3.3.1.4 Institutional Effectiveness: Research within its mission

The institution identifies expected outcomes, assesses the extent to which it achieves these outcomes, and provides evidence of improvement based on analysis of the results in each of the following areas: research within its mission, if appropriate.

Judgment of Compliance

In Compliance

Narrative

Research at The University of Alabama (UA) is a critical component of its mission, which places an “emphasis on quality programs of teaching, research, and service,” and is a key focus of its institutional vision that UA “will be a student-centered research university.” It also plays a prominent role in the strategic goals set by UA to “advance the University’s academic, research, scholarship and service priorities, consistent with a top tier university, and continue to promote growth and national prominence in these areas,” and to “enhance the teaching, research and service mission of the University by retaining and recruiting outstanding faculty and staff.” [1]

The inclusion of research in UA's mission furthers two broader purposes. The first is education that leads to student success. Research activities are vital to UA's role as a student-centered research university. Faculty engagement in research provides opportunities for undergraduate students, as well as graduate students and postdoctoral fellows, to participate in research in order to further their academic growth. The second is economic development. UA's research endeavors support economic development through innovation and entrepreneurship, providing the conduit for technology transfer and commercialization that is needed to realize solutions to problems that confront society and to realize the vision of “enhancing the quality of life, not only for all Alabamians, but for citizens of the nation and world.” [1]

UA has defined its research mission “to facilitate and promote the pursuit, discovery and dissemination of knowledge through research, creative scholarship and technology transfer that impacts our students and our many constituencies within the State of Alabama, the nation and the world.” [2]

Its research vision is one of “Innovation. Creativity. Discovery. For Alabama. For the World.” This vision is expanded on the Research webpage [2], stating that through “exploring new technologies, developing the mind power to advance scientific discovery, and finding ways to harness the power of creative thought that will fuel the economy of the future”, this will transform “our state’s oldest and largest university into one of the nation’s premiere student-centered research institutions.”

The Office of the Vice President for Research (OVPR) [3] has a principal role in facilitating and supporting the creative research and scholarship efforts of the University in collaboration with public, private and governmental partners. The OVPR has set a long-range strategic goal in support of the University's mission, vision, and strategic goals, to increase the breadth of the University’s research activity consistent with a top tier research university and to raise brand awareness of the University as a hub of research, not just within the state but also beyond.
To that end, in October 2012 the Vice President for Research (VPR) charged the Research Advisory Committee (RAC) with developing a document outlining ideas for increasing external funding at the University. The RAC began assessing the University’s current resources and environment and making a comparison of UA’s research to identified peer institutions, such as those in the SEC. In October 2013 a draft of the report was provided to the VPR and the Provost who both responded with direct follow-up and written feedback. The report and the comments were then discussed in-depth with the VPR and the final report, “The PRIME Report”, was provided in November 2013 to the new VPR, who characterized the report as an important roadmap for strengthening the University’s research programs.

Recommendations from the RAC based on the findings in the PRIME report were made to enhance the research profile of UA over the next decade, to move its research ranking up among peer institutions, and place UA among the nations’ top research universities while retaining its current key strengths. Increasing research productivity and scholarly output were the focus of the recommendations, thus potentially raising UA’s recognition around the world, cultivating a stimulating environment to recruit and engage the best and the brightest students, enriching the local community, and cultivating a knowledge-driven regional economy poised to provide prosperity far beyond the initial research funding investments. The five core recommendations offered by the RAC are built upon the acronym PRIME. These five PRIME recommendations are: (1) Promote research and graduate programs, (2) Recognize and invest in key research areas, (3) Increase the ratio of graduate to undergraduate students, (4) Modernize and streamline research support systems, and (5) Empower faculty for research excellence. The philosophy behind each recommendation is explained followed by suggested action items prioritized to achieve the desired outcome in the PRIME Report.

In response to the report, the OVPR began designing and implementing a number of improvement initiatives directly supporting the outlined and discussed priorities including:

- Initiating a search for the hiring of an Associate VPR to serve as the liaison between the VPR and the faculty involved in research program development. A primary role of the Associate VPR will be the organization of a task force to develop and implement the strategic plan for research enhancement. Duties will also include promotion and development of multidisciplinary research initiatives across campus, coordination of activities among the associate deans for research and service on the OVPR leadership team.

- Designing an avenue for greater recognition of research and scholarship excellence among faculty.

- Planning to implement an award mechanism by April, 2015 to recognize research faculty in all colleges and schools.

