



SUPPORTING FIRST-YEAR STUDENTS IN MATHEMATICS THROUGH INTERDIVISIONAL COLLABORATION

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California State University, Dominguez Hills

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Overview



CONTEXT & HISTORY



SI STRUCTURE &
LOGISTICS



DATA & FUTURE
PLANS

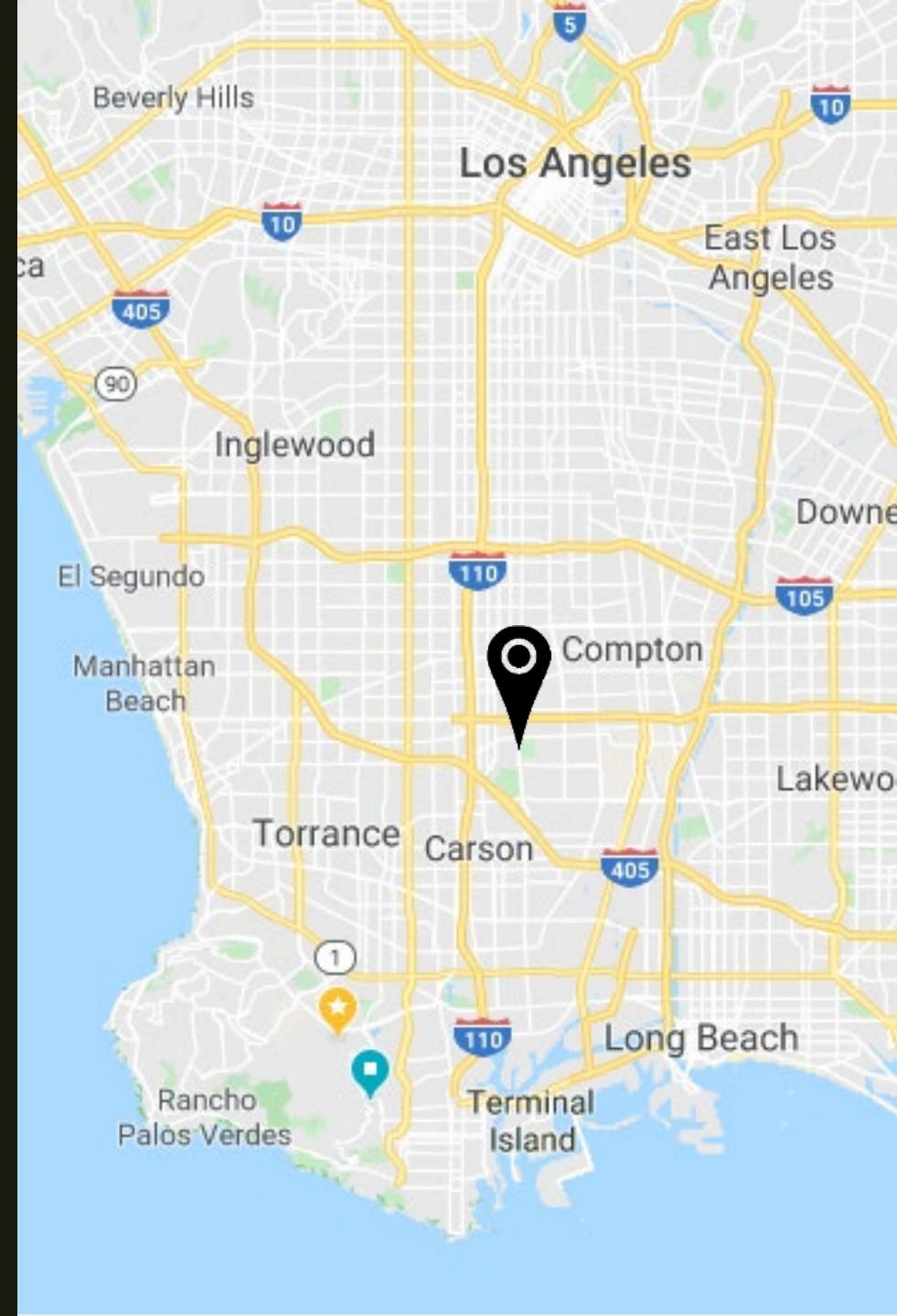


MATH SI @ CSUDH

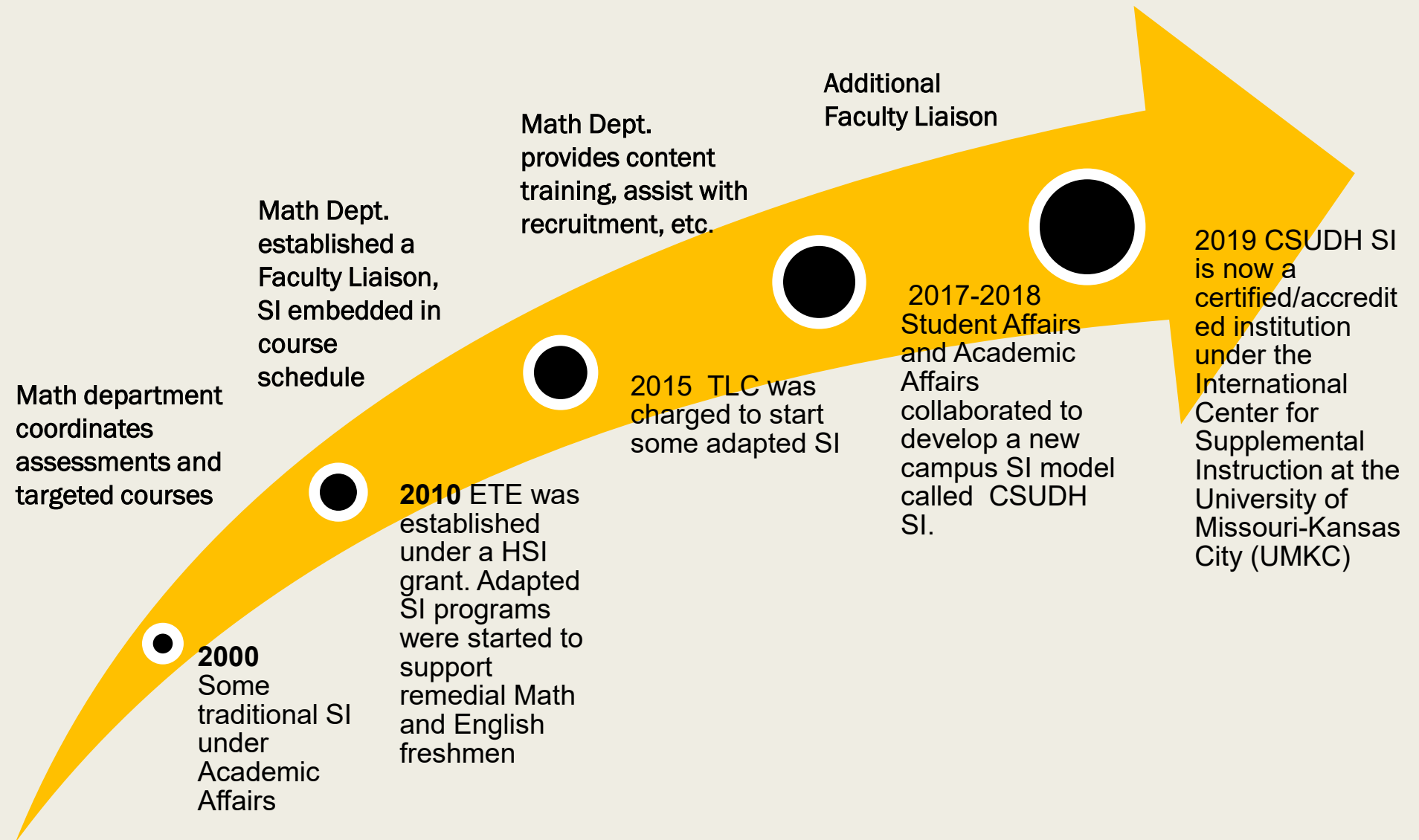
California State University, Dominguez Hills

About 15,000 students

- *73% of incoming first-year students come from our local high schools*
- *54% first generation*
- *14% African American, 60% Hispanic/Latino*
- *Over 60% of incoming first-year students Category 3 or 4 in math.*



History of SI at CSUDH





Math Department & SI Collaboration

Based on feedback from Math faculty

- *Department chair and coordinator visited ALL SI sessions in summer 2017 Discovered several issues to be addressed:*
 - Effective use of study session time
 - Large group sizes
 - SI leaders content knowledge & preparation
 - Student engagement
- *Redesigned the following for summer 2018*
 - Structure of SI program
 - Additional student support
 - Courses



SI STRUCTURE & LOGISTICS



Summer Math S.I. Structure Overview

Professional Staff:

- Dr. Matthew Jones
Chair, Math Department
- Sharon Lanaghan
Faculty Liaison
- Chris Torres
Math Learning Specialist

Student Staff:

3 SI Mentors:

25-35 SI Leaders



Summer Math S.I. Structure Overview

Six Week Program:

