The Missouri S&T Department of Mathematics & Statistics strategic plan describes shorter term actions and long term goals whose implementation will strengthen the department and contribute to the implementation of the campus strategic plan.
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**Note:** The Department of Mathematics and Statistics Strategic Plan continuously addresses themes and levers in the Missouri S&T Strategic Plan for 2013 - 2020. Throughout this document, when specific themes and levers in the campus plan are addressed, they are identified by number and the numbers are linked to the text of the corresponding themes and levers found in the Appendix.
Mission

The Missouri S&T Department of Mathematics & Statistics serves multiple roles. Through individual efforts and interdisciplinary collaborations, our research expands the frontiers of mathematics and statistics and contributes to the advancement of knowledge in other scientific and technological fields. The education we provide to future scientific and technological leaders lays the foundation on which the success of these leaders is built.

Vision

The Missouri S&T Department of Mathematics & Statistics seeks to be at the forefront of those creating new knowledge and developing innovative teaching methods.

Values

**Lifelong Success:** We add exceptional value. The rewards of the Missouri S&T experience extend far beyond a college education, valued degree or gratifying career. The S&T experience prepares you for a fulfilling life defined by the confidence to succeed, a desire to excel and a love of learning that never stops.

**Creators:** We are innovators. Building a better world demands a creative spark, innovative and entrepreneurial approaches, and curiosity to discover and explore new solutions to the world’s great challenges.

**Integrity:** We hold ourselves accountable for our actions. We strive to uphold the highest ethical standards, to conduct ourselves with trustworthiness and respect for all of humanity, and to instill in our campus community these same principles.

**Sustainability:** We live by example. As stewards of the public goodwill, the financial resources entrusted to us, and the environment, we emphasize resilient and sustainable practices in all our endeavors.

**Partnerships:** We are great partners. We focus on adding value and creating mutually beneficial partnerships. The solutions to today’s great challenges require agile collaboration, teamwork, and engagement with our stakeholders, both on the campus and in the greater business, civic national and international communities.

**Inclusion:** We are an inclusive, welcoming community. We seek to build a creative learning environment marked by openness, understanding and valuing all people and perspectives.

Strategy Statement

Missouri S&T Department of Mathematics & Statistics will provide by 2020 a top return on investment to students, employers, research partners and donors through extraordinary access to renowned expertise, services and experiential learning opportunities.
I. Actions and Goals for Undergraduate Program

1. Increase undergraduate enrollment: The Department of Mathematics and Statistics will develop a comprehensive undergraduate recruitment plan.

   First Year Actions:
   
   a. Work more closely with the Office of Admissions, the Division of Enrollment Management, and the Division of Global Learning to develop a unified strategy for attracting prospective majors in applied mathematics. (Lever 2.4)
   
   b. Send information to students who inquire about our department. (Lever 2.4)
   
   c. Send letters to students when they are admitted to our department. (Lever 2.4)
   
   d. Disseminate information about the possibility of adding applied mathematics as a second major or changing majors to current students. (Lever 2.4)

   Second Year Actions:
   
   a. Implement the recruiting strategy developed in the first year. (Lever 2.4)
   
   b. Convene the Policy Committee and/or the Curriculum Committee to discuss the possibility of additional emphasis areas and to consider other ways of making our program more attractive to prospective students. (Lever 2.4)
   
   c. Increase the visibility of our program generally; in particular, the actuarial science, computational and applied mathematics, and secondary education emphasis areas. (Lever 2.4)
   
   d. Develop networking strategies with high schools. (Lever 2.4)

   Long Term Goal (by 2020):
   
   a. Over the next five to seven years, our goal is to increase undergraduate enrollment substantially. (Theme 3)

2. Increase the educational value of our course offerings:

   First Year Actions:
   
   a. Survey students in certain classes to determine their attitudes about our current offerings and methods. (Lever 2.5)
b. Investigate ways to increase instructional efficiency using e-learning, distance learning, and other innovative delivery methods. (Levers 2.5 and 4.1)

Second Year Actions:

a. Begin implementation of select strategies to enhance instructional efficiency based on findings from actions a. and b. above. (Levers 2.5 and 4.1)

b. Investigate the possibility of new offerings that will interest and benefit students. (Lever 3.1 and possibly 2.5)

Long Term Goal (by 2020):

a. Over the next five to seven years, our goal is to implement the initiatives that were identified as beneficial and feasible.