- Planning to strengthen undergraduate research opportunities through such programs as the Emerging Scholars, the Undergraduate Research & Creative Activity Conference, and the Randall Outstanding Undergraduate Research Awards.

- Initiating a search for a campus-wide Director of Undergraduate Research. The OVPR’s support of Undergraduate Research includes financial and administrative resources. To that end, a newly created position of Director of Undergraduate Research will be responsible for coordinating current campus Undergraduate Research initiatives and encouraging and developing further opportunities and programs.

Some of the additional plans for reaching the University’s strategic goal of becoming a top-tier research institution are based on the continuous evaluation of UA’s research strengths, opportunities and strategic priorities. These three items are summarized each year in a report to The University of Alabama System Office.

In addition, future action plans also come from recognizing the need to continuously monitor and adapt to the changing research funding environment. With less funding and more competition, partnerships with state and federal agencies, non-profit organizations, businesses and other universities, across the State of Alabama and beyond, will be integral in continuing to grow the University’s research enterprise. Some examples of recent assessments and current initiatives to further UA’s research goals follow.
The Research Stimulation Program. The Research Stimulation Program (RSP), initiated in 2010, funded or agreed to fund 40 postdoctoral fellows and generated new extramural grant applications associated with each award between 2010 and 2013. A recent evaluation of the results of the program was conducted prior to making new awards in 2013 and in 2014. [13] Although this type of program can take some time to have a measurable impact, the results have not wholly supported continuing the program at the previous level and the number of awards each year was reduced. During 2014, six new proposals requesting postdoctoral fellow support were awarded funding. Results of the program will continue to be reviewed and the program adjusted as appropriate.

The Research Grants Committee Program. The Research Grants Committee (RGC) Program [14] accepts proposals for Research grants each year for full-time tenured, tenure-track, and clinical UA faculty. RGC funds are intended to support scholarly activities for tenured, tenure-track and clinical faculty. It is expected that the funding will produce a scholarly product and that this product will allow the researcher to seek additional funding from external sources to support future scholarly activity.

Based on National Science Foundation Research & Development metrics, UA’s research enterprise has grown considerably over the last decade, while it has remained at approximately the same ranking in relation to other comparable educational institutions. Accordingly, the OVPR is working with three groups; a) the RGC, b) the RAC, and c) the Associate Deans for Research [15] to restructure the RGC Program. These groups are identifying suitable metrics to characterize the types and success of the projects funded in recent years that support the long-term strategic goals of increasing sponsored program activity and raising the visibility of research and creative scholarship endeavors by students and faculty. A plan has been put in place to restructure the RGC for greater breadth of opportunity for 2015 awards including funding amounts, interdisciplinary research projects and instrumentation/equipment support.

Currently, for 2014–2015, until the completion of the proposed RGC Program restructuring, an initiative to extend the opportunities and support for interdisciplinary research activities and instrumentation is in place. The initiative will potentially provide stronger review of proposals and working with college research administrators to build research and scholarship strengths; provide greater training opportunities for early career stage faculty unfamiliar with processes associated with development, application and management of extramural awards; and continue to provide review feedback for both successful and unsuccessful applications.

Strategic Interdisciplinary Hire Program. The Strategic Interdisciplinary Hire (SHIP) program, an interdisciplinary strategic faculty cluster hire program targeting five OVPR-funded faculty positions, and involving at least two UA colleges, was put in place on April 8, 2014. [16] The focus area for the SHIP award should eventually be recognized as one of the core research strengths of UA at the regional and national levels, as determined by performance outcomes and peer evaluations. The cluster must be interdisciplinary, and it must expand on existing University research strengths that advance University research efforts in an area of potential strength. The cluster must synergistically utilize existing resources (personnel, facilities, etc.) within participating colleges.

Undergraduate Research & Creative Activity Conference. Undergraduate Research is important to the University’s research mission and to attracting the best students and enhancing their quality of education. The Undergraduate Research & Creative Activity Conference [17] is an annual event at UA that provides undergraduates an opportunity to highlight their research or creative activity. In an effort to broaden participation and increase collaboration in support of its strategic plan, the Office for Research began coordination of the event in 2009. Participation has grown dramatically and consistently since this change. In 2014, almost 600 undergraduates from eight colleges participated in the conference, including in interdisciplinary groups, and cross-disciplinary projects.