June - August

Monday – Thursday

Morning/Afternoon Classes

35 Total Sections

Over 1,000 Students

- All courses are supported by SI
- Pre-Semester and on-going training for SI Leaders
- Course material is provided to every student
- Students are enrolled in English, Math, and selective GE courses
- No cost to students and their families
- Students are supported by an advising home (Educational Opportunity Program (EOP), Encounter to Excellence (ETE), and University Advisement Center (UAC))
- First Year Experience (FYE)



Stats Path

MAT 102 (3 Units) Foundations of Statistics

- Foundational and introductory material for statistics
- Includes work with percents, linear functions, descriptive statistics, and an introduction to the normal distribution, done using problems in context

MAT 132 (4 Units) Statistics & Probability with Support

- Introduction to probability and statistics carrying GE B4 credit
- Topics include descriptive statistics, introduction to probability, binomial and normal distributions, linear regression, hypothesis testing, central limit theorem



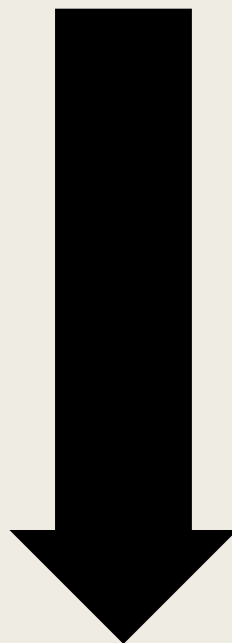
STEM Path

MAT 103 (4 Units) Introduction to College Algebra

- 1st half of stretch Pre-Calculus Course
- Covers linear, quadratic, exponential and logarithmic functions and basic function concepts.

MAT 151 (4 Units) College Algebra and Trigonometry

- 2nd half of stretch Pre-Calculus Course
- Covers logarithmic, rational and trigonometric functions, and reinforces function concepts covered in MAT 103



Both Courses: Utilize

- Active learning
- Standards based grading
- Explicit messages on growth mindset.



Summer Math S.I. Structure Overview

Course Support

☐ Supplemental Instruction:

- SI study sessions are offered prior to lecture every day (1hr -1.25hrs).
- Students were divided into two groups.

☐ Drop-in Tutoring:

- 4 hours per day, 4 days a week
- 8-10am and 12-2pm tutoring
- 4 tutors in the morning and 8 in the afternoon

Intervention Methods :

☐ Early Alert Report

☐ Reporting Class Attendance

☐ Referring Students to Tutoring

Summer Math S.I. Structure Overview

	Monday	Tuesday	Wednesday	Thursday
Time	Column2	Column3	Column4	Column5
8:00-8:30	Math Tutoring	Math Tutoring	Math Tutoring	Math Tutoring
8:30-9:00	SI Study Session	SI Study Session	SI Study Session	SI Study Session
9:00-9:30	MAT 102 (8:30-9:45)	MAT 103/132 (8:30-9:30)		
9:30-10:00				
10:00-10:30				
10:30-11:00	SI Lecture	SI Lecture	SI Lecture	SI Lecture
11:00-11:30	MAT 102 (10:00-11:50)	MAT 103/132 (9:40-12:00)		
11:30-12:00				
12:00-12:30	Math Tutoring	Math Tutoring	Math Tutoring	Math Tutoring
12:30-1:00	SI Study Session	SI Study Session	SI Study Session	SI Study Session
1:00-1:30	MAT 102 (12:30m-1:45)	MAT 103/132 (12:30-1:30)		
1:30-2:00				
2:00-2:30				
2:30-3:00	SI Lecture	SI Lecture	SI Lecture	SI Lecture
3:00-3:30	MAT 102(2:00-3:50)	MAT 103/132 (1:40-4:00)		
3:30-4:00				



Summer Math S.I. Structure Overview

SI Leader Hours (22.32 hours):

- ☐ Lecture and SI Session: 3.08 hours per day, 4 days a week for a total of **12.32** hours per week
- ☐ Friday Training/Meeting: **3** hours per week
- ☐ Meeting w/Faculty and SI staff: **2** hour per week
- ☐ Planning & Prep: **5** hours per week

Components

- ☐ Supplemental Instruction Leader facilitated study sessions
- ☐ In-Class support
- ☐ Extensive training and supervision
- ☐ Submit session plans on Sundays and Thursdays by 11:59pm
- ☐ Submit reflections on Tuesdays and Thursdays by 11:59pm
- ☐ Meet with instructors for 30 minutes twice a week



Fall/Spring Math S.I. Structure Overview

Fifteen Week Semester:

- ❑ MWF/TThF Lecture
- ❑ Friday 1.25 hrs SI study session
- ❑ 38 Total Sections
- ❑ Over 1,000 Students

- MAT 102,103,132,151,191 courses are supported by SI
- Pre-Semester and on-going training for SI Leaders
- Students are supported by an advising home (Educational Opportunity Program (EOP), Encounter to Excellence (ETE), and University Advisement Center (UAC))
- First Year Experience (FYE)



Fall/Spring Math S.I. Structure Overview

Course Support

☐ Supplemental Instruction:

- SI study sessions are offered on Friday before or after lecture (1.25hrs).
- All students have SI Study Session included in their schedule.

