Mathematics **Mathematics Unit Plans**

Budget: $125,316

1 Mission

Developmental Mathematics:

To provide classroom and laboratory instruction to students in need of Developmental Mathematics. To provide students with courses in Developmental Mathematics that will help enable them to succeed in college level mathematics courses.

Mathematics:

To provide classroom instruction for college level (transfer) courses in mathematics. These courses include the full range of mathematics courses typically offered at freshman and sophomore levels in a four-year college or university.

2 PAC Strategic Goal

(For Goal #1) Empowering Students for Success, Strategic Directions 1.A and 1.C

3 Goal 1

(Developmental Mathematics Goal #1)By the end of the 2017-2018 academic year, the productive grade rate in developmental mathematics (combined PGR for Math 0410 and 0320 for the entire academic year) will be at least 63% and the retention rate for developmental mathematics will be at least 86%. (See baseline data in Assessment section).

4 Action Step 1

Action Step 1: Continue to refine the curriculum in our new developmental mathematics courses (Math 0410 and 0320) in order to ensure that the material taught in these courses is sufficiently preparing our students for our entry level college courses (Math 1332, 1442, 1314, 1324, and 1414).

Action Step 2: Continue to increase the number of flex courses with a goal of enrolling at least 80% of all developmental math students in the flex courses. In the fall 2015 semester, 78% of all students enrolling in developmental mathematics courses enrolled in flex courses. Since the large scale implementation of flex Mathematics courses, the PGR in all flex sections has been significantly higher that the PGR in 16-week sections.

Action Step 3: Hire 2 new full time faculty in Mathematics. In the fall 2016 semester, 56 (37%) of mathematics courses were taught by full time faculty while, while 96 (63%) of mathematics courses were taught by adjunct or full-time temporary faculty. If we hire 2 new full time faculty, based on fall '16 sectioning, 66 sections (43%) would be taught by full time faculty and 86 sections (57%) would be taught by adjunct or full-time temporary faculty. Increasing the number of flex sections in developmental mathematics will increase our overall number of sections in mathematics to approximately 156 sections; further exacerbating our need for additional full time mathematics faculty.

Action Step 4: Continue to Monitor/track productive grade rates and retention rates for each faculty member and in each developmental mathematics course. Provide professional development that will help each faculty member use this information to strengthen their courses.

Action Step 5: Equip 1 additional classrooms the Nueces building with 25 computers each. These computer classrooms will be used for Developmental courses and developmental labs as well as math refreshers and other mathematics courses. The rooms would be designed similarly to the INRW classrooms.

Action Step 6: Purchase 2 class sets (30 per set) of TI30xs calculators that will be loaned to students taking developmental mathematics courses.

5 Assessment 1

During the fall 2015 semester the overall productive grade rate in developmental mathematics courses was 62% while the overall retention rate was 85%. During the spring 2016 semester, the overall productive grade rate in developmental mathematics courses was 59% while the overall retention rate was 78%. Overall, in the 2015-2016 academic year, the PGR in developmental mathematics was 61% while the retention rate was 83%.

6 Dissemination 1

Dissemination Step 1: All Mathematics faculty will be made aware of this goal and appropriate data will be disseminated to all faculty (complete by the end of spring 2017).

Dissemination Step 2: Work with staff and faculty to increase the number of flex sections we have in developmental mathematics (replacing 16-week sections with flex sections).

Dissemination Step 3: Work with IR to obtain data related to developmental mathematics (end of fall 2017 and end of spring 2018).

Dissemination Step 4: Obtain administrative approval for 2 new full time faculty in Mathematics. (Completed February 2017)

Dissemination Step 5: Advertise for 2 new faculty. (Ongoing)

Dissemination Step 6: Interview and hire the most qualified candidates. (complete by the end of spring 2017)

7 Budget Implication 1

2 full-time faculty: $87,486

2 class sets (30 per set) of TI30xs calculators: $17.80 per calculator, $1,068 in total

25 computers (1 classroom sets): $15,000

8 PAC Strategic Goal

(For Goal #2) Empowering Students for Success, Strategic Directions 1.A and 1.C

9 Goal 2

(Developmental Mathematics Goal #2) In the Fall 2017 semester, the Mathematics Department will implement a new developmental mathematics course, Math 0410 - Elementary Algebra. Math 0305 and Math 0310 will be archived and the majority of the content in these courses will be merged in Math 0410. The overall success rate of Math 0410 during the 2017-2018 academic year will be 60% while the overall retention rate will be 85%.