Emerging Scholars Program. More than one-quarter of the 2014 participants in the Undergraduate Research & Creative Activity Conference were part of the Emerging Scholars Program, [18] a unique opportunity for first-year students to engage in research with faculty members. Participation is now broader and over three times greater than in 2008, since the Office for Research began its effort to broaden undergraduate research participation and increase collaboration. Graduate School Research Funding. The UA Graduate School actively partners with academic departments to help graduate students develop their research careers and create strong, marketable CVs upon graduation. Adequate funding to support thesis and dissertation research and additional funding to present research results at national and international professional conferences are requisite cornerstones in UA’s effort to enhance research on a university-wide scale.
Graduate School Research Funding. The UA Graduate School actively partners with academic departments to help graduate students develop their research careers and create strong, marketable CVs upon graduation. Adequate funding to support thesis and dissertation research and additional funding to present research results at national and international professional conferences are requisite cornerstones in UA’s effort to enhance research on a university-wide scale.

In fall 2006, the Graduate School revamped its existing Research and Travel Grant program to actively partner with individual departments to jointly fund thesis and dissertation research projects, with a strategic long-term goal of supporting each graduate student to present at least one paper per year at a national or international meeting. Using a combination of funding from Graduate School application fees and 1:1 matching funds from departments, support has increased from funding less than 200 in 2005–2006 students to funding every student request (over 900), without any limit on the number of meetings attended per year. Requests for proposals (RFPs) for funding are circulated three times per year, and all applications received between RFPs are funded as well. As a result, both total funding and the number of students served have grown each year, increasing from less than 200 students and $75,000 during the 2005–2006 academic year to over 900 students and $600,000 in 2013–2014. Approximately 50 students each year also receive supplemental International Enrichment funding of $600, providing opportunities to take advantage of international paper presentations.

Research Centers and Institutes. To ensure the effectiveness of UA’s formal centers and institutes is fully understood and that they are in compliance with the Board of Trustees Rule 503 [19], all formal centers and institutes review their activities and submit annual reports to their Deans. [20] The following process for assessment of centers and institutes is employed:

- The Center/Institute Directors meet annually with their Dean(s) to review their mission, to discuss their previous year’s activities and to identify goals for the coming year. An annual report is submitted to the Deans, who then forward copies of the annual reports along with recommendations on continuation or termination of each center, to the Provost and to the VPR.

- To ensure completeness and consistency in reporting, the annual reports follow a specific annual report outline. [21] The report addresses each of the elements included in the outline that are relevant to the specific Center or Institute and may also include other elements unique to the individual Center or Institute. [22] [23] The Provost and the VPR review the annual reports and the recommendations of the Deans and make the final decision on continuation of each Center/Institute.

An assessment was recently conducted in conjunction with the Associate Deans for Research from each college and school and the Provost. Each UA System Board approved center was identified and included on a final list of Academic and Research Centers and Institutes. [24]

Subsequently, research priorities, needs, and appropriate constituencies were identified, and it became apparent that the productivity and missions of the centers and institutes were both significant and highly variable. Funding levels, institutional support, and revenue streams were also reviewed. It was further recognized that annual reports were not uniformly submitted. As a result, the Associate Deans for Research in the Colleges and Schools were advised that annual reports were expected in July 2014 and that, following a three-month grace period, unresponsive centers and institutes would begin to be closed. As noted in the above-referenced table, Academic and Research Centers and Institutes, new centers and institutes have continued to be identified, existing centers and institutes have been reviewed, and sun-setting has been initiated on a small subset of centers and institutes based on subsequent status review, along with recommendations from the Deans.

Reports of research and other sponsored awards, submissions and expenditures, including those of the research centers and institutes, are produced and shared on the OVPR Research Reports website quarterly and annually. [25]
Operational Assessment of the OVPR. Many outcomes and assessments for research are operationalized at the level of the offices and departments within the OVPR. The OVPR is the highest level of administration for the division and all of the expected outcomes and assessments of these offices represent the effectiveness of the OVPR. Further, the OVPR has responsibility for activities that are requirements for a University with a research mission as well as those that are crucial for the success of our researchers. These include ensuring safety in University facilities; protection for human and animal research subjects; the security of research; compliance with a myriad of federal, state and local laws, policies and guidelines related to research and sponsored program activities; protection of UA's intellectual property including patent, technology licensing and copyright activities; and efficient transfer of technology from the research facility to marketplace. These are in addition to, and necessary for, ensuring high-quality work, encouraging and supporting faculty and student research, securing resources and advocating for competitiveness.

Since Academic Year 2011–12, units within the OVPR have submitted assessment reports and revised or submitted new assessment plans each fall in the University’s online assessment system, WEAVE. Prior to 2011, the University collected assessment information through a locally-developed system, UAOPS. Attached are Detailed Annual Reports (DAR) from WEAVE for 2011–12, 2012–13, and 2013–14. The 2013–14 DAR contains assessment plans to be addressed in the Fall 2014 reports. Clicking the link next to the unit name below allows access to the DAR for that unit.

