

*Graduation
Improvement Plan*
College of Sciences

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Introduction

In the research conducted for this document, including discussions and reviews with the college's administration, we have sought to identify what helps and hinders undergraduates in the pursuit of their degrees. Certainly, there are many people, activities, programs, and policies within the college that aid students in reaching their goal of graduation.

The bulk of our efforts, however, have been focused on identifying and analyzing barriers to undergraduate success – gaining an understanding of what gets in the way of student progress. From our analyses, we sought to identify actions for overcoming those barriers. These actions form the core of the Graduation Improvement Plan.

The remainder of this document consists of the following sections:

- **Environment for Change**
Overview of recent political events pushing for improved graduation rates.
- **Understanding Graduation Rates**
How undergraduate graduation rates are calculated for the state, along with past and targeted rates for both the college and the institution.
- **Enrollment Profile**
Enrollment statistics for both the college and the institution.
- **Overcoming Barriers**
Actions for reducing or eliminating barriers to graduation – the core of the Graduation Improvement Plan.
- **References**
Sources cited within this document.

We understand that improving graduation rates involves many variables in a multi-faceted and complex environment. With that in mind, this document aims to address a number of those variables, barriers that, if overcome, will allow more students to reach their goal of an undergraduate degree.

Environment for Change

“We have to improve graduation rates.” Everyone in higher education has heard this repeatedly. We know the rates are important, that they affect the prestige of the university and the public perception of our performance as an institution. We know the benefits our students receive from achieving a baccalaureate degree include such things as an improved quality of life, greater earnings potential, and better health. We may not, however, have considered the current political forces that drive the need for improving graduation rates. In Texas, the impetus is economic necessity.

Texas needs skilled, well-educated citizens to sustain itself economically. If we cannot produce more college graduates, the poverty rate will increase and average household income will drop. This cycle places an increasing burden on public support services, while at the same time reducing the tax base used to support such services (Murdock, 2002).

In 2000, the Texas Higher Education Coordinating Board (THECB) launched *Closing the Gaps: The Texas Higher Education Plan* aimed at closing educational gaps within Texas, as well as between Texas and other states. The plan outlined four primary goals: participation, success, excellence, and research. All institutions of higher education in Texas were required to set targets for these goals and report annually on their progress. Further, the THECB recommended that the state, “fund colleges and universities to reward increases in retention and graduation while sustaining quality programs” (THECB, 2000).

Recognizing the importance of improving graduation rates, several recent legislative acts and executive orders have established higher education reporting and performance expectations. In 2003, the legislature passed HB 3015, essentially deregulating tuition for state institutions of higher education. In addition to allowing institutions to set their own tuition amounts, they were charged with improving their graduation rates and other measures of performance (HB 3015, 2003).

The following year, Governor Rick Perry reinforced the focus on graduation rates by issuing an executive order requiring comprehensive accountability reporting for public institutions of higher education. The order links this accountability, which includes graduation and persistence rates, to state funding, stating that “systems and institutions of higher education must be able to clearly define the need for additional state-funding in a manner which will justify the public’s continued investment of resources” (Executive Order No. RP31, 2004).

These governmental efforts put pressure on public universities to improve graduation rates with the clear implication that not doing so could result in reductions of state funding. Related legislative efforts have applied pressure to students as well. Two recent bills have focused on timely graduation. In addition to its requirements for increased academic counseling, implementing online degree progress systems, and changes to TEXAS grant program funding, HB 1172, effective in 2005, places a cap on the number of courses a student can take in excess of those required to attain a degree. At 30-credit hours beyond that required for the student's degree, state funding for classes cease (HB 1172, 2005). At UTSA, the net result is that students will pay an additional \$121 per semester credit hour for every class taken beyond the 30-credit hour cap. In a related effort to encourage timely graduation, SB 1231 limits to six the number of courses a student may drop during the student's entire undergraduate higher education career (SB 1231, 2007).

Each of these changes in the laws governing higher education places additional reporting requirements on universities. As a result, documentation of compliance with the laws comprise required sections in such documents as, *The University of Texas System Graduation Rates Initiative Progress Report*, *University of Texas System Board of Regents Accountability and Performance Report*, university compacts with the UT System, and institutional strategic plans. It is within this environment of increased governmental scrutiny of graduation rates that we find ourselves. The action items in this plan are aimed at overcoming barriers to graduation and in helping students reach their goal of an undergraduate degree.

