Detailed Assessment Report for 2006-2007 BS Mathematics

Mission/Purpose

The mission of the Mathematics Program at Texas A&M University-Corpus Christi is to increase the knowledge and use of mathematics by persons both at the University and in the surrounding area. We strive to educate students at the University so that they are prepared to use mathematics intelligently in their chosen fields of study and to understand mathematics as it affects their lives and participation in public affairs. In addition, the Mathematics Program provides its majors and graduate students with preparation for careers in education, science, and commerce, as well as providing a solid foundation for further study in mathematics. In support of the graduate program, the mathematics faculty pursues scholarship in mathematics, applications of mathematics, and instruction in mathematics. Finally, the Mathematics Program serves the community by providing its expertise to local schools, industry, and businesses.

Student Learning Outcomes, with Any Associations and Related Measures, Achievement Targets, Findings, and Action Plans

O 1: Have a command of principles of mathematics
Mathematics graduates will demonstrate a command of principles of general mathematics at the undergraduate level.

Associations:

General Education or Core Curriculum:
5. Critical Thinking
13. Use logical reasoning in problem solving

Institutional Priorities:
1.3. Fostering free and open intellectual inquiry, accomplishment and expression

Strategic Plans:

Texas A&M-Corpus Christi
1.1. Excellence

Related Measures:

M 1: MFT-Mathematics
Student Performance on the Major Field Assessment Test:
Source of Evidence: Comprehensive/end-of-program subject matter exam

Achievement Target:
Median performance by our students meets or exceeds the national median, both overall and in each subsection of the test.

Findings (2006-2007) - Achievement Target: Not Met
Our median falls below the national median. This is the first time in years, and can be explained through random variation in students from year to year.
particular, last year we had 3 students (of 13) take the test who were much weaker than usual. All 3 scored lower than any student scored in the previous year; one score below random. Had any one of them not been included in the cohort, we would have achieved the target level performance. No action planned, assuming this is a one-year aberration, but we will continue monitoring.

**Related Action Plans:**

**Monitor MFT results**
Given a history of successfully meeting this target, we regard our failure to meet our target for Measure 1 to be a statistical anomaly rather than a sign of failure. If we fail again this year, we will begin to take action.
For more information, see the *Action Plan Details* section of this report.

**Analysis of MFT Results versus Grades**
We will look at grades in key Mathematics classes vis-a-vis scores on the MFT tests. The purpose will be to identify (at least) the following:

1. We have had 4 students in the last 2 years who have scored in the bottom 1%, whereas statistically we should have had only 1: does this represent retaining students who should be failed, or a lack of effort on the test on the part of those students?
2. Are the correlations between grades in particular courses and performance on the MFT?

Based on the results of our findings, we will plan curricular and/or advising actions as indicated.

For more information, see the *Action Plan Details* section of this report.

**M 2: TExES exam**
Student Performance on the Texas Examinations of Educator Standards (TExES)

Source of Evidence: Comprehensive/end-of-program subject matter exam

**Achievement Target:**
80% pass rate by 15 months after graduation (this is above the state minimum of 70%)

**Findings (2006-2007) - Achievement Target: Met**
A. MATH 8-12 Initial Pass rate for 2007: 8/9 = 89.9%  B. MATH 8-12 Final Pass rate for 2007: 5/5 = 100%  C. MATH 4-8 Initial Pass Rate for 2007: 13/13 = 100%  D. MATH 4-8 Final Pass Rate for 2007: 15/15

**M 3: Alumni Survey**
(1) Responses by all undergraduate students on Alumni Survey Questionnaire to question 3, "Developing effective mathematical/quantitative skills"; (2) Responses by mathematics majors on Alumni Survey Questionnaire to questions 50, 55, conditional on their answers to 58 and 61 [Q50. The preparation in your major for employment or graduate/professional school?; Q55. How well did your education at TAMU-CC prepare you for your first job or graduate/professional school?; Q61. To what extent does your current job make use of the education you received at TAMU-CC?; Q58. How closely is your current position related to your field of study at TAMUCC?]

Source of Evidence: Alumni survey or tracking of alumni achievements

**Achievement Target:**
(1) 70% of respondents note a "major" or "moderate" impact; (2) Among students whose jobs require mathematics, as measured by questions 58 and 61, 90% rank their education in the best two categories on questions 50 and 55.

