

U.S. Department of Education
2020 National Blue Ribbon Schools Program

[X] Public or [] Non-public

For Public Schools only: (Check all that apply) [X] Title I [] Charter [] Magnet[X] Choice

Name of Principal Dr. Holly Batsell
(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official School Name Phoenix Union Bioscience High School
(As it should appear in the official records)

School Mailing Address 512 E. Pierce Street
(If address is P.O. Box, also include street address.)

City Phoenix State AZ Zip Code+4 (9 digits total) 85004-2056

County Maricopa

Telephone (602) 764-5600 Fax (602) 764-5699

Web site/URL https://www.pxu.org/Domain/22 E-mail batsell@phoenixunion.org

I have reviewed the information in this application, including the eligibility requirements on page 2 (Part I-Eligibility Certification), and certify, to the best of my knowledge, that it is accurate.

Date _____

(Principal's Signature)

Name of Superintendent* Dr. Chad Gestson E-mail Gestson@phoenixunion.org
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

District Name Phoenix Union High School District Tel. (602) 764-1100

I have reviewed the information in this application, including the eligibility requirements on page 2 (Part I-Eligibility Certification), and certify, to the best of my knowledge, that it is accurate.

Date _____

(Superintendent's Signature)

Name of School Board
President/Chairperson Ms. Stephanie Parra
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application, including the eligibility requirements on page 2 (Part I-Eligibility Certification), and certify, to the best of my knowledge, that it is accurate.

Date _____

(School Board President's/Chairperson's Signature)

The original signed cover sheet only should be converted to a PDF file and uploaded via the online portal.

**Non-public Schools: If the information requested is not applicable, write N/A in the space.*

PART I – ELIGIBILITY CERTIFICATION

The signatures on the first page of this application (cover page) certify that each of the statements below, concerning the school’s eligibility and compliance with U.S. Department of Education and National Blue Ribbon Schools requirements, are true and correct.

1. All nominated public schools must meet the state’s performance targets in reading (or English language arts) and mathematics and other academic indicators (i.e., attendance rate and graduation rate), for the all students group, including having participation rates of at least 95 percent using the most recent accountability results available for nomination.
2. To meet final eligibility, all nominated public schools must be certified by states prior to September 2020 in order to meet all eligibility requirements. Any status appeals must be resolved at least two weeks before the awards ceremony for the school to receive the award.
3. The school configuration includes one or more of grades K-12. Schools on the same campus with one principal, even a K-12 school, must apply as an entire school.
4. The school has been in existence for five full years, that is, from at least September 2014 and each tested grade must have been part of the school for the past three years.
5. The nominated school has not received the National Blue Ribbon Schools award in the past five years: 2015, 2016, 2017, 2018, or 2019.
6. The nominated school has no history of testing irregularities, nor have charges of irregularities been brought against the school at the time of nomination. If irregularities are later discovered and proven by the state, the U.S. Department of Education reserves the right to disqualify a school’s application and/or rescind a school’s award.
7. The nominated school has not been identified by the state as “persistently dangerous” within the last two years.
8. The nominated school or district is not refusing Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district-wide compliance review.
9. The OCR has not issued a violation letter of findings to the school district concluding that the nominated school or the district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan from the district to remedy the violation.
10. The U.S. Department of Justice does not have a pending suit alleging that the nominated school or the school district, as a whole, has violated one or more of the civil rights statutes or the Constitution’s equal protection clause.
11. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the school or school district in question; or if there are such findings, the state or district has corrected, or agreed to correct, the findings.

PART II - DEMOGRAPHIC DATA

Data should be provided for the most recent school year (2019-2020) unless otherwise stated.

DISTRICT (Question 1 is not applicable to non-public schools)

1. Number of schools in the district (per district designation):
- 0 Elementary schools (includes K-8)
 - 0 Middle/Junior high schools
 - 18 High schools
 - 0 K-12 schools
- 18 TOTAL

SCHOOL (To be completed by all schools)

2. Category that best describes the area where the school is located. If unsure, refer to NCES database for correct category: <https://nces.ed.gov/ccd/schoolsearch/> (Find your school and check “Locale”)

- Urban (city or town)
 Suburban
 Rural

3. Number of students as of October 1, 2019 enrolled at each grade level or its equivalent at the school:

Grade	# of Males	# of Females	Grade Total
PreK	0	0	0
K	0	0	0
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0
5	0	0	0
6	0	0	0
7	0	0	0
8	0	0	0
9	49	46	95
10	36	68	104
11	50	47	97
12 or higher	35	43	78
Total Students	170	204	374

*Schools that house PreK programs should count preschool students **only** if the school administration is responsible for the program.

4. Racial/ethnic composition of the school (if unknown, estimate):
- 1 % American Indian or Alaska Native
 - 5 % Asian
 - 5 % Black or African American
 - 75 % Hispanic or Latino
 - 0 % Native Hawaiian or Other Pacific Islander
 - 12 % White
 - 2 % Two or more races
 - 100 % Total**

(Only these seven standard categories should be used to report the racial/ethnic composition of your school. The Final Guidance on Maintaining, Collecting, and Reporting Racial and Ethnic Data to the U.S. Department of Education published in the October 19, 2007 *Federal Register* provides definitions for each of the seven categories.)

5. Student turnover, or mobility rate, during the 2018 - 2019 school year: 5%

If the mobility rate is above 15%, please explain:

This rate should be calculated using the grid below. The answer to (6) is the mobility rate.