☐ Toro Learning and Testing Center Drop-in Tutoring:

- 6 days a week
- 8:00am – 8:00pm tutoring hours

Intervention Methods :

- Early Alert Report
- Reporting SI Attendance



Fall/Spring Math S.I. Structure Overview

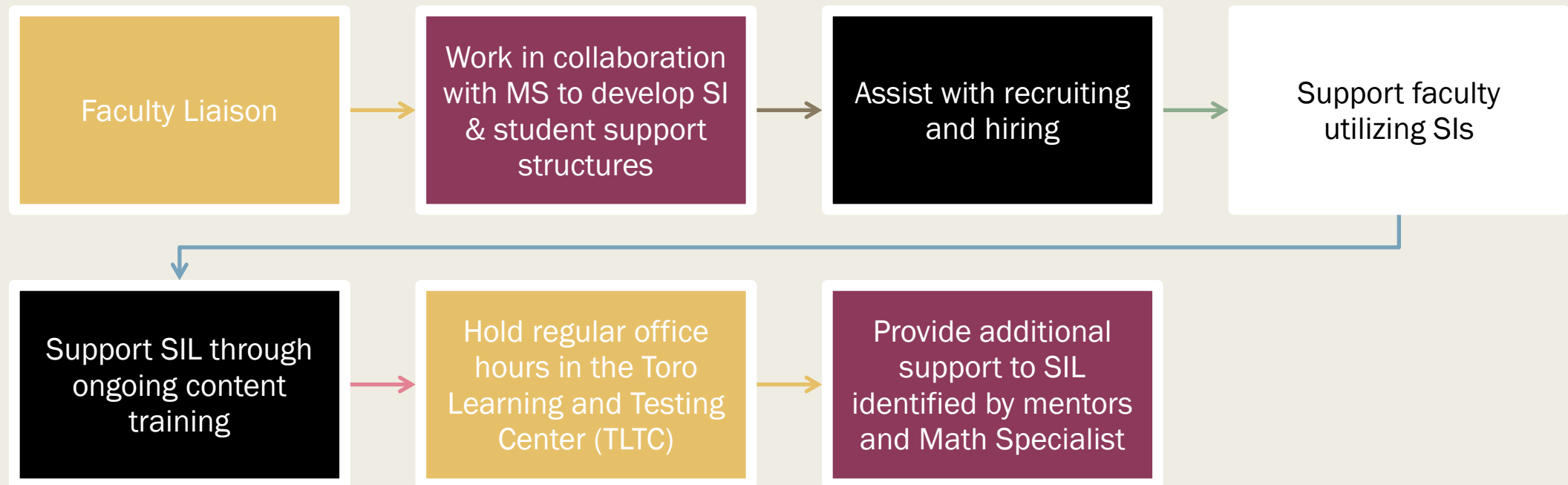
SI Leader Hours (6-10 hours)

- ❑ Lecture: 3.75 hrs
- ❑ SI Session: 1.25 hrs
- ❑ Prep/Training/Meeting: **3** hours per week

Components

- Supplemental Instruction Leader facilitated study sessions
- In-Class support
- Extensive training and supervision
- Submit session plans and reflections
- Meet with instructors weekly

Faculty & Math Specialist Roles





Faculty & Math Specialist Roles

Math Specialist

Supervise Program

- ☐ Create & Implement Comprehensive SI Program
- ☐ Observations & Training of SI staff
- ☐ Liaison between organizations
 - Advising Homes
 - Math Department
 - Toro Learning and Testing Center (TLTC)



