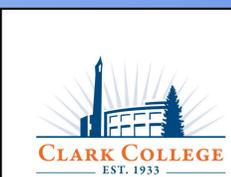


Supplemental Instruction in Mathematics Courses

Clark College, Vancouver, Washington
November, 2018



Background

Clark College Mathematics division's Math Pathways Initiative (MPI) is a multi-year program reform aimed at helping students placed at pre-college level successfully complete gateway college-level math courses sooner. The work is part of Clark's larger Guided Pathways mission, and is being supported by a College Spark Washington Community Grant.

The core components of MPI are:

- ❑ A new "applied algebra" pre-college pathway (092/096) emphasizing core algebraic skills needed by all college-level math students. These courses also include college success skills. Students destined for STEM or business courses can take the technical algebra pathway (090/095).
- ❑ Co-Requisite remediated (CRR) variants of gateway college-level courses (the term used for students is "Supplemental Instruction" (SI)), help students develop their understanding of prerequisite topics, and study skills and support the course content.

Placement

There are four ways students can place into SI courses:

- ❑ ALEKs score of 36 to 45 (Gateway mathematics courses have an ALEKs score of 46 or above.)
- ❑ Completion of any gateway math course (such as Smarter Balanced students who placed into other gateway courses and completed them successfully)
- ❑ Completion of MATH096 (Applied Intermediate Algebra) or MATH095 (Intermediate Algebra) with a C grade or better
- ❑ Any gateway course placement along with self-identification

Fall 2018 Enrollment

Counts and percentages that include SI pilots are indicated with parentheses.

	Number of Students	Percent of Total
MATH103 College Trigonometry	211 (230)	20.2% (20.8%)
MATH105 Finite Mathematics	43 (56)	4.1% (5.1%)
MATH&107 Math in Society	159	15.2% (14.4%)
MATH111 College Algebra	240 (270)	23.0% (24.4%)
MATH122 Math for Elementary Teachers	69	6.7% (6.2%)
MATH&146 Introduction to Statistics	321	30.8% (29.0%)
Total	1043 (1105)	

Course Structure

Students enrolled in a Supplemental Instruction course are in a **single class** as a **cohort**, taught by a **single instructor**. These courses meet for the standard five hours weekly for regular course material, one hour for Supplemental Instruction, and spend one to four hours completing online Supplemental Instruction assignments. For the online supplemental instruction we have created an in-house adaptive system using Canvas's Mastery Paths feature, and are piloting Knewton (an adaptive online homework system) during the Fall 2018 term. The Supplemental Instruction assignments account for 10% to 20% of a student's total grade.

Course objectives are the same as the standard gateway math courses. Currently Supplemental Instruction does not have separate course objectives. The timing of Supplemental Instruction topics are closely tied to when these topics are needed in the main course.

Strengths

- ❑ Adaptive assignments optimize the time students need to spend on prerequisite topics.
- ❑ Diverse faculty perspectives have led to a wide variety of assignments, instructional methods, and tools; Connection Quizzes, Binder Checklists, puzzle-based activities, adaptive assignments, etc.

Challenges

- ❑ Participation in SI adaptive assignments averages less than 50%
- ❑ Finding the appropriate blend of in-house content, and incorporating best practices from elsewhere
- ❑ SI courses need to satisfy institutional and statewide policies, and would benefit from shared best practices

Plans for Improvement

- ❑ Assess the amount of time students need to spend on SI materials, and change credit load based on pilot data.
- ❑ Build consensus on what study skills and/or objectives should be developed for SI courses.
- ❑ Develop unified CRR format that factors in Financial Aid, student workload, and other logistical considerations as well as pedagogical best practices.