Steps For Determining Mobility Rate	Answer
(1) Number of students who transferred <i>to</i> the school after October 1, 2018 until the end of the 2018-2019 school year	17
(2) Number of students who transferred <i>from</i> the school after October 1, 2018 until the end of the 2018-2019 school year	0
(3) Total of all transferred students [sum of rows (1) and (2)]	17
(4) Total number of students in the school as of October 1, 2018	374
(5) Total transferred students in row (3) divided by total students in row (4)	0.05
(6) Amount in row (5) multiplied by 100	5

6. Specify each non-English language represented in the school (separate languages by commas):

Spanish

English Language Learners (ELL) in the school: 1 %
2 Total number ELL

7. Students eligible for free/reduced-priced meals: 72 %

Total number students who qualify: 269

8. Students receiving special education services: 0 %
1 Total number of students served

Indicate below the number of students with disabilities according to conditions designated in the Individuals with Disabilities Education Act. Do not add additional conditions. It is possible that students may be classified in more than one condition.

- | | |
|----------------------------------|--|
| <u>0</u> Autism | <u>0</u> Multiple Disabilities |
| <u>0</u> Deafness | <u>0</u> Orthopedic Impairment |
| <u>0</u> Deaf-Blindness | <u>0</u> Other Health Impaired |
| <u>0</u> Developmental Delay | <u>0</u> Specific Learning Disability |
| <u>0</u> Emotional Disturbance | <u>1</u> Speech or Language Impairment |
| <u>0</u> Hearing Impairment | <u>0</u> Traumatic Brain Injury |
| <u>0</u> Intellectual Disability | <u>0</u> Visual Impairment Including Blindness |

9. Number of years the principal has been in her/his position at this school: 4

10. Use Full-Time Equivalents (FTEs), rounded to the nearest whole numeral, to indicate the number of school staff in each of the categories below:

	Number of Staff
Administrators	1
Classroom teachers, including those teaching high school specialty subjects, e.g., third grade teacher, history teacher, algebra teacher.	21
Resource teachers/specialists/coaches e.g., reading specialist, science coach, special education teacher, technology specialist, art teacher etc.	1
Paraprofessionals under the supervision of a professional supporting single, group, or classroom students.	0
Student support personnel e.g., school counselors, behavior interventionists, mental/physical health service providers, psychologists, family engagement liaisons, career/college attainment coaches, etc.	4

11. Average student-classroom teacher ratio, that is, the number of students in the school divided by the FTE of classroom teachers, e.g., 22:1 17:1

12. Show daily student attendance rates. Only high schools need to supply yearly graduation rates.

Required Information	2018-2019	2017-2018	2016-2017	2015-2016	2014-2015
Daily student attendance	97%	97%	95%	95%	96%
High school graduation rate	100%	100%	100%	100%	98%

13. **For high schools only, that is, schools ending in grade 12 or higher.**

Show percentages to indicate the post-secondary status of students who graduated in Spring 2019.

Post-Secondary Status	
Graduating class size	79
Enrolled in a 4-year college or university	83%
Enrolled in a community college	17%
Enrolled in career/technical training program	0%
Found employment	0%
Joined the military or other public service	0%
Other	0%

14. Indicate whether your school has previously received a National Blue Ribbon Schools award.

Yes No

If yes, select the year in which your school received the award.

15. In a couple of sentences, provide the school’s mission or vision statement.

To provide a rigorous, collaborative, and relevant academic program emphasizing an innovative, problem-based curriculum that develops student literacy in the sciences, mathematics, and the arts.

16. **For public schools only**, if the school is a magnet, charter, or choice school, explain how students are chosen to attend.

We are a public district specialty school with an all-honors curriculum and a STEM focus. Students apply to attend. They are asked to write a brief essay about why they want to come to our school. They also provide us attendance, grades, reading and math scores, and 8th grade teacher recommendations. Students attend an informational session, participate in a collaborative activity, and write a reflection on their experience. We have a committee of teachers, support staff, and principal who read the applications. We are committed to changing lives and educational opportunities of students who have been historically under served. We intentionally accept 90% of our students from our in-district feeder schools that serve low income students and that struggle with keeping qualified teaching staff. We intentionally accept students who are "Partially Proficient" on math and reading assessments if their attendance and grades are decent. We prioritize students who are first generation to college and who have overcome obstacles but who want a chance to go to college. If we have more qualified applicants than we have spots for, we use a lottery. So far, we have been able to accept all qualified applicants who applied by our first round due date. Sometimes we have a wait list if students apply after the due date, but we continue to accept students off of the wait list in order of their second round application date as spots open up.

PART III - SUMMARY

If you were to walk by Bioscience High School on your way from Roosevelt Row to downtown Phoenix, and if you were to stop to ponder the modern architecture, solar panels, and bas-relief fossils trailing its exterior walls, you might not think we are a high school, but rather a museum or mysterious scientific organization. You might be puzzled by our blend of turn-of-the-century brick juxtaposed with contemporary steel and windows, self-contained on a city block surrounded by open lots awaiting development.

However, if you were to step into our courtyard and visit, you would be welcomed into a mini oasis of activity: serious-minded students building an electric car, students seated on the turf reading poetry or watching their peers perform on the outdoor stage, or an intense game of three on three basketball. If you were to walk into our buildings, you would see students working in teams, teachers collaborating in grade level Professional Learning Committees (PLCs), a technology-rich environment where each student has a laptop, and students follow a flexible schedule, free from bells.

