

# Introduction to College Mathematics Update

Daphne Okunaga, Pearl City High School

Triste Yee, Pearl City High School

Gigi Drent, Kauai Community College

Erin Millard, Kauai Community College

Dan Doerger, Hawai'i P-20



November 18, 2016



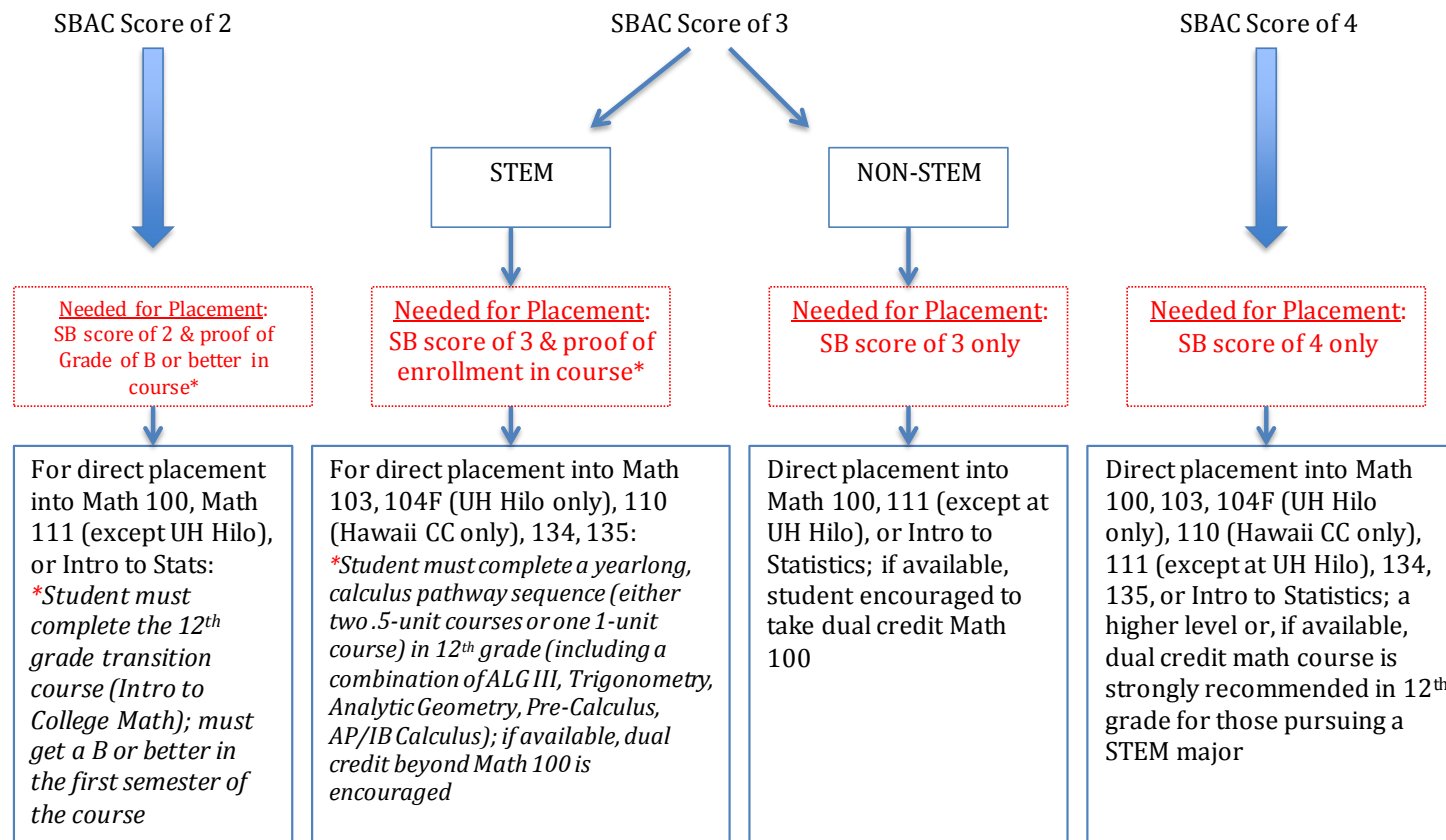
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# Smarter Balanced Placement Policy for UH System

- In Dec. 2014, the Chief Council of Academic Officer and the Council of Student Affairs Officers approved the use of SB Scores for **PLACEMENT** purposes only
- For Math and English/Language Arts entry level courses only
- Scores valid for 24 months
- Pilot for graduating classes of 2016, 2017, 2018



## Math Pathways Based on Smarter Balanced Achievement Levels\*



- \* The placement policy is valid for a three year pilot period (for the high school graduating classes of 2016, 2017, and 2018)
- \* Smarter Balanced scores will be valid for 24 months for placement purposes only
- \* Students wishing to place beyond entry level courses in math are encouraged to take advantage of the UH campus specific placement procedures already established