**Findings (2006-2007) - Achievement Target: Partially Met**
(1) In 2006, 57% reported that their experiences at TAMUCC had had a "major" or "moderate" impact in developing effective mathematical/quantitative skills. This is down from 74% in 2004, and mirrors the precipitous drop in on the same measure for "Acquiring a basic knowledge of the Liberal Arts". (2) We had to combine 2004 and 2006 results to have a large enough response (9 majors) for PIO to release the results. Also we received only summaries for each question, so we could not relate responses on 58 and 61 to 50 and 55. Of the respondents, 6 of 9 had jobs related to their major field of study (question 58) and 4 of 6 felt that their jobs used their education heavily (question 61). From this group, 8 of 9 were satisfied or very satisfied with their preparation for employment or graduate/professional school (question 50), and 7 of 8 felt the level of preparation for their first job or graduate school was "good" or better (question 55). Although we did not meet the 90% standard, the small sample size would have required unanimous positive responses to meet this standard, so we are satisfied with these results.

Related Action Plans:

Study alumni survey results

Based only on the Alumni Survey summary on the PIE website, it is difficult to get a handle on why fewer alumni rated their experiences at TAMUCC as having an impact on their math skills. Before planning any curricular action, we would like to better understand: (i) the relationship, if any, between areas of study and results on this question (ii)(if possible) for students without significant mathematics requirements outside the core, the courses used to satisfy the core requirement for those who reported little or no impact (iii) relationship between the responses to this question and those to question 1, which also had a precipitous drop (iv) any change in demographics, particularly transfer vs. native, between 2004 and 2006.

For more information, see the Action Plan Details section of this report.

O 2: Recognize & apply math outside the classroom
Mathematics majors will recognize mathematics outside the realm of the classroom, and apply undergraduate level mathematical content as a matter of professional practice.

Associations:

Institutional Priorities:

1.3 Fostering free and open intellectual inquiry, accomplishment and expression

Strategic Plans:

Texas A&M-Corpus Christi

1.1 Excellence

Related Measures:

M 3: Alumni Survey
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Source of Evidence: Alumni survey or tracking of alumni achievements

Achievement Target:
(1) 70% of respondents note a "major" or "moderate" impact; (2) Among students whose jobs require mathematics, as measured by questions 58 and 61, 90% rank
their education in the best two categories on questions 50 and 55.

**Findings (2006-2007) - Achievement Target: Partially Met**

(1) In 2006, 57% reported that their experiences at TAMUCC had had a "major" or "moderate" impact in developing effective mathematical/quantitative skills. This is down from 74% in 2004, and mirrors the precipitous drop in on the same measure for "Acquiring a basic knowledge of the Liberal Arts". (2) We had to combine 2004 and 2006 results to have a large enough response (9 majors) for PIO to release the results. Also we received only summaries for each question, so we could not relate responses on 58 and 61 to 50 and 55. Of the respondents, 6 of 9 had jobs related to their major field of study (question 58) and 4 of 6 felt that their jobs used their education heavily (question 61). From this group, 8 of 9 were satisfied or very satisfied with their preparation for employment or graduate/professional school (question 50), and 7 of 8 felt the level of preparation for their first job or graduate school was "good" or better (question 55). Although we did not meet the 90% standard, the small sample size would have required unanimous positive responses to meet this standard, so we are satisfied with these results.

**Related Action Plans:**

**Study alumni survey results**

Based only on the Alumni Survey summary on the PIE website, it is difficult to get a handle on why fewer alumni rated their experiences at TAMUCC as having an impact on their math skills. Before planning any curricular action, we would like to better understand: (i) the relationship, if any, between areas of study and results on this question (ii)(if possible) for students without significant mathematics requirements outside the core, the courses used to satisfy the core requirement for those who reported little or no impact (iii) relationship between the responses to this question and those to question 1, which also had a precipitous drop (iv) any change in demographics, particularly transfer vs. native, between 2004 and 2006.

For more information, see the Action Plan Details section of this report.

**M 4: Capstone projects**

A committee of five faculty members responsible for overseeing the upper level curriculum will assess final projects in the capstone course, MATH 4385.

**Source of Evidence:** Capstone course assignments measuring mastery

**Achievement Target:**

(2) 80% of the student projects assessed will be rated as "Satisfactory" or better by all five faculty members for their expertise in applying mathematics to real-world problems; (3) 80% of the student projects assessed will be rated as "Satisfactory" or better by all five faculty members for their effective communication skills.