SI Mentor Role

Provide Support to Supplemental Instruction Leaders

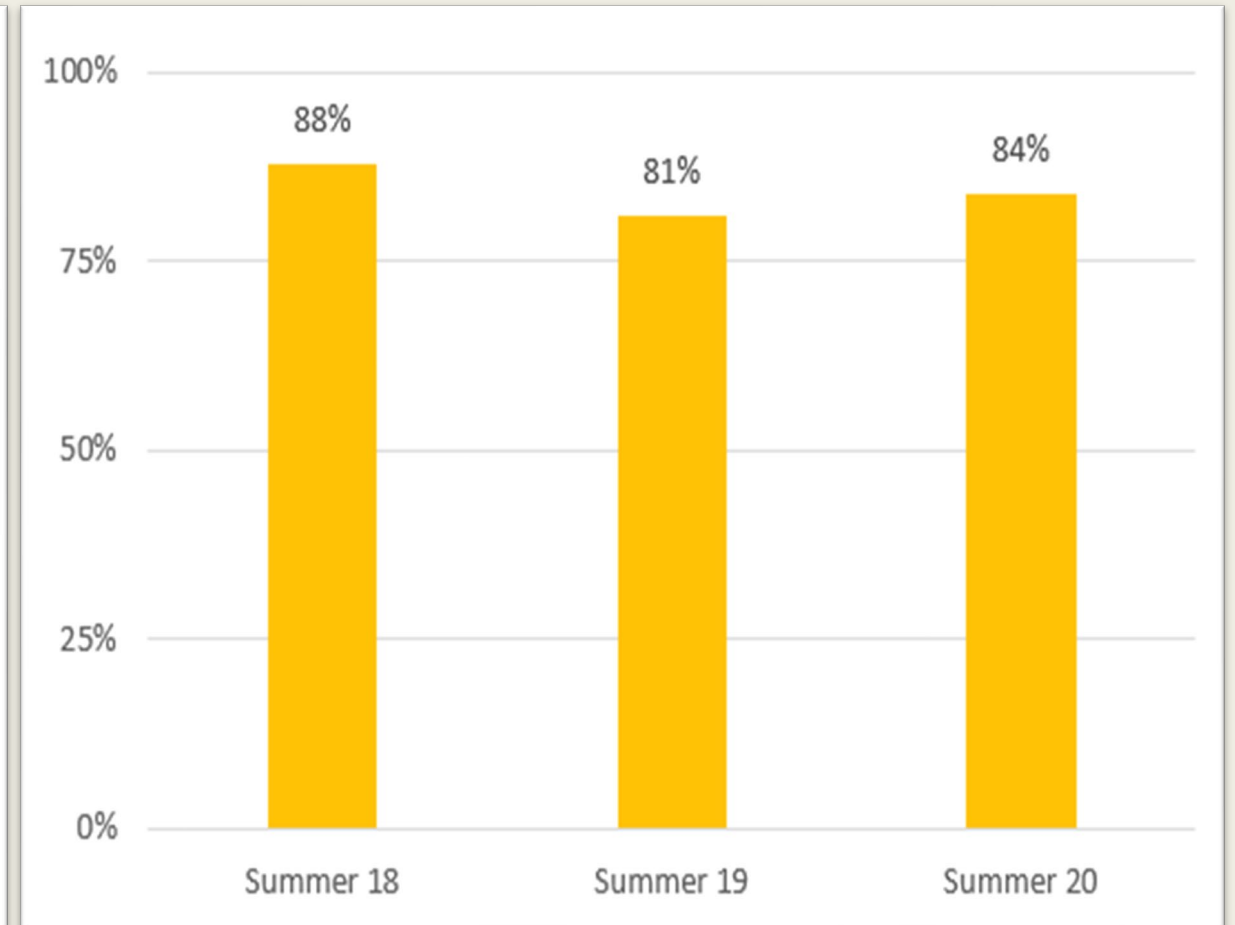
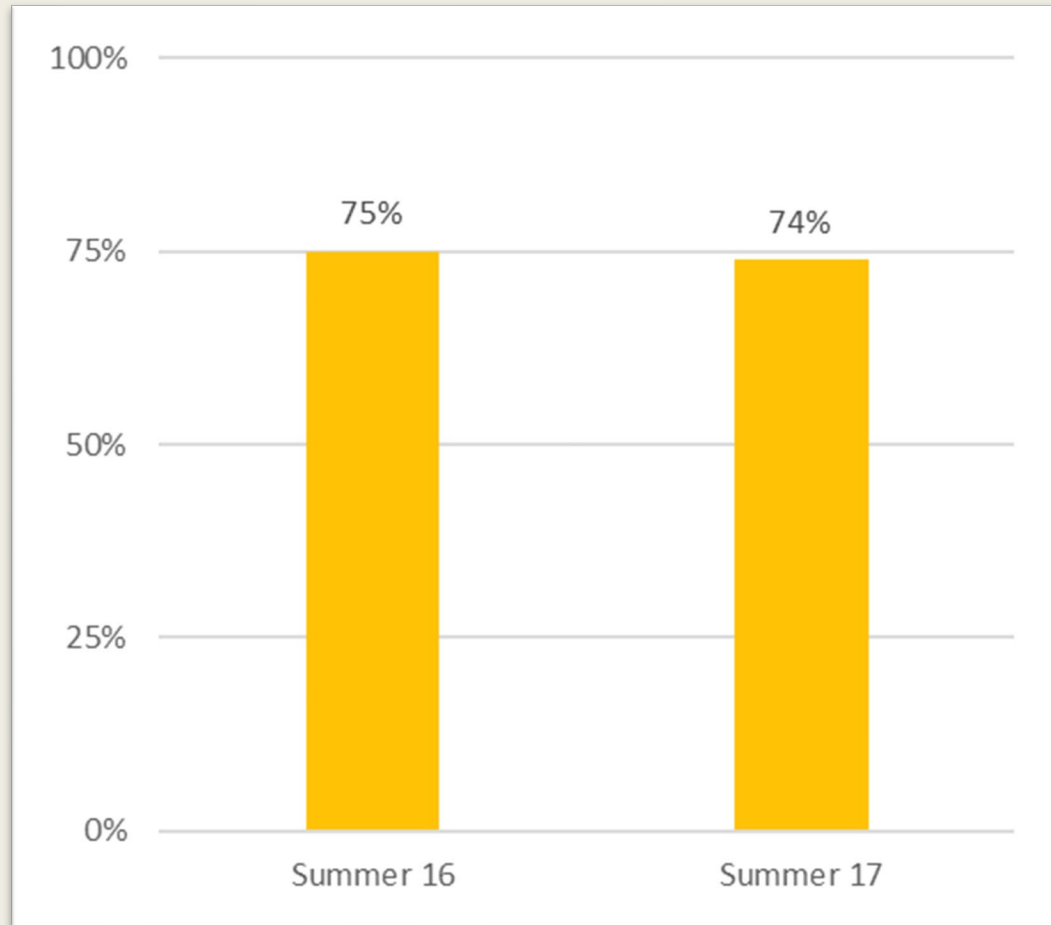
- Assist with observations and provide feedback
- Assist with training, prepping and facilitating
- Manage a cohort of 8-10 S.I. Leaders
- Assist with reviewing study session plans and gathering requested materials
- Assist their cohort in session planning
- Regularly meet with SI Staff



