

CREATING THE FUTURE

A “TACTICAL” PLAN for the CHARLES E SCHMIDT COLLEGE OF SCIENCE in support of the UNIVERSITY STRATEGIC PLAN 2012-2017

Note: On August 1, 2012, Dr. Gary W. Perry announced that he would step down as dean of the College in the coming year although Strategic Planning for the College was underway. Thus, this plan represents a “tactical” plan in support of the University Strategic Plan, 2012-17 that was approved by FAU’s Board of Trustees in March, 2012. It provides a plan for moving forward in the next few years during which time the new dean will have the opportunity to engage stakeholders in developing a new “Strategic Plan” for the College.

Background on the College

The Charles E. Schmidt College of Science is the primary source of science research and education for more than three million people living and working in our service region of Southeast Florida. Through its academic departments and research centers, the College provides outstanding opportunities and challenges for both undergraduate and graduate science majors. The education and research programs of our College include major efforts in many fields ranging from biotechnology, bioinformatics and brain science to cryptology, developmental systems, dynamical systems, environmental sciences, geoinformation science, marine science and space-time physics.

Research and scholarship are central to our College’s mission and play vital roles in the life of the College as a whole. External research funding, the great majority of it coming from Federal agencies such as the National Science Foundation and the National Institutes of Health, underwrites major programs of research by our faculty and students. Science faculty members throughout the college have developed state-of-the-art research programs in diverse disciplines and important new interdisciplinary areas. Our faculty members have active collaborations that extend not only across FAU’s colleges and campuses but also with local research institutions such as the Max Planck Florida Institute, Scripps Florida, the Torrey Pines Institute for Molecular Studies, and the Vaccine and Gene Therapy Institute; as well as affiliations with National Laboratories, such as those at Los Alamos and Oak Ridge, and international collaborations that span the globe.

In the knowledge-based and innovation-dependent economy of the 21st Century that demands graduates with higher science and math skills, our College’s programs prepare students who can enter the workforce ready to meet local, national and international needs in a globally competitive environment.

Vision Statement

Our vision is to be recognized for interdisciplinary educational and research programs in science, and to be a leader in the international academic community.

Mission Statement

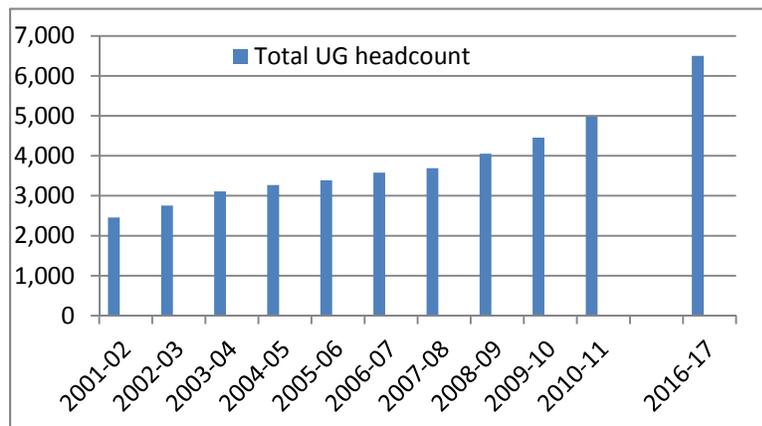
The mission of the Charles E Schmidt College of Science is

- To provide excellence in both disciplinary and interdisciplinary science education for our students,
- To apply the power of inquiry and discovery to fundamental problems of scientific importance,
- To find solutions to societal challenges in a culture of research, partnership and scholarship, and
- To develop internationally recognized research and instructional programs to meet the needs of the region, the nation and the global community.