**Findings (2006-2007) - Achievement Target: Not Met**

Three faculty members rated 5 final projects from MATH 4385. Less than half of the ratings received were "Satisfactory" or better.

**Related Action Plans:**

**More modeling in curriculum**

The undergraduate curriculum will be re-examined to find additional opportunities to introduce mathematical modeling into the undergraduate math major.

For more information, see the Action Plan Details section of this report.

**O 3: Communicate mathematics effectively**

Mathematics majors will communicate mathematics effectively at the undergraduate level, in oral and written form, with appropriate use of technology.

**Associations:**
Institutional Priorities:

1.3 Fostering free and open intellectual inquiry, accomplishment and expression

Strategic Plans:

Texas A&M-Corpus Christi

1.1 Excellence

Related Measures:

M 4: Capstone projects
A committee of five faculty members responsible for overseeing the upper level curriculum will assess final projects in the capstone course, MATH 4385.

Source of Evidence: Capstone course assignments measuring mastery

Achievement Target:
(2) 80% of the student projects assessed will be rated as "Satisfactory" or better by all five faculty members for their expertise in applying mathematics to real-world problems; (3) 80% of the student projects assessed will be rated as "Satisfactory" or better by all five faculty members for their effective communication skills.

Findings (2006-2007) - Achievement Target: Not Met
Three faculty members rated 5 final projects from MATH 4385. Less than half of the ratings received were "Satisfactory" or better.

Related Action Plans:

More modeling in curriculum
The undergraduate curriculum will be re-examined to find additional opportunities to introduce mathematical modeling into the undergraduate math major.
For more information, see the Action Plan Details section of this report.

M 5: Faculty assessments at conferences
Undergraduate students making presentations at regional and state conferences will be assessed by faculty in attendance.

Source of Evidence: Presentation, either individual or group

Achievement Target:
All students making presentations receive median scores of "Satisfactory" or better from assessing faculty.

Findings (2006-2007) - Achievement Target: Met
Two math students presented at the 7th Annual Undergraduate Research Symposium at TAMU-CC. One student was placed second among all entrants from the University by the judges, the other received generally positive marks (I'm still trying to get specific judge's ratings). To my knowledge, no other undergraduate students presented at a regional or state conference in calendar year 2007.

Other Outcomes/Objectives, with Any Associations and Related Measures, Achievement Targets, Findings, and Action Plans

O 4: Faculty research
Mathematics Department Faculty will perform research related to teaching and learning in undergraduate mathematics classes.

Associations:

Institutional Priorities:

1.3 Fostering free and open intellectual inquiry, accomplishment and expression
Strategic Plans:

*Texas A&M-Corpus Christi*

1.1 Excellence

**Related Measures:**

**M6: Faculty activity reports**

Faculty activity reports

Source of Evidence: Other academic indirect indicator (define)

**Achievement Target:**

(4) Faculty will make at least 2 presentations at state and regional conferences regarding teaching and learning in undergraduate mathematics classes; (5) At least 3 faculty will increase their involvement in regional, state, and national organizations involving mathematics; (5) At least 3 faculty will increase their involvement with mathematics programs in local school districts.

**Findings (2006-2007) - Achievement Target: Met**

(4) Young, Elaine (2007, March). Mathematical Autobiographies: The Stories of Preservice Teachers. A presentation for the Research Council on Mathematics Learning (RCML), 2 March 2007, Cleveland OH. Guardiola: Presentation at AMSTAT (5) Sterba-Boatwright: joined & participated in TAAAMS, statewide organization of Math Department Chairs (5) Young: I am also secretary of the Research Council for Mathematics Learning (RCML), a national organization, as of March 2007. (5) Giraldo: I attended the RUME (Research in Undergraduate Mathematics Education) in 2007. I was part of the the 3-member nominating committee of the organization to appoint the program chair and the secretary of this SIGMAA for the period 2008-2010. (5) Denny: I don’t know if giving a conference talk “counts”, but if it does I gave a research talk at a contributed papers session (which I also chaired) at the Spring Western Section meeting of the American Mathematical Society in April, 2007 (held in Tucson). (6) Young, Venzon, Hutchings: If our Math Night at Montclair Elementary School can count for participation in local school districts, I did one with my SMTE classes on November 15th. I know Elaine did one at West Oso and also a conference for teachers and administrators to attend that was Saturday, November 10th. It was on how to put on a Math Science Night. Nadina, Faye and I helped her.