Bioscience High School is a small community of 45 committed staff, 375 students, and community partners who are curious, passionate, and who want to make our world a better place. In fact, a main component of our program is our yearly, “Better World Project,” a real-world problem-based learning experience that students engage in all four years. Students work with their advisor, one of their grade level teachers, to identify a challenge in their school or community and complete a seven-step design process to research, create, and try an intervention to address the challenge.

Our school was designed upon four pillars: Personalization, Authentic Experiences, Scholarly Endeavors, and Multiple Perspectives. We seek to personalize students’ learning around their interests and choices. This is evident in our differentiation of content, process, and product as well as the Biomedical and Engineering Pathways that students can choose starting in 11th grade. Authentic Experiences ground our learning in application to the real world. We take frequent field trips, work with community partners, and require students to complete a 200-hour jobsite embedded internship in 12th grade. Our curriculum is taught at an honors level, and students earn extra points on their Grade Point Average (GPA). We require more initiative, independence, self-efficacy, and perseverance than other programs. Students get a lot of freedom and trust, and we hold them accountable to using those benefits as intended. Finally, we value diversity and divergent thinking. We welcome dissent, engage in dialog as a whole school, and thereby, students get to know students who are different from themselves. We flexibly group, and regroup again, to ensure that students know every other student in their grade level and are interdependent with them.

Most of our students come from the surrounding urban neighborhoods, but some come to us from across the valley, taking public transportation, or carpooling with other students. The majority of our students come from lower income homes, with 72% qualifying for free and reduced lunch. They are their family’s first generation headed to college, hard-working students of color and linguistically diverse, whose families may not speak English. They may be undocumented but have lived in the state for the majority of their lives. They have come from elementary schools that have struggled to retain teachers, neighborhood schools because they did not have the means to attend better schools farther away. Some of the students had long-term substitutes in math or science, so they come to us with gaps in their skills, behind grade level—straight A students because they showed up, did their homework, and did not cause problems.

We used to lose several students their freshmen year, but in the last four years, we have implemented supports that meet students where they are, scaffold their skills, and push them to the level where they need to be. We moved our support from after school to within the school day, so that if students cannot stay after school to get help, they are not penalized. We built in 9th grade instruction on note-taking, filling out their planners, advocating for themselves, and prioritizing. We strive to let our students develop in the time they need to develop. Our grading is based upon proficiency; they get a whole semester to “get it” instead of being graded on where they began back in August.

Four days a week, students are assigned a 45-minute advisory within their school day. Their advisory teacher is their “adviser,” who will follow their progress, meet with them during advisory, and will advocate

for them if they need interventions from our Community Liaison, Student Liaison, Counselor, or Social Worker. Two of the advisory days are set aside for social/emotional learning, executive function work, or community bonding. Two of the days are set aside as “Targeted Advisory,” in which students are pulled to go to the teachers of classes where they are struggling for re-teaching, tutoring, or re-assessment opportunities.

One day a week, we take a 45 minute brain break, where students can choose from dancing, soccer, board games, yoga, music, art, or other activities to take a break from the books and laptops. We like to have fun, and after all of the hard work, we have earned it. Even though we are small, we make time for dances, Olympic Games, festivals, and just hanging out together.

PART IV – CURRICULUM AND INSTRUCTION

1. Core Curriculum, Instruction, and Assessment.

1a. Overall approach, which may include overarching philosophy or approaches common across subject areas

One of our school’s founding philosophies is constructivism. We want students to have to construct meaning, grapple with complex problems, and create their own representations of their learning through modeling, writing, presenting, or other deliverables. We use terms like “growth mindset” and “productive struggle” with our students, so that they know we intend for them to have to work hard, struggle at times, make mistakes, and learn from them. Because of this, we changed our grading to match our philosophy that mistakes can be one of the best ways to learn.

We wanted to guarantee that students graduate with essential skills and competencies, aligned over their four years with us. We want students to know what their learning targets are, and we want them to know how they are progressing toward these goals. We want them to develop self-efficacy over their progress, and include self-assessment as a staple teaching and assessment strategy. We use backward design to start with what we want our graduates to look like, and then scale these attributes across their four-year experience in each content. We implement vertical and horizontal alignment PLCs that deal with these questions from both a content and learner behavior lens. Each vertical team decides on five to six essential competencies per semester, and each horizontal team decides on affective habits of mind they want to cultivate at each grade level.

Our current model of assessment is “evidence-based,” meaning that we provide students with the essential competency, learning targets, and success criteria for enduring skills and concepts that we want students to master over a semester or a year. Students have the whole semester to grow in their proficiency via practice opportunities, assessments, and re-assessments. If they are not proficient in the first weeks of school, but eventually get there by the end of the semester, they earn the same mark as someone who was already or became proficient in the learning target. They are not penalized by taking more time to get there. When they are assessed and demonstrate they are not yet proficient in the target, students can reassess. Teachers keep track of students’ progress in practice opportunities, which are not figured into the grades but are required to be completed if students want to re-assess.

1b. Reading/English language arts

Although Bioscience has long been perceived as a STEM school, our students also experience a rigorous and meaningful English language learning program. The objective of the English team is to incorporate student academic success with invaluable soft skills, such as peer collaboration, open communication, organization of thinking, emotional intelligence, work ethic, growth mindset, and personal adaptability. The English team places a high value on the authentic practice of these skills in ways that allow students to develop a sense of self, autonomy, and efficacy. Students are encouraged to create their own learning experiences and advocate for what the demonstration of knowledge looks like for them. All students are exposed to high- level literature and supplemental readings that stretch their thinking and force them to examine their responsibility as a learner and member of an academic community.