Graduation Rates

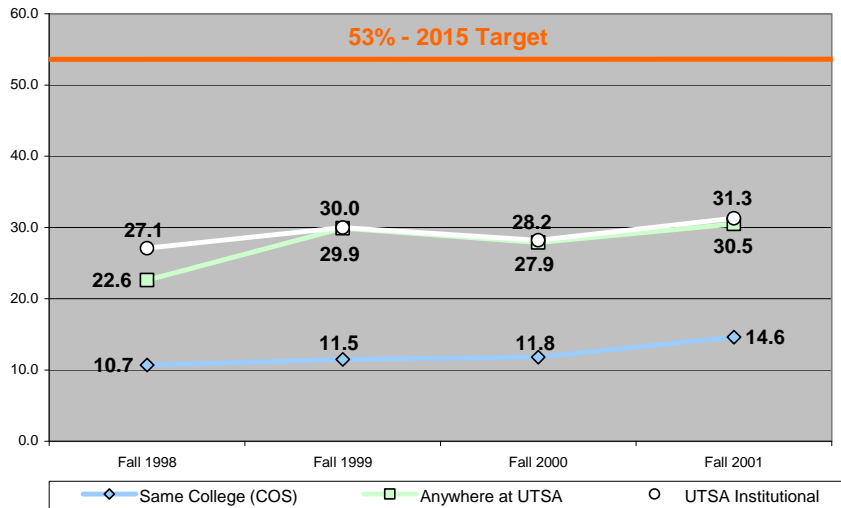
To focus on improving something, we must first develop an understanding for current performance. Since our purpose lies in improving undergraduate six-year graduation rates, it follows that we should identify current and targeted graduation rates.

Additionally, it is important to understand the methodology used in calculating graduation rates, as these rates do not take into account all students within the university who are seeking a bachelor's degree.

We focus here on the undergraduate graduation rate reported to the Texas Higher Education Coordinating Board (THECB). In calculating this rate, UTSA uses a cohort of students representing a subset of all students who achieve a baccalaureate degree within six-years. This cohort consists of individuals who enter the institution as full-time students during the fall semester and who have not previously attended another college or university. Additionally, these are students who intend to pursue a degree offered by UTSA. The calculation of graduation rates does not include the following students: (1) those entering in the spring semester (some summer entering students may be included), (2) part-time students, (3) students transferring from other institutions, such as community colleges, and (4) students intending to pursue a degree from another institution, such as those individuals participating in UT Austin's Coordinated Admission Program (CAP). This last may soon be included in our state reported graduation rate.

As reported by the Office of Institutional Research (OIR), UTSA's most recent six-year graduation rate for freshmen entering the institution in the 2001 fall semester was 31.3%. President Ricardo Romo has committed to raising UTSA's six-year graduation rate to 40% by the year 2010 and to 53% by the year 2015. Applying the same methodology for calculating the institutional graduation rates, the OIR calculated six-year graduation rates for individual colleges within the institution. As a component of UTSA, the College of Sciences can be viewed as having both its own graduation rate, as well as contributing to the overall institutional rate. Therefore, we look at two distinct graduation rates for the college: (1) those students who started with and remained with the College of Sciences and (2) those students who started with the College of Sciences and graduated from the College of Sciences or anywhere else within the university. These rates, *Same College (COS)* and *Anywhere at UTSA* respectively, are illustrated in Figure 1, along with the *UTSA Institutional* rate for comparison.

**Figure 1: College of Sciences and UTSA Six-Year Graduation Rates
By Entry Year of Respective THECB Student Cohorts**



Data included here originally obtained from the UTSA Office of Institutional Research

Enrollment Profile

The following enrollment profile is based on the 2007 UTSA Fact Book, produced by the Office of Institutional Research. The College of Sciences (COS) enrolled 5,192 students in the fall 2007. Undergraduates are the majority of the COS with 4,705 students, or 90.6%, of the total student population in the college. In fall 2007, COS was the third largest of the seven colleges that comprise UTSA, accounting for 18.2% of UTSA's enrolled student population. Only the Colleges of Liberal and Fine Arts and Business are larger.

The COS is home to six departments: Biology, Chemistry, Computer Science, Geological Sciences, Physics and Astronomy, and Mathematics. The COS graduate programs include: one certificate, nine masters and five doctoral programs. There are 11 undergraduate degree programs with varying concentrations, one joint degree program with the University of Texas Health Science Center at San Antonio (UTHSCSA), one dual degree and early admission program with the UTHSCSA, five minors, and one post-baccalaureate certificate program. The majors include biology, clinical laboratory sciences, chemistry, computer science, multidisciplinary science, geology, environmental science, mathematics, and physics. The COS awarded 482 undergraduate degrees during the academic year 2005-2006, or 80.3% of all the degrees awarded in the college.

In general, students at UTSA meet the age expectations for traditional undergraduates with 58.7% of students being younger than 23 and 80% younger than 28. UTSA students are overwhelmingly Texans (94.7%) with half originating from Bexar County alone. Hispanic (39.7%) and White (38.1%) students comprise the majority of the COS students. In line with national trends, more women than men are enrolled in classes with 52:48 ratio for UTSA. The COS follows this national trend where the ratio of women to men 54:46 in the college. For undergraduates in the college, three-quarters (76.3%) of the students are enrolled full-time. This is slightly more than the total for the university, where 70% of all students are enrolled full-time, taking 12 credit hours or more per semester (UTSA, 2007).