DATA & FUTURE PLANS

Data

Pass Rates for Math Courses 2016-2020





Summer 2019 Data

93% of students indicated that they felt respected during their math SI sessions

89% of students agreed that their math SI helped them learn the class material

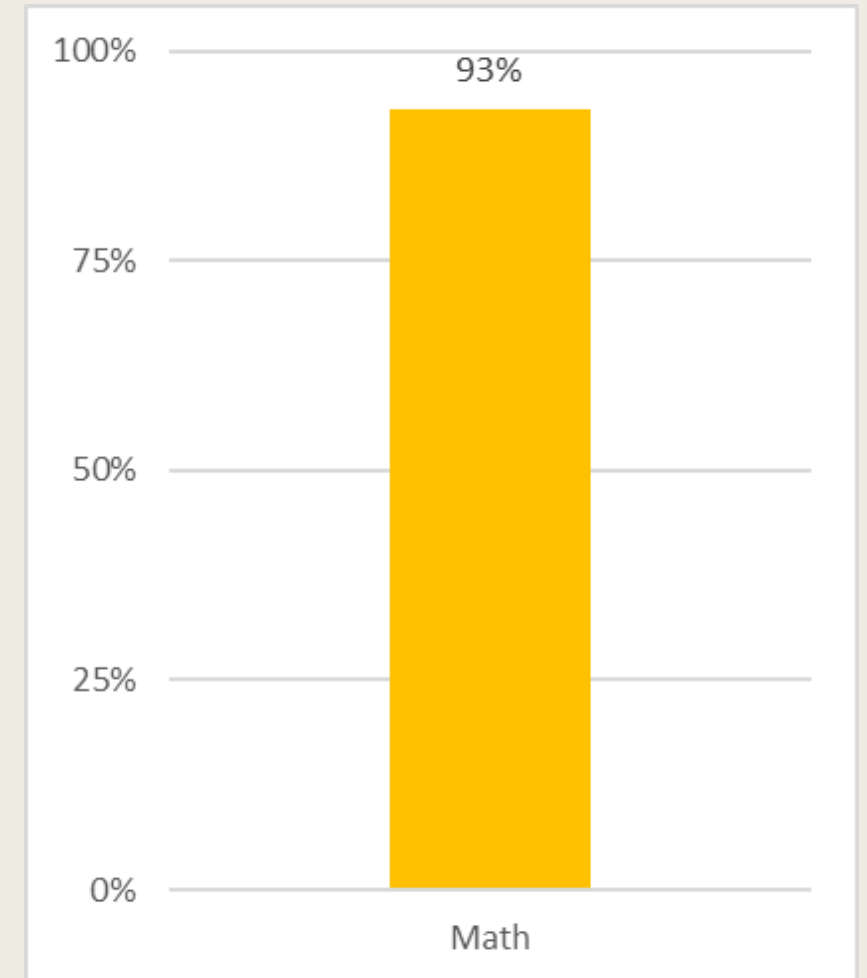
“I liked that the class (SI Study Session) was built in a way where anyone can ask any questions without having other people laugh, we all communicated well! We were able to ask questions so freely without feeling judged” -Math Student

