

STEM CORE

Demographics This fall, STEM Core at Foothill College served 16 students. Eight of the students self-identified as Latinx, three of the students are female, and five are first generation college students.

Cohort 2 Update Fall Courses: MATH 105 (Intermediate Algebra), CS 1A (Object-Oriented Programming in Java), and ENGR 10 (Introduction to Engineering). Students in the cohort registered for 1-3 of the STEM Core sections, which are open to students outside of the program.

Table for STEM Core Sections - Fall 2017

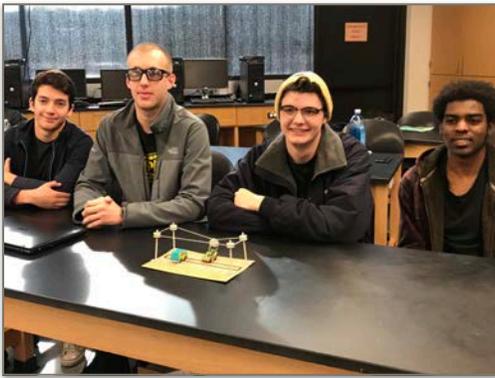
| Section | Success | Withdrawal | Nonsuccess | Retention Rate |
|----------|-------------|------------|------------|----------------|
| Math 105 | 13 (92.86%) | 2 (12.5%) | 1 (7.1%) | 87.5% |
| C S 1A | 3 (37.5%) | 5 (62.5%) | N/A | 37.5% |
| ENGR 10 | 11 (91.67%) | N/A | 1 (8.3%) | 83.6% |

Intermediate Algebra: Overall, the STEM Core students performed slightly higher than non STEM Core students throughout the quarter. Each week, students attended a workshop led by former STEM Core student, Jessica D., as well as a study group in the STEM Success Center with Lucinda Robledo, M.A. Thank you to Professor Zach Cembellin for providing the stats after each assessment!

Table comparing STEM Core and non STEM Core students in Math 105 section

| STEMCORE | Quiz #1 | Quiz #2 | Exam#1 | Quiz#3 | Quiz#4 | Exam#2 | Quiz#5 | Exam#3 | FinalExam |
|-------------|---------|---------|--------|--------|--------|--------|--------|--------|-----------|
| Mean | 0.85 | 0.74 | 0.83 | 0.73 | 0.65 | 0.76 | 0.74 | 0.72 | 0.70 |
| Median | 0.85 | 0.70 | 0.84 | 0.81 | 0.70 | 0.87 | 0.78 | 0.72 | 0.74 |
| High | 0.98 | 1.00 | 0.97 | 0.95 | 0.90 | 0.98 | 1.00 | 0.91 | 0.87 |
| Low | 0.60 | 0.55 | 0.54 | 0.25 | 0.28 | 0.27 | 0.48 | 0.54 | 0.44 |
| n | 16 | 16 | 15 | 16 | 15 | 15 | 13 | 13 | 14 |
| NONSTEMCORE | Quiz #1 | Quiz #2 | Exam#1 | Quiz#3 | Quiz#4 | Exam#2 | Quiz#5 | Exam#3 | FinalExam |
| Mean | 0.75 | 0.65 | 0.75 | 0.65 | 0.59 | 0.70 | 0.62 | 0.68 | 0.62 |
| Median | 0.83 | 0.65 | 0.78 | 0.80 | 0.68 | 0.83 | 0.60 | 0.72 | 0.69 |
| High | 0.95 | 0.98 | 0.94 | 1.00 | 0.90 | 1.00 | 1.00 | 0.92 | 0.92 |
| Low | 0.18 | 0.23 | 0.37 | 0.08 | 0.15 | 0.10 | 0.15 | 0.32 | 0.14 |
| n | 19 | 18 | 18 | 17 | 17 | 14 | 15 | 15 | 16 |

Computer Science: In the Object-oriented programming in Java course, students were challenged with programming for the first time. Many of the students had little to no programming background, which severely affected their learning and performance. After thoughtful consideration, several of the students have switched from computer science majors to engineering majors. A handful of the students will reattempt the Java programming course in the near future with a better understanding of the time and commitment that is needed for each lab assignment.



One of the three STEM Core teams in the ENGR 10 section. This group devised a unique, practical tool to monitor parking spaces in Lot 4.

Engineering: In the Engineering course, students in the cohort were intentionally grouped together for their final project. The students were tasked to resolve an issue at Foothill College as part of a Sustainability Service Leadership Project. Two groups focused on the parking difficulty in Parking Lot 4, while the third group worked to develop more sustainable litter and trash practices on Foothill campus.

Intuitive Surgical Tour On October 20th, 8 STEM Core students had the opportunity to visit Intuitive Surgical, Sunnyvale, CA. At the site, students demoed Intuitive’s da

Vinci surgical system, an innovative noninvasive operating technology. Additionally, our hosts treated our students with a 60 minute Q&A about the skills and tips for applying to undergraduate internships.

“I learned how they can program robots to assist in surgery. Also I learned that internships are more than just learning about the position you are interning for, it’s about getting to know the culture in the workplace and seeing if its a good fit for you.”



SAP Tour On Friday, November 3rd, STEM Core students joined San Jose City, Mission, and Skyline College for a tour of SAP, Palo Alto. SAP (**S**ystems, **A**pplications & **P**roducts in Data Processing) produces enterprise software company that manages business operations and customer relations. During the tour, the students were greeted by several SAP staff for a Q&A with former interns-turn-employees. Students were also welcomed by Chief Learning Officer, Jenny Dearborn, who is recognized as one of the Top 50 Most Powerful Women in Tech. After an inspiring conversation, we learned that she too is a community college alum with a learning disorder. After her talk, each student was given a copy of her book, *Data Driven*. Thank you to Growth Sector for planning the event!





“[I learned] Industry standards that will help direct my classes more efficiently towards my degree. It added onto the reality of what I can do with my degree, and that's valuable experience. It was amazing. I'm really grateful to have had this opportunity.”

Tesla Tour The last tour of the quarter was to Tesla Factory, Fremont. Students had the opportunity to see the manufacturing and engineering processes of a Tesla Model X. Though we are bound to our non-disclosure agreements, the tour was nonetheless an exciting experience for our students. Thank you to SVETP for providing the funds to charter our students to Fremont!



Cohort 1 Update: Thanks to SVETP, Jesse and Sabine had the opportunity to intern at Stanford’s SLAC this past summer. In a brief reflection of her experience over the summer, Sabine writes:

My future career goal is to develop interactive material for natural science education. During this internship I understood how much math is involved in image simulation and digital data processing, so studying math became a priority to me, next to improving my programming skills. Besides the skills that I learned, the internship enabled me to make connections inside an internationally well known facility, which are priceless for me.