# History of the Introduction to College Mathematics Course

- Math Workgroup
  - Convened July 2014
  - Representatives from all ten UH campuses plus Dewey Gottlieb
- CHARGE: Create a 12<sup>th</sup> grade option for students identified in the 11<sup>th</sup> grade as not being college and career ready in mathematics



# Introduction to College Mathematics Curriculum

- Instructors in introductory math courses created a list of concepts students should know to be successful in their courses
- These concepts were then used to create the Introduction to College Mathematics course
- The course is modeled on MATH 75, a “one level below” math course taught at the community colleges



# Introduction to College Mathematics

- ACCN: MIC 1200
- Pilot for 2015-2016 Academic Year
  - Pearl City (5 classes), Farrington (1 class), Waialua (1 class), Kapa‘a (1 class)
- Scaling up for 2016-2017 year
  - Aiea, Castle, Kahuku, King Kekaulike, Leilehua, Mililani, Molokai, Pahoia, Waiakea, Waianae, Waimea



# Critical Course Components

- MATH 100/111/115 prep content
- Growth mindset approach (based on the work of Dr. Carol Dweck)
- Project Based Learning
- Culturally Engaging Materials/Assignments
- Similar course pacing
- Common Summative Assessments
  - Created by UH Math Faculty



# Assessment of Pilot

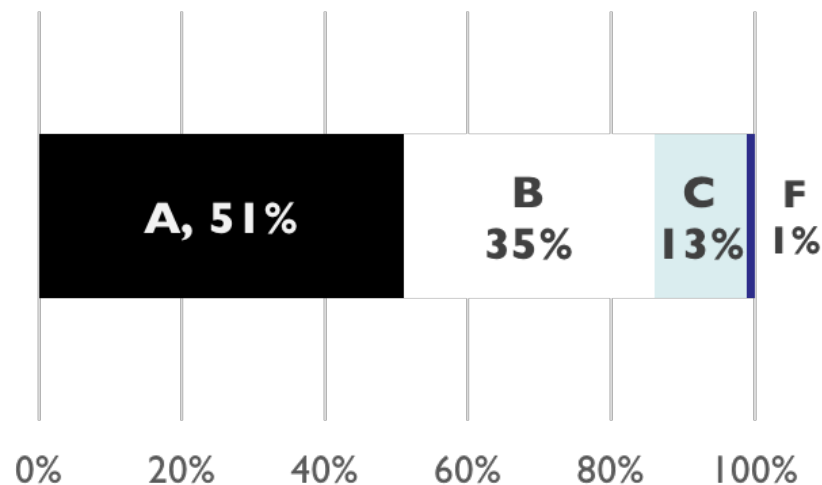
- Tracking Student Success into Gateway Courses at UH
- Student Surveys/Focus Groups
- Instructor Interviews/Focus Groups
- External Evaluation for 2016-2017





# Pilot Results

## Course Grade Distribution



## Summary

- 4 schools (8 classes)
- ~150 students
- 86% earned a grade of A or B
- Scaled up to 15 schools in SY2016-17



# Student Comments

- I scored a 2 because math isn't my best subject; but when taking this course, I actually enjoyed math.
- Everything we did was helpful because if we didn't understand something we had different ways to help us understand.
- To me it doesn't matter what score you get (on SB). I recommend this class to anyone who is willing to challenge themselves.
- This class was very interactive, and it has definitely improved my view of math
- I'm not sure I would have gone to college had I not taken this class.
- It didn't change my mind about going to college as I was always planning to go. However, it helped me better understand college and explore my options



# Teachers' Voices

- Teachers need to have contacts and resources outside the school and understand the transitional needs of students to move from high school to college
- Students are able to see math in real-life situations. The math is also at a level where students can really grasp the understanding behind it. That is where real learning takes place.
- “Grit” is the key in my classes and helps with the self-directed learner, seeking perseverance, and trying to think creatively outside the box.
- Teachers need to be willing and grow with their students to model the growth mindset.
- All high schools should offer this class because we teach to be a better person, not just a better student.



# Successes

- Practical placement option (in lieu of Compass) for Early College
- Students show improved self-efficacy regarding math skills
- Strong student performance for those traditionally unsuccessful in math
- Viable option for fourth year of math for those scoring 1, 2, or 3
- Teacher satisfaction with strategies



# Lessons Learned

- Timing for the placement of students
- Materials
  - Electronic Text
  - Seed money for project based activities
- Messaging to counselors and registrars





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**DAN DOERGER, Ed.D.**  
Core to College Alignment Director

*Email:* [ddoerger@hawaii.edu](mailto:ddoerger@hawaii.edu)

*Direct:* 808-956-5484

*Fax:* 808-956-8037

*Toll Free:* 866-808-4327

University of Hawai'i  
Sinclair Library, Room 504  
2425 Campus Road  
Honolulu, HI 96822

[www.p20hawaii.org](http://www.p20hawaii.org)



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