- Office for Sponsored Programs
- Alabama Innovation and Mentoring of Entrepreneurs Center
- Office for Technology Transfer
- Office for Research Compliance

In demonstrating and documenting compliance with this standard within the OVPR, outcomes, measures, results and improvements throughout the Division of Research, rather than one sample unit, are presented in the following paragraphs.

- A significant drop in research awards following the end of the Federal stimulus program in FY 09–10 led the OVPR to determine that additional services would be necessary to prevent a continuing downward trend in research activity. A new position was created within the Office for Sponsored Programs to focus on research development activities and assisting faculty in finding funding, building collaborations and developing better proposals during FY 10–11. To further support faculty in the pursuit of research funding, during FY 12–13 a partial FTE was reassigned to research development activities. This personnel increase has allowed the OVPR to provide faculty and other researchers with more networking opportunities, enhanced tools for finding funding, educational offerings and proposal development assistance. As a result:

  - Submission numbers have increased from the downturn experienced during FY 10–11 (693 submissions), improving to 754 during FY 12–13. Further, submissions for the first three quarters of FY 13–14 are slightly higher than for the first three quarters of the prior year and potentially a further increase will be seen by the end of the year as it has taken some time for faculty to adjust to changes in our routing and tracking system.

  - Award dollars received for research, instruction and public service have also increased significantly from the $65.6 million total received during FY 10–11. During FY 12–13, awards increased to $69.9 million and for the first three quarters of FY 13–14, award dollars received totaled $2.6 million more than during the same period of FY 13–14, with all of the increase attributable to awards for research.

  - The expenditures resulting from the research, instruction and public service awards are generally less subject to unpredictable fluctuation and may be a better predictor of the direction of the research enterprise. While the University’s expenditure of external funds for research remained relatively flat during the past three years, this is actually impressive when compared to the decline in the Federal Research and Development budget during that same period. Excluding stimulus funding (affecting primarily FY 2009 and 2010), the Federal R&D budget decreased from 2008 through 2013 by approximately 15%, with the majority of the decrease occurring after FY 2010. Excluding stimulus funding, the University’s Federal research expenditures increased from 2008 through 2013 by over 12%, with the majority of the increase occurring after FY 2010.
These additional resources also illustrate the value of the University’s primary tool for seeking external funding, Pivot. During the last half of the previous fiscal year, Pivot usage reports indicated 573 visitors and 37 saved searches. During the same period of the current fiscal year, reports indicated 828 visitors and 97 saved searches.

Another important emphasis of the research development efforts is an increase in research collaborations. Most major research universities are making efforts in this area due to the increasing expectations of federal and other funding sponsors for collaborative and cross disciplinary projects. In FY 2012–13 there were 206 research proposals with multiple PI/Co-PIs. During the first half of FY 2013–14 there were already 120 collaborative proposals with multiple PI/Co-PIs.

An effective research program is dependent on an effective research compliance program. The Office for Research Compliance (ORC) must ensure the rights and well-being of human and animal subjects, ensure regulatory compliance, and protect the University while supporting the University’s investigators in advancing science.

Maintaining a robust program of compliance while supporting UA’s investigators in advancing science requires dedication to effective and efficient operations. The ORC has implemented activities including an Institutional Review Board (IRB) member retreat, other IRB educational initiatives and a new protocol review form for use during full board meetings to improve efficiency while maintaining effectiveness.

- The amount of time taken to review and approve projects is a measure of the efficiency of the program and one of the factors most important to our investigators. The time spent on any one proposal has been reduced through the implementation of a form created and utilized to assess “in-meeting” reviews. The form was designed to be user friendly by allowing members the ability to adjust the document for her/his review, as appropriate. Thus far, the ORC has found a 14% reduction in approval time for projects reviewed utilizing the form.

- While the length of non-medical IRB meetings increased from 2010–1012 average length of 75 minutes to an average during the first half of 2013–14 of 90 minutes, this is attributable to the increase in the number of proposals received. A total of 115 projects was reviewed and approved during 2010–12, an average of 57 projects each year, while 69 projects were reviewed during a comparable period in 2013–14. This 21% increase in the number of projects reviewed during non-medical full board meetings is only slightly higher than the increase length of the meeting but it is anticipated that expanded use of the new form will further decrease the average review time to approval.