3. **Satisfy the Experiential Learning lever in the campus Strategic Plan:** An ad-hoc committee in the Department of Mathematics and Statistics has considered the role of experiential learning in our undergraduate degree program.

First Year Actions:

a. Submit our findings to the Vice Chancellor for Undergraduate Studies. (Lever 1.1)

b. Based on feedback provided to the department, consider restructuring the course Math 371 (Problem Solving in Applied Mathematics). (Lever 1.1)

c. If feedback indicates that more substantial changes will be required, reconvene the committee to discuss the matter further. (Lever 1.1)

Long Term Goal (by 2020):

a. Over the next five to seven years, our goal is to be in compliance with Lever 1.1 of the campus Strategic Plan.

II. **Actions and Goals for Graduate Program**

1. **Increase enrollment and attract high-quality students:** The current enrollment is 49 (35 Doctoral and 14 Master’s) students. We would like to increase the total enrollment to 60 by 2020 while at the same time taking measures to ensure a steady supply of high-quality applicants.
First Year Actions:

During the first year, we plan to consolidate the gains in graduate enrollment we have achieved since 2008. No increase in the total enrollment is planned during the first year, but the following actions will be taken:

a. Explore strategies to strengthen the links we have with governments and agencies that have fully funded the education of international students to maintain a steady flow of funded students in the future. (Levers 3.7 and 4.5)

b. Explore the establishment of programs with other universities/colleges to provide us with a dependable pool of high-quality students. (Levers 3.7 and 4.5)

c. Initiate actions to increase the visibility of our graduate program through (1) developing a more effective web presence, (2) highlighting the strengths and research opportunities within the department, through flyers, booklets, visits to other colleges and universities, and (3) participating in graduate fairs and other recruiting activities of the university. (Lever 2.4)

d. Explore ways of leveraging the high percentage of female graduate students in the department to recruit high-quality female students. (Lever 3.4)

e. Explore the possibility of holding an annual mini-conference for mathematics/statistics students, alumni, and friends of the department. (Levers 2.3 and 3.5)

f. Explore and determine effective strategies for competing for high-quality students. (Levers 2.4, 3.7, and 4.5)

Second Year Actions:

a. Initiate actions to strengthen links we have with governments and agencies that have fully funded the education of international students to maintain a steady flow of funded students in the future. (Levers 3.7 and 4.5)

b. Explore additional avenues of bringing in students funded by governments and other agencies. (Levers 3.7 and 4.5)

c. Establish programs with other universities/colleges to provide us with a dependable pool of high-quality students. (Levers 3.7 and 4.5)

d. Implement actions to increase the visibility of our graduate program through developing a more effective web presence. (Lever 2.4)
e. Develop and publish a booklet highlighting the strengths and research opportunities within the department. (Lever 2.4)

f. Develop plans for a regular professional newsletter highlighting department research and other achievements that can be mailed to other institutions both within and outside the US (Levers 2.4, 3.7, and 4.5)

g. Implement strategies to leverage the high percentage of female graduate students in the department to recruit high-quality female students. (Lever 3.4)

h. Implement select strategies for competing for high-quality students. (Levers 2.4, 3.7, and 4.5)

i. Draft a plan for securing funding and holding mini-conferences. (Levers 2.3 and 3.5)

Long Term Goals (by 2020):

We hope to increase our graduate enrollment by 20% by 2020 and maintain the 2:1 doctoral to Master’s student ratio. We hope to achieve this through the actions taken during the first two years as well as through strategies such as finding additional funding opportunities for students. (Theme 3)