Each grade level consists of one English teacher who works with their grade level team to provide a lens through which to examine human nature, society, culture, and diversity. The freshman English teacher focuses the students’ thinking around the use of language, the conventions of writing, and the practice of peer editing. The sophomore English teacher continues to enhance the students’ writing through writing workshop protocols and through the examination of professional writers and authors. The junior English teacher takes students through nine thematic units using literature as the vehicle to expand students’ thinking and applications of new ideas. The senior English teacher focuses 4th year students on their future through a variety of nonfiction texts and personal writing assignments.

Each English teacher carefully crafts a curriculum that is aligned to state standards and is scaffolded

appropriately for the developmental needs of their respective students. The English team collaborates to share instructional practices which center on student choice, inquiry-based learning, enrichment, remediation, and differentiation. Quarterly goals are established by the team, about which data is collected and examined in an effort to best understand and support the learning needs of our unique student populations.

The English team works closely with the Social Studies department to design an integrated learning experience for our students. These collaborations create meaningful transdisciplinary experiences and require that students take on multiple perspectives in which to see our local and global communities. By the end of their tenure at Bioscience, our students are prepared with the critical thinking and analysis skills they need in order to be successful in college, career, and life.

1c. Mathematics

Bioscience chose to vertically align themes over the four years of mathematics under Integrated Mathematics courses rather than the traditional algebra, geometry, trigonometry, statistics, or calculus courses. Freshman and sophomore grade levels utilize the Mathematics Vision Project (MVP) for its open-source curriculum that was written and continually updated by teachers for teachers. The junior level combines algebra needed for statistics and trigonometry application. The senior level develops calculus content and skills by applying algebra and number sense to models.

Foundational skill development is provided and assessed through the use of Aleks as an online interactive training platform. As a professional learning community, we are committed to identifying and initiating interventions to attempt to mitigate challenges our students face as learners. In analyzing the drivers to this challenge, we decided to focus on the diverse needs of our students. We have found that students at a high and more immediate need for enrichment, have different internal motivations and perspectives to learn math. Differentiation thereby was planned and is currently being implemented in classroom instruction, supplemental options, and acceleration opportunities. Intervention opportunities are available in Learning Lab and Advisory periods across all grade levels.

The math team has chosen to follow the recommendations of mathematical leaders, such as Jo Boaler at Stanford University by creating healthy, collaborative learning environments where students of all levels are engaged in open-ended driving questions. Reducing direct instruction in place of project-based, problem-based and inquiry-based instruction is a priority of the department. We encourage students to develop and apply a growth mindset to challenges they face, as we seek to develop confidence and competency. If students feel like they are not challenged, we offer supplemental options through the MENU. The MENU (Meaningful, Enriching and Novel Undertaking) offers individual student choice of activity in the classroom, to address on or off grade-level math competencies. If students want to push faster for content or credit advancement, we offer acceleration opportunities through the MAP. The MAP (Maths Alternative Pathway, Mathematics Aleks Progress, Math Advanced Placement) offers an opportunity for students to move farther faster into new maths beyond the current grade level's scope. Nevertheless, students remain in their age-based grade level experiences to develop personal and interpersonal 21st century skills.

The math team prioritizes assessments in which students make claims using evidence and reasoning from doing the work of math. Students show their thinking processes in evidence-based formative and summative assessments. The Analyze & Strategize skill has been a focus in quarterly short-term goals in which each grade level has collected data on student growth in six-eight week cycles. We have identified an unexpected challenge both in each student's ability to analyze as well as in each teacher's ability to instruct and assess analyzing and strategizing in practice. Current student achievement data show low proficiency in several criteria for success, including to examine critically and scrutinize data. The team will use this data to improve assessment rubrics for formative and summative assessments used in each course. We work continually to ensure our students have the necessary mathematical foundation to pursue continued education and training in their chosen career-paths.

1d. Science

The science curriculum is based on state standards, which connect core ideas, crosscutting concepts and science and engineering practices. Scientific skills and concepts are vertically aligned using shared learning competencies and skills. Freshmen develop foundational science skills in Methods of Scientific Inquiry class. Sophomores take an integrated Biology and Chemistry course. Juniors choose between the Biomedical or Engineering Pathway. Seniors may choose to continue their physics and engineering applications or return to chemistry foundations for application in Biotechnology. Staff members closely collaborate to create an evolving interdisciplinary experience that maintains smooth vertical flow between courses. Misconceptions are identified and addressed at each grade level.

Teachers use formative assessments for low-stakes practice. Student progress is assessed through whiteboarding, small groups and individual practice, Socratic seminars, quick checks, and online platforms, such as Nearpod. Summative assessments include short answer responses, lab practicals, claim-evidence-reasoning, performance-based assessments, and project presentations. Students self-assess and self-reflect to identify areas for improvement. Teachers provide feedback and allow students to reassess summative assessments. Teachers use PLC team data sheets to identify common areas of struggle and identify who needs intervention. Student data is also used to develop competencies to assist in skill assessment, inform future instruction, identify and refine vertical team goals, and to identify best practices for teaching and learning.