The COS faculty taught 79,110 semester credit hours of undergraduate courses during fall 2007, accounting for 26.3% of the semester credit hours generated at UTSA. Of these, 67,244 were lower division hours and 11,866 upper-division hours. Tenured and tenure-track faculty taught 28.2% of all lower division courses and 51% of all upper division courses in the COS. The college has 132 (57.6%) tenured or tenure-track faculty and 97 (42.4%) non-tenure track instructors or adjunct professors (UTSA, 2008).

Based on the above, a typical student in the COS is an undergraduate Hispanic or White female under the age of 28, who went to high school in the local area and is enrolled full-time. The majority of her classes (68.3%) in the college are taught by non-tenure track faculty.

Overcoming Barriers

While the College of Sciences offers many affordances for student success, barriers to success do exist. This section, the core of the Graduation Improvement Plan, identifies actions for reducing or overcoming these barriers. We present these barriers in the following thematic groups:

1. Quantitative skills deficiencies
2. College knowledge
3. Academic advising
4. Employment / education conflicts

In addition to specific actions for addressing these barriers, the following sections identify ownership to ensure completion, suggest resources, and enumerate a list of high-level tasks.

Barrier 1: Quantitative Skill Deficiencies

Faculty members from all six departments within the College of Sciences reported that math deficiencies prevent significant numbers of students from successfully completing classes in core subject areas, such as biology, chemistry, computer science and physics. There is strong consensus that these deficits prevent students from progressing through their degree programs in a timely manner and that the resulting lack of progress is ultimately reflected in the retention and graduation rates for the college.

Provide Summer Orientation Algebra Review

During summer orientation, provide incoming freshmen with an intensive, one-day review designed to refresh their algebra skills, preparing them for the New Calculus Placement Exam. Correct math placement is important in light of the fact that one department within the College of Sciences has begun implementing curriculum changes that will require successful completion of numerous calculus-based courses. In fact, the calculus-based courses will be taken by both major and pre-major students. Other departments may soon follow suit.

Primary Responsibility Associate Dean for Academic Affairs for the College of Sciences

Resource Possibilities Designated instructor, tutors, Retention and Graduation Analyst, Testing Services, Housing and Residential Life, Orientation and Transition Services, Quantitative Lab (Q-Lab) Associate Director, Colleges' Freshman Advising Center and Tomas Rivera Center Advisors

Anticipated Outcomes

- Students will place into a higher course as a result of higher scores on the Math Placement Test
- Increase in the number of students placing into Pre-Calculus or Calculus I courses, after completion of the review

Anticipated Measures

- The measure of gain from the first math placement exam to the second math placement exam will increase for students in Algebra Review
- Analysis of grade trends among students who participated in Algebra Review will show that participants perform as well or better in the Algebra, Pre-Calculus or Calculus I courses as those students placing directly into Pre-Calculus/Calculus I on the first administration of the New Calculus Placement Test

	Activity	Owner	Due
1	Obtain cooperation of collaborative partners including College of Engineering, College of Sciences, Housing and Residence Life, Orientation and Transition Services, Office of Undergraduate Studies, Testing Services, Quantitative Skills Lab (Q Lab).		
2	Determine when math review will be presented.		
3	Reserve classroom.		
4	Determine and complete staffing needs.		
5	Obtain funding for pilot of math review through the Colleges of Engineering and Science.		
6	Determine which incoming freshmen will be selected to participate in math review.		

	Activity	Owner	Due
7	Notify selected freshmen via their college dean's office that they have been chosen to participate in math review.		
8	Arrange overnight lodging and parking for students and family members arriving on Sunday evenings for math review.		
9	Welcome students and potential family members and provide handout detailing behavioral expectations during math review and subsequent orientation session.		
10	Arrange escort to review sessions for students and also to the opening ceremonies for their orientation session.		
11	Evaluate measures for achievement of outcomes.		

Encourage Early Enrollment in Developmental Courses

Encourage freshmen within the College of Sciences to complete developmental courses, especially mathematics, during their first two semesters. Completion of developmental courses within one year has been found to shorten the time to graduation.