We also hope to build on the quality of the current students by attracting very high quality students. (Levers 3.7 and 4.5)

The following strategies will be employed to achieve this:

a. Highlighting research groups of excellence within the department to attract quality students. (Levers 2.2, 2.4, 3.7 and 4.5)

b. Establishing multidisciplinary research groups that will be attractive to students interested in interdisciplinary applications of mathematics and statistics. (Levers 1.5, 2.3, and 4.5)

c. Establishing strong research connections with researchers at other universities. (Levers 1.5 and 2.3)

d. Implementing effective strategies to compete for high-quality students. (Levers 3.7 and 4.5)

e. Leveraging programs with other universities/colleges that were established to provide us with a dependable pool of high-quality students for recruitment. (Levers 3.7 and 4.5)
f. Provide opportunities for all faculty to be involved in Master’s and Doctoral student advising. (Levers 4.5 and 4.6)

g. Publish a regular professional newsletter highlighting department research and other achievements that can be mailed to other institutions both within and outside the US. (Levers 2.4, 3.7, and 4.5)

h. Develop a list of companies for which our graduates are working and use this for recruiting purposes. (Levers 2.4, 3.7, and 4.5)

i. Offer the master’s of science for teachers (MST) degree courses online so students can complete all requirements for the degree online, thus attracting more students to this program.

2. **Streamline the graduate program and ensure student progress and success:** We hope to streamline the graduate program so as to accelerate the graduation time of doctoral students without negatively impacting quality. We also hope to establish protocols that will enable us to closely monitor the progress of graduate students to enable timely intervention when students are facing academic or other obstacles. (Lever 4.7)

**First Year Actions:**

a. Explore best practices in graduate student mentoring and ensuring student success, including measures that ensure speedy progress towards graduation. (Lever 4.7)

b. Explore the feasibility of establishing a student database that will alert students, their advisors, the Graduate Policy Committee, and the Graduate Director regarding upcoming deadlines, success in meeting established benchmarks, and academic warnings. (Levers 4.6 and 4.7)

**Second Year Actions:**

a. Form a draft plan on improving student mentoring and enhancing student success based on findings of the committee mentioned in part a. above. (Levers 4.6 and 4.7)

b. Form a draft plan for establishing a student database that will alert students, their advisors, the Graduate Policy Committee, and the Graduate Director regarding upcoming deadlines, success in meeting established benchmarks, and academic warnings. (Levers 4.6 and 4.7)

c. Explore ways of improving the current qualifying and comprehensive exam system. (Levers 4.6 and 4.7)
Long Term Goals (by 2020):

a. Implement ways to streamline the graduate program to facilitate smooth progress towards students' degree goals. (Lever 4.7)

b. Implement improved student mentorship protocols. (Lever 4.6)

c. Establish a student database that will alert students, their advisors, the Graduate Policy Committee, and the Graduate Director regarding upcoming deadlines, success in meeting established benchmarks, and academic warnings. (Levers 4.6 and 4.7)

d. Implement improvements to current qualifying and comprehensive exam system. (Lever 4.7)

3. **New certificate programs and distance courses:** The department plans to offer distance courses that will enable students to obtain the Graduate Certificate in Statistics. The department also plans to offer a certificate related to “Big Data” analysis. (Lever 3.1)

First Year Actions:

a. Design an experimental course related to Big Data. (Lever 3.1)

b. Develop Plans for offering a graduate certificate in Big Data Analysis. (Lever 3.1)

Second Year Actions:

a. Offer a course on Statistical Learning. (Lever 3.1)

b. Establish a certificate program for Big Data Analysis. (Lever 3.1)

c. Explore the feasibility of offering distance courses in subjects listed under our certificate programs such as Financial Mathematics. (Lever 3.1)

d. Develop a pilot online/web-based course for the Master’s of Science for Teachers (MST) degree program to investigate the feasibility of developing more online/web-based courses for this program. (Lever 3.1)

Long Term Goals (by 2020):

a. Have a minimum of 50 students enrolled in certificate programs and have at least five courses offered with a distance option. (Lever 3.1).
b. Develop online/web-based courses that would satisfy the requirements for the Master’s of Science for Teachers (MST) degree. (Lever 3.1).

