Following are the key aspects of the desired futures in the departments and its components of teaching, research and extension.

**Department Mission and Vision**

*The mission of the Biosystems Engineering Department is to develop and disseminate engineering knowledge to solve problems in biological systems, natural resources, and the environment. This mission supports economic development, sustainability and improved quality of life for the citizens of Alabama.*

*Our faculty and staff endeavor to be recognized nationally for excellence and for the impact that the Department makes through its work.*

*We are committed to:*

- Offering an excellent student experience.
- Focusing on stakeholder needs.
- Providing a family environment for students, staff, and faculty.
- Fostering a collegial work experience for faculty and staff.

**Overall Departmental Activities Needed**

1. Create events to build community throughout the department.
2. Develop a standard of faculty expectations.
3. Create a marketing plan for the department.
4. Create database of alumni.

**Key Aspects of Undergraduate Education Preferred Future**

*Grow the number of students in the department while improving the quality of the student experience.*

1. Define the expectations of the student experience.
   a. Ideas to consider: core courses or competencies, travel, department or field work, lab experience, practical experience similar to forestry, advising, career counseling, job placement, consider integration strategies for international students
2. Develop recruitment and marketing plan.
   a. Ideas to consider: messaging that relays relevance and impact, building connections with schools and STEM initiatives, exposure to middle and high school students, outreach connections, tap into marketing and recruitment efforts of Agriculture and Engineering colleges
3. Create student enrollment growth plan.
   a. Ideas to consider: set target numbers in a metric of faculty and space requirements, use combined labs, explore expansion of 2+2 programs
4. Explore curriculum flexibility options.
   a. Ideas to consider: choices for personalization and meeting specific needs, have a core course list
5. Determine feasibility of a Technology Based Management program.
   a. Ideas to consider: name of the program, content of the curricula, collaboration with faculty from School of Forestry
Key Aspects of Graduate Education Preferred Future
Grow the number of students in the department while improving the quality of the student experience.

1. Define the expectations of the student experience.
   a. Ideas to consider: checklist of experience elements, expectations, opportunities for profession exposure, set of core courses, use of seminar hours
2. Create student enrollment growth plan.
   a. Ideas to consider: balanced work load of faculty assignments, balance of masters and doctoral students, balance of domestic and international students, use of the CASIC labs
3. Develop a marketing plan for the ABM and Non-Thesis Masters.
4. Develop graduate only courses.
5. Explore the feasibility of a 3+2 program and distance education.

Key Aspects of the Research Preferred Future
Conduct research in focused areas of national priorities and regional needs. Attain $2.5M in research funding. Maintain research focus in poultry, precision agriculture, and Instrumentation. Select focus areas with long term external funding opportunities (bioprocessing, bioproducts, bioenergy and ecological engineering, water resources).

1. Identify strategies and needs for funding development.
   a. Ideas to consider: faculty skill development areas relative to funding development, collective project to “go after”, earmarks, political advocacy, regional fund opportunities, endowments, avenues to know what is available
2. Develop funding relationships.
   a. Ideas to consider: political, interdepartmental, foundations, industry, international, seminars by key people
3. Create plan to maintain state of the art equipment, technology, and instruments.
   a. Ideas to consider: funds specifically for equipment, operating service/recharge centers

Key Aspects of the Extension/Outreach Preferred Future
Mission of impact on Economic Development, Sustainability and Quality of Life through a presence in Agronomic Crops Engineering (including Water), Precision Ag (engineering for operations in agriculture and forestry), Poultry Technology, Water Resources, Forest Products (bio-based products). Increase in industry collaborations. Recognition of the impact by the department.

1. Develop a communication plan for the department’s impact on Economic Development, Sustainability and Quality of Life.
   a. Ideas to consider: creation of impact stories, involve county extension contacts as messengers/ambassadors
2. Develop industry relationships.
   a. Ideas to consider: faculty skill development areas relative to industry relationship building, identifying collaborative opportunities, usage of the advisory committee, relationships with graduates
3. Build a case and explore funding for Extension Water Resources positions.
4. Maintain positions in Precision Agriculture and Poultry.