**M7: Sponsored research documents**

Sponsored research documents

Source of Evidence: Other academic indirect indicator (define)

**Achievement Target:**

Faculty will submit at least 2 grants supporting teaching and learning in undergraduate mathematics classes.

**Findings (2006-2007) - Achievement Target: Met**

Young: I was co-PI on the NSF grant John Fernandez submitted in July (included dual credit high school College Algebra classes). Young: I submitted the TQ grant in January 2007 (formally concerned with graduate classes) Tarazaga: submitted NSF grant on undergraduate research with members of other departments.

**O5: Faculty service**

Mathematics Department Faculty will perform service activities extending beyond the immediate campus.

**Associations:**

Institutional Priorities:
1.2 Establishing a culture of professionalism and responsibility
1.5 Fostering an open, shared and participatory decision making process

Strategic Plans:

Texas A&M-Corpus Christi
2.2 Engagement

Related Measures:

M 6: Faculty activity reports
Faculty activity reports
Source of Evidence: Other academic indirect indicator (define)

Achievement Target:
(4) Faculty will make at least 2 presentations at state and regional conferences regarding teaching and learning in undergraduate mathematics classes; (5) At least 3 faculty will increase their involvement in regional, state, and national organizations involving mathematics; (5) At least 3 faculty will increase their involvement with mathematics programs in local school districts.

Findings (2006-2007) - Achievement Target: Met
(4) Young, Elaine (2007, March). Mathematical Autobiographies: The Stories of Preservice Teachers. A presentation for the Research Council on Mathematics Learning (RCML), 2 March 2007, Cleveland OH. Guardiola: Presentation at AMSTAT (5) Sterba-Boatwright: joined & participated in TAAAMS, statewide organization of Math Department Chairs (5) Young: I am also secretary of the Research Council for Mathematics Learning (RCML), a national organization, as of March 2007. (5) Giraldo: I attended the RUME (Research in Undergraduate Mathematics Education) in 2007. I was part of the the 3-member nominating committee of the organization to appoint the program chair and the secretary of this SIGMAA for the period 2008-2010. (5) Denny: I don’t know if giving a conference talk “counts”, but if it does I gave a research talk at a contributed papers session (which I also chaired) at the Spring Western Section meeting of the American Mathematical Society in April, 2007 (held in Tucson). (6) Young, Venzo, Hutchings: If our Math Night at Montclair Elementary School can count for participation in local school districts, I did one with my SMTE classes on November 15th. I know Elaine did one at West Oso and also a conference for teachers and administrators to attend that was Saturday, November 10th. It was on how to put on a Math Science Night. Nadina, Faye and I helped her.

Details for Action Plans Established This Cycle

Monitor MFT results
Given a history of successfully meeting this target, we regard our failure to meet our target for Measure 1 to be a statistical anomaly rather than a sign of failure. If we fail again this year, we will begin to take action.

Priority: Medium
Target Date: 05/2008
May, 2008
Responsible Person/Group: Department Chair

More modeling in curriculum
The undergraduate curriculum will be re-examined to find additional opportunities to introduce mathematical modeling into the undergraduate math major.

Priority: Medium
Responsible Person/Group: Departmental Upper Level Undergraduate Committee

Study alumni survey results
Based only on the Alumni Survey summary on the PIE website, it is difficult to get a handle on why fewer alumni rated their experiences at TAMUCC as having an impact on their math skills. Before planning any curricular action, we would like to better understand: (i) the relationship, if any, between areas of study and results on this question (ii)(if possible) for students without significant mathematics requirements outside the core, the courses used to satisfy the core requirement for those who reported little or no impact (iii) relationship between the responses to this question and those to question 1, which also had a precipitous drop (iv) any change in demographics, particularly transfer vs. native, between 2004 and 2006.