We provide a constructivist learning environment using a problem-based curriculum, inquiry, and modeling methods. Technology skills include collecting and analyzing data using software, such as Vernier, LoggerPro, arcGIS, and programming. Students are grouped intentionally based on collaborative instruction strategies, Indigo survey results, and Lexile scores. Students may be in small groups for explicit instruction or engage in enrichment opportunities such as individualized projects. Optional Advanced Placement (AP) preparation and testing are available. Science courses also incorporate a humanistic approach, allowing students to foster a learner growth mindset, self-efficacy, and self-worth. Teachers assist upperclassmen in selecting internships that align with their college and career goals.

1e. Social studies/history/civic learning and engagement

The Social Studies department at Bioscience provides students with opportunities to analyze, evaluate, and assess multiple historic and present-day events that have shaped, and continue to shape, the way in which we engage with our world community. In close collaboration with the English team, the Social Studies team implements a number of transdisciplinary strategies that assist students with the development of a comprehensive understanding of how and why we engage in the historical thought process. The strategies learned and used through the Bioscience social studies experience mirror those of our English department. Our social studies teachers place great value on student-to-student collaboration, problem-based learning, and inquiry-based learning founded on questions and personal exploration. Our lessons and teaching nurture the exploration of civic responsibility to the country and to the world, group work dynamics, and student self-efficacy.

There are three social studies courses at Bioscience, a World History/World Geography class at the sophomore level, a U.S. History/Arizona History class at the junior level, and a Government/Economics class at the senior level. The teachers of these classes work collaboratively in a vertical PLC team to develop a fluid curriculum rooted in the delivery of state standards, yet flexible to accommodate student needs. The curriculum is designed to engage students in grade-level content-specific instruction while also serving to establish skills that transcend the levels and promote life-long learning and responsible civil engagement.

1f. For secondary schools:

One of the best services that we provide to our students and their parents is our college and career preparation. One hundred percent of our graduating class of 2019 was accepted to a two- or four- year college. All but three went to college on at least one scholarship. They went to MIT, Princeton, Notre Dame, Swarthmore, Bowdoin, Lewis and Clark, Harvey Mudd, and Colgate, among other fine colleges and

universities. About half of our students stay in state and enjoy full scholarships to the honors colleges nearby. Last year, our 79 graduates earned over 10 million dollars in scholarship offers.

How do we get our students into such amazing programs? We start educating them and their parents from year one. We partner with organizations like Student Expedition Program (STEP), Aguila, the Hispanic Mother Daughter program, QuestBridge, and Access Arizona State University (ASU). We partner with the Burton Barr Public Library to use their College Depot space to host workshops and invite college representatives to meet with students. We host an eight week parent academy with Arizona State University (Access ASU) in which students and their parents attend classes together to learn about preparing for and applying to college.

We have an amazing counselor who meets with all students and gets to know them very well by the time they are seniors. In fact, during their senior year, all students take an elective class called, “College and Career Readiness.” The class actually starts the summer before their senior year with a weeklong “Launch to College Bootcamp” at the College Depot in which they start filling out their Common App and Free Application for Federal Student Aid (FASFA) with the help of current college students and counselors. Then throughout the year, our counselor meets with all seniors at least weekly to help them finish their applications and FAFSA, apply for scholarships, learn how to find scholarships using online tools, learn how to write personal statements, and compose their brag sheets.

By the time students are 12th graders, they have completed four years of the Better World Project and are in a workplace internship, so they are able to stand out. Our counselor writes a personalized recommendation letter, and cultivates relationships with colleges who love our crazy, nerdy, and creative kids.

1g. For schools that offer preschool for three- and/or four-year old students:

2. Other Curriculum Areas:

Our students may be attracted to us because of our Biomedical and Engineering pathways, but we strive to build strengths in and exposure to the arts and social sciences as well. All students take a year of art, three years of Spanish, three-and-a-half years of social studies and one year of health and fitness.

The visual arts program is a daily, year-long course required of all freshmen. Through the art perspective, students view, respond to, and create artwork using the freshman team’s curricular themes: Story and Myth, Activism and Agents of Change, and Collaboration and Community. Curriculum integration reinforces concepts across content areas so students are able to transfer skills, such as applying the creative process, exploring media, expressing ideas, and responding to imagery. Exposure to a variety of media including ceramics, printmaking, drawing, painting, and photography allows students to determine their interests and passions and express themselves through the media. Every year we culminate and celebrate our study of the arts through an arts showcase, the “Evening of the Arts,” in which all students display a piece of art or perform music or a skit.

The purpose of the Health and Fitness class is for students to acquire an understanding of health concepts and skills and be able to apply them throughout their lives to make healthy decisions. The goal of the course is for students to acquire skills related to six competencies: Goal-Setting, Decision Making, Understanding Body Systems, Understanding Life Balance, Participating in Physical Activity, and Learner Mindset. Freshmen students participate in physical fitness two to three times each week to develop and maintain physical fitness in a variety of activities including cardiovascular activities (ex: High Intensity Interval Training (HIIT) workouts, jogging, and body weight exercises), lifting weights safely (ex: bicep curls, tricep extensions, and bench press) and playing sports such as volleyball and spikeball. Although we don’t have a gymnasium at Bioscience, the students use areas throughout campus as an adaptable fitness environment. On many days, students can be seen enthusiastically encouraging each other as they run laps outside the school on city sidewalks where they are also greeted with smiles and encouragement from downtown commuters en route to the office.