College Productivity

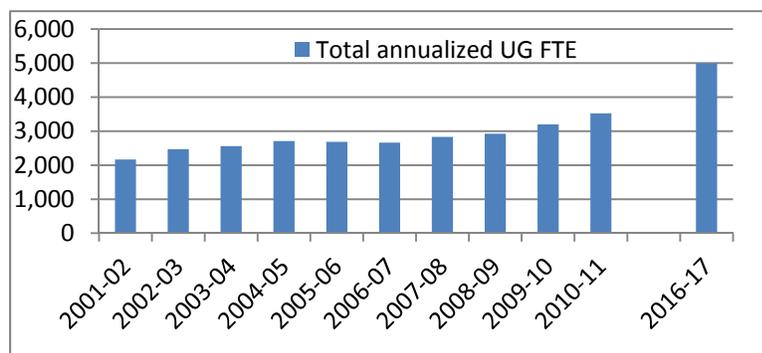
The following Figures provide a trend analysis for the past decade of the increases in the College's student enrollment in both science majors and the annualized FTE, and include a conservative estimate of the projected enrollment in AY 2016-17, when the University Strategic Plan calls for a student body at FAU of at least 36,000 students.

Figure 1: Total Undergraduate Headcount Majors



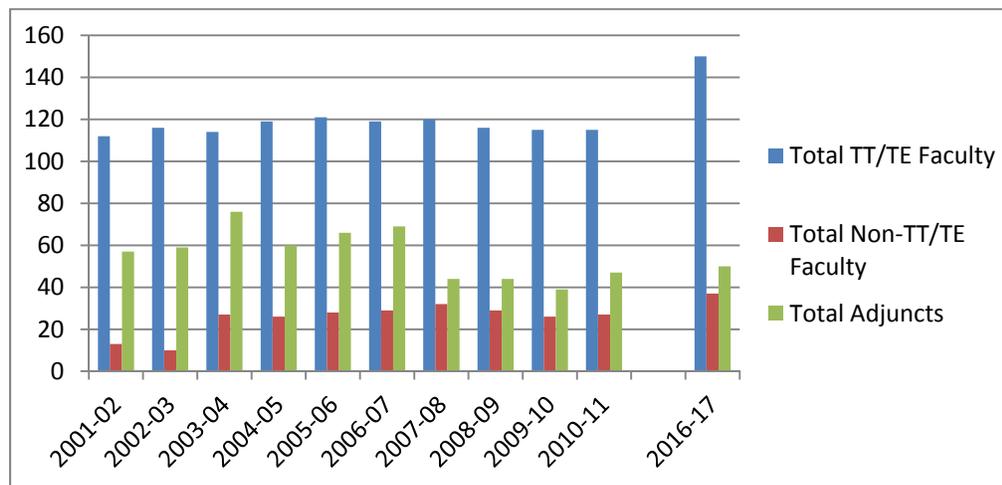
As seen in Figure 1, the number of students declaring a science discipline as their major has doubled in the past decade, through 2010-11, and is projected to almost treble by 2016-17 based on a 6% student growth rate.

Figure 2: Total annualized FTE from majors and non-majors



The total number of students taught by college faculty (majors and non-majors), seen in Figure 2, has increased by at least 150% through 2010-11 and is projected to be at least 5000FTE for 2016-17, or about a 250% increase since 2001-02.

Figure 3: Number of TT/TE, non-TT/TE and Adjunct Faculty



In the meantime, the number of tenured or tenure-track (TT) faculty has remained essentially the same over the past decade with small increases in non-TT and adjuncts faculty – see Figure 3.

Process followed

This plan replaces the previous College Plan, 2006-2012 and aligns with the new University Strategic Plan for 2012-2017. The timeline followed in developing this Plan for the College are provided below:

- In summer 2010, as a prelude to Strategic Planning for 2012-17, the college began Budget and Planning exercises which continued into the Fall 2010. A report was produced and presented to the provost in January 2011. That report is provided below.
- In summer 2011, a College retreat was held with the college's executive committee, faculty and members of the College's Science Advisory Board to begin thinking about strategic planning for the college for the period 2012 - 2017. The retreat was moderated by a professional moderator, Ms. Deborah Mason. A summary report of that retreat including Vision/Mission and a SWOTT analysis are provided on the College website.
- Working with the College's Executive Committee, a survey conducted by the University's Strategic Planning Committee was completed in Summer 2011.
- The University completed its strategic planning process and the BOT approved FAU's new Strategic Plan 2012-17 in February 2012.
- In Fall 2012, the College had two strategic planning meetings. At the meeting on October 10, 2012 several work groups were developed and faculty added subsequently to spend the Fall semester developing reports on Undergraduate Programs, Graduate Programs, Research and Community Engagement. Reports from these work groups were compiled by the dean for discussion and further modification at the Strategic Planning retreat held on December 12, 2012. At this meeting the new Board of Governors Productivity Indicators were discussed and used to modify Goals and Objectives developed by the work groups.
- In January, 2013, the dean completed a draft of the college plan using the results from prior strategic planning meetings, as well as the reports from the work groups. The plan proposed is more a Tactical Plan for the College for the next four years that supports the University Strategic Plan, 2012-17.
- Draft reviewed by specific members of the planning committee.
- College Plan approved by faculty assembly on April 25, 2013