Total Visits: **10,625**

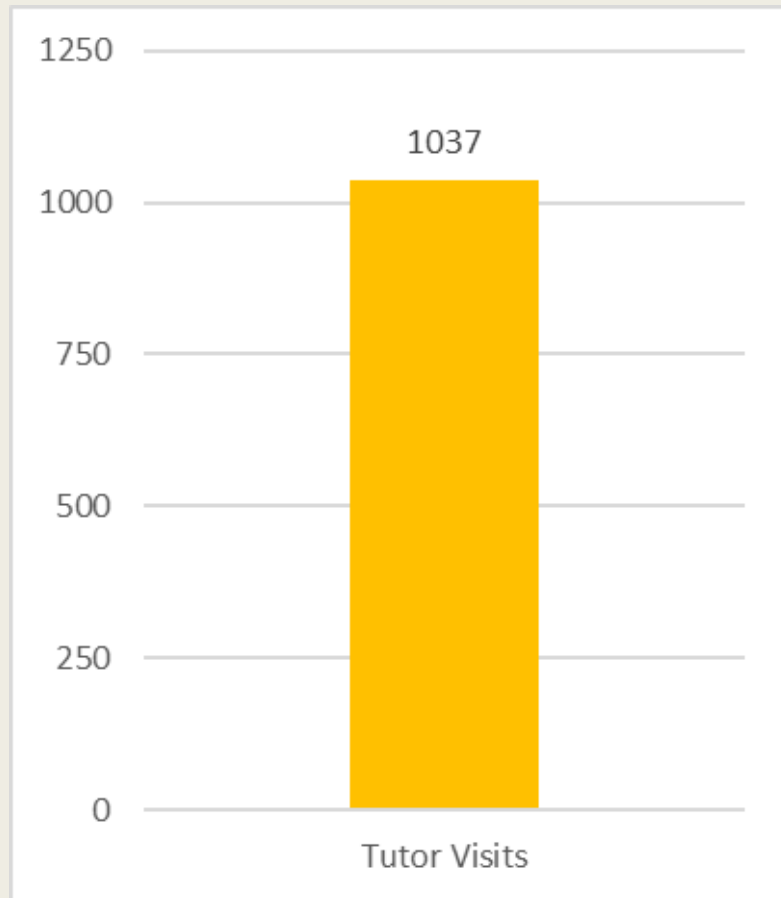
Average Visit per Day: **463**

Total SI Leaders: **28**

SI Study Session Attendance

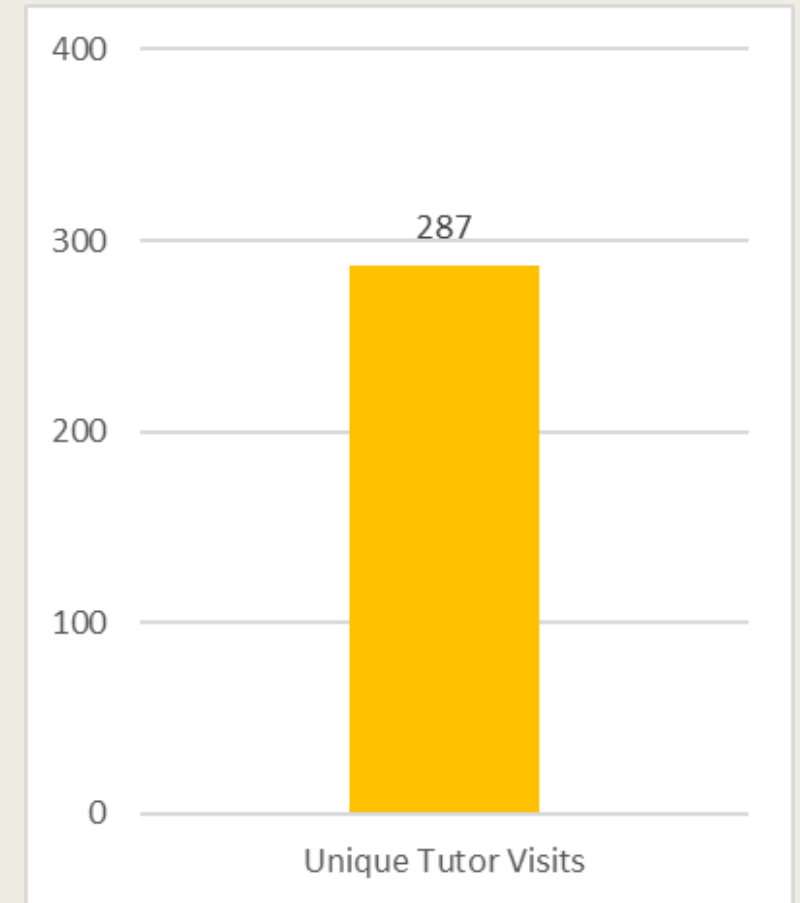


Summer 2019 Data