III. Actions and Goals for Undergraduate Course Redesign and Instructional Improvement

The Department of Mathematics and Statistics is committed to offering undergraduate students, both within and outside the department, courses that offer an excellent and up-to-date education in the fundamentals of mathematics and statistics as well as their application in solving problems in science and engineering. Given the large number of student credit hours we contribute to the campus, we should seek ways to enhance students’ experience and be more efficient with our resources.

1. **Calculus Redesign:** The Department of Mathematics and Statistics has committed to extensive redesign of the three semester calculus sequence. This redesign has multiple goals:
   
   - To increase student success, leading to increased retention and timely progress toward degree completion.
   - To utilize faculty, GTA, and space resources more efficiently.
   - To leverage technological resources as appropriate throughout the courses.
   - To increase the visibility and improve the reputation of the department, both on campus and nationally.

   **First Year Actions:**
   
   a. In the first year, the department will create a committee to begin redesign. This committee will assess the current state of the calculus sequence and seek campus-wide feedback to determine current perceptions and attitudes. Redesign efforts across campus will be investigated, and various models will be identified and scrutinized. The overall redesign structure will be selected in early Spring 2014. Details will be developed over that semester, and implementation of a pilot redesign in Calculus I will take place in Fall 2014 or Spring 2015. (Lever 2.5)

   **Second Year Actions:**
   
   a. Extend the redesign to Calculus II. (Lever 2.5)
b. Initiate assessment of the effectiveness of Calculus I redesign. (Lever 2.5)

Third Year Actions:

a. Extend the redesign to Calculus III. (Lever 2.5)

b. Assess the effectiveness of the Calculus I and II redesign efforts. (Lever 2.5)

c. Explore the feasibility of migrating some features of the redesign to other courses, both below and above the calculus level. (Lever 2.5)

Long Term Goals (by 2020):

a. By 2020, we hope to have gone through several iterations of evaluating and implementing improvements to the calculus redesign and begun to use it as a template for our course redesigns. (Lever 2.5)

2. Innovative Course Enhancement: The Department of Mathematics and Statistics is dedicated to continuous development of and improvement in our courses. We aim to increase student success, leading to increased retention and timely progress toward degree completion; to incorporate campus technological resources into our courses insofar as these enhance delivery of materials and student success and satisfaction; and to increase visibility and reputation of the department across campus. (Levers 4.7, 4.1, and 2.5)

First Year Actions:

a. In the first year, many lower-level courses (calculus and below) will include various online components, including online homework and online resources. The calculus redesign will be structured to allow for possible expansion to online delivery. Instructors will be encouraged to incorporate active and collaborative learning techniques into their courses. (Levers 2.5 and 4.1)

b. Survey students and faculty to determine their attitudes about our current offerings and methods. (Lever 2.5)

Long Term Goals (by 2020):

a. Throughout the next five to seven years, instructors will be encouraged to seek funding for development of innovative teaching methods. Online delivery options will be explored and implemented as appropriate for various courses. (Levers 2.5 and 4.1)

3. Graduate Teaching Assistant Training: The Department of Mathematics and Statistics will assist our graduate students who have or plan to have teaching
responsibilities in their development as educators. It is essential to provide the campus with effective undergraduate instruction, especially in the early stages of the undergraduate experience, and these GTAs handle much of the classroom responsibilities at this level. The goals of this training are to provide undergraduate students with an excellent classroom experience and overall course experience, especially in the first mathematics courses they take, and to prepare graduate students to be effective instructors. (Levers 1.4 and 4.6)

First Year Actions:

a. The GTA Seminar course will be reviewed and updated. (Levers 1.4 and 4.6)

b. GTAs will be encouraged to attend campus events which focus on teaching and student development. (Levers 1.4 and 4.6)

Long Term Goals (by 2020):

a. The current practice of observing new GTAs in the classroom will be continued.

b. Best practices of GTA training in other institutions will be studied.

c. The teaching seminar will be modified and updated based on GTA teaching evaluations, classroom observations, best practices at other institutions, and student feedback.