SWOTT analysis (summary version)

The SWOTT analysis revealed many strengths, opportunities and positive trends for the College, while acknowledging some very real weaknesses and negative trends, probably the most disturbing was dwindling state and federal funds. Here, the list has been restricted to the four most important in each category.

Strengths:

- Faculty
- Diverse student body and diverse campuses
- Partnerships developed with research institutions
- Location

Weaknesses:

- Lack of policy development for interdisciplinary programs
- Shortage of faculty and shortage of research intensive faculty
- Lack of infrastructure for research and students
- Inadequate college budget

Opportunities:

- Use location to gain national exposure for unique programs
- Higher profile based on partnerships—state and national--public and private
- STEM federal support unique on campus among other colleges
- Work with college of business and engineering to tie to businesses

Threats:

- Lack of adequate predictable funding
- Retention of best faculty and students
- Expansion of other institutions into FAU service area
- Inadequate enlistment of support of local and business community

Positive Trends:

- Growth of partners and their satellites
- STEM education emphasis
- Distance learning growing
- Solutions oriented research versus curiosity based research

Negative Trends:

- Dwindling federal and state funds
- Lack of distance learning infrastructure between campuses
- Increasing number of baccalaureate programs in State Colleges
- Growth in Ph.D. graduates means more competition for their employment

The University Strategic Plan, 2012-17

In March 2012, Florida Atlantic University adopted a Strategic Plan for the years 2012-17. The plan identifies four principle goals to help guide the University's direction and strategies in meeting its mission as "a multi-campus public research university that pursues excellence in its missions of research, scholarship, creative activity, teaching, and active engagement with its communities." The four goals are:

- I: Enrich the educational experience
- II: Inspire research, scholarship and creative activity
- III: Increase FAU's community engagement
- IV: Leverage momentum toward achieving FAU's strategic goals by being good stewards of its human, technological, physical and financial resources

In addition, the strategic plan outlined three "Signature Themes" that would differentiate FAU's mission and enhance its academic reputation and are intended to raise awareness and attention to areas of University specialization and distinction. The three themes are:

- Marine and Coastal Issues
- Biotechnology
- Contemporary Societal Challenges

Clearly, the Charles E Schmidt College of Science and its programs are positioned very well to contribute in an exciting and meaningful way to the university's Plan, and indeed will play a critical role in its ultimate success.

College Goals, Objectives and Strategies

Any proscribed plan with goals and objectives will necessary, and should, change with prevailing circumstances, opportunities and uncertainties and hence we view this as a tactical plan, rather than a strategic plan at this time. The following Goals, Objectives and Strategies are for the Charles E Schmidt College of Science that will be implemented during the next four years in support of the University's Strategic Plan, 2012-2017. However, close attention to the University Strategic Plan's Signature Themes will govern those areas of the College that will need to be prioritized over other areas of the College's academic and research programs.

The Goals, Objectives and Strategies outlined here align closely with the University Strategic Plan and BOG Productivity Indicators that were being considered at the time of planning for future funding. Where indicated, funds will be either new funds as they become available or funds reallocated from existing college funds, primarily from E&G funds, Foundation funds or funds recovered through indirect cost recovery on grants.

GOAL I: ENRICH THE EDUCATIONAL EXPERIENCE.