Advanced-Low level of proficiency. Given the demographics of our community, half of our students come in with significant oral exposure to Spanish in the home. We are able to not only continue their oral development, but also provide significant gains in reading, writing and critical sociocultural awareness and intercultural competence. Every year our junior exit-level students take the AP Spanish Language & Culture Exam, and many of them are able to earn four semesters of college level Spanish. We also have the option of dual enrollment Spanish 101 and Spanish 102 with our local community college for all of our junior students. Beyond the classroom, our students are able to apply their language and intercultural skills, including travel to Costa Rica, locally partnering with community organizations, such as Alien to support Dreamers, and promoting the learning of Spanish and Spanish-speaking cultures through events and activities sponsored by our chapter of the National Spanish Honor Society.

While we do not have a physical Library/Media center, we are a text- and tech-rich school. All of our students are issued a laptop which they keep for four years and which serves as one of their textbooks, as well as the vehicle through which they access many educational tools, including their grades, attendance, Edmodo, Microsoft Teams, Nearpod, Socrative, and engineering software such as, Solidworks. In each grade level humanities classroom, teachers house free-reading libraries of books that students can check out. We have a designated teacher who coordinates the ordering and cataloging of all of our library books.

3. Academic Supports:

3a. Students performing below grade level

Our students are sometimes shocked as they enter an all-honors level curriculum after having attended schools that may not have challenged them to their potential. When 8th grade students apply to Bioscience, some tell us they struggle in math because they had substitute teachers all year or their teacher left and the principal had to take over the class. This year, we had some students who had been promoted from 6th grade to 8th grade because their school did not have enough 7th grade teachers. These students missed a year of critical math and literacy skills because their schools could not provide them teachers; thus, they entered our program a year behind. We accept these students because they are part of our district, and we want to change their lives and opportunities.

While students apply to our school, we commit to accepting students who are below grade level in reading and math. We work hard to help them catch up and to excel in an all-honors curriculum. For instance, all 8th graders who are below grade level in math or reading must complete our summer “Intro to High School” class that meets the month of June. We use an Advancement Via Internal Determination (AVID) curriculum for this program to help students build confidence and fill in some literacy and math gaps before the school year starts. Then students are all assigned an “advisor” who meets with them once a week in Advisory to hold them accountable for progress in their classes. Two advisory periods a week are dedicated to “Targeted Advisory” where specific learning goals are targeted. Grade level teams meet once a week to determine which students they will pull for which targets, and teachers re-teach or tutor students for those skills. They also discuss students who are struggling and need to be referred to our Student Support Team (SST) for additional interventions in attendance, community resources, school counseling, or to schedule a parent meeting. The SST meets weekly to discuss these referred students, their needs, and what we can do to help and intervene.

Because we use “Evidence-Based Grading” instead of a traditional model, students are allowed to re-assess, revise, and re-submit work that didn’t demonstrate proficiency. This model allows us to accommodate students who struggle over time, and allows them to eventually meet their learning targets at their pace.

Our students initially struggle with several executive functioning skills. For this reason, the 9th and 10th grade teams provide their students with paper planners and teach students how to use them, give them time in class to fill them in, and set aside advisory time to help students color code their assignments. They also teach students how to take notes, organize their backpacks, and create a schedule for studying at home. For 11th and 12th grades, students are released to use the strategies that work for them with monitoring but continue advisory check-ins.

3b. Students performing above grade level

Between 30 to 40 percent of our students perform above grade level on state and national tests. One of the reasons we embrace Evidence-Based Grading is because it leverages student growth over students amassing points, reaching the magic number, and then coasting. Our grades are based upon proficiency AND growth. If students are proficient in a competency, they are asked to continue working to “refined” proficiency through enrichment and personalization of the competency. Vehicles for enrichment include our Better World Project, M.A.P., AP exams, and targeted advisories with enrichment activities.

If students disengage, they are surrounded by the grade level teachers who meet weekly to discuss their progress and then intervene. Intervention could mean a meeting with the student, a parent meeting, a referral to our support team, an assignment to targeted advisory, or a personalization of the curriculum to get the student back on track. There is no place to hide in our grade level model as all six teachers share the same students and come to know them closely. Furthermore, students meet with their advisor weekly or bi-weekly depending on their needs.

3c. Special education

We do not have many students who have Individualized Education Programs (I.E.P’s), (one student receives speech services and two others have been identified and are waiting for testing). We have a greater number of students who have Section 504 plans (4%), several of whom struggle with anxiety, depression, mental illness, epilepsy, and autism spectrum. We accommodate to meet their needs and intervene to support them in many creative and personalized ways, from providing them in-school support groups, to specialized schedules, to more time to complete their work, to reduced workload, in addition to all of the above supports that all students receive.

Perhaps our largest subgroup of students who have special needs is our gifted student population. Forty percent of our students tested into gifted services via the Raven or most recently, the CogAt test for giftedness. Because of this, we have increased our intentional supports for these students. We find that many of our gifted students struggle with perfectionism, anxiety, depression, and underachievement. Several of them are twice exceptional, and have 504 plans to help with their accommodations. To address their unique needs, we accommodate, enrich, and follow gifted best practices of differentiation, personalization, passion projects, field trips, acceleration, contracted learning, and gifted cohort discussion groups. We also have a Gifted Coordinator on our campus, a teacher who is endorsed in gifted education, who attends district meetings, training, and who in turn provides the rest of our staff with training in how to help our gifted students and hosts a parent academy for parents who want to learn how to help their student at home.

