

**PROGRAM REVIEW IMPLEMENTATION PLAN  
PROGRESS REPORT  
Biosystems and Agricultural Engineering  
2018 - 2019**

- 1. Recommendation 1. Develop a portfolio approach to balance the department's efforts across all missions – research, instruction, and extension.**

**Assessment method:**

Determine the proper distribution of faculty members (area of specialization within the department and Regular versus Extension Title) through departmental faculty meetings to determine future faculty hiring.

**Results:**

Data have been collected to determine the faculty distribution based on area of specialization, DOE, and title series. This information has been discussed in monthly faculty meetings. We have three faculty members who have taken roles as Associate Deans. This has led to the redistribution of the work load among faculty.

**Analysis of results and reflection:**

The faculty agreed on hiring two faculty members with a focus on the bioenvironmental specialization. One would be regular title series located in Lexington and the second in the extension title series located in Princeton. The position descriptions were agreed on by the faculty and have moved into the College administration. A third position in the regular title series in Lexington related to fermentation that would support the Beam Institute is being discussed.

**Ongoing improvement actions:**

Ongoing

- 2. Recommendation 2. Develop strategies to preserve the collaborative and cooperative culture of the department.**

**Assessment method:**

Increase the impact and number of events been held to engage undergraduate students, graduate students, staff, and faculty. This will continue to maintain and expand the collaborative nature of the department.

**Results:**

A new event was held targeted to undergraduate students, graduate students, staff, faculty, alumni, and retirees. The first BAE Academic Showcase was held at Spindletop Hall on April 25 to highlight the achievements of all groups. students, staff, faculty, alumni, and retirees. The attendance was very good (over 120) and was very well received. Awards to current students and alumni were presented.

The second event was a graduate student orientation held before the start of the fall semester. This was a targeted effort to help integrate new graduate students into the department and introduce them to other departmental personnel. Lunch was provided, information session, and Q&A on how the department operates.

Additional social events were held to provide additional interaction. This included two ice cream socials in the summer, the annual Christmas breakfast, staff retirement party, co-sponsored a football tailgate, and PI day (3/14).

**Analysis of results and reflection:**

We received numerous compliments on the implementation of the BAE Academic Showcase. It is an important opportunity to recognize retirees, student's success and alumni success. The other events are difficult to evaluate the impact, although attendance was good.

**Ongoing improvement actions:**

We will continue to offer the BAE Academic Showcase. We are also in discussion with the graduate students to form a Graduate Student Organization. This would provide an important effort to integrate graduate students into professional careers.

**3. Recommendation 3. Evaluate staffing needs (technical, professional, and administrative) and ensure that assignment of personnel matches needs.**

**Assessment method:**

The breakdown of staff duties based on MJR's was performed. These were discussed with staff members during their annual performance review.

**Results:**

MJR's were tabulated and provided to the faculty for review.

**Analysis of results and reflection:**

A core group of administrative staff are required to perform the duties of the department. No changes to their MJR's are feasible. There are some staff that need the MJR's adjusted based on their current job responsibilities. These were relatively minor. Most faculty and staff acknowledged that as funding and research ebb and flow from faculty, the staff work loads change. The faculty have also discussed the possibility of dedicating staff support to help extension programs and 4-H. Staff assistance dedicated to extension efforts has been low relative to research support.

**Ongoing improvement actions:**

The Research Facilities Manager for the wet chemistry labs has resigned and taken another position. That position is in the process of being filled. The front office administrative support person retired and this has provided an opportunity to reevaluate job responsibilities related to the business side of the department. MJR's for two administrative staff associates are being reevaluated at this time.

**4. Recommendation 4. Proactively develop and implement a departmental laboratory operations and maintenance plan for all labs.**

**Assessment method:**

A committee has discussed issues and priorities to improve the laboratory wing.

**Results:**

One issue identified was safety and security. This has been addressed from a multi-faceted approach. Visibility into the labs from the hallway has been improved by installing windows in the doors. The second issue being addressed is issuing keys and having faculty verify the training required by the students. The third issue was the return of keys. Finally, signage is being modernized to help describe purpose and location of the labs.

Equipment has been updated in some labs. The Agricultural Machinery Research Lab (AMRL) was outfitted with a new lathe and milling machine. Two environmental control chambers were purchased that are much smaller scale than the current chambers used for sample conditioning.