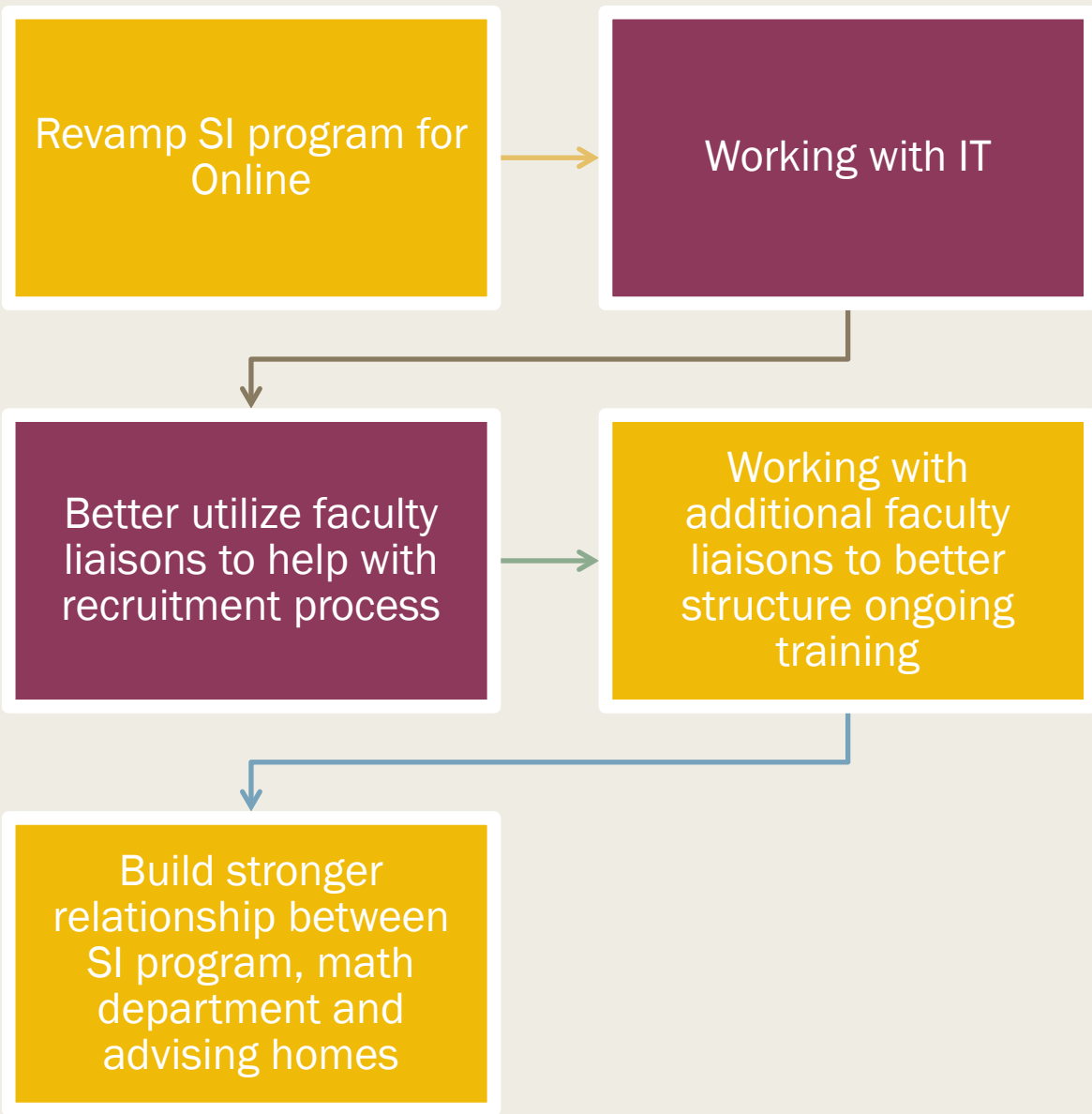
Average Tutoring
Session: 50 min

Total Tutors:
12





Next Steps



Questions & Contact Info

Matt Jones, Chair of Mathematics Department

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