Objective A: Enhance quality and expand the undergraduate academic programs

Strategy 1: Recruit additional outstanding tenure-track and non-tenure track faculty (High Priority)

Metric: Increase in number of tenure-track faculty

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
New TT Faculty	7	7	7	7

Budget/Source: \$80,000S&B per hire plus \$300,000 (average) start-up funds/E&G

Metric: Increase in number of non-tenure track faculty as needed to meet enrollment

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
New non-TT Faculty	2	2	2	2

Budget/Source: \$70,000S&B per hire/E&G

Responsible Party: Provost; Dean; Department Chairs

Caveats:

- The new positions requested here reflect assistant professor or instructor level hires, although when possible the opportunity may arise to hire more senior individuals.
- Current salary levels are provided which are no longer competitive with neighboring SUS institutions and are certainly not competitive with FAU's aspirational peers as outlined in the University Strategic Plan who are considered Doctoral/Very High Research Activity Institutions.
- The additional tenure-line positions provided here do not take into consideration the need to hire additional tenure-track faculty to replace faculty who will retire, or leave the University for

other reasons over the next four years. Given the demographics of the current faculty we can expect to lose 3-4 tenured faculty members who will need to be replaced. While salary will already be budgeted, additional start-up funds will be needed for replacement hires.

- With non-tenure earning hires, ensure that departments do not become overly staffed by non-tenure track faculty.
- The choice of hire(s) will be consistent with University Strategic Plan’s Goals, Objectives and Metrics (I,C,2; II,B,2; III,C,1 & 2; and IV,C,2) and Signature Themes (Biotechnology, Marine and Coastal Issues, and Contemporary Societal Challenges) outlined in the University Strategic Plan, 2012-17.
- The additional tenure-track faculty must contribute to graduate programs in Goal 2, Objective A, Strategy 1 as well the University’s QEP: Distinction through Discovery
- Budget loss or restrictions will result in failure to add or replace tenure-track faculty which will severely compromise the quality of the undergraduate and graduate programs, including graduate degree production and the success of the QEP, and research productivity.

Strategy 2: Increase student advising in the college and develop “Continual Advising Program” for students throughout their UG experience (High Priority)

Metric: Increase the number of new advisors in the college to NCADDA recommended ratio of 300 students for each advisor

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
New Advisors	2	1	1	0

Metric: Number of students in continual advising (start with less successful students)

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Students in Continual Advising	1500	2000	2500	3000

Budget/Source: \$60,000 S&B per advisor/E&G funds (Total \$240,000 E&G)

Metric: Number of science majors graduating will increase by 5% per year (currently 746)

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Students Graduating	783	822	863	907

Budget/Source: \$10,000 (recruiting/advertising)/E&G reallocated expenses

Responsible Party: Senior Associate Dean for Student Affairs

Caveats:

- Additional advisors are needed to adequately reduce the student to advisor ratio in order to effectively implement a model of continual advising to ensure that each student, and especially those at risk, is on track for completion of their degree.

- Without additional student advisors, the increasing enrollment will result in less one-on-one advising and thus inadequate advising that will result in reduced graduation rates, longer times to graduation and decreased retention.

Strategy 3: Increase Honors-in-the-Major programs in the college (Medium Priority)

Metric: Number of “active” Honors-in-the-Major programs (two currently active)

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
New Honors Programs	3	5	6	6

Metric: Numbers of students in Honors programs will increase by ~10% per year

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Honors Students	100	150	175	200

Budget/Source: \$200,000/Scholarships; \$20,000 QEP & E&G

Responsible Party: Department Chairs; Development Director, Dean

Caveats:

- Honors programs will require students to actively participate in undergraduate research (QEP) and an adequate number of faculty active in honors education and research
- Inadequate budget or loss or restrictions will result in failure to add new or replace tenure-track faculty which will severely compromise the quality of the undergraduate programs, especially Honors programs and the success of the QEP.

Strategy 4: Increase Undergraduate summer scholarships in the College (Low Priority)

Metric: Number of undergraduate summer research undergraduate scholarships

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Summer Scholarships	10	15	20	25

Budget/Source: \$5,000 per summer scholarship/Gift Funds; Federal grants; IDC recovery

Responsible Party: Development Director; Chairs; Directors

Caveat:

- Need to identify donors willing to support undergraduate summer research scholarships.

Strategy 5: Increase “online” course offerings by 5% per year (High Priority)

Metric: Number of online courses [synchronous and asynchronous (80-100% instruction via technology) and includes blended/hybrid courses (50-70% instruction via technology)].