Priority: Medium

Responsible Person/Group: Department Chair

Additional Resources Needed: Better access to alumni survey results(either raw data or customized reports would be fine)

Annual Reports

Highlights
Several of the program objectives are new and no plans or projects are in progress, pending initial measurements. 1. Initiation of new Departmental Committee structure. One of these committees, the Upper Division Undergraduate Oversight Committee, has primary responsibility for assessing and evaluating the mathematics major. The Committee has already begun work on the relationship between the MFAT and the upper level curriculum. A second committee, the Lower Division Undergraduate Oversight Committee, is beginning a detailed assessment of the effectiveness of teaching and learning software in MATH 0399. In general, we are trying to do a better job of tying Departmental teaching practices to valid quantitative and qualitative data analysis. 2. Relationship to faculty evaluation: each year, as a part of Departmental faculty evaluations, the Chair meets individually with each faculty member. As a part of the Spring 2007 meetings, the Chair will go over program objectives with faculty as they meet, identifying opportunities where individual professional goals can serve to bolster departmental professional goals.

Anticipated Challenges
In the next fiscal year, we will be seeking new tenure-track mathematics faculty. We currently have 4.5 FTE faculty on reassigned time, and this reassigned time comes largely out of undergraduate teaching. This affects both the quality of teaching, and the ability of faculty to be mentors to undergraduate majors.

Detailed Assessment Report for 2006-2007 MS Mathematics

Mission/Purpose
The mission of the Mathematics Program at Texas A&M University-Corpus Christi is to increase the knowledge and use of mathematics by persons both at the University and in the surrounding area. We strive to educate students at the University so that they are prepared to use mathematics intelligently in their chosen fields of study and to understand mathematics as it affects their lives and participation in public affairs. In addition, the Mathematics Program provides its majors and graduate students with preparation for careers in education, science, and commerce, as well as providing a solid foundation for further study in mathematics. In support of the graduate program, the mathematics faculty pursues scholarship in mathematics, applications of mathematics, and instruction in
mathematics. Finally, the Mathematics Program serves the community by providing its expertise to local schools, industry, and businesses.

Student Learning Outcomes, with Any Associations and Related Measures, Achievement Targets, Findings, and Action Plans

**O 1:** Demonstrate command of math principles
Demonstrate a command of principles of general mathematics at the graduate level.

**Associations:**

**Institutional Priorities:**

1.3 Fostering free and open intellectual inquiry, accomplishment and expression

**Strategic Plans:**

**Texas A&M-Corpus Christi**

1.1 Excellence

**Related Measures:**

**M 1:** Math content rubric
The department will develop and use a rubric to assess the mathematics content of all project reports (CC track) and theses (EM & potentially CC tracks). Each report or thesis will be assessed by at least two faculty using this rubric.

Source of Evidence: Project, either individual or group

**Achievement Target:**
90% of project reports and theses will be rated as "Satisfactory" or better on all items of the rubric by all raters.

**Findings (2006-2007) - Achievement Target: Not Met**
There were no EM theses evaluated. For the CC track, three faculty evaluated three projects and one thesis. In general, the ratings were " Unsatisfactory" rather than " Satisfactory." This will be discussed more in the Action Plan, but in general, the problem is that the CC projects tend to be more pedagogically focused, and thus do not serve as a good place to measure mathematical learning in this population.

**Related Action Plans:**

**Change measurement of learning in CC track**
Develop one or more alternative measurements of mathematical learning by students in the CC track. These measurements should not be based on the final project or thesis, because these projects and theses have been primarily pedagogical in focus. Potential instruments include pre-post tests in selected classes and a graduation exam to be required of all students. For more information, see the Action Plan Details section of this report.

**M 2:** Texas Exam for Master Teachers in Mathematics
Student performance on the Texas Examinations for Master Teachers in Mathematics. (CC track only)

Source of Evidence: Certification or licensure exam, national or state

**Achievement Target:**
A pass rate among first-time takers of 80%.

**Findings (2006-2007) - Achievement Target: Not Met**
Our program is still pending approval, so no measurement was possible.

**Related Action Plans:**
Obtain permission to offer Master Teacher in Math
Get official approval to offer a Master Teacher in Mathematics certification.
For more information, see the Action Plan Details section of this report.

O 2: Apply mathematics to model real-world situations
Apply mathematics to model real-world situations at an appropriate level. (remark: On the advice of Gale Stuart, this has been re-worded from the outcome submitted for the catalog.)