4. **Student Success Resource Development:** The Department of Mathematics and Statistics organizes and participates in various types of student success services for undergraduates. These currently include the Math Learning Center and LEAD sessions in addition to the usual office hours. These offerings will be assessed for effectiveness and restructured or adjusted as needed. We aim to increase student success, leading to increased retention and timely progress toward degree completion; to utilize resources efficiently, including space and staffing; and to enhance the effectiveness of the Math Learning Center, so that it is a helpful resource for undergraduates as well as a worthwhile effort for the graduate student staff. (Lever 4.6)

First Year Actions:

a. The Math Learning Center will relocate from a small room to a Computer Learning Center to enable students to work on online homework and use online resources at the Center. (Lever 2.5)

b. Staffing hours will change based on the usage of the Center in previous semesters. (Lever 4.6)
c. LEAD sessions will also take place in this (more appropriate) environment. This will facilitate the use of the Center, as students will know they can go to a single location for assistance with mathematics and statistics course material, rather than several locations across campus. (Lever 4.6)

Long Term Goals (by 2020):

a. Assess the actual delivery of assistance for effectiveness and take corrective action where necessary. (Lever 4.6)

b. Provide more intensive training for the graduate students staffing the Math Learning Center. (Lever 4.6)

c. Assess the timing of assistance for particular courses so that the Center can be appropriately staffed and marketed. (Lever 4.6)

d. Increase graduate student involvement in Learning Center activities and quantify and incorporate such activities into GTA workload. (Lever 4.6)

e. Implement strategies to support increased faculty engagement in LEAD type activities and establish means of rewarding such involvement. (Lever 4.4)

f. Implement the tracking of Learning Center usage. (Lever 4.6)

IV. Actions and Goals for Graduate Course Development and Delivery

The Department of Mathematics and Statistics is committed to offering graduate students, both within and outside the department, courses that offer an excellent and up-to-date education in the fundamentals of mathematics and statistics as well as their application in solving problems in science and engineering.

1. **Graduate Course Development:**

   First Year Actions:

   a. Design and develop up to three experimental courses in emerging areas such as (i) analysis of data from massive or complex systems or has novel, non-traditional features, (ii) mathematical biology, (iii) financial mathematics, and (iv) coding theory. (Levers 1.2 and 1.5)
Second Year Actions:

a. Offer courses in several of the aforementioned areas. (Levers 1.2 and 1.5)

b. Develop courses based on findings based on the first year goal and continue exploring additional course development ideas. (Levers 1.2 and 1.5)

Long Term Goals (by 2020):

a. Our long term goal is to develop new courses and update existing courses that keep our graduate program competitive and up-to-date. Graduate level courses that integrate the department’s mission with that of the campus will be a major focus. (Levers 1.2 and 1.5)

V. Actions and Goals for Faculty Development

1. Development of teaching effectiveness: The Department of Mathematics and Statistics values and practices effective teaching but it aspires to further enhancing the instructional capabilities of its faculty. (Levers 1.4, 1.5, and 4.4)

First Year Actions:

a. Consult with campus leaders in teaching excellence in determining ways of further enhancing the teaching effectiveness of department faculty. (Lever 1.4)

Second Year Actions:

a. Develop a plan to assist department faculty in further enhancing their teaching effectiveness. (Lever 1.4)

b. Provide opportunities for faculty to attend workshops, training programs, and meetings that are targeted towards teaching enhancement and effective teaching. (Lever 1.4)

c. Determine ways to provide assistance to faculty in their efforts in course development, distance education, and other innovations. (Levers 1.4 and 4.1)

Long Term Goals (by 2020)

a. Implement a plan to assist department faculty in further enhancing their teaching effectiveness (Lever 1.4)
b. Continue to provide opportunities and support for faculty to attend workshops, training programs, and meetings that are targeted towards teaching enhancement and effective teaching. (Lever 1.4)

c. Implement a support structure for assisting faculty in their efforts in course development, distance education, and other innovations. (Levers 1.4 and 4.1)

2. **Development of research productivity:** The Department of Mathematics and Statistics has a reputable group of research faculty, and aspires to further enhance the research productivity of its faculty.