MATH090/095 Pathways

For Students Currently Enrolled in Math 090 or 095

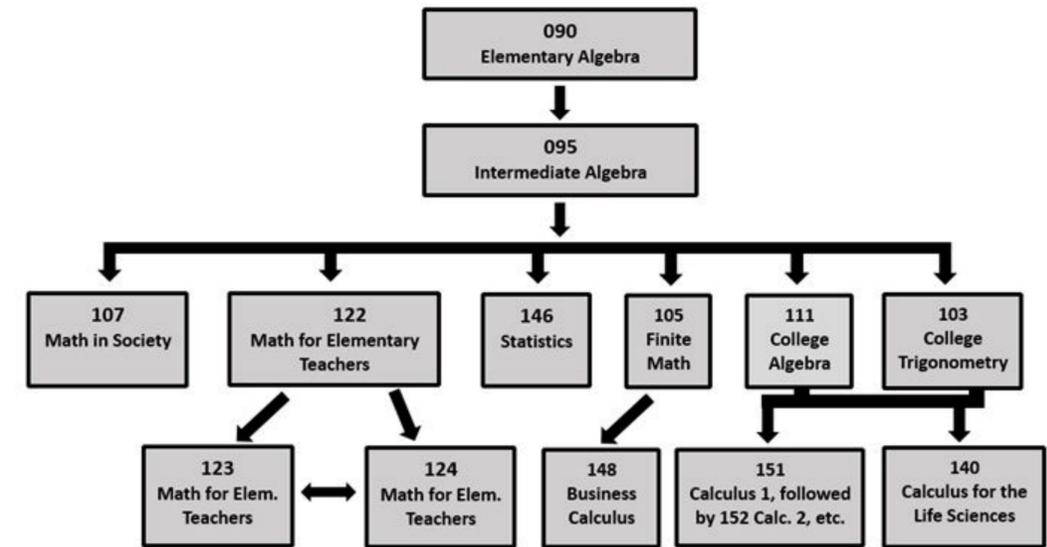
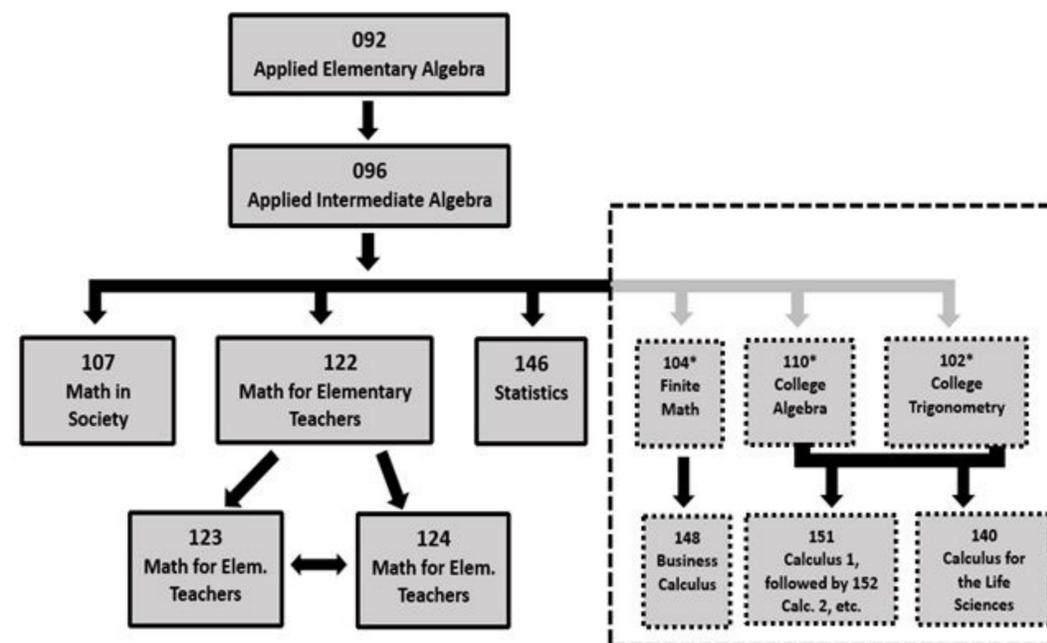


Image courtesy of Mark Eddinger

MATH092-096 Pathways

For Students Currently Enrolled in Math 092 or 096



*Supplemental Instruction courses

Image courtesy of Mark Eddinger

Funding Source:
College SPARK Washington
Community Grant