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Online Courses	34	36	38	40

Budget/Source: Training \$24,000/CeL; Course delivery \$48,000/CeL; Faculty assignment/E&G

Responsible Party: Associate Provost for eLearning; Department Chairs

Caveats:

- The projected increase in the number of online courses offered by the College is realistic but may not be sufficient to meet demand and student interest for online learning. Future enrollment demand may need to be met with online instruction not only from a standpoint of student numbers, but also student preference. Where necessary online courses with a lab component can be coupled to concentrated periods in teaching labs on one of the three campuses (Boca, Davie, Jupiter) that houses science programs.
- Current faculty are less apt to engage in online instruction and so need to continue with incentives (salary supplements) from the Center for eLearning (CeL) for faculty to develop online courses. After online courses are developed and have been delivered on several occasions then the online course can become part of regular faculty assignment.
- Non-tenure track hires in *Goal 1: Objective 1: Strategy 1* should be hired with the view that they will also teach online courses (possibly move lower division courses to online delivery)

Objective B: Strengthen and expand graduate programs

Strategy 1: Develop additional Bachelor/Master’s (B/M) accelerated programs (including PSM)(Medium Priority)

Metric: Total number of BS/MS or BA/MA programs in the college

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
B/M Programs	5	7	8	8

Metric: Number of students in all BS/MS programs

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
B/M Students	45	75	105	120

Budget/Source: \$200,000/E&G (OPS) reallocated teaching assistantships

Responsible Party: Associate Dean for Graduate Studies; Department Chairs

Caveats:

- The number of students entering these accelerated programs may be underestimated. As FAU “competes” with state colleges, an advantage that it has in recruiting good students are its graduate programs, and the increasing number of students interested in accelerated programs such as BS/MS or BA/MA programs. This will increase the work load for faculty engaged in graduate education, but “pays-off” with better students.
- Accelerated and professional masters programs should also be developed with other colleges, such as Business and Engineering, to increase the job opportunities for students.

Strategy 2: Expand graduate training programs that use existing PhD programs in science (eg IBAN) (Medium Priority)

Metric: Number of new graduate programs using existing PhD programs (eg Integrative Biology and Neuroscience [IBAN] program with Max Planck Florida Institute for Neuroscience)

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
New Programs	1	1	1	1

Budget/Source: \$200,000/E&G (reallocated teaching assistantships); \$25,000 IDC recovery;

Responsible Party: Associate Dean for Graduate Studies; Chairs; Dean

Caveat:

- Addition of graduate programs will require more TT research active faculty with research funding and additional graduate teaching assistantships/scholarships.

Strategy 3: Increase number of affiliate faculty involved in graduate programs (Medium Priority)

Metric: Number of affiliate Faculty involved in PhD committees/advisors

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Affiliate Faculty	12	18	24	30

Budget/Source: \$10,000pp/E&G expenses

Responsible Party: Associate Dean for Graduate Studies; Chairs; Directors

Caveats:

- Need to demonstrate to affiliate faculty how participation is in their interest too.
- Affiliate faculty may expect “quid pro quo” compensation for their involvement in graduate programs and some budget needs to be developed for this.
- Affiliate faculty who sponsor a graduate student from their grant will need to add tuition costs to the grant or receive a waiver from the Graduate College.

Strategy 4: Increase funding from non-traditional sources for student stipends, tuition and expenses (including undergraduate research) (Medium Priority)

Metric: Amount of funding from non-traditional sources

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Non-trad'l Funding	\$40,000	\$80,000	\$120,000	\$160,000

Budget/Source: Cash gifts; Endowment; Foundation grants; Corporate Sponsorship

Responsible Party: Development Director, Associate Dean for Graduate Studies, Chairs, Directors, Dean

Caveats:

- Need to improve graduate stipends to competitive levels.
- Need to convince a donor to support a student with “expendable” funds rather than create and endowment.
- Competing interests for philanthropic/foundation funds.
- If funding from an industrial source then need to rationalize IP sharing.