Primary Responsibility	Associate Dean of Academic Affairs of the College of Sciences
Resource Possibilities	College of Sciences Undergraduate Advising Center Director, Colleges' Freshmen Advising Center Director, Tomas Rivera Advising Center Directors, Athletic Advising, Honors College, academic advisors, Office of Institutional Research
Anticipated Outcomes	<ul style="list-style-type: none"> ○ Fewer upper-division students enrolled in developmental courses ○ Shortened time to graduation, based on increased persistence rates ○ Increased retention rates
Anticipated Measures	<ul style="list-style-type: none"> ○ Decrease in the number of sophomore students enrolled in developmental courses after implementation ○ Long-term increase in four- and five-year graduation rates within the College of Sciences after implementation ○ Increase in first, second, and third-year retention rates within the College of Sciences after implementation

	Activity	Owner	Due
1	Collaborate with Orientation and Transition Services to include announcements about developmental courses during orientation sessions for incoming freshmen.		
2	Notify incoming freshmen about developmental coursework via letters from the dean's or the departmental office.		
3	Instruct advisors within CFAC and TRC to place students needing remediation into developmental courses during the first semester of their freshman year. For freshmen needing to complete a two-semester developmental sequence, they will complete these courses within their first year.		
4	Evaluate measures for achievement of outcomes.		

Provide Feedback to Feeder High Schools

Provide information regarding student performance in COS courses to administrators and counselors of feeder high schools. This information will allow school officials to enhance their curricula in order to better prepare students for college-level work.

Primary Responsibility	Associate Dean of Academic Affairs of the College of Sciences
Resource Possibilities	Director of UTEACH, Director of STEM Initiatives, selected faculty, Office of Institutional Research, and Admissions
Anticipated Outcomes	<ul style="list-style-type: none"> ○ Incoming freshmen will be more prepared for college-level course work ○ High schools receiving adverse information on the performance of their graduates will adjust their curricula and instruction
Anticipated Measures	<ul style="list-style-type: none"> ○ Reduction in the number of incoming freshmen required to enroll in remedial course work from high schools receiving feedback ○ Retention and graduation rates of students from alerted high schools will improve, in the long term

	Activity	Owner	Due
1	Determine the best method of identifying the top fifteen feeder high schools and methodology needed to gather data with collaboration from the Office of Institutional Research and Admissions.		
2	Request that the OIR compute individual student data based on high school of origin and targeted entry-level classes. Pull grade records for all students in the selected high schools. What was the mean grade for these students in BIO 1113, MAT 1023, MAT 1073 and CHE 1103? Chart these GPA's with those of students from other 14 high schools. How do the students from X compare with each of the high schools?		
3	Determine best method for sharing data with high school officials while maintaining individual student confidentiality.		
4	Offer to help high schools whose students do not score well; UTSA faculty consultants can help with determining curriculum revisions.		
5	Gather performance data for three years (historical, ongoing). Evaluate achievement anticipated of outcome measures.		
6	Repeat process annually.		

Implement a Summer Math Boot Camp

Provide an intensive mathematics review designed for non-traditional students, students who did not enroll in mathematics classes during their last year of high school, and students who place in developmental courses, based on placement test scores. Two sessions will be offered to provide flexibility in scheduling.

Primary Responsibility Mathematics Department Chair

Resource Possibilities Select mathematics faculty, Testing Services, Orientation and Transition Services, Housing and Residential Life, Office of Undergraduate Studies, Quantitative Skills Lab, Office of Distance Learning and Academic Support, Office of Institutional Research

Anticipated Outcomes

- Higher scores on Math Placement Test
- Increased number of students placing in higher level mathematics classes

- Anticipated Measures
- Increase in post-Math Placement Test scores compared to pre-test scores for students participating in Math Boot Camp
 - Comparison of percentage of Boot Camp students placing into developmental math will be lower than that of similar students who do not attend the camp

	Activity	Owner	Due
1	Obtain cooperation of collaborative partners, including Housing and Residence Life, Orientation and Transition Services, Office of Undergraduate Studies, Testing Services, and Quantitative Skills Lab.		
2	Obtain funding for Math Boot Camp pilot.		
3	Schedule dates and times for conducting Math Boot Camp.		
4	Reserve classrooms of appropriate size.		
5	Determine supplies and staffing needs.		
6	Secure instructor and determine curriculum for camp pilot.		
7	Determine student selection criteria for attendance, maximum number of attendees, and fees to be charged (if any).		
8	Notify potential attendees of dates and times of boot camp and appropriate mechanism for obtaining reservations.		
9	Evaluate measures for achievement of outcomes.		

Coordinate Math Intervention Strategies/Programs

Provide coordination of the various math intervention strategies/programs either currently in place or proposed for implementation within the College of Sciences. Currently, several individual instructors are making attempts to remediate the math deficiencies of their students. By coordinating these activities/programs and facilitating communication between the principals involved in each effort, we can optimize the use of resources and provide benefit to the broadest range of students.

