School: Sato Academy of Math & Science
Pathway Name: Biomedical Engineering Pathway
Industry Sector: Engineering

Pathway Vision: Sato graduates will benefit their communities by creatively collaborating to solve biomedical and engineering problems.

Pathway Mission: Sato Academy of Math and Science empowers and equips students to be innovative collaborative problem solvers by immersing them in Biomedical Sciences and Engineering to generate solutions that improve health, happiness, and safety.

2027-2028 Course of Study
Graduating Class of 2031

		HS Grad Req.	9th grade	10th grade	11th grade	12th grade	UC/ CSU A-G Req.
Technical Core	**Required Technical Core** *3-course thematic sequence: CTE, PLTW, or Technical*	3	3859: Honors Principles of Biomedical Science (PLTW)	**Engineering Strand:** 2503: Honors Principles of Engineering (PLTW)	**Engineering Strand:** (see optional pathway aligned elective)	**Engineering Strand:** 2529: Honors PLTW Capstone	'g' 1
				Biomedical Strand: (see optional pathway aligned elective)	**Biomedical Strand:** 4153: Honors Medical Interventions (PLTW)	**Biomedical Strand:** 4157: Honors Biomedical Innovations (PLTW)	
Academic Core	History/Social Science	3		2280: Big History	2263: Ethnic Studies: Our American Histories **or** 2236: AP U.S History	2241: US Gov't. **or** 2234: AP Gov't. **&** Personal Finance	'a' 2

	English	4	1403: English 1-2 Acc.	1408: English 3-4	1410: English 5-6 **or** 1458 AP English Lang. and Comp.	1474: CSU Expository Reading & Writing **or** 1449: AP English Literature & Composition	'b' 4
	Math	3	2971: Geometry Acc.	2964: Algebra II Acc.	2999: AP Pre-Calculus or 3069: Functions, Statistics, & Trigonometry (FST)	4th year math is recommended	'c' 3
	Lab Science	2	3870: Medical Biology 1-2	3853: Physics of the Universe	3832: Chemistry 1-2 Honors	4th year science is recommended	'd' 2
	Language Other Than English (LOTE)	1 or VAPA	1831: Spanish 1-2 **or** 1838: Spanish for Spanish Speakers 1-2	1832: Spanish 3-4 **or** 1839: Spanish for Spanish Speakers 3-4	1833: Spanish 5-6 or AP Spanish Language (recommended)	1860: AP Spanish Language (recommended)	'e' 2
	Visual and Performing Arts (VAPA)	1 or LOTE	1303: Intro to Design & Engineering (PLTW) (Meets Pathway & VAPA Requirement)				'f' 1

	Optional Pathway-Aligned Elective Course			**Biomedical Strand:** 3858: Honors Human Body Systems (PLTW) (Recommended in 10th grade for Medical Intervention)	**Engineering Strand:** 2511: Honors Computer Integrated Manufacturing (PLTW) (Recommended in 11th grade for Engineering Capstone) Digital Electronics Honors (PLTW) Aerospace Engineering Honors (PLTW) Rocketry	**Engineering Strand:** Digital Electronics Honors (PLTW) Aerospace Engineering Honors (PLTW) Rocketry	'g' 1
	Physical Education	2	4160: Kinesiology & Health (Biomedical students) 3704: Intro to Kinesiology (Engineering students)	4161: Advanced Kinesiology (Biomedical students) 3707: Advanced Kinesiology (Engineering students)			
Global Elective Courses	Additional courses that provide pathway enrichment		3390: Exploring Music (Band, Orchestra, & Choir)	3390: Exploring Music (Band, Orchestra, & Choir)	Epidemiology & Public Health (recommended for Biomedical) Anatomy & Physiology (recommended for Biomedical)	Epidemiology & Public Health (recommended for Biomedical) Anatomy & Physiology (recommended for Biomedical)	

Updated 9/26

					AP Psychology Exploring Music (Band, Orchestra, & Choir) ASB (Student Council) Dual Enrollment	AP Biology AP Psychology AP Calculus AP Statistics Exploring Music (Band, Orchestra, & Choir) ASB (Student Council) Dual Enrollment	
Work-Based Learning	Required work-based learning opportunities		"Make it Matter" Project/Rancho Los Amigos Guest Speakers Women in Engineering Day @ CSULB Brag Sheet EXP GPS Your Future at CSUDH Field Trip College & Career Prep	Disney Engineering Day Resume Development College & Career Prep Project Mentorship OSHA Certification	Manufacturing Day* UCLA Lundquist Field Trip** Project Mentorship College & Career Prep Workshops	Edwards Life Science Field Trip** Capstone Project Support by Industry College & Career Prep WesTec Manufacturing Conference Field Trip*	
Integrated Curriculum	Multidisciplinary Integrated Curriculum		**Make it Matter: Design Solutions that Improve Lives** (Design assistive tech for special needs students in LBUSD) *Courses:* *ELA, Medical Biology, Introduction to Engineering Design,*	**Roller Coaster Project** *Courses:* *Algebra 2, Physics, and Principles of Engineering or Human Body Systems* ***Running Log Project***-	**Using Light to Gather Data** *Courses:* *Chemistry, ELA,* *and* *Computer Integrated Manufacturing or Medical Interventions*	**Capstone Project** *Courses:* *Engineering Design and Development or Biomedical Innovations*	

			and Principles of Biomedical Science, Kinesiology & Health	*Courses: PE, Physics and HBS* ***Squat Project****- Courses: PE, Physics and HBS* ***Pulse Oximeter-*** *Physics and HBS*			

*Engineering Students only
**Biomedical Engineering students only