The important responsibility of ensuring the protection of human subjects can only be accomplished through an effective human subject’s research program. The University’s Human Research Protection Program (HRPP) remains fully accredited by the Association for the Accreditation of Human Research Protection Programs, Inc. (AAHRPP) and the program is in the process of re-accreditation. This accreditation affirms the University’s commitment to protecting research participants through a voluntary, peer driven, educational model to ensure that the University meets rigorous standards for quality and protection. Evaluations are periodically performed to identify measures that would strengthen the HRPP and strategies for needed improvements. The findings are used to develop and maintain a quality improvement program to ensure proper protection of human participants, the effectiveness of its training and guidance for investigators and compliance staff, the quality of its reviews of research applications, and the effectiveness of its community outreach.

Awareness of the intellectual property policies of UA and the services provided by the Office for Technology Transfer (OTT) are critical to effectively managing and deploying the intellectual property assets of the University. After assessing the results of its traditional, formal presentations for select departments and other groups, OTT recognized that more informal interactions would be more effective in increasing awareness. OTT found that in conducting the group sessions, conversations tended to focus on the issues of one or two attendees, leaving the majority unengaged. During the previous two fiscal years, the office conducted only 50 to 60 one-on-one meetings per year but conducted approximately 15 one-on-one meetings per month during the first half of fiscal year 2013–14.

These focused efforts led to an increase in Web traffic and invention disclosures. During the first half of fiscal year 2013–14, OTT’s website averaged 436 visits per month, a significant increase over the
prior year average of 311 visits per month. This included 262 unique visitors and over 3,100 page views. OTT has averaged 6.8 new invention disclosures per month during the first half of fiscal year 2013–14, a significant improvement over the 36 and 48 disclosures received during each of the previous two fiscal years.

- Supporting the effectiveness of the University’s commercialization activities as well as entrepreneurship, the Alabama Innovation and Mentoring of Entrepreneurs Center (AIME) [37] provides an environment for the creation of business plans and entrepreneurialism and promotes business plan involvement. These efforts are focused on the development of UA’s Intellectual Property into commercialization through a student-centered entrepreneurial program resulting in enhanced local economic development and competitiveness. During FY 12–13, it was recognized that existing efforts to involve students were not producing desired results. AIME, therefore, initiated and launched its Crimson Canvas and Crimson Innovation programs and became very involved with the STEM to MBA program.

- As a result, the number of students participating in business plan and entrepreneurial focused assignments during the current year improved dramatically. During FY 12–13, AIME worked with approximately 34 students and during FY 13–14, increased involvement to 147 students. AIME also achieved a significant increase in the number of students involved, through partial ownership or in a leadership position with the launch of start-up companies from 4 in the prior year to 7 in the current, FY 13–14, year.

Supporting Documents

1. Mission, Vision, Strategic Goals (PDF)
2. Research Mission and Vision (PDF)
3. Research Administration (PDF)
4. Research Advisory Committee (PDF)
5. Research Advisory Committee Minutes (PDF)
6. Research Advisory Committee PRIME Report (PDF)
7. Associate VP Research Position Announcement (PDF)
8. Emerging Scholars (PDF)
9. Undergraduate Research & Creative Activity Conference (PDF)
10. Randall Awards (PDF)
11. Director Undergraduate Research Position Summary (PDF)
12. Research Priorities (PDF)
13. Research Stimulation Program Analysis (PDF)
14. Research Grants Committee (PDF)
15. Associate Deans for Research (PDF)
16. SHIP request for proposals (PDF)
17. URCA Participation 2012–2014 (PDF)
18. Emerging Scholars Program (PDF)
19. Board of Trustees Rule 503 (PDF) 
   Full Document (PDF) 
20. Centers and Institutes Annual Reports Policy (PDF)  
21. Annual Report Outline (PDF) 
22. 2011–12 Annual Report - Center for Advanced Public Safety (PDF) 
23. 2012–13 Annual Report - Center for Mental Health and Aging (PDF) 
24. Academic and Research Centers and Institutes (PDF) 
25. OVPR Research Reports (PDF) 
26. Organization Chart (PDF) 
27. Sponsored Programs (PDF) 
28. AIME (PDF) 
29. Technology Transfer (PDF) 
30. Research Compliance (PDF) 
31. Research Development (PDF) 
32. Expenditures 5 Year History (PDF) 
33. UA Expenditures vs Federal RD Budget (PDF) 
34. COS Pivot (PDF) 
35. UA Human Research Protection Plan (PDF) 
36. Office for Technology Transfer (PDF) 
37. Alabama Innovation and Mentoring of Entrepreneurs (PDF)