Primary Responsibility Mathematics Department Chair

Resource Possibilities Math faculty member and Retention and Graduation Analyst

- Anticipated Outcomes
- Increased collaboration and efficiency of efforts among innovative mathematics instruction activities
 - Greater familiarity among math faculty regarding efforts to increase math skills

- Anticipated Measures
- Decreased number of individual math projects with a corresponding increase in department or college-level efforts with increased positive effect
 - Wider dissemination of ideas regarding mathematics remediation as evidenced by surveys of faculty

	Activity	Owner	Due
1	Designate faculty member for a one-year commitment to coordinating math intervention strategies.		
2	Identify current efforts of innovative math instruction.		
3	Identify ideas and proposed programs for changing math instruction.		
4	Collect and publish current and proposed efforts, including a brief extract describing each effort and principal individual responsible.		
5	Establish a Math Innovation Meeting for all math instruction innovators to gather twice during the fall and spring semesters and once during the summer to discuss efforts.		
6	Allow time for coordinator to discuss projects during departmental meetings and department chair meetings.		
7	Evaluate measures for achievement of outcomes.		

Establish and Coordinate Satellite Tutoring Labs

Coordinate College of Sciences tutoring efforts with those of the Tomás Rivera Center for Student Success Quantitative Tutoring Lab (Q Lab). Delegate hiring, training, tutor evaluation, and assessment to the Q Lab. College of Sciences departments will continue to set requirements for hiring and subject coverage, without the overhead of managing a corps of tutors.

Primary Responsibility Associate Dean of Academic Affairs of the College of Sciences

Resource Possibilities Associate Director of Q Lab, access to individual tutoring lab records, funds for tutors, a designated space in the College of Sciences

- Anticipated Outcomes
- Increased efficiency of operations within tutoring lab system
 - Economies of scale in purchasing
 - Improved oversight and monitoring of tutors
 - Increased access to tutoring during nights and weekends

- Anticipated Measures
- Standard measures already in use by the Q Lab to analyze student satisfaction and participation
 - Use of tutoring facilities by COS students will increase after implementation

	Activity	Owner	Due
1	Arrange meeting with departments maintaining tutoring labs to discuss how tutoring availability may be increased and expenses decreased through collaborative effort.		
2	Establish hiring, supervision and evaluation guidelines for tutors.		
3	Organize and schedule training for tutors.		
4	Find and reserve appropriate classroom or laboratory space within the College of Sciences for tutoring to take place.		
5	Survey students to determine most convenient operating hours and times.		
6	Hire, train, and deploy tutors within the College of Sciences.		
7	Evaluate measures for achievement of outcomes.		

Barrier 2: College Knowledge

The second most commonly reported obstacle facing students within the College of Sciences is a lack of knowledge about the behaviors and attitudes that lead to success in college. This group of behaviors is sometimes collectively described as “college knowledge.” According to many faculty members within the College of Sciences, students: 1) do not attend class regularly; 2) do not seem to understand the importance of studying; 3) do not complete homework assignments regularly or on time; 4) do not seek out professors when confused by course material presented in lecture; 5) do not engage professors and instructors in classroom discussions; and 6) appear satisfied when they achieve even mediocre grades.

Promote Learning Communities

Encourage and support student participation in Learning Communities and the associated Freshman Seminar in an effort to address the behavioral deficits cited by COS faculty as contributing factors to student attrition. Although finding faculty to teach seminars has been a problem in the past, the use of doctoral-level students has proven successful.

Primary Responsibility Associate Dean of Academic Affairs of the College of Sciences

- Resource Possibilities Associate Director of Learning Communities, qualified instructors
- Anticipated Outcomes
- Increased freshman and sophomore retention rates for COS students participating in Learning Communities
 - Corresponding increase in graduation rates
- Anticipated Measures
- Increased retention rates of first and second year COS students participating in Learning Communities compared to non-participating students
 - Increased six-year graduation rates for COS students participating in Learning Communities

	Activity	Owner	Due
1	Recruit instructors to teach Freshman Seminars.		
2	Identify and reserve seminar spaces in the College of Sciences.		
3	Advertise the benefits of participating in Learning Communities in venues that will reach freshmen, especially during Orientation's Meeting of the Colleges.		
4	Evaluate measures for achievement of outcomes.		

Implement Biology Recitation Sessions

Require attendance at these small-group meetings that will take place after large lecture classes. Recitation sessions are targeted toward biology majors and are designed to increase comprehension levels and overall mastery of course material.

- Primary Responsibility Biology Department Chair and faculty
- Resource Possibilities Trained recitation leaders
- Anticipated Outcomes
- Boost in baseline academic performance allowing instructors/professors to teach at higher levels
- Anticipated Measures
- D-F-W rates for targeted classes should decrease by more than 15%
 - A-B rates for targeted classes should increase by more than 15%

	Activity	Owner	Due
1	Determine which classes to be accompanied by recitation sessions.		
2	Place recitation classes in the catalog and the schedule of classes.		
3	Select, train, and evaluate recitation leaders for effectiveness.		
4	Request space close to designated classes for recitation to occur.		
5	Conduct recitation sessions.		
6	Evaluate measures for achievement of outcomes.		

Enhance Meeting of the Colleges in Orientation

During the summer orientation Meeting of the Colleges, have more faculty members available to engage and interact with new freshmen. Arrange activities according to academic department, affording freshmen the chance to meet faculty members in their desired degree program, to ask questions, and to learn more about specific disciplines.