Associations:

Institutional Priorities:

1.3 Fostering free and open intellectual inquiry, accomplishment and expression

Strategic Plans:

Texas A&M-Corpus Christi
1.1 Excellence

Related Measures:

M 3: Embedded assignments
Embedded assignments from MATH 5370 and 5378 will be assessed to measure students’ ability to model real-world situations, using a rubric developed by the department. Each student’s skills will be assessed by at least two faculty.

Source of Evidence: Project, either individual or group

Achievement Target:
80% of all such assessments will be at the level of "Satisfactory" or better for all items on the rubric.

Findings (2006-2007) - Achievement Target: Not Met
Three faculty members assessed five student assignments from 5370, and four faculty members assessed three student assignments from 5378. Less than 50% of the assessments of the 5370 materials were "Satisfactory" or better; approximately 80% of the assessments of the 5378 were "Satisfactory" or better.

Related Action Plans:

Revamp 5370 and 5378
Syllabi in 5370 and 5378 will be revamped to focus more on teaching the modeling cycle. It may also be necessary to move 5378 earlier into students’ careers.
For more information, see the Action Plan Details section of this report.

M 4: Alumni Survey
Assessment #2: Responses by mathematics majors on Alumni Survey Questionnaire to questions 50, 55, conditional on their answers to 58 and 61

Source of Evidence: Client satisfaction survey (student, faculty)

Achievement Target:
Among students whose jobs require mathematics, as measured by questions 58 and 61, 90% rank their education in the best two categories on questions 50 and 55.

Findings (2006-2007) - Achievement Target: Not Met
2004 and 2006 surveys contained no responses from students with MS in Mathematics.

Related Action Plans:

Replace alumni survey measure
If we cannot count on the alumni survey for data about the graduate program, we will have to use other measures. For more information, see the Action Plan Details section of this report.

O 3: Communicate mathematics effectively
Communicate mathematics effectively at the graduate level, in oral and written form, with appropriate use of technology.

**Associations:**

**Institutional Priorities:**
1.3 Fostering free and open intellectual inquiry, accomplishment and expression

**Strategic Plans:**

*Texas A&M-Corpus Christi*
1.1 Excellence

**Related Measures:**

M 5: Oral theses defense
(in alternate years) Mathematics Department faculty attending the oral defenses of projects and theses will assess the oral communication skills and use of technology in communication by these students, using a rubric developed by the department. The rubric will focus on (i) organization (ii) argumentation (iii) syntactically correct English.

Source of Evidence: Senior thesis or culminating major project

**Achievement Target:**
All students will receive a rating of “Satisfactory” or better on at least three of the four rating components.

*Findings (2006-2007) - Achievement Target: Partially Met*
Of three students measured, two met the target performance level, while one did not. There was substantial measurement variation on item (iv), use of examples.

M 6: Written theses
(in alternate years) Students’ thesis and project committees will assess the written communication skills, using a rubric developed by the department. The rubric will focus on (i) organization (ii) argumentation (iii) syntactically correct English.

Source of Evidence: Senior thesis or culminating major project

**Achievement Target:**
All students will receive a rating of “Satisfactory” or better on at least two of the three rating components.

*Findings (2006-2007) - Achievement Target: Not Met*
To be performed next year

M 7: College TA Assessment Instrument
Responses by students in mathematics labs to questions 2, 4, and 10 on the College TA Assessment instrument.

Source of Evidence: Student satisfaction survey at end of the program

**Achievement Target:**
All TA’s who are graduate students in Mathematics will have average scores at or above the college mean on these items.

*Findings (2006-2007) - Achievement Target: Partially Met*
College Mean Score not available. For TA’s that are graduate students in Mathematics: Q2: 67.2% of students rated their TA’s 4 or 5 on “teaching style that encourages learning” Q4: 87.9% of students rated their TA’s 4 or 5 on
"stresses important concepts during lab session" Q10: 73.4% of students rated their TA's 4 or 5 on "provides constructive feedback for students"

Other Outcomes/Objectives, with Any Associations and Related Measures, Achievement Targets, Findings, and Action Plans

O 4: Faculty scholarship
Increasing quality in faculty scholarship

Associations:

Institutional Priorities:
1.3 Fostering free and open intellectual inquiry, accomplishment and expression

Strategic Plans:

Texas A&M-Corpus Christi
1.1 Excellence

Related Measures:

M 8: Promotion & tenure applications in third year
There is general agreement among the faculty that this is the appropriate goal. However, measuring the quality of faculty scholarship is a difficult task and we have not reached consensus on how to do it. Our first task is to develop an adequate internally accepted measure of the quality of faculty scholarship. Our method will be sourced out of faculty evaluations, and will look at the quality of publications and presentations. Interim Assessment: While the above work is going on, we will use the assessment of faculty scholarship embedded in third year reviews and in promotion and tenure applications.