Objective C: Enhance the quality and coherence of all academic programs

Strategy 1: Establish college-level learning objectives (CLOs) for undergraduate and graduate programs (HighPriority)

Metric: Stage of curriculum review

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Stage of curriculum review	Establish CLOs; create curriculum maps of each baccalaureate and graduate degree program	Refine alignment of program-level learning objectives with CLOs	Expand curriculum maps to UG honors programs, certificates, continuing education	Review and refine CLOs and curriculum maps

Budget/Source: \$12,000/reallocation of current Master Teacher funds or new funds from CTL Master Teacher Program.

Responsible Party: Director for College Assessment; Associate Dean for Student Affairs, Dean;

Caveats:

- This will add another layer to college program assessment above departments, but should allow for some common goals and expectations for the college as a whole.
- Increased faculty “load” beyond research and teaching.

GOAL II: INSPIRE RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITY.

Objective A. Increase scholarship and creativity

Strategy 1: Provide access for students to be engaged in undergraduate research (QEP)(High Priority)

Metric: Number of undergraduate students in DIS, Honors Thesis, & QEP supported courses

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Number of students	400	500	600	700

Budget/Source: \$60,000/QEP Funds for new course development; IDC recovery funds

Responsible Party: Chairs, Associate Dean for Research, Dean

Caveat:

- An adequate number of research faculty will be required if the QEP is to be successful as proposed in Goal I, Objective A1.

Strategy 2: Postdoctoral program (Medium Priority)

Metric: Number of postdocs in college

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Number of Postdocs	12	15	18	21

Budget/Source: \$60,000 per postdoc/Grant Funds, Cash Gifts; new E&G funds; Corporate Sponsorship

Responsible Party: Associate Dean for Research; Chairs, Dean

Caveat:

- The number of postdoc's shown includes those supported by grant funding. As college or university funds become available, postdoc's will be hired from E&G funds. Possibly, in return for funding, the postdoc will be involved in teaching, working with graduate students and/or supervision of undergraduates through the QEP.

Objective B. Increase funded research

Strategy 1: Hire Tenure Track faculty with grant funding or high potential for research funding – same as Goal I: A,1 (High Priority)

Metric: Increase in number of tenure-track faculty (hired in clusters with decisions around Signature Themes in the University Strategic Plan, 2012-17)

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
New TT Faculty	7	7	7	7

Budget/Source: \$80,000S&B per hire plus \$300,000 (average) start-up funds/E&G

Responsible Party: Provost; Dean; Department Chairs

Caveats:

- The TT faculty lines listed here are not in addition those listed in Goal 1:Objective A Strategy 1.
- Selection of new TT faculty with funding or who have a high probability of obtaining research funding will be highly competitive for salary and start-up package.

Strategy 2: Facilitate grant writing (Master Researcher program/Grant writers)(High Priority)

Metric: Dollars and grants submitted and awarded

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Grant Dollars Awarded	\$8,000,000	\$10,000,000	\$12,000,000	\$14,000,000

Budget/Source: \$70,000S&B ea/new and reallocated E&G funds; overhead return; new grant funds from Federal agencies; State agencies; Foundations; Private industry and Corporations.

Responsible Party: Associate Dean for Research; Dean

Caveats:

- Funds should be continued from E&G to fund the Master Researcher program who work with faculty on writing grants.
- As funds become available, grant writers for the College should be hired to supplement the grant writers provided by the Division of Research.

Strategy 3: Improve research infrastructure (High Priority)

Metric: Funds for service contracts

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Service contracts	\$50,000	\$65,000	\$70,000	\$75,000

Budget/Source: Funds from new E&G funds, IDC recovery funds, Foundation funds, grant funds

Metric: Number of new technical positions

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Tech positions	1	2	1	1

Budget/Source: \$70,000 S&B/position; Funds from new E&G and/or IDC return

Metric: Amount of funding for seed grants per Seed Grant Program

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Seed Fund Grants	\$60,000	\$80,000	\$90,000	\$100,000

Budget/Source: Funds from College Seed Grant Program (IDC recovery), and funds from Division of Research Seed Grant Program

Responsible Party: Associate Dean for Research; Chairs; Dean, Vice President for Research

Caveat:

- Without funds to support the research infrastructure (equipment and personnel) in the College, the level of research funding will not increase to levels warranted by a RU/VH Research Activity University as is a stated goal in the University Strategic Plan, 2012-17.