Primary Responsibility Associate Dean for Academic Affairs of the College of Sciences

Resource Possibilities Undergraduate Advisors of Record (UGAR) from each COS Department, Department and Assistant Department Chairs, and designated faculty from individual departments

Anticipated Outcomes

- Greater student knowledge of degree requirements
- Earlier completion of foundation courses
- Decrease in number of students that switch majors as sophomores, juniors, seniors

Anticipated Measures

- Number of sophomores, juniors, and seniors changing majors will decrease after implementation
- Number of students postponing key foundation courses will decrease after implementation

	Activity	Owner	Due
1	Identify goals and expectations for faculty involvement in Meeting of the Colleges.		
2	Define activities for Meeting of the Colleges.		
3	Review and implement alternative methods for motivating and rewarding faculty for participation.		
4	Designate a faculty member from each department to speak at each of the Meeting of the Colleges.		

	Activity	Owner	Due
5	Designated faculty members should speak to students and accurately report academic requirements for specific degree programs or career paths. A special item of emphasis should be early completion of foundation courses.		
6	Beginning in 2009, address the Pre-Biology classification and clearly explain procedures for progressing from Pre-Biology to Biology major.		
7	Evaluate measures for achievement of outcomes.		

Implement Pre-Biology Track

In fall 2009, implement a two-track system for classifying biology majors. Students whose high school class rank is below the top 25th percentile will be placed in a pre-biology curriculum while students above the 25th percentile will be admitted directly to the major.

Primary Responsibility Biology Department Chair

Resource Possibilities Associate Dean for Academic Affairs of the College of Sciences, Office of Institutional Research, Office of the Registrar, Admissions, Orientation and Transition Services, College of Sciences Undergraduate Advising Center, Colleges' Freshman Advising Center, Tomas Rivera Center, Athletic Advising, and Honors College

Anticipated Outcomes ○ Retention of pre-biology students at the same rate as those allowed direct entry to the major

Anticipated Measures ○ Comparable retention and graduation rates for pre-biology students, compared to biology students when SAT and math placement scores are held constant.

	Activity	Owner	Due
1	Select curriculum review committee members to establish course requirements for pre-biology students.		
2	Designate individual faculty member to communicate curriculum changes to other UTSA departments (advising centers, Office of University Publications, etc) in a timely manner.		
3	Establish means of informing prospective students of curriculum changes.		

	Activity	Owner	Due
4	Establish support services for pre-biology students, such as Learning Communities and Supplemental Instruction.		
5	Track retention and graduation rates for students on both tracks.		
6	Evaluate measures for achievement of outcomes (assessment).		

Barrier 3: Academic Advising

Faculty members and students expressed somewhat different opinions regarding barriers to graduation. An unexpected area of agreement concerned the accuracy of academic advising. Specifically, faculty and students reported confusing, erroneous, or incorrect information regarding course prerequisites, course availability and course sequencing from academic advisors.

Implement Faculty / Advising Meetings

Initiate and maintain regular meetings between each department's Undergraduate Advisor of Record (UGAR) and representatives from all advising centers having responsibility for advising undergraduate College of Sciences students. These meetings provide a venue and opportunity for the UGAR to inform the advising community of impending curriculum changes and to give feedback from faculty.

Primary Responsibility Associate Dean for Academic Affairs of the College of Sciences

Resource Possibilities UGAR from each COS department, Directors of the following advising centers: College of Sciences Undergraduate Advising Center, Colleges' Freshman Advising Center, Tomas Rivera Center, University Health Professions Office, Teaching and Certification Center, Athletic Advising, Honors College; Executive Director of Advising; Retention and Graduation Analyst

- Anticipated Outcomes
- Accurate dissemination of information regarding curriculum additions, deletions or other pedagogical changes
 - Fewer instances of advising inaccuracies
 - Increased persistence rates
 - Shortened time to graduation
 - The number of reports of inaccuracies will decrease

- Anticipated Measures
- Fewer advising inaccuracies found during regular advisor audits after implementation
 - Increased retention rates after implementation
 - Increased graduation rates in the long term after implementation

	Activity	Owner	Due
1	Identify a faculty member from each department to serve as the UGAR.		
2	Establish regular meeting times between UGARs and advising center directors.		
3	Develop official protocols for disseminating information between departments and advising centers.		
4	Develop official protocol (written rules) for correcting errors and informing students of results.		
5	Define appropriate metrics for measuring advisor accuracy.		
6	Perform frequent audits of advisor records to include 20% to 50% of caseload, depending on advisor experience.		
7	Evaluate measures for achievement of outcomes.		

