

## HIGHLIGHTS OF PIERCE MATH PROJECTS

PIERCE COUNSELING DEPARTMENT  
MAY 31, 2012

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## SUMMARY OF MATH STUDENT SUCCESS INITIATIVES

- Current Programs
  - **ASAP** (Combined Algebra 1+2 Immersion)
  - **STATWAY** (2-semester Statistics for non-STEM)
  - **MAP** (Modeling and Algebra Project for Algebra 2)
  - **APT** (Accelerated Precalculus and Trig)
  - Re-taking the math placement test
- Future Pilots
  - **PI** (Prealgebra Immersion)
  - Placement test workshops

## ASAP

- Algebra Success **At** Pierce – Get through your algebra classes **ASAP!**
- Learning-community-style cohorts
- Course has four components:
  - Algebra 1 (Math 115: 5 units),
  - Algebra 2 (Math 125: 5 units),
  - Math study skills unit (Math 103: 1 unit),
  - College success class (PD 40: 3 units),
  - Total units: 14

## ASAP vs. Non-ASAP Success and Persistence

	Enrolled in 115	Successful in 115	%	Enrolled in 125	%	Successful in 125	%
ASAP	535	400	74.8%	(535)		351	65.6%
Non-ASAP	6100	3558	58.3%	2014	33.0%	1396	22.9%

## ASAP MATERIALS

- Combined textbook by Pierce faculty
  - Directed learning activities
  - Wide variety of problems
  - Emphasis on graphical reasoning and applications
  - Rule of four: verbal, numerical, graphical, and algebraic descriptions of models
- Graphing calculator
- Math Study Skills booklet for 1 unit study skills class

## SUPPORT FOR ASAP

- PD class taught by counselor
- Each class has a TA who:
  - Helps students with activities in class
  - Tutors outside of class
  - Advises and supports students
  - Paid by Basic Skills Initiative
- One Fall 2012 section of Math 227 is reserved for spring 2012 ASAP students:

0539 1:30 - 3:35 T Th TCHERTCHIAN, E A MATH 1415

## THERE WILL BE 5 COHORTS OF ASAP FOR FALL 2012.

- o Rudin/Belloso
- o Martinez/Altounji
- o Tabatabai (No PD 40)
- o Yoder/Quintero
- o Navab (No PD 40 nor Math 103)

## STATWAY™

- o A project of the Carnegie Foundation for the Advancement of Teaching—Pierce is one of the 19 community colleges in the pilot.
- o Students in Statway™ start at the level of Math 115 and get “to-and-through” college level statistics in one year.
- o Designed for non-STEM students whose only university math requirement is a single course in statistics
- o Developmental math in the service of statistics: Statway™ does NOT cover Math 115 nor Math 125.

## STATWAY™ LEARNING PHILOSOPHY PRINCIPLES

- o A “rich task” or overarching question motivates the development of concepts.
- o Mathematical tools are introduced as needed.
- o Lessons focus on fewer topics in greater depth.
- o Materials stress conceptual understanding over procedural fluency.
- o Technology is used for calculation.

## STATWAY™ ISSUES FROM FIRST YEAR:

- o The reading level of the materials was 12, above the comfort zone of most developmental students.
- o The lessons are challenging, not easy.
- o The materials provided by the Carnegie Foundation were not yet ready for wide use, so Pierce faculty had to make many modifications.

## THERE WILL BE TWO STATWAY™ COHORTS FOR FALL 2012.

9:35 - 10:45 am MTWTh plus 10:45 -11:00 am MTWTh	Math 228A Statway I Study Skills	Martinez, RM	Math 1400
11:10 - 12:20 pm MTWTh plus 12:20 - 12:35 pm MTWTh	Math 228A Statway I Study Skills	Cain, CD	Math 1400

## MAP MATH 125

- o Modeling with Algebra Project
- o Math 125 (Intermediate Algebra) paired with Math 103 (How to Succeed at Math)
- o Emphasis on student engagement in group work and directed learning activities
- o Graphing calculator
- o De-emphasis on lecture
- o Videos for skills problems
- o Skills Practice problems and Reading Questions scored in computer system