GOAL III: INCREASE COMMUNITY ENGAGEMENT

Objective A. Expand outreach into Community

Strategy 1: Hire Community Engagement (CE) staff (Medium Priority)

Metric: Number of CE staff hired (eg CO, Webmaster)

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
New Staff	1	1	0	0

Budget/Source: \$80,000 S&B per position (average)/ New E&G funds

Responsible Party: Dean

Caveats:

- Funds are best spent on tenure-track faculty at this time.
- A College Webmaster has been a critically needed hire but until funds become available this function is performed as part of the basic duties of the College IT staff.
- The College Communications Officer was lost to budget cuts and can only be replaced as funds become available for this function.

Strategy 2: Bring outstanding scholars to FAU and the region (High Priority)

Metric: Number of speakers brought to FAU (Frontiers in Science Public Lecture Series; Department/Center seminar speakers; Nobel Symposium)

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Number of Speakers	40	45	50	55

Budget/Source: \$55,000pa/Various College Foundation Accounts

Responsible Party: Chairs, Directors, Dean, Development Director

Caveat:

- Need to identify a consistent source of funds to support various speaker series’.

Strategy 3: Expand school outreach programs (such as Science Olympiad and Math Days, Pumpkin drop, Brain Bee/Awareness week) (Medium Priority)

Metric: Numbers of K-12 students participating in outreach programs

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Students in Outreach	500	550	600	650

Budget/Source: \$50,000pa/ Foundations; Corporate Sponsorship; Grants

Responsible Party: Associate Dean for Student Affairs; Development Director; Chairs; Directors

Caveat:

- These programs are growing rapidly and should not subsume the time and effort of current staff. Continued support and alternate funding from external sources are critical to the continued success of these programs.

Objective B: Increase philanthropic funding

Strategy 1: Hire a college Development Officer to work with the Dean, Chairs, Directors and Faculty to identify funding areas and identify prospects for funding. (High Priority)

Metric: Philanthropic dollars raised (increase ~5% per year)

Timeline:

Year	2013-14	2014-15	2015-16	2016-17
Philanthropic Funds Raised	\$650,000	\$682,500	\$716,625	\$752,456

Budget/Source: Gifts (cash and in-kind), Pledges, Endowment gifts

Responsible Party: Development Director; Faculty, Chairs, Dean

Caveat:

- Need to develop a better prospect list

Assessment Plan

The strategies associated with the objectives of this plan are concrete and specific and we have identified a set of direct measures and benchmarks by which we intend to evaluate the achievement of our planning goals. Data will be collected and examined annually through the college's extant assessment infrastructure. Strategies, metrics, and benchmarks will be adjusted, as appropriate, in response to these findings for continuous program improvement. All results and responses thereto will be reported to the dean of the college as well as to other relevant divisions of the university.

This plan utilizes mixed methods of assessment. The metrics consist primarily of *quantitative* indicators of growth in programs and courses offered, faculty and professional staff headcounts, student enrollments, outreach activities, and funding. However, *qualitative* measures are also included to directly gauge the coherence and quality of our academic programs. Each of these variables is expected to contribute to increases in FAU's student graduation rates (particularly in STEM disciplines) and total research expenditures, both of which are highlighted in the University Strategic Plan, 2012-17.

The Charles E. Schmidt College of Science in 2018—the (former) dean's perspective

How different, if at all, will the College look in 2018? The College's goals and objectives outlined above clearly align with the University Strategic Plan, 2012-17 with regard to enhancing undergraduate and graduate education, research and community outreach. These goals, objectives and strategies will begin to shape the development of the College but in of themselves do not represent a "strategic plan" for development of the College. Until a fully funded budget is in hand it is difficult to develop a true strategic plan since so many of the basic needs of the College remain unmet at this time. Thus, if the demand for science continues at its current pace, a result is that the College will likely look very similar to today only bigger, and hopefully better, but not necessarily "new and improved."