**First Year Actions:**

a. Gather information on best practices at other institutions that have resulted in increased research productivity. (Levers 1.2, 1.4, and 2.6)

b. Identify factors that may impede research productivity of department faculty. (Levers 1.2, 1.4, and 2.6)

c. Explore ways to further promote intradisciplinary research with outside researchers and interdisciplinary research with researchers both on and outside of our campus. (Levers 1.2, 1.4, 1.5, and 2.3)

**Second Year Actions:**

a. Develop strategies to address research productivity of department faculty based on the results of first year actions (Levers 1.2, 1.4, 1.5, and 2.6)

b. Initiate a department dialog with campus research centers into how best our faculty can support their missions. (Levers 1.4 and 1.5)

c. Establish the **Center for Statistical and Computational Modeling of Biological Complexity** in collaboration with the Department of Biological Sciences. (Lever 1.2, 1.4, 1.5, 2.1, and 2.3)

**Long Term Goals (by 2020):**

a. To develop and implement strategies for enhancing faculty research productivity. (Levers 1.2, 1.4, 1.5, and 2.6)

b. To develop and implement strategies which enhance interdisciplinary research. (Levers 1.2, 1.4, 1.5, and 2.6)

d. To complete the development of the **Center for Statistical and Computational Modeling of Biological Complexity** as a self-sustaining Class C center. (Lever 1.2, 1.4, 1.5, 2.1, and 2.3)
VI. Actions and Goals for Faculty Productivity Measures

1. **Faculty productivity Measures:** The Missouri S&T strategic plan specifically requires departments to create and use productivity measures for faculty members. (Lever 2.3)

   **First Year Actions:**
   
   a. The department will create a committee for the purpose of developing faculty performance metrics and determining a procedure by which they can be periodically evaluated and modified.
      
      i. The committee will begin exploring the performance measures used by peer institutions and will search the literature for additional insight. (Lever 2.3)
      
      ii. The committee will take into account a number of factors, including (1) the departmental performance measures document for the Subgroup: PhD, Science [CHEM, MATH, PHY], and (2) the Research Capacity Task Force Recommendations. (Lever 2.3)

   **Second Year Actions:**
   
   a. The department faculty performance committee will develop faculty performance metrics. (Lever 2.5)
   
   b. The faculty performance metrics developed by the committee will be presented to the department, modified if necessary, and adopted. (Lever 2.5)

   **Long Term Goals (by 2020):**
   
   a. To develop metrics to assist the department chair in faculty performance evaluation. (Lever 2.5)

2. **Department productivity measures:** The Missouri S&T strategic plan specifically requires departments to create departmental productivity measures and use these measures to evaluate performance against peer departments at other institutions (Lever 3.1).
To be completed by end of Spring 2016: The department will create a committee which will create a list of peer mathematics and statistics departments at other universities, begin to determine how to best obtain productivity information for these peer departments, and begin to compile this information. (Lever 3.1)

To be implemented 2016 – 2020: Since faculty performance measures for our department will be established by the end of Fall 2015, the committee will use these measures and determine other important criteria to establish departmental performance metrics. The committee will compile the relevant information for the peer departments, and use this information to evaluate our department’s performance relative to our peers. (Lever 3.1)

To be completed by end of Fall 2020: The committee will present the results of the peer evaluation to the department. (Lever 3.1)

VII. Actions and Goals for Faculty Recruitment and Retention

1. **Addressing the market for quality faculty:**

   First Year Actions:
   
   a. Identify department policy needs in light of campus dual-career policy development. (Levers 3.4, 4.8)