Develop and Review Degree Plans

Establish standardized degree plans for each College of Sciences course of study, in order to eliminate differences in advising between the various advising centers that work with science students. For each major, different plans will be developed according to a student’s college-level readiness (e.g. math). Also, plans that combine a student’s major and health profession interest will be created. On an annual basis, faculty from each department will review their undergraduate degree plans for accuracy.

Primary Responsibility Associate Dean for Academic Affairs of the College of Sciences

Resource Possibilities Undergraduate Advisor of Record for each COS Department, Directors of the following advising centers: College of Sciences Undergraduate Advising Center, Colleges' Freshman Advising Center, Tomas Rivera Center, University Health Professions Office, Teaching and Certification Center, Athletic Advising, Honors College Advising; Executive Director of Advising; Retention and Graduation Analyst

Anticipated Outcomes

- o Standardized, approved degree plans for each specific course of study
- o Decrease in advising inaccuracies
- o Decrease in enrollment in classes that do not contribute credit hours toward graduation

Anticipated Measures

- o Degree plans used by advising centers will be 100% accurate
- o Audits of advising records will show 100% compliance with use of faculty-approved degree plans

	Activity	Owner	Due
1	Arrange a series of meetings between UGARs, advising center directors in COSUAC, CFAC, TRC, UHPO, and the Executive Director of Advising in order to discuss standardized degree plans for all COS majors.		
2	All current degree plans will be reviewed and approved by appropriate UGAR.		
3	Train academic advisors on use of degree plans.		
4	The Executive Director of Advising will conduct regular advisor audits to check for degree plan usage and accuracy of information provided to students.		
5	Evaluate measures for achievement of outcomes.		

Provide Ongoing Training for Academic Advisors

Provide training, support and evaluation of individual advisor knowledge regarding specific curricula and degree plans. The ongoing training and evaluation will include auditing the work of new advisors.

Primary Responsibility Executive Director of Advising



Resource Possibilities Associate Dean for Academic Affairs of the College of Sciences, Directors of the following advising centers: College of Sciences Undergraduate Advising Center, Colleges’ Freshman Advising Center, Tomas Rivera Center, University Health Professions Office, Teaching and Certification Center, Athletic Advising, Honors College

Anticipated Outcomes

- Decrease in advising inaccuracies
- Increase in positive reports of satisfaction on student surveys

Anticipated Measures

- Satisfaction surveys will show an increase in number of “Excellent” and “Good” responses after a full year of implementation
- Assess training with a test
- Auditing reports submitted to the Executive Director of Advising will show a decrease in advising errors
- Student complaints about advising errors will decrease

	Activity	Owner	Due
1	The Executive Director of Advising will query directors of advising centers regarding best days and times for regular and ongoing training sessions for current advisors.		
2	Solicit input and advice from Undergraduate Advisors of Record (UGAR) from individual departments within College of Sciences.		
3	Develop training curriculum and evaluation criteria, including immediate content test for implementation at the close of training.		
4	Reserve appropriate meeting space and create a scheduling matrix that will allow training to occur during regular work hours.		
5	Conduct advisor training sessions that address conceptual, relational, and informational advisor development.		
6	Conduct regular advisor audits to verify compliance with policies, procedures, and the delivery of accurate information to students.		
7	Executive Director of Advising sends reports to advising center directors about errors from tests to be targeted for follow-up training in centers.		
8	Reactivate advising center customer service surveys.		

	Activity	Owner	Due
9	Examine effectiveness and usability of AdvisorTrac or other applicable software which provides daily satisfaction feedback.		
10	Evaluate measures for achievement of outcomes.		

Implement and/or Evaluate NACADA Recommendations

Implement the remaining procedural change recommended by the National Academic Advising Association (NACADA) Consultant Bureau during their visit to UTSA in 2005, which is developing a structured and formalized approach to faculty mentoring in the College of Sciences, and review those recommendations that have been instituted. The NACADA recommendations that have been initiated at UTSA are: 1) re-evaluate the way training is done for the professional advisors; 2) address the professional advisors' morale issues; 3) consider some mandatory advising checkpoints; 4) expand what is currently being called the Transfer Office to the Office of Transfer and Re-entry Services; and 5) accelerate the transfer credit evaluation process. Items 1 and 2 will be further explored in "Provide On-Going Training for Academic Advisors" in this college plan. Items 3, 4, and 5 have been instituted and require evaluation. Further, follow up on the NACADA recommendation of incorporating technological innovations (e.g. CAPP and utilizing advising tracking software) is included in "Develop and Review Degree Plans" and "Provide On-Going Training for Academic Advisors" sections of this college plan.