This plan does not describe major changes in the College by 2018, such as a realignment of departments and/or programs in the College to support strategic areas of development, but rather highlights some areas of the College that should be emphasized as funds become available. Any true strategic plan for the College will best be developed with the faculty after the appointment of a new dean and once the College's budget has been stabilized. This will allow for the identification of new funds and/or reallocated funds that would be needed to support strategic goals. The above plan does call for additional investment in current programs in order to fulfill the College's basic mission in teaching, research and service, while at the same time taking advantage of those opportunities that could bring change to the College.

One such opportunity is indeed the new University Strategic Plan, 2012-17. This incorporates many Goals and Objectives to which the College will necessarily make a primary contribution if the plan is to be successful. These includes not only an emphasis on improving STEM educational programs, but also Signature Themes that will shape strategic areas not only for the University but also for the College, and which involve a majority of the College's programs, in Biotechnology, Marine and Coastal Issues and Contemporary Societal Challenges. With appropriate allocation of resources the opportunity arises to hire "clusters" of faculty in specific areas that support the Signature Themes and maximize opportunities for research funding. One small step in this direction has been made by moving several science faculty, as well as a research center, to the Jupiter campus.

This “small step” takes advantage of another tremendous opportunity, and that is the location in our region of several of the research institutes recruited to SE Florida as part of the State’s economic development plan to enable high tech development. FAU already has educational and research agreements with the Max Planck Florida Institute for Neuroscience, Scripps Florida, Torrey Pines Institute for molecular Studies and the Vaccine and Gene Therapy Institute. Our recently established graduate program in Integrative Biology and Neuroscience (IBAN) demonstrates how working with these institutes can enhance our graduate and research programs and similar programs with other institutes should be developed. Similarly, we must take the opportunity to work with local federal and state agencies, such as the US Geological Survey, National Parks and South Florida Water Management District. In addition, within FAU there are clear opportunities to work with other units to develop academic programming and collaborate in research, such Harbor Branch Oceanographic Institute, the Charles E Schmidt College of Medicine and the College of Engineering and Computer Science. Here again with our “in-house” partners there is opportunity to develop new degree programs, examples are the Bioengineering Master’s with Engineering and the Professional Science Master’s in Biotechnology Business with the College of Business. A similar Master’s degree program should be developed with HBOI. Such new programs should be “workforce” driven and clearly meet the Goals and Objectives of the University Strategic Plan and Signature Themes.

In undergraduate programs, the College will likely look much as it does today only bigger if the demand for science continues. However, to accommodate the enrollment demand, and unless the University embarks on a campaign to build more very large auditoria, instructional delivery will have changed to include much more online delivery of courses, especially in the lower division. This would include more “blended” courses that provide both online and on campus sessions, and could be especially useful for courses involving lab sections where the lab component in on campus, perhaps delivered in a block of time rather than over the 16 week semester. Without construction of additional teaching labs, this may be the only viable option to accommodate growth. Moreover, with growth in undergraduate research required as a result the success of our QEP, *Distinction through Discovery*, in the SACS reaffirmation process, then five years from now will require that many more undergraduates are engaged with science faculty in research at FAU, and this is good news for the Charles E Schmidt College of Science. However, without the addition of a significant number of faculty in science, then faculty assignment in 2018 will be challenging to meet the projected enrollment demand, expected increased graduation rates, supervised undergraduate research (QEP), increased research funding and service provided for above in the College Goals and Objectives for 2013-17.

Concluding Remarks

FAU and indeed the College is experiencing considerable growth in its enrollment, not only in the number of students to whom we teach science and mathematics required by the university’s Intellectual Foundations Program (the core curriculum), but also through the increase in the number of students who want to make science their major program of study. This is undoubtedly fueled by the current national preoccupation with increasing STEM education to provide for a capable and educated workforce able to sustain our country’s prosperity through a technologically innovative and expanding economy. To meet this demand over the coming years, the College will need to grow and receive additional resources. The College Goals and Objectives outlined above, provide for what will be needed and an indication of where new or reallocated resources will be needed. However, the availability of resources will be determined by funding received by the University through legislative process and tuition, and by priorities set by the University for which programs will be emphasized in coming years. There will be a need to prioritize growth and the allocation of university resources, and such prioritization for the College will be governed by the University’s Strategic Plan, 2012-17.