   Second Year Actions:
   
   a. Explore meaningful ways of balancing the workload of faculty and rewarding their strengths. (Levers 3.4, 4.8)

   b. In collaboration with Institutional Research, determine national and peer-institution market-value salaries for mathematics and statistics faculty. (Levers 3.4, 4.8)

   Long Term Goals (by 2020):
   
   a. To work with administration in bringing department salaries up to market value. (Levers 3.4, 4.8)
b. To develop a multi-faceted strategy which promotes the excellence in research, scholarship and creative activity that exists among department faculty, staff, and students. (Levers 2.3, 2.4, 2.6, and 2.7)

Appendix: Missouri S&T Strategic Plan Themes and Levers

Theme 1: Develop and inspire creative thinkers and leaders for life-long success

Lever 1.1: Require all undergraduate students to participate in some significant experiential learning activity before they graduate.

Lever 1.2: Foster innovation and creativity for faculty, staff and students.

Lever 1.3: Establish database of measures to define student access to faculty and staff.

Lever 1.4: Create professional and leadership development opportunities for faculty, staff, alumni and students.

Lever 1.5: Encourage and enhance collaboration in teaching and research.

Theme 2: Enhance reputation and raise visibility

Lever 2.1: Employ transformative and focused hiring, including cluster hires, in selected areas of expertise to support best-in-class achievements.

Lever 2.2: Leverage S&T as Missouri’s technological research university.

Lever 2.3: Develop a culture of excellence in research, scholarship and creative activity among faculty, staff, and students.

Lever 2.4: Create and implement a communication and marketing plan to raise the visibility of the campus and convey our return on investment.

Lever 2.5: Modify our conventional methods of teaching and research to accommodate current and new technology that will enhance student learning and increase faculty productivity.

Lever 2.6: Improve infrastructure that enables faculty, graduate student and undergraduate student abilities and accomplishments.
Lever 2.7: Address administrative structural changes to facilitate strategy and enhance national visibility.

**Theme 3: Achieve sustainable growth to ensure best return on investment**

Lever 3.1: Evaluate current academic programs and create, modify, eliminate or combine in order to ensure a relevant portfolio that supports S&T’s Carnegie classification as a national research university.

Lever 3.2: Centralize corporate relations to improve service to existing corporate partners and to identify and establish new partnerships for the purpose of increasing/enhancing research, economic development, credit and non-credit education, philanthropy, and the hiring of our graduates.

Lever 3.3: Improve facilities to enhance research and student learning, and expand experiential training.

Lever 3.4: Promote inclusion and increase diversity of faculty, staff and students to remain relevant and competitive in a global environment.

Lever 3.5: Create and implement a student and alumni lifetime engagement strategy.

Lever 3.6: Devise convenient technology-based methods of accessibility, communication and engagement with external constituents.

Lever 3.7: Market campus strengths and create a broad awareness of student opportunities and benefits to both domestic and international audiences.

Lever 3.8: Exercise leadership in sustainability on campus and in the community by modeling sustainability practices in daily operations and practicing environmental stewardship.

Lever 3.9: Conduct a comprehensive fundraising campaign to secure private support for identified campus priorities.

**Theme 4: Increase and facilitate meaningful access to and interaction with renowned faculty, staff and services.**

Lever 4.1: Create a comprehensive distance and online education strategy.

Lever 4.2: Enhance instructional labs and methods of developing lab experiences.

Lever 4.3: Enhance innovative use of technologies to improve and facilitate access.

Lever 4.4: Ensure renowned faculty teach/interact with undergraduate students.
Lever 4.5: Engage in transformative doctoral student recruiting/retention and placement.

Lever 4.6: Improve student, faculty and staff mentoring and advising.

Lever 4.7 Identify and remove barriers to graduation and reduce time to degree for undergraduate and graduate students.

Lever 4.8: Expand access to renowned faculty through enhanced recruiting and retention.

Lever 4.9: Promote non-traditional activities outside of classroom.