### MAP SUCCESSES

- High scores on MET: Average score 64.2 vs 52.6 for all Algebra 2
- MAP success at transfer level: 75% compared to 62.5% overall
- Reading Questions encourage students to read before coming to class
- Activities and Concept Questions engage students
- Focus on applications increases writing ability and critical thinking without detracting from mastery of skills

### THERE WILL BE 3 MAP MATH 125 SECTIONS FOR FALL 2012

Class	Time	Days	Instructor	Room	Units
Math 125	8:00 – 9:10 AM	MTWTh	Tchertchian, E	MATH 1416	5
MathStudy Skills	9:10 – 9:25 AM	MTWTh	Tchertchian, E	MATH 1416	1

  

Class	Time	Days	Instructor	Room	Units
Math 125	9:35 – 10:45 AM	MTWTh	Yoshiwara, B	MATH 1415	5
MathStudy Skills	10:45 – 11:00 AM	MTWTh	Yoshiwara, B	MATH 1415	1

  

Class	Time	Days	Instructor	Room	Units
Math 125	11:10 – 12:20 PM	MTWTh	Veiga, J	AT 3805	5
MathStudy Skills	12:20 – 12:35 PM	MTWTh	Veiga, J	AT 3805	1

### APT – ACCELERATED PRECALCULUS AND TRIGONOMETRY

- 8 units (3 unit Math 240 Trigonometry plus 5 unit Math 260 Precalculus)
- Students will have online access to the textbook, videos, and slideshows of the material.
- Students work on structured activities in the classroom.
- Precalculus* by Carlson & Oehrtman

### THERE WILL BE THREE APT MATH 240/MATH 260 SECTIONS FOR FALL 2012:

Class	Time	Days	Instructor	Room	Units
Math 260	8:30 – 9:40 AM	MTWTh	Soto, D	MATH 1402	3
Math240	9:40 – 10:25 AM	MTWTh	Soto, D	MATH 1402	5

  

Class	Time	Days	Instructor	Room	Units
Math 240	10:35 – 11:20 AM	MTWTh	Yoshiwara, KA	MATH 1402	3
Math260	11:20 – 12:30 PM	MTWTh	Yoshiwara, KA	MATH 1402	5

  

Class	Time	Days	Instructor	Room	Units
Math 240	1:30 – 2:15 PM	MTWTh	Smith, BT	MATH 1400	3
Math260	2:25 – 3:35 PM	MTWTh	Smith, BT	MATH 1400	5

### A VISION FOR FUTURE DEVELOPMENTAL MATH

- STATWAY**
  - For Humanities/Social Science students
  - 75% of all Pierce Algebra 1 students
- ASAP**
  - For STEM, Business, Nursing
  - 25% of all Pierce Algebra 1 students
- MAP and APT**
  - For STEM majors placing above Math 115
- PI (Prealgebra Immersion)**

### PI: PREALGEBRA IMMERSION

- Students enroll in 9 math units (immersion):
  - 5 units Prealgebra
  - 1 unit Math Success
  - 3 units Arithmetic
- Six hours of in-class directed learning activities from EMPower Math booklets
- Three hours of “lab” work.
- Instructor credited with 6 units
- Students take 3 additional units to be full-time

## MATH PLACEMENT: MDTF

- Non-adaptive
- Scantron
- 4 levels
- Student should be advised to prepare because placement results are high stakes!

## MATH PLACEMENT: MDTF

- Students who are unhappy with their placement may consult with a math advisor. The students are directed to complete a set of online exercises (currently using the freely available Khan Academy online resources). After successful completion of the assignment, the students will receive a permission slip to re-take the placement test.
- The math department is developing student workshops (to launch in spring 2013) for math placement preparation.

## MATH EXIT TEST (MET) OVERVIEW

- Began in Fall 2007
- Standardized test written by Pierce faculty and taken by all students in all sections of Algebra 1 and Algebra 2 at the end of every semester.
- Used as an SLO assessment tool
- Important:
  - Individual instructors are free to decide for themselves how to use the MET scores in their grading.
  - Many, but not all, use it as a final exam.
  - Free-response questions are team graded.

## PIERCE COLLEGE MATH DEPARTMENT

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