**Analysis of results and reflection:**

All of the improvements have been well received and should help ensure a safe, productive working environment. The windows in the doors are a major improvement. This will improve safety and security by allowing people to see into the labs. Without the window, there was no way to verify someone was in the lab that should not be or was possibly injured. Processes for the issuance and return of keys was a weakness. Verifying the need for keys and training required from the faculty will help maintain safety and security. During the last semester we place a hold on the students record, this is removed when the keys are returned. Lathes, milling machine and environmental chambers will help the research and teaching needs of the department.

**Ongoing improvement actions:**

Refilling the Research Facilities Manager position will be critical to the continued modernization of the labs.

**5. Recommendation 5. Develop coursework and timeline to match PhD deliverables.**

**Assessment method:**

Benchmark our program versus peer programs.

**Results:**

Benchmark data was obtained from our peer departments. Faculty voted on changes to the program. Updated requirements will be reflected in the bulletin next year.

**Analysis of results and reflection:**

After discussion, faculty arrived at a common decision.

**Ongoing improvement actions:**

Assuming this is approved by Graduate School, no additional action is planned.

**6. Recommendation 6. Be proactive and build a strong relationship with the new Dean of the College of Engineering, and continue to collaborate at all levels to the benefit of both colleges.**

**Assessment method:**

The department chair (or representative) will continue to attend the leadership meetings and events in both Colleges. The chair will meet with both deans once per semester to discuss issues and areas of strength.

**Results:**

The department is involved with events and meetings with both Colleges.

**Analysis of results and reflection:**

No additional changes are planned.

**Ongoing improvement actions:**

Continue to interact with both Colleges.

- 7. Recommendation 7. Recognize the importance of Extension with DOEs that promote faculty excellence in extension by allowing appropriate time on their major appointment.**

**Assessment method:**

Schedule a faculty meeting to revisit the BAE Statement of Evidences originally written in 2009 to insure they are still relevant. Vote on any changes within two years.

**Results:**

This was delayed until a new Associate Dean for Extension was appointed. No progress has been made.

**Analysis of results and reflection:**

An emphasis has been placed on helping Extension faculty generate scholarly activity. This should help with output that can be documented.

**Ongoing improvement actions:**

Ongoing.

- 8. Recommendation 8. BAE branding should focus on the unique systems approach and benefits for addressing complex challenges today in industry careers, research, and extension.**

**Assessment method:**

Two committees have been tasked to address undergraduate numbers. The Student Recruitment and Outreach Committee (SROC) will identify one area to focus on improving the number and quality of students entering the program their sophomore year. The Undergraduate Curriculum Committee (UGCC) will identify one area to improve retention during the sophomore to senior year.

**Results:**

The SROC has been very active. A survey of current students was conducted this spring to determine student satisfaction with Biosystems Engineering. Students were asked when they decided, why they chose, what do they like, and what could be improved related to Biosystems Engineering. Two First Year Engineering Information Sessions were held on Sept 9 and Oct 24 and an additional BAE Department Open House was held on September 25.

**Analysis of results and reflection:**

The work of the UGCC and SROC has considerable overlap. Based on the survey, it was clear that most students decided on Biosystems Engineering in high school. STEM related activities in high school had a major influence on the decision to enroll in Biosystems Engineering. We are discussing

methods to increase our departments presence in 4H that would help with programming in STEM related education.

**Ongoing improvement actions:**

Changes to the First Year Information

**9. Recommendation 9. Consider developing a marketing/communication plan to address the potential impacts of a bachelor's degree in Biomedical Engineering.**

**Assessment method:**

Rejected, this is being addressed as part of recommendation 8.

**Results:**

**Analysis of results and reflection:**

**Ongoing improvement actions:**

**10. Recommendation 10. Work with the college to increase BAE alumni relations and development funds.**

**Assessment method:**

Track the growth in gifts/development funds to the department. Develop a list of funding priorities to provide to alumni

**Results:**

An Academic Showcase was held on April 25, 2019. Approximately 110 people were in attendance including undergraduate students, faculty, staff, graduate students, and alumni. This highlighted scholarships, senior design projects and awards to alumni, graduate students, undergraduate, faculty, and staff. The goal is to recognize all parties within the department and provide an opportunity for alumni to return to campus to visit the department. A tailgate organized through the College of Engineering was co-hosted by the department on October 26, 2019.

**Analysis of results and reflection:**

Developing relationships with alumni is a long-term process. We have focused on events where students, faculty, and alumni interact. We will continue the Academic Showcase and will look for other opportunities to engage alumni.

**Ongoing improvement actions:**

Ongoing.