Source of Evidence: Evaluations

Achievement Target:
We have a target date of AY 2007-2008 for development of the measure, and AY 2009-2010 for full implementation. Interim Assessment: 75% of faculty in their third year review, and 100% of faculty in subsequent promotion and tenure decisions, will be judged to have adequate scholarship to merit retention/tenure/promotion.

Findings (2006-2007) - Achievement Target: Met
Both faculty who received a third year review in calendar year 2007 were judged to have adequate scholarship.

O 5: Faculty involvement in recruiting
Increased faculty involvement in recruiting students for the Environmental Modeling track.

Associations:

Institutional Priorities:
1.1 Recruiting, retaining, and supporting a diverse, highly qualified student body, faculty and staff
1.2 Establishing a culture of professionalism and responsibility

Strategic Plans:

Texas A&M-Corpus Christi
1.1 Excellence
2.2 Engagement

Related Measures:

M 9: Number of new students from TAMU-CC math majors
Number of new students recruited from our own undergraduate majors.
Source of Evidence: Activity volume

**Achievement Target:**
An increase of two students.

**Findings (2006-2007) - Achievement Target: Partially Met**
EM: We had one TAMU-CC student, not a math major, start a graduate program with us in the Fall. However, we have three who have verbally committed to start in Fall 2008. CC: None; not sure who’s in the pipeline.

**M 10: Number of new students from outside**
Number of new students recruited from other universities’ majors.

Source of Evidence: Activity volume

**Achievement Target:**
An increase of two students.

**Findings (2006-2007) - Achievement Target: Met**
EM: We had two students from other universities start in September, plus one more who will start in January 2008. CC: We had at least four start in September from other universities.

**Details for Action Plans Established This Cycle**

**Change measurement of learning in CC track**
Develop one or more alternative measurements of mathematical learning by students in the CC track. These measurements should not be based on the final project or thesis, because these projects and theses have been primarily pedagogical in focus. Potential instruments include pre-post tests in selected classes and a graduation exam to be required of all students.

**Priority:** High

**Responsible Person/Group:** Graduate Committee of the Math Department

**Obtain permission to offer Master Teacher in Math**
Get official approval to offer a Master Teacher in Mathematics certification.

**Priority:** Low

**Responsible Person/Group:** SMTE Coordinator

**Replace alumni survey measure**
If we cannot count on the alumni survey for data about the graduate program, we will have to use other measures.

**Priority:** Medium

**Responsible Person/Group:** Graduate Committee of the Math Department

**Revamp 5370 and 5378**
Syllabi in 5370 and 5378 will be revamped to focus more on teaching the modeling cycle. It may also be necessary to move 5378 earlier into students’ careers.

**Priority:** Medium

**Responsible Person/Group:** Graduate Committee of the Department

**Annual Reports**

**Highlights**
1. Increasing graduate enrollment. As noted on the “Assessment Report” worksheet, there are two grants, so far renewed annually, that pay for new graduate student tuition for area
math teachers, which has increased the Curriculum Content track enrollment substantially. In addition, two faculty members have begun recruiting among our undergraduate population, with some success (two new students out of 23 currently admitted). We will be formalizing off-campus recruiting efforts during the 2007 calendar year. 2. Increasing graduate quality. Again beginning with a note on the "Assessment Report" worksheet, the Department for the first time has clearly articulated, written expectations for Master's Projects/Theses. Over the coming calendar year, there will be a broad faculty assessment (beyond just the students' graduate committees) about the quality of the resulting work. Based on these results, we will react accordingly. 3. Increasing the quality of faculty scholarship (which supports the master's program). The new department chair has announced a change in the way scholarship will be assessed for annual evaluations. The new system is designed to increase the rewards for "substantial" publications over small, routine, multi-author presentations. No results should be expected from this plan for a year or two. 4. We are belatedly completing our 2005 self-study of the graduate program. We will be conducting discussions as a faculty about the conclusions of the report, and I expect there to be additional plans based on this discussion.