2: Establish a faculty-student mentoring system/program.**

1.Objective

* Implement instructor evaluation and mentoring system 1-2 times during an academic year to allow participating g instructors an opportunity to encourage and cultivate students’ experience when recognizing a student that may need/desire additional instruction/tutoring to help them matriculate successfully through courses and/or chosen programs. Instructor will provide additional resources to try and improve a students’ in-class experiences, lab work, and overall assessment results. The process will allow instructors to share ideals with students that have been shown to be effective through a set of best practices.
1. Method of Assessment
* Participant feedback
1. Additional Funding Requests
* No funding resources requested.

**Goal 3: Maintain an informed and professional faculty to preserve the ability to offer courses that help students meet their educational and transfer goals.**

**1. Objectives:**

 1A. Provide support for professional development

 \*Encourage faculty to attend local, in-state and out-of-state conferences

2A. Continue to review Student Learning Outcome and assessments, course competencies and requirements for every course

3A. Hire additional adjunct instructors/faculty as needed

**2. Methods of Assessment**

**Objective 1A assessment**

 1.Administer a faculty survey to determine faculty areas of interest for professional development

 2.Review faculty Individual Action Plans for meaningful professional development needs

 3.Ask faculty who have attended conferences to share their knowledge with other faculty members

 4.Encourage faculty members to present at conferences/workshops.

**Objective 2A assessment**

1.Study SLO data to determine how courses can be improved

2.Implement changes to SLO and assessments

3.Continue to review annual assessment results

**Objective 3A assessment**

1.Evaluate enrollment numbers to determine if additional faculty are needed

2.Review applications and conduct interviews for additional part-time instructors as needed

**Funding requests:**$3,000 to support conference attendance for full time faculty. Requests will be on a first come basis until funds are exhausted

$2,500 to continue to provide $500 per instructor for IAP funds