3d. ELLs, if a special program or intervention is offered

While we only have two students who received services for ELL, a little over half of our students come from families who do not speak English at home. Because of this, we are intentional about communicating with parents in a language they are comfortable with. For most, that language is Spanish. We translate our summer mailer and subsequent parent communications into Spanish. When we host our back-to-school parent academies, we have dual sessions in English and Spanish. Our Community Liaison and Student Liaisons both speak Spanish, and work to include parents who speak Spanish in calls to the community for help with field trip chaperones, food for events, and other opportunities for them to contribute to our school. We translate parent meetings and freely speak Spanish at parent nights and after school activities. We strive to hire staff who are bilingual or who are trying to increase their fluency.

For our current students who qualify for services, we follow our state model of providing a pull out English language development (ELD) class taught by a certified English teacher with a Structured English Immersion endorsement. This class takes the place of the student’s Spanish class.

3e. Other populations (e.g., migrant), if a special program or intervention is offered

PART V – SCHOOL CLIMATE AND CULTURE

1. Engaging Students:

The faculty and staff at Bioscience understand the importance of knowing our students and facilitating their growth in understanding themselves and how they learn. Through the use of the Indigo assessment and aligned activities, teachers help students identify strengths, motivators, and the value they bring to a team. Teachers and students use this information to build a learning environment, where students communicate effectively and thrive while understanding their potential challenges. Each Indigo report also generates a list of careers that align with the students' strengths and motivators.

Restorative practices is another productive initiative implemented at Bioscience. Faculty and staff work with students through restorative conversations, community circles, and restorative consequences, each with the underlying goal of understanding our students and helping them understand themselves and others better, thereby building a school culture that celebrates diversity and empathy. In classrooms, teachers are implementing culturally responsive teaching strategies which foster the voices of our students and allow them to see themselves in the curriculum and discussions held in various content areas.

The discussion groups for 9th grade students offer support and are intended to help them thrive socially and emotionally. All Bioscience staff firmly believe that affective development in schools is as important as cognitive development, which is the focus of the discussion groups. Through these groups, students have an opportunity to learn about others' experiences, make social connections with peers, feel support in the school environment, develop communication skills, learn about their strengths and self, develop a positive self concept, reduce stress and anxiety, and explore their social and emotional development. The skills they learn in discussion groups will help them in current and future relationships as they develop their talking and listening skills. We use the curricula for discussion groups developed by Jean Sunde Patterson in her books *Talk With Teens About What Matters to Them* and *The Essential Guide to Talking to Gifted Teens*.

Recognizing that our rigorous curriculum does not provide an opportunity for students to choose elective courses each year, Bioscience intentionally offers a wide variety of clubs and after-school activities for all grade levels to promote creativity and collaboration through authentic experiences. Some of the club opportunities we offer include: Robotics, Music Club, Art Club, Theater Club, Fitness Club, Green Shovel Club, E-Tech, Yearbook, and Dragon Publications. Our lengthy menu of extra-curricular options offers activities to even the most difficult to entertain Dragon—the Double Helix Dragon, created and chosen by students, is our school mascot. Each campus club elects officers into leadership positions; these officers work closely with the teacher-sponsor to set goals and create activities for members that foster a positive, engaging, and fun school culture.

2. Engaging Families and Community:

Even before students enroll at Bioscience, we engage them and their parents in their experience. When students are 8th graders considering applying to our school, we host several prospective parent orientations in English and Spanish. In these sessions, prospective students go with current students for a tour, activity, and questions and answers from a student perspective, while their parents attend a session about our goals, philosophy, unique processes, and other things they can expect if their student came to our school.

Then, after students enroll, we host a summer parent academy so that parents can hear more about our grading system, expectations, supports, and how to help their students be successful. Then we continue to host Parent Academies on “The 9th Grade Experience,” “Gifted Myths and Realities,” “College Readiness,” and “The Better World Project.” Our parent conferences are student-led, so parents come in and their student presents to them their work, grades, and progress. We also host several family nights, including our Open House night, with a family style dinner or dessert buffet, our Fall Festival, with food booths, games for the family, and student performances, and the Evening of the Arts, that showcases students' artwork, music, and theatre performances.

As far as engaging the community, we are very closely tied to our surrounding neighbors, organizations, and businesses. The senior internship creates a strong tie to these groups through students who work with and are mentored by people in these fields. For instance, our students intern in local hospitals, labs, the Science Center, T-Gen, the Humane Society, the Burton Barr Library, Arizona State University, feeder schools, the community gardens, City Hall, the Mayor's Office, the Superintendent of Public Schools' office, a local radio station, the Music Conservatory, and Hospice of the Valley, to name a few. We have a new neighbor building across the street from us, a seven story Biomedical Science complex with mixed-use spaces. We met with the construction company and they allowed our students to tour the site to learn about construction engineering. One of the tenants is a biomedical lab certification program who wants to work with our students to get them entry-level lab certifications during their senior year.

Our school's neighborhood association, Evans-Churchill, has a powerful voice in shaping city planning and building in our area. They helped us to get rid of a dilapidated and abandoned row of houses across the street from us that were being used for drugs and squatting. They are also currently lobbying for us to get four-way stop signs on one corner of our school where rush hour traffic speeds through. We let the group use our facilities for meetings in the evenings when they need a place to meet, and they accepted two of our students as interns.

3. Creating Professional Culture:

Bioscience values the voices and perspectives of the entire staff. In our small-school environment, every staff member's contributions are important and integral to our students' success. A variety of systems are in place to gather the insights and experiences of each individual. Instructional Cabinet (IC) is one of the forums in which we are able to review campus changes and enhancements from a variety of facets. The cabinet is made up of two teachers from each grade level, the Professional Development Specialist (PDS), content specialists, the school counselor, the Principal, as well as other members of the staff or student body who wish to propose ideas or simply listen and observe. The diversity of the group lends itself to a great sharing of ideas and philosophies.