10 Action Step 2

Action Step 1: Develop the curriculum in Math 0410. The curriculum is primarily the same curriculum that was used in Math 0310 with some major components (fractions, basic algebra, etc...) from Math 0305 added in. (Done fall 2016)

Action Step 2: Select the materials (book and online software) that will be used for Math 0410 and Math 0320 starting in the fall 2017 semester. (complete in March 2017)

Action Step 3: Work with full-time and adjunct faculty to ensure that all faculty are prepared, and have the materials needed, to teach the new Math 0410 course. (complete by end of spring 2017)

Action Step 4: Offer 50% of all 0410 sections in the flex format. The PGR in all flex sections continues to be significantly higher that the PGR in 16-week sections.

Action Step 5: Monitor/track the overall PGR and RR for Math 0410. Monitor the PGR for each faculty member teaching Math 0410. Provide professional development that will help each faculty member use this information to strengthen their courses.

11 Assessment 2

During the fall 2015 semester the overall productive grade rate in Math 0310 was 55% while the overall retention rate was

84%. During the spring 2016 semester, the overall productive grade rate in in Math 0310 was 52% while the overall retention rate was 80%. Overall, in the 2015-2016 academic year, the PGR in developmental mathematics was 56% while the retention rate was 81%.

12 Dissemination 2

Dissemination Step 1: All Mathematics faculty will be made aware of this goal and appropriate data will be disseminated to all faculty (complete by the end of spring 2017).

Dissemination Step 2: Work with staff and faculty to increase the number of flex sections we have in developmental mathematics (replacing 16-week sections with flex sections).

Dissemination Step 3: Work with IR to obtain data related to developmental mathematics (end of fall 2017 and end of spring 2018).

13 Budget Implication 2

NA

14 PAC Strategic Goal

(For Goal #3) Empowering Students for Success, Strategic Directions 1.A and 1.C

15 Goal 3

(Mathematics Goal #1) By the end of the 2017-2018 academic year the productive grade rate in all college level Mathematics courses will be at least 67% and the retention rate will be at least 85%. (See baseline data in Assessment section).

16 Action Step 3

Action Step 1: Continue to refine the curriculum in our entry level college mathematics courses (Math 1314, 1332, 1442, 1414, and 1324) in order to ensure that the curriculum in these courses is appropriate for the students (relative to their majors) enrolling in them.

Action Step 2: Continue to refine and streamline the curriculum in our STEM sequence of Mathematics courses (Precalculus, Calculus I, Calculus II, Calculus III, Differential Equations, and Linear Algebra).

Action Step 3: Continue to work with the counselors, advisors, and faculty on advising new students and students who have completed our developmental sequence towards the appropriate Mathematics course for their major.

Action Step 4: Promote the availability of Math 1332 and Math 1442 to students taking Math 0310 (0410 starting fall 2017) and students who have completed Math 0310.

Action Step 5: Continue to monitor/track productive grade rates and retention rates for each faculty member teaching Math 1314, Math 1332, Math 1442, Math 1414, and Math 1324 and use this information to help faculty members make informed decisions about how to approach teaching these courses.

Action Step 6: Continue to monitor/track productive grade rates and retention rates for each faculty member teaching courses in our STEM sequence of Mathematics courses.

Action Step 7: Continue to monitor/track the productive grade rates and retention rates of our online, college-level Mathematics courses.

Action Step 8: Purchase 90 (3 classroom sets) TI-84+ CE graphing calculators that students enrolled in all college level Mathematics course can borrow from the Math Learning Center. These calculators will replace 75 old and outdated TI-83 calculators that the Math Learning Center is currently loaning to students. The functionality of these TI-84 calculators will allow faculty teaching college level mathematics courses to be more innovative in the classroom.

Action Step 9: Purchase an institutional membership to AMATYC (American Mathematics Association of Two Year Colleges). The institutional membership will provide various benefits to the department such as membership to the student math league and free registration to the AMATYC conference.

17 Assessment 3

In the fall 2015 semester, the productive grade rates and retention rates for all college level Mathematics courses was 63%

and 84%, respectively. In the spring 2016 semester, the productive grade rates and retention rates for all college level Mathematics courses was 66% and 83%, respectively. The PGR for all college level Mathematics courses in the 2015-2016 academic year was 65% while the retention rate was 83%.

18 Dissemination 3

Dissemination Step 1: All Mathematics faculty will be made aware of this goal and appropriate data will be disseminated to all faculty (complete by the end of spring 2017).