Primary Responsibility Associate Dean for Academic Affairs of the College of Sciences

Resource Possibilities Undergraduate Advisor of Record for each COS Department, Executive Director of Advising, Director of the College of Sciences Undergraduate Advising Center, Department, Department and Assistant Department Chairs, and designated faculty from individual departments, Retention and Graduation Analyst

- Anticipated Outcomes
- Increased effectiveness of academic advising for science students
 - Systematic faculty mentoring of students
 - Increased mentoring and connections between faculty and students
 - Students will better explore their discipline and future professions, and have a stronger connection to UTSA

- Anticipated Measures
- Systematic plan for faculty mentoring produced

	Activity	Owner	Due
1	Initiate meeting with UGARs, department chairs, and COSUAC Director to discuss ways to provide faculty mentoring, including method, number of meetings, and expectations.		
2	Formulate program and share with faculty, including reviewing and implementing alternative methods for motivating and rewarding faculty for participation.		
4	Develop schedule and/or events, and advertise to COS students.		
3	Evaluate measures for achievement of outcomes.		

Barrier 4: Employment / Education Conflicts

Another frequently mentioned obstacle to student success was the conflict between school and employment. Anecdotal evidence from faculty within the College of Sciences suggests that a large percentage of students attending UTSA work at least part-time. It is suspected that a significant number of students maintain full-time work schedules, in addition to their course loads. Faculty identified this as a major barrier to retention and graduation.

Provide More Grants and Scholarships, and Increase Their Visibility

Increase awareness and investigate the development of more scholarships and grants to offset some of the costs of attending college. Information about scholarships and grants will be distributed to faculty and staff members, who will in turn advertise and share this information with their students. The distribution of information will be timely to encourage and increase the rate of completed applications. Ultimately, the students in the College of Sciences who receive these funds may choose to work fewer hours or not work at all and may spend more of their time engaged in class-related activities.

- Primary Responsibility** Associate Dean of Academic Affairs of the College of Sciences
- Resource Possibilities** Assistant Dean of the College of Sciences , Director of Advancement for the College of Sciences, Scholarship Office within Student Financial Aid, Department chairs, faculty members, staff members, Academic Technology/Distance Learning
- Anticipated Outcomes**
- More COS students will apply for and receive scholarships, grants, or both
 - Scholarship recipients will reduce time to graduation, because they are able to increase course loads by reducing employment commitments
 - Students will participate in more extracurricular, professional development, and/or enrichment programs to enhance their discipline studies and prepare for graduate/professional school and careers
- Anticipated Measures**
- Year-to-year comparison of scholarship and grant awards to COS students will show an increase
 - Comparison of course loads and time to graduation for scholarship and grant recipients compared to general COS student population will show students progressing faster

	Activity	Owner	Due
1	Designate a staff member to fill the role of coordinator of grants and scholarships.		
2	Advertise the existence of the coordinator position to students within the College of Sciences.		
3	In collaboration with offices responsible for grants and scholarships, publicize offerings and application deadlines.		
4	Develop a website linked to the College of Sciences homepage which describes in detail the grants and scholarships available to students in the sciences. Develop informational materials for distribution to students and talking points for faculty.		

	Activity	Owner	Due
5	Have department chairs request that faculty teaching undergraduate courses inform students and distribute information about available scholarships and grants during the first two weeks of the spring semester. Both in class and WebCT distribution would be beneficial, as well as Meeting of the Colleges. This can include the coordinator attending department meetings, COS Dean's Executive Council meetings, and staff meetings for the advising centers that work with science students to relay information.		
6	Distribute materials through non-faculty points of contact (e.g., advising center, department offices, COS website, posters in Science Building).		
7	Evaluate measures for achievement of outcomes.		

Request More Work-Study Positions

Request and advocate for more work-study opportunities for students. There is research to suggest that students who work on campus succeed at a higher rate than students who work off campus. This may result from these students being “adopted” by faculty, staff and other students within academic departments. The Office of Financial Aid has recently acquired more work-study positions and invited academic departments to apply.

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|------------------------|---|
| Primary Responsibility | Associate Dean of Academic Affairs of the College of Sciences |
| Resource Possibilities | Assistant Vice President of Student Financial Aid, faculty members and administrative assistants in the College of Sciences, Career Services, Advising Centers |
| Anticipated Outcomes | <ul style="list-style-type: none"> ○ More work-study positions available within and outside of the College of Sciences ○ More students choosing to work on campus in work-study positions, rather than working off campus |
| Anticipated Measures | <ul style="list-style-type: none"> ○ An increase in the number of work-study positions offered in the College of Sciences after implementation ○ An increase in the number of College of Sciences students electing to fill a work-study position rather than working off campus after implementation |

	Activity	Owner	Due
1	Meet with the individual within Financial Aid in charge of work-study positions.		
2	Discuss the feasibility of obtaining more work-study positions in College of Sciences with Financial Aid representative and other interested parties.		
3	Create and maintain a searchable database of work-study positions that can be easily accessed by students.		
4	Designated staff member will maintain statistics regarding the number of science students in work-study positions.		
5	Analyze statistics on number of College of Sciences students in work-study positions and report findings.		
6	Evaluate measures for achievement of outcomes.		

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