Outside of IC, staff engage in open dialogue facilitated by the PDS around topics selected by the staff. These topics represent the values of the staff as well as ideas we'd like to share with one another. These conversations lend themselves to deeper understanding, shared knowledge, and collective endeavors.

Another example of our ongoing approach toward developing a positive professional culture is our adoption of Evidence-Based Grading and our use of Instructional Rounds. Through these endeavors, teachers have worked together to build their capacity in these new skills and strategies. We have found success because of the trust we have for one another, as well as the understanding that we have more to learn and gain from each individual's professional experience.

We have a variety of campus committees dedicated to improving, reviewing, and establishing institutional practices and processes, family and community communication, and student attitudes and culture. These committees meet monthly and are made up of teachers, educational support professionals, and administration. One of the committees aligned with the focus on campus culture is the Community, Climate, and Culture Committee. This committee focuses on nurturing the climate and culture of the student population, but also strives to build positive relationships among the staff. The committee sees the relationships between staff as important as any other relationship on the campus. With events like game nights, potlucks, and celebrations, the staff feels like a family, which leads to meaningful collaboration in and out of the classroom.

4. School Leadership:

Our school has one administrator, but it has many "leaders" who are committed to our students' growth and success. Our philosophy is that through personalization, relationships, high expectations, and support, we can change the lives of our students and provide them with post high school opportunities that empower them to make the world a better place. We believe in growth and learning over grades and test scores, but we understand the need to help our students perform well on tests that serve as gatekeepers to opportunities

and financial benefits. We see our work through a social justice lens in that we strive to make an impact in a system that has historically underserved our students who are just as deserving of resources and opportunities as their suburban and affluent peers. We want them not only to be academically prepared for the world after high school, but well-adjusted and emotionally intelligent.

This philosophy impacts our school's success as we work closely with students, know them as individuals, see their potential, provide them with high quality learning experiences, and support them throughout. Our students test well on state and national assessments, but they really shine when you give them a project, a problem, something to design and present, or ask them to convey their message in a creative way.

We have formal and informal leadership networks. Our formal leadership team is made up of the principal, a professional development specialist, five Instructional Leaders, four grade-level team leaders, our building manager, and our counselor. We meet bi-monthly to grapple with challenges, create systems, share responsibilities, plan initiatives, and evaluate what is and isn't working. We also have less formal structures where teachers lead their own smaller initiatives and pursue projects that come up organically on their grade level teams or committees, such as using Indigo as a student self-awareness tool or starting a new school tradition like Open Mic Night.

Our leadership is very democratic in that very few decisions are top-down. Most are vetted and shared through the Instructional Cabinet. Evidence-Based Grading and Restorative Practices were originally teacher proposals that started in our Instructional Cabinet, were approved through consensus, and then implemented whole-school. Both decisions have resulted in increased student learning and well-being. For instance, since we began Evidence-Based Grading, our D/F rate has decreased each semester. As a result, we are increasing the number of students who stay with us all four years. We have improved our 9th grade whole year completion rate from 75% to 92% over 4 years, and we have improved our four-year completion rate from 60% to over 90% projected for the class of 2021. Additionally, we have had fewer student conflicts and referrals since we implemented Restorative Practices school-wide.

PART VI - STRATEGY FOR ACADEMIC SUCCESS

Probably the single most powerful strategy that we leverage to make a difference in our students' lives is personalization. Personalization is woven through our academic curriculum, our interventions, and staff core values.

In our academic curriculum, personalization can be seen in almost every lesson, from an algebra lesson on determining the optimal price for a club fundraiser, to a choice-based Spanish language project, to the real-world challenges students choose for their Better World Project. Students are regularly asked what topics they are interested in and how they would like to show their learning. Part of our requirements for evidence-based grading is for students to complete regular self-assessments using their proficiency rubrics, identifying where they are performing in relation to the learning target. They are also asked to reflect on their learning behaviors such as time management, participation, and perseverance. Furthermore, all students take an Indigo leadership profile assessment to learn about their strengths and areas to develop and then they regularly reflect on their strengths and areas to develop. Teachers use these results as opportunities for students to get to know their peers, to flexibly group students for projects, and to try strategies that the program suggests.

Personalization also comes through in our interventions and support for students. Teachers track how each student is progressing in their essential competencies and then pull students for targeted advisory based upon their specific needs. If students are progressing or proficient, students can choose which targeted advisory they attend, based upon the topic. Because students are assigned their own advisor, one of their grade level teachers, they have a point person who knows them well, knows how they are doing in their classes, and how they are doing personally. When a student struggles or needs extra support, the grade level team works with the advisor and Student Support Team to identify appropriate supports, which may include a student meeting, a parent meeting, a referral to outside resources, or a schedule to attend needed after school tutoring.

When we as a staff identified our top ten core values, personalization was one of the most agreed upon. We value knowing our students as human beings, learners who are apt to make mistakes, likely to stumble, who are infused with promise and potential, and who are magical and unique. By the time our students have spent four years with us, they are known well and closely connected to the teaching staff, support staff, their counselor, and even the principal. When we hire new staff to our school, we share these core values with them and ask them if they resonate with them as well to determine if they will be a good fit for our school. This alignment has resulted in adding high quality staff who are also committed to personalizing learning and support for students.