Dissemination Step 2: Work with the counselors, advisors, and faculty on advising new students and developmental students to go into the appropriate entry level college course for their major (done throughout the year).

Dissemination Step 3: Work with IR to obtain data related to college level mathematics courses (end of fall 2017 and end of spring 2018).

19 Budget Implication 3

90 TI-84+ CE graphing calculators: $13,500 ($150 per calculator)

Institutional membership in AMATYC: $480

20 PAC Strategic Goal

(For Goal #3) Empowering Students for Success, Strategic Directions 1.A and 1.C

21 Goal 4

(Mathematics Goal #2) By the end of the 2017-2018 academic year the productive grade rate in all Math 1314 (non-STEM College Algebra) courses will be at least 60% and the retention rate will be at least 80%. (See baseline data in Assessment section).

22 Action Step 4

Action Step 1: Review past Math 1314 data with faculty (done).

Action Step 2: Continue to refine the curriculum in Math 1314 to include more contextualized (real-world) instruction. While doing so, we will ensure that we still cover all topics necessary to meet the SLOs outlines within the ACGM.

Action Step 3: Increase the number of linked flex sections of Math 0320 and 1314. The PGR of flex II, Math 1314 is significantly higher than the PGR of 16-week, Math 1314 sections.

Action Step 4: Continue to work with the counselors, advisors, and faculty on ensure that students who dont need Math 1314 for their degree plan are taking the course appropriate for their degree plan (Math 1332, 1442, 1324, or 1414).

Action Step 5: Continue to counsel all Math 1314 students during the first day of class to ensure that they are in the correct college level Mathematics course for their major. Work with students who were mistakenly placed in Math 1314 to find the correct math course for their major.

Action Step 6: Continue to monitor/track productive grade rates and retention rates for each faculty member teaching Math 1314 and use this information to help faculty members make informed decisions about how to approach teaching this course.

23 Assessment 4

In the fall 2015 semester, the productive grade rate for all Math 1314 sections was 59% (n = 679). In the spring 2016 semester, the productive grade rate for all Math 1314 sections was 49% (n = 555).

24 Dissemination 4

Dissemination Step 1: All Mathematics faculty will be made aware of this goal and appropriate data will be disseminated to all faculty (complete by the end of spring 2017).

Dissemination Step 2: Work with IR to obtain data related to Math 1314 (end of fall 2017 and end of spring 2018).

25 Budget Implication 4

NA

26 PAC Strategic Goal

(For Goal #5) Empowering Students for Success, Strategic Directions 1.A and 1.C

27 Goal 5

By the end of the 2017-2018 academic year the productive grade rate for all Accounting courses will be at least 76% and the retention rate will be at least 87%. (See baseline data in Assessment section).

28 Action Step 5

Action Step 1: Hire (replace) a part time tutor in Accounting. The tutor will be housed in the Math Learning Center and work with accounting students in and out of the classroom (complete in spring 2017).

Action Step 2: Review past Accounting 2301 and 2302 data with faculty (done).

Action Step 3: Continue to work with Accounting Professors from across the district in refining the curriculum in ACCT 2301 and 2302.

Action Step 4: Continue to monitor current trends in the Accounting profession.

Action Step 5: Continue to monitor/track productive grade rates and retention rates for each faculty member teaching Accounting and use this information to help faculty members make informed decisions about how to approach teaching accounting courses.

29 Assessment 5

In the fall 2015 semester, the productive grade rates and retention rates for all Accounting courses was 73% and 83%, respectively. In the spring 2016 semester, the productive grade rates and retention rates for all Accounting courses was 76% and 88% respectively. Overall, the PGR for all accounting courses in the 2015-2016 academic year was 74% while the RR for all accounting courses was 85%.

30 Dissemination 5

Dissemination Step 1: Amanda Salinas, Associate Professor of Accounting, will discuss this goal with all accounting adjuncts.

Dissemination Step 2: Work with IR to obtain data related to Accounting 2301 and 2302 (end of fall 2016 and end of spring 2017).

Dissemination Step 3: Obtain administrative approval for a part time tutor in accounting.

Dissemination Step 4: Advertise for an accounting tutor.

Dissemination Step 5: Interview and hire a candidate.

31 Budget Implication 5

2017-2018 cost of one half-time tutor (Salary based on Tutor V @ $10.42/hr x 19hrs